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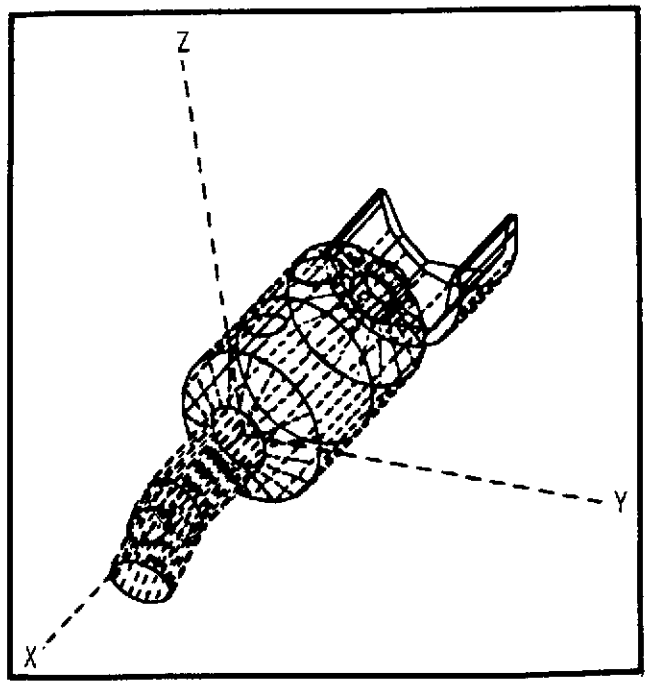
Volume II

Exhibit A

Final
Report

December 1974

Payload/Orbiter Contamination Control Requirement Study



MARTIN MARIETTA

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Technical Report

Volume II

Payload/Orbiter Contamination Control Requirement Study

Final Report
Exhibit A

Contract NAS8-30755

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CONTENTS

1. SCOPE

1.1 Purpose - The purpose of this document is to present the final computer printout of the configuration descriptions and geometric relationships used in the contamination impact analysis activity described in Volume I. The information presented is representative of the development of the contamination modeling effort to date. It can be extremely useful in understanding the geometrical relationships used in the model predictions established under this study.

1.2 Scope - This document presents the computer printout data generated during the Payload/Orbiter Contamination Control Requirement Study, NAS8-30755. Contained herein are the computer listings of the input surface data matrices, the viewfactor data matrices, and the geometric relationship data matrices for the three Orbiter/Spacelab configurations analyzed in this study. These configurations have been broken up into the geometrical surfaces and nodes necessary to define the principal critical surfaces whether they are contaminant sources, experimental surfaces, or operational surfaces. A numbering scheme was established based upon nodal numbers that relates the various Spacelab surfaces to a specific surface material or function. This numbering system was developed for the Spacelab configurations such that future extension to a surface mapping capability could be developed as required.

2. APPLICABLE DOCUMENTS

2.1 Program Documents - The following documents shown form a part of this report in the extent that they were used for Program information and/or are referenced for supporting technical material relevant to this study.

PROGRAM DOCUMENTS

MCR 74-93	"Payload/Orbiter Contamination Control Requirement Study," May 1974, Contract NAS8-30452, Martin Marietta Aerospace, Denver, Colorado.
Presentation	"European Spacelab Design and Development Effort," Parts A, C, and F, July 1974, ESRO/ESTEC.
SD72-SH-0071B	"Orbiter Definition Handbook," Rockwell International, February 4, 1974.
RFP AO/600	"Proposal for the Spacelab Design and Development Contract to ESRO/ESTEC," April 16, 1974, ERNO.

3. COMPUTER PRINTOUT DESCRIPTIONS

3.1 Discussion - The computer modeling of the induced contaminant environment of a spacecraft such as the Shuttle Orbiter and the Spacelab configurations initially involves the geometric synthesis of all major spacecraft surfaces. These surfaces were synthesized on a CDC 6500 digital computer using the Scope 3.4.1 format. For this study effort, three separate Spacelab/Shuttle Orbiter configurations were synthesized based upon configuration data contained in the reference material delineated in the Applicable Documents Section of this volume. Input surfaces included all known Spacelab windows, vents, thermal control, and basic pallet surfaces along with the baseline Shuttle Orbiter configuration updated to known current design modifications. Vent and engine sources were modeled as geometric discs representative of a surface at the engine/vent exit plane emitting with the characteristic plume distribution of the particular source. The three Spacelab/Shuttle Orbiter configurations analyzed in this study were:

a) the long module/short pallet (SL-1);

b) the short module/long pallet (SL-2); and

c) the pallet only (SL-3).

For each configuration, the Spacelab surfaces were assigned nodal numbers characteristic of the function or use of the surface being modeled. This numbering scheme allows for easy identification of a surface function and is directly applicable to the materials mapping of Spacelab surfaces if required. The Shuttle Orbiter surfaces retained the nodal number assignments (between 1 and 999) used in previous modeling efforts. The Spacelab nodal numbering scheme is presented below:

Node Number	Surface Function/Type
1000-1099	Thermal Control
1100-1199	Windows - viewing and experiment
1200-1299	Vents
1300-1399	Critical Optical Surfaces
1400-1499	Contamination Monitors

Similar surfaces on the three Spacelab configurations were assigned the same surface nodal numbers to further simplify surface function identification.

The resulting computer printout of the configuration viewfactor model consists of three data matrices which will be described in following subsections. These data matrices are:

a) the Input Data Matrix;

b) the Viewfactor Data Matrix; and

c) the Geometric Relationship Data Matrix.

3.2 Input Data Matrix Description - This matrix consists of all the necessary input data required to completely describe the geometrical surfaces and configurations analyzed. Figure 1 is an example of the format of the input data matrix for selected SL-1 surfaces. Following is an outline description of the major items contained in this matrix (see Figure 1):

a) nodal surface number;

b) geometric surface type - rectangle, disc, cylinder, etc;

c) sides of surface activated - ability to emit or receive contamination;

d) surface shadowing capability;

e) surface ability to be shadowed;

f) surface rotation about major axis system;

g) point input data - three dimensional input with respect to program axis system;

h) thermal property of surface emissivity; and

i) comment - surface name and description.

```
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        ICSN=50
      P1=1215.2,58.5,371.
      P2=1215.2,72.8,414.
      P3=1101.2,72.8,414.
      PROP=0.,0.
      COM= * +Y INSIDE TOP PANNEL,X=1101.2 TO 1215.2 *
S     SURF=1086, TYPE= RECT, ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH
        ICSN=50
      P1=1101.2,-58.5,371.
      P2=1215.2,-58.5,371.
      P3=1215.2,-34.5,344.3
      PROP=0.,0.
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        ICSN=50
      P1=1101.2,34.5,344.3
      P2=1215.2,34.5,344.3
      P3=1215.2,58.5,371.
      PROP=0.,0.
      COM=* +Y INSIDE BOTTOM PANNEL,X 1101.2 TO 1215.2 *
S     SURF=1088 , TYPE= RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH
        ICSN=50
      P1=1101.2,-34.5,344.3
      P2=1215.2,-34.5,344.3
      P3=1215.2,34.5,344.3
      PROP= 0.,0.
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      P2=608.22,0.,411.35
      P3=627.,25.,418.19
      P4=627.,25.,418.19
      PROP = 0.,0.
      COM = * TUNNEL EVA HATCH X=627. SPACE LAB 1*
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Figure 1. Computer Printout Example of Input Data Matrix

3.3 Viewfactor Data Matrix Description - Viewfactor output data is contained in this matrix for all modeled Lambertian surfaces capable of impinging upon susceptible surfaces of interest. Figure 2 is an example of the viewfactor data matrix for a selected Orbiter surface to surfaces of SL-1. The outline below describes the main items of the viewfactor data matrix (reference Figure 2):

a) Node I - emitting Lambertian surface number;

b) Node J - receiving surface number from Node I;

c) computation - verification flag of viewfactor calculation;

d) FE(I,J) W/SHAD - viewfactor fraction of mass leaving Node I capable of impinging upon Node J considering third surface shadowing;

e) FE(J,I) W/SHAD - reciprocal viewfactor fraction of mass leaving Node J capable of impinging upon Node I considering third surface shadowing;

f) FA(I,J) W/SHAD - viewfactor same as d) used internal to program;

g) F(I,J) WO/SHAD - viewfactor fraction of mass leaving Node I capable of impinging upon Node J if no third surface shadowing is considered;

h) SHAD. E Factor - percentage of Node I not shadowed from Node J;

i) SHAD. A Factor - same as h) internal to program; and

j) CP time - computer time required for viewfactor calculation accumulative for each Node I.

(a) NODE I	(b) NODE J	(c) COMPUTATION	(d) FE(I,J) W/SHAD	(e) FE(J,I) W/SHAD	(f) FA(I,J) W/SHAD	(g) F (I,J) WO/SHAD	(h) SHAD. E FACTOR	(i) SHAD. A FACTOR	(j) CP TIME (SEC)
20	1030	CAL.	.002388	.000167	.002388	.002388	1.000000	1.000000	1.554
20	1040	CAL.	.005851	.000408	.005851	.005851	1.000000	1.000000	1.822
20	1050	CAL.	.052526	.009272	.052526	.059970	.875869	.875869	2.689
20	1060	CAL.	.003103	.002427	.003103	.003103	1.000000	1.000000	2.972
20	1065	CAL.	.009669	.017427	.009669	.009669	1.000000	1.000000	3.505
20	1081	CAL.	.003709	.008625	.003709	.003709	1.000000	1.000000	4.086
20	1082	CAL.	.000747	.004052	.000747	.000747	1.000000	1.000000	5.075
20	1083	CAL.	.005846	.031716	.005846	.005846	1.000000	1.000000	6.012
20	1084	CAL.	.015514	.011144	.015514	.015514	1.000000	1.000000	6.447
20	1085	CAL.	.003710	.002665	.003710	.003710	1.000000	1.000000	6.772
20	1086	CAL.	.011959	.010843	.011959	.011959	1.000000	1.000000	7.236
20	1087	CAL.	.006441	.005840	.006441	.007381	.872652	.872652	7.666
20	1088	CAL.	.023784	.011221	.023784	.023784	1.000000	1.000000	8.036
20	1110	CAL.	.000008	.000024	.000008	.000057	.137966	.137966	8.830
20	1111	CAL.	.000032	.000096	.000032	.000032	1.000000	1.000000	9.071
20	1120	CAL.	.000083	.000150	.000083	.000219	.380890	.380890	9.424
20	1121	CAL.	.000127	.000228	.000127	.000127	1.000000	1.000000	9.657

Figure 2. Computer Printout Example of Viewfactor Data Matrix

3.4 Geometric Relationship Data Matrix Description - This data matrix supplies the computer output information on the geometrical relationships between all Spacelab and Orbiter surfaces capable of viewing each other. This data is used in conjunction with the closed form mathematical source characteristics for sources other than Lambertian to determine contaminant fluxes at surfaces of interest. Figure 3 is an example of the geometric relationship data matrix for selected Spacelab/Orbiter surfaces. The outline below describes the major items depicted in Figure 3:

a) NODE I - Source surface number;

b) NODE J - Receiving surface number from Node I;

c) F(I,J) - Viewfactor fraction of mass leaving Node I (Lambertian) capable of impinging upon Node J;

d) AREA - Surface area of Node I in^2;

e) THETI - Angle that radius makes with Node I normal;

f) THETJ - Angle that radius makes with Node J normal;

g) RADIUS - Distance between Node I and Node J center points in inches;

h) NORMAL VECTOR - Node I perpendicular vector (X,Y,Z components) normalized to amplitude of Node I surface area; and

i) POSITION VECTOR - Vector (X,Y,Z components) from central axis origin to center point of Node I.

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))
PROCESSSING OPERATION DATA

NODE I (a)	NODE J (b)	F(I,J) (c)	AREA (d)	THETI (e)	THETJ (f)	RADIUS (g)	NORMAL VECTOR I (h)		POSITION VECTOR I (f)		
20	1110	.000008	3.71E+03	13.70	89.88	4.02611E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1111	.000032	3.71E+03	13.70	90.12	4.02611E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1120	.000083	3.71E+03	18.67	89.83	2.97883E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1121	.000127	3.71E+03	18.67	90.17	2.97883E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1130	.000293	3.71E+03	24.36	23.75	2.48535E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
21	1110	.000008	3.71E+03	13.70	89.88	4.02611E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1111	.000032	3.71E+03	13.70	90.12	4.02611E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1120	.000083	3.71E+03	18.67	89.83	2.97883E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1121	.000127	3.71E+03	18.67	90.17	2.97883E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1130	.000286	3.71E+03	22.75	22.09	2.45504E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01

Figure 3. Computer Printout Example of Geometric Relationship Data Matrix

3.5 Spacelab/Orbiter Data Matrices - The following subsections contain the computer printout data matrices as previously described for the three Spacelab/Orbiter configurations. The subsections are organized such that all configuration, viewfactor and geometric relationship data is contained in one subsection for each Spacelab/Orbiter configuration (e.g. subsection 3.5.1 contains the SL-1/Orbiter data matrices, subsection 3.5.2 the SL-2/Orbiter matrices and subsection 3.5.3 the SL-3/Orbiter matrices). In addition, each configuration subsection commences with a computer drawing of the configuration indicating general locations/nodal numbers of the primary surfaces and a summary listing of all modeled Orbiter and Spacelab surfaces to facilitate the interpretation of the computer printouts.

As previously mentioned, the baseline Shuttle Orbiter model was employed with each of the three Spacelab configurations. Figure 4 illustrates the primary Orbiter nodal surface number locations used in conjunction with the three Spacelab models. These Orbiter nodal numbers were held constant for each of the Spacelab configurations. Only the primary Orbiter nodal surfaces number locations have been identified in Figure 4. A large number of different surfaces have been used to obtain the necessary fidelity to accurately define a particular surface shape. These surfaces are of limited use in an assessment and have not been included. Those surfaces depicted do represent the majority of surfaces necessary to understand the basic content of the presented computer printouts.

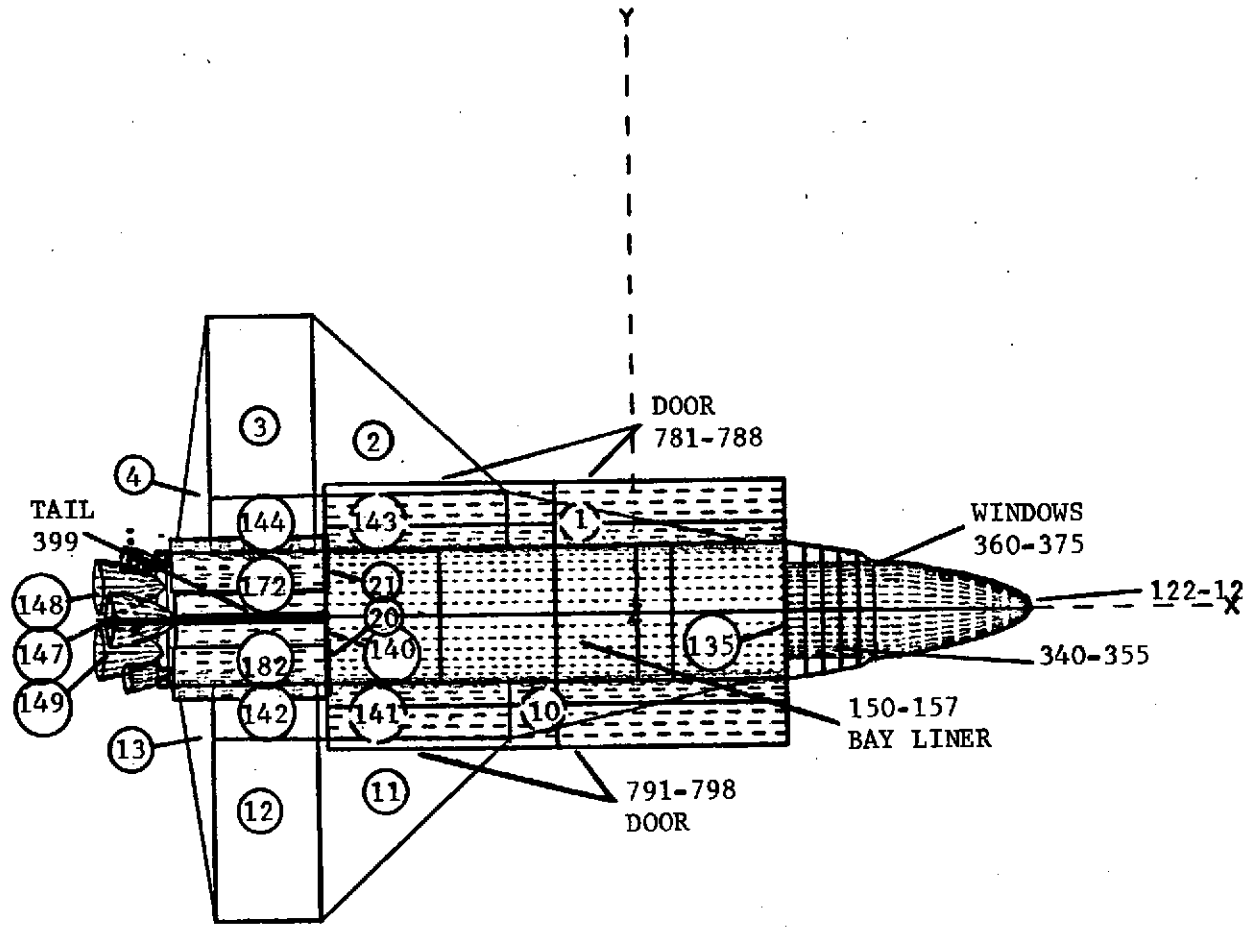

Figure 4. Primary Orbiter Nodal Surface Number Assignments

3.5.1 Spacelab-1/Orbiter Data Matrices - Figure 5 depicts the computer drawing of the modeled Spacelab-1 configuration indicating the nodal number assignments assigned to the primary Spacelab surfaces. (The Orbiter nodal assignments are depicted in Figure 4.) This is followed by a summary listing and description of the Spacelab-1/Orbiter nodal surfaces. The ensuing computer printouts contain the Input Data, Viewfactor Data, and Geometric Relationship Data matrices for the Spacelab-1/Orbiter configuration.

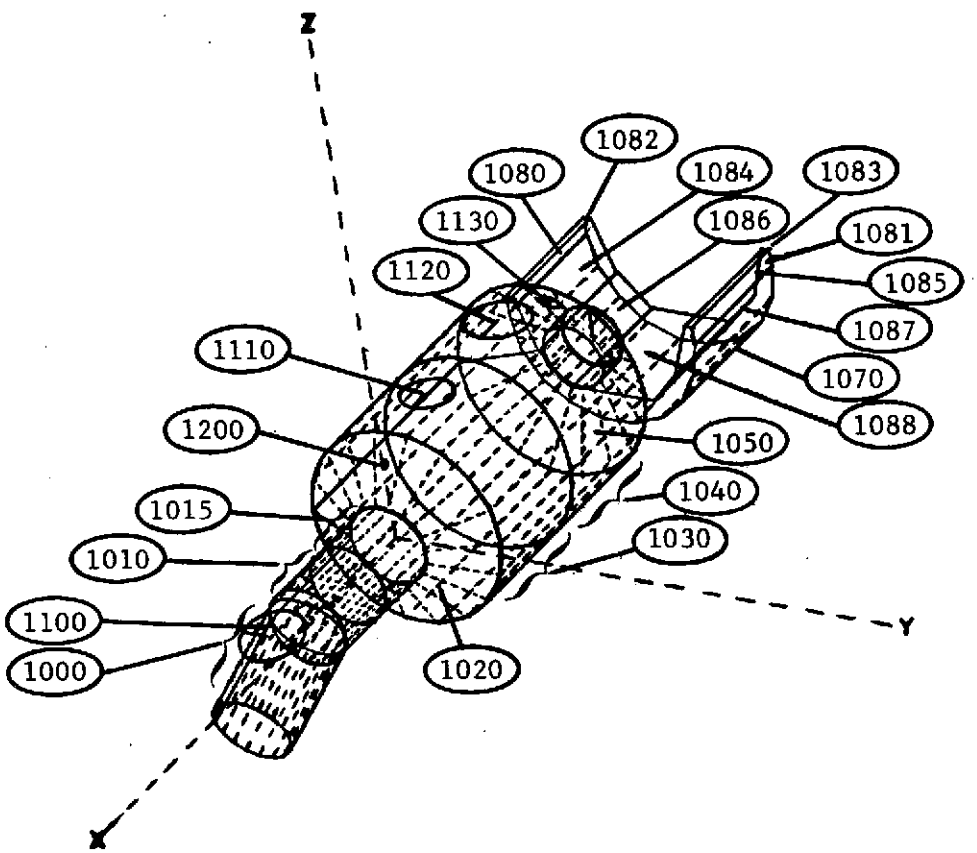

Figure 5. Primary Spacelab-1 Nodal Surface Number Assignments

PROCESSING OPERATIONS DATA

NODE	BDS	AREA	ALPH	EMISS	SURF. TYPE	ACTIVE	--------COMMENTS----------
145	BODY	2.687E+03	0.	0.	TRAPEZOID	TOP	+Y REAR SIDE TAPER
146	BODY	2.687E+03	0.	0.	TRAPEZOID	BOTTOM	- Y. REAR SIDE TAPER...
707	BODY	2.827E+01	0.	0.	DISC	BOTTOM	.....JULY 8 EVAP..? IN. RAD.
708	BODY	2.827E+01	0.	0.	DISC	TOP	.....JULY 8 EVAP..? IN. RAD.
147	BODY	1.858E+04	0.	0.	PARABOLOID	OUTSID	TOP ENGIN
148	BODY	1.858E+04	0.	0.	PARABOLOID	OUTSID	+ Y ENGIN
149	BODY	1.858E+04	0.	0.	PARABOLOID	OUTSID	-Y ENGIN...
20	BODY	3.711E+03	0.	0.	DISC	TOP	...-Y OMS SEALER ...
21	BODY	3.711E+03	0.	0.	DISC	TOP	..+Y OMS SEALER ...
222	BODY	2.573E+04	0.	0.	RECTANGLE	BOTTOM	BACK RECT 7.35DEG
23	BODY	1.634E+04	0.	0.	DISC	TOP	REAR END HALF DISK
407	BODY	2.827E+01	0.	0.	DISC	TOP	BACK SIDE EVAPORAT, UPDATED
15	BODY	2.827E+01	0.	0.	DISC	TOP	REAR END EVAPORATOR
10	BODY	1.887E+04	0.	0.	TRAPEZOID	BOTTOM	....LEFT FRONT WING A ...
11	BODY	4.045E+04	0.	0.	TRAPEZOID	TOP	.....LEFT MIDDLE WING BACK.R
141	BODY	2.859E+04	0.	0.	RECTANGLE	TOP	BS INNER WING
12	BODY	4.462E+04	0.	0.	RECTANGLE	TOP	..... LEFT BACK RECT. WING C
142	BODY	1.434E+04	0.	0.	RECTANGLE	TOP	INNER WING C
13	BODY	1.012E+04	0.	0.	TRAPEZOID	TOP	..... LEFT WING TAIL EDGE
1	BODY	1.878E+04	0.	0.	TRAPEZOID	TOP	...FRONT WING TRIANGLE RT.A.58
2	BODY	4.045E+04	0.	0.	TRAPEZOID	BOTTOM	.....MIDDLE WING TRAP. RT B ..
143	BODY	2.599E+04	0.	0.	RECTANGLE	BOTTOM	B +Y RECTANGLE WING
3	BODY	4.462E+04	0.	0.	RECTANGLE	BOTTOM	.... BACK WING RECT. RTC .129
144	BODY	1.434E+04	0.	0.	RECTANGLE	BOTTOM	INNER WING C RECT
4	BODY	1.012E+04	0.	0.	TRAPEZOID	BOTTOM	...WING TAIL FLAP RT 1453,1507
150	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
151	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
152	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
153	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
154	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
155	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
156	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
157	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
140	BODY	3.269E+04	-0.	-0.	DISC	TOP	END BAY AREA DISK
139	BODY	3.269E+04	-0.	-0.	DISC	TOP	FRONT BAY AREA DISK
122	BODY	1.527E+04	-0.	-0.	PARABOLOID	OUTSID	VERY NOSE CONE
123	BODY	1.527E+04	-0.	-0.	PARABOLOID	OUTSID	VERY NOSE CONE
124	BODY	1.527E+04	-0.	-0.	PARABOLOID	OUTSID	VERY NOSE CONE
125	BODY	1.527E+04	-0.	-0.	PARABOLOID	OUTSID	VERY NOSE CONE
320	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
321	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
322	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
323	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
324	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
325	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
326	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER

NODE	ECS	AREA	ALPH	EMISS	SURF. TYPE	ACTIVE	--------COMMENTS----------	
327	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER	
328	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER	
329	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER	
330	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER	
331	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER	
332	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER	
333	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER	
334	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER	
335	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER	
340	BODY	3.838E+03	-0.	-0.	FARABOLOID	OUTSID	HOOD PARTIAL BACK	
341	BODY	4.022E+03	-0.	-0.	FARABOLOID	OUTSID	HOOD PARTIAL BACK	
342	BODY	4.197E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK	
343	BODY	4.366E+03	-0.	-0.	FARABOLOID	OUTSID	HOOD PARTIAL BACK	
344	BODY	3.838E+03	-0.	-0.	FARABOLOID	OUTSID	HOOD PARTIAL BACK	
345	BODY	4.022E+03	-0.	-0.	FARABOLOID	OUTSID	HOOD PARTIAL BACK	
346	BODY	4.197E+03	-0.	-0.	FARABOLOID	OUTSID	HOOD PARTIAL BACK	
347	BODY	4.366E+03	-0.	-0.	FARABOLOID	OUTSID	HOOD PARTIAL BACK	
348	BODY	3.838E+03	-0.	-0.	FARABOLOID	OUTSID	HOOD PARTIAL BACK	
349	BODY	4.022E+03	-0.	-0.	FARABOLOID	OUTSID	HOOD PARTIAL BACK	
350	BODY	4.197E+03	-0.	-0.	FARABOLOID	OUTSID	HOOD PARTIAL BACK	
351	BODY	4.366E+03	-0.	-0.	FARABOLOID	OUTSID	HOOD PARTIAL BACK	
352	BODY	3.838E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK	
353	BODY	4.022E+03	-0.	-0.	FARABOLOID	OUTSID	HOOD PARTIAL BACK	
354	BODY	4.197E+03	-0.	-0.	FARABOLOID	OUTSID	HOOD PARTIAL BACK	
355	BODY	4.366E+03	-0.	-0.	FARABOLOID	OUTSID	HOOD PARTIAL BACK	
360	BODY	1.593E+03	-0.	-0.	FARABOLOID	OUTSID	WINDOW	
361	BODY	1.825E+03	-0.	-0.	FARABOLOID	OUTSID	WINDOW	
362	BODY	2.031E+03	-0.	-0.	FARABOLOID	OUTSID	WINDOW	
363	BODY	2.218E+03	-0.	-0.	FARABOLOID	OUTSID	WINDOW	
364	BODY	1.593E+03	-0.	-0.	FARABOLOID	OUTSID	WINDOW	
365	BODY	1.825E+03	-0.	-0.	FARABOLOID	OUTSID	WINDOW	
366	BODY	2.031E+03	-0.	-0.	FARABOLOID	OUTSID	WINDOW	
367	BODY	2.218E+03	-0.	-0.	FARABOLOID	OUTSID	WINDOW	
368	BODY	1.593E+03	-0.	-0.	FARABOLOID	OUTSID	WINDOW	
369	BODY	1.825E+03	-0.	-0.	FARABOLOID	OUTSID	WINDOW	
370	BODY	2.031E+03	-0.	-0.	FARABOLOID	OUTSID	WINDOW	
371	BODY	2.218E+03	-0.	-0.	FARABOLOID	OUTSID	WINDOW	
372	BODY	1.593E+03	-0.	-0.	FARABOLOID	OUTSID	WINDOW	
373	BODY	1.825E+03	-0.	-0.	FARABOLOID	OUTSID	WINDOW	
374	BODY	2.031E+03	-0.	-0.	FARABOLOID	OUTSID	WINDOW	
375	BODY	2.218E+03	-0.	-0.	FARABOLOID	OUTSID	WINDOW	
401	BODY	4.619E+04	.900	.900	RECTANGLE	BOTTOM	BODY BOTTOM (FRT)	4 1
402	BODY	1.438E+05	.900	.900	RECTANGLE	BOTTOM	BODY BOTTOM (REAR)	402
182	BODY	3.931E+04	-0.	-0.	CYLINDER	OUTSID	OMSPODC1	
172	BODY	3.913E+04	-0.	-0.	CYLINDER	OUTSID	OMSPODC2	
781	BODY	2.472E+04	0.	0.	CYLINDER	INSIDE	.....+Y SIDE DOOR.....	

MODEL = TAPE3 SIDE = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))
PROCESSING OPERATIONS DATA

NODE	MOS	AREA	ALPH	EMISS	SURF. TYPE	ACTIVE	--------COMMENTS----------
782	BODY	2.470E+04	0.	0.	CYLINDER	OUTSIDE	.....+Y SIDE DOOR.....
783	BODY	2.470E+04	0.	0.	CYLINDER	INSIDE	.....+Y SIDE DOOR.....
784	BODY	2.470E+04	0.	0.	CYLINDER	OUTSID	.....+Y SIDE DOOR.....
785	BODY	2.470E+04	0.	0.	CYLINDER	INSIDE	.....+Y SIDE DOOR.....
786	BODY	2.470E+04	0.	0.	CYLINDER	OUTSIDE	.....+Y SIDE DOOR.....
787	BODY	2.470E+04	0.	0.	CYLINDER	INSIDE	.....+Y SIDE DOOR.....
788	BODY	2.470E+04	0.	0.	CYLINDER	OUTSID	.....+Y SIDE DOOR.....
791	BODY	2.413E+04	0.	0.	CYLINDER	INSIDE	... -Y SIDE DOOR....
792	BODY	2.413E+04	0.	0.	CYLINDER	OUTSID	... -Y SIDE DOOR....
793	BODY	2.413E+04	0.	0.	CYLINDER	INSIDE	... -Y SIDE DOOR....
794	BODY	2.413E+04	0.	0.	CYLINDER	OUTSID	... -Y SIDE DOOR....
795	BODY	2.413E+04	0.	0.	CYLINDER	INSIDE	... -Y SIDE DOOR....
796	BODY	2.413E+04	0.	0.	CYLINDER	OUTSID	... -Y SIDE DOOR....
797	BODY	2.413E+04	0.	0.	CYLINDER	INSIDE	... -Y SIDE DOOR....
798	BODY	2.413E+04	0.	0.	CYLINDER	OUTSID	... -Y SIDE DOOR....
301	BODY	2.994E+04	0.	0.	TRAPEZOID	TOP	+Y SIDE FRONT TRAPEZOID
305	BODY	4.997E+04	.900	.900	RECTANGLE	TOP	BODY SIDE (MIDDLE-PORT) 305
306	BODY	5.155E+04	.900	.900	RECTANGLE	TOP	BODY SIDE (BACK-PORT) 306
311	BODY	2.994E+04	0.	0.	TRAPEZOID	BOTTOM	-Y SIDE FRONT TRAPEZOID
315	BODY	3.678E+04	.900	.900	RECTANGLE	TOP	BODY SIDE (MIDDLE-STBD) 315
316	BODY	3.795E+04	.900	.900	RECTANGLE	TOP	BODY SIDE (BACK-STBD) 316
202	BODY	3.685E+04	.900	.900	CYLINDER	OUTSID	BODY TOP (STBD-REAR) 202
212	BODY	3.685E+04	.900	.900	CYLINDER	OUTSID	BODY TOP (PORT-REAR) 212
380	BODY	2.805E+04	.900	.900	TRAPEZOID	TOP	VERTICAL FIN (PORT) 20
385	BODY	2.654E+04	.900	.900	TRAPEZOID	TOP	VERTICAL FIN (PORT-AFT) 20
390	BODY	2.805E+04	.900	.900	TRAPEZOID	BOTTOM	VERTICAL FIN (STBD) 20
395	BODY	2.654E+04	.900	.900	TRAPEZOID	BOTTOM	VERTICAL FIN (STBD-AFT) 20
705	BODY	2.827E+01	0.	0.	DISC	TOP	..POST FORWARD EVAPORATOR.....
700	BODY	1.590E+03	0.	0.	DISC	BOTTOM	.....SUPER ENGINS (OMS LOCAT
701	BODY	1.590E+03	0.	0.	DISC	TOP	.....SUPER ENGINS (OMS LOCAT
702	BODY	1.590E+03	0.	0.	DISC	BOTTOM	.....SUPER ENGINS (OMS LOCAT
703	BODY	1.590E+03	0.	0.	DISC	TOP	.....SUPER ENGINS (OMS LOCAT
24	BODY	2.832E+01	0.	0.	DISC	BOTTOM	...BACK RCS ...LOCKING +/- Y.(
25	BODY	2.832E+01	0.	0.	DISC	TOP	...BACK RCS ...LOCKING +/- Y.(
18	BODY	2.826E+01	0.	0.	DISC	BOTTOM	...FRONT RCS..LOCKING +/-Y AT
19	BODY	2.826E+01	0.	0.	DISC	TOP	...FRONT RCS..LOCKING +/-Y AT
26	BODY	2.827E+01	0.	0.	DISC	BOTTOM	...BACK RCS LOCKING +/- Z...7/
27	BODY	2.827E+01	0.	0.	DISC	TOP	...BACK RCS LOCKING +/- Z...7/
16	BODY	2.827E+01	0.	0.	DISC	BOTTOM	...MIDDLE EVAP. LOCKING +/- Y.
17	BODY	2.827E+01	0.	0.	DISC	TOP	...MIDDLE EVAP. LOCKING +/- Y.
160	BODY	1.750E+02	0.	0.	RECTANGLE	BOTTOM	...THIN STRIP BETWEEN DOORS AN
161	BODY	1.750E+02	0.	0.	RECTANGLE	TOP	...THIN STRIP BETWEEN DOORS AN
162	BODY	1.750E+02	0.	0.	RECTANGLE	BOTTOM	...THIN STRIP BETWEEN DOORS AN
163	BODY	1.750E+02	0.	0.	RECTANGLE	TOP	...THIN STRIP BETWEEN DOORS AN
164	BODY	1.750E+02	0.	0.	RECTANGLE	BOTTOM	...THIN STRIP BETWEEN DOORS AN
165	BODY	1.750E+02	0.	0.	RECTANGLE	TOP	...THIN STRIP BETWEEN DOORS AN

MODEL = TAPE3 STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))
PROCESSING OPERATIONS DATA

NODE	BCS	AREA	ALPH	EMISS	SURF. TYPE	ACTIVE	--------COMMENTS----------
166	BODY	1.750E+02	0.	0.	RECTANGLE	BOTTOM	...THIN STRIP BETWEEN DOORS AN
167	BODY	1.750E+02	0.	0.	RECTANGLE	TOP	...THIN STRIP BETWEEN DOORS AN
349	BODY	4.152E+03	.900	.900	RECTANGLE	TOP	VERT. FIN LOG. EDGE 2
1000	SPLAB	1.912E+04	0.	0.	CYLINDER	OUTSID	TUNNEL 1, X=582 TO 672.4, SPA
1010	SPLAB	1.168E+04	0.	0.	CYLINDER	OUTSID	TUNNEL 2, X=672.4 TO 790.4, S
1015	SPLAB	1.168E+04	0.	0.	CYLINDER	OUTSID	TUNNEL 2, X=672.4 TO 790.4, S
1020	SPLAB	1.918E+04	0.	0.	CONE	OUTSID	FWD CONE, X=790.4 TO 816.1, SP
1200	SPLAB	2.805E+01	0.	0.	DISC	BOTTOM	ECS CONDENSATE VENT 802.1, SP
1201	SPLAB	2.805E+01	0.	0.	DISC	TOP	ECS CONDENSATE VENT 802.1, SP
1030	SPLAB	5.316E+04	0.	0.	CYLINDER	OUTSID	CORE SEGMENT X=816.1 T
1040	SPLAB	5.316E+04	0.	0.	CYLINDER	OUTSID	EXPERIMENT SEGMENT X=922
1050	SPLAB	2.102E+04	0.	0.	CONE	OUTSID	AFT CONE TAPER, X=1027.9 TO
1060	SPLAB	4.745E+03	0.	0.	CYLINDER	OUTSID	AFT AIRLOCK, X=1059.2 TO 108
1065	SPLAB	2.059E+03	0.	0.	DISC	TOP	AFT AIRLOCK DISC X= 1088.8,
1070	SPLAB	2.822E+04	0.	0.	CYLINDER	OUTSID	PALLET BOTTOM CYLINDER X= 110
1080	SPLAB	1.596E+03	0.	0.	RECTANGLE	TOP	-Y PALLET OUTSIDE STRIP
1081	SPLAB	1.596E+03	0.	0.	RECTANGLE	TOP	+Y PALLET OUTSIDE STRIP
1082	SPLAB	6.840E+02	0.	0.	RECTANGLE	TOP	-Y PALLET TOP STRIP X=1101.2 T
1083	SPLAB	6.840E+02	0.	0.	RECTANGLE	TOP	+Y PALLET TOP STRIP ,X= 1101.
1084	SPLAB	5.166E+03	0.	0.	RECTANGLE	TOP	-Y INSIDE TOP PANNEL,X=1101.2
1085	SPLAB	5.166E+03	0.	0.	RECTANGLE	TOP	+Y INSIDE TOP PANNEL,X=1101.2
1086	SPLAB	4.093E+03	0.	0.	RECTANGLE	TOP	-Y INSIDE BOTTOM PANNEL, X=11
1087	SPLAB	4.093E+03	0.	0.	RECTANGLE	TOP	+Y INSIDE BOTTOM PANNEL,X 110
1088	SPLAB	7.866E+03	0.	0.	RECTANGLE	TOP	PALLET BOTTOM,X= 1101.2 TO 12
1100	SPLAB	1.9F3E+03	0.	0.	DISC	BOTTOM	TUNNEL EVA HATCH X=627. SPACE
1101	SPLAB	1.9F3E+03	0.	0.	DISC	TOP	TUNNEL EVA HATCH X=627. SPACE
1110	SPLAB	1.219E+03	0.	0.	DISC	BOTTOM	CORE SEGMENT WINDOW, X=869. S
1111	SPLAB	1.219E+03	0.	0.	DISC	TOP	CORE SEGMENT WINDOW, X=869. S
1120	SPLAB	2.059E+03	0.	0.	DISC	BOTTOM	EXPERIMENT SEGMENT WINDOW,
1121	SPLAB	2.059E+03	0.	0.	DISC	TOP	EXPERIMENT SEGMENT WINDOW,
1130	SPLAB	2.427E+02	0.	0.	DISC	BOTTOM	AFT AIRLOCK WINDOW X=1043.6,
1131	SPLAB	2.427E+02	0.	0.	DISC	TOP	AFT AIRLOCK WINDOW X=1043.6,

SPACELAB-1 INPUT DATA MATRIX

The following pages contain the input data computer printouts for the Spacelab-1/Orbiter configuration.

```
INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL

                  HEADER      SURFACE DATA                                                          41                 AA
                  I     ICSN=50                                                                     42                 AA
                      TX=0., TY=0., TZ=0.                                                           43                 AA
                      ROTX=0., ROTY=0., ROTZ=0.                                                     44                 AA
                  I     ICSN    =       1                                                           45                 AA
                        TX=800.,TY=0.,TZ=0.                                                         46                 AA
                        ROTZ=-180.,ROTY=0.,ROTX=0.                                                  47                 AA
                  I     ICSN    =       2                                                           48                 AA
                        TX      =    -8.0000000000E+02                                              49                 AA
                        TY      =     0.                                                            50                 AA
                        TZ      =     0.                                                            51                 AA
                        ROTZ    = -180.0000                                                         52                 AA
                        ROTY    =    -0.                                                            53                 AA
                        ROTX    =     0.                                                            54                 AA
                  I     ICSN    =       3                                                           55                 AA
                        TX      =     8.0000000000E+02                                              56                 AA
                        TY      =     0.                                                            57                 AA
                        TZ      =     0.                                                            58                 AA
                        ROTZ    =   -90.0000                                                        59                 AA
                        ROTY    =    -0.                                                            60                 AA
                        ROTX    =    90.0000                                                        61                 AA
                  I     ICSN    =       4                                                           62                 AA
                        TX      =     4.3000000000E+02                                              63                 AA
                        TY      =     6.2900000000E+01                                              64                 AA
                        TZ      =     2.4000000000E+01                                              65                 AA
                        ROTZ    =    79.7000                                                        66                 AA
                        ROTY    =    41.0000                                                        67                 AA
                        ROTX    =     0.                                                            68                 AA
                  I     ICSN    =       5                                                           69                 AA
                        TX      =     4.3000000000E+02                                              70                 AA
                        TY      =    -6.2900000000E+01                                              71                 AA
                        TZ      =     2.4000000000E+01                                              72                 AA
                        ROTZ    =   100.3000                                                        73                 AA
                        ROTY    =   -41.0000                                                        74                 AA
                        ROTX    =     0.                                                            75                 AA
                  I     ICSN=   6                                                                   76                 AA
                      TX=-195.                                                                      77                 AA
                      TY=0.                                                                         78                 AA
                      TZ=14.                                                                        79                 AA
                        ROTX=0.,ROTY=90.,ROTZ=0.                                                    80                 AA
                  I     ICSN=7                                                                      81                 AA
                        TX=-116.,TY=0.,TZ=14.                                                       82                 AA
                        ROTX=0.,ROTY=90.,ROTZ=0.                                                    83                 AA
                  I   ICSN=8                                                                        84                 AA
                      TX=-116.,TY=0.,TZ=14.                                                         85                 AA
                        ROTX=0.,ROTY=90.,ROTZ=0.                                                    86                 AA
                  I   ICSN=9                                                                        87                 AA
                      TX=156.,TY=0.,TZ=14.                                                          88                 AA
                        ROTX=0.,ROTY=-90., ROTZ=0.                                                  89                 AA
                  I   ICSN=10                                                                       90                 AA
                      TX=125.,TY=0.,TZ=14.                                                          91                 AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                     ROTY=0.,ROTY=90.,ROTZ=0.                                                    92                  AA
                I  ICSN = 11                                                                     93                  AA
                   TX=-470.,TY=-78.14,TZ=65.56                                                   94                  AA
                     ROTX=0.,ROTY=90.,ROTZ=0.                                                    95                  AA
                I  ICSN=12                                                                       96                  AA
                   TX=-470.,TY=+78.14,TZ=65.56                                                   97                  AA
                   ROTX=0., ROTY=90.0,ROTZ=0.                                                    98                  AA
                I  ICSN=13                                                                       99                  AA
                   TX =-700.,TY=00.,TZ=50.                                                      100                  AA
                   ROTX=0.0,ROTY=-80.,ROTZ=0.                                                   101                  AA
                I  ICSN=14                                                                      102                  AA
                   TX=-717.,TY=0.0,TZ=-50.                                                      103                  AA
                   ROTX=0.0,ROTY=-80.,ROTZ=0.                                                   104                  AA
                I     ICSN=15                                                                   105                  AA
                      TX=-711.,TY=0.0,TZ=0.0                                                    106                  AA
                      ROTX=0.0,  ROTY=-97.35,  ROTZ=0.0                                         107                  AA
                I     ICSN=16                                                                   108                  AA
                      TX=-705.,TY=88.,TZ=70.5                                                   109                  AA
                      ROTX=0.,ROTY=-74.183,ROTZ=12.241                                          110                  AA
                I     ICSN=17                                                                   111                  AA
                      TX=-705.,TY=-88.,TZ=70.5                                                  112                  AA
                      ROTX=0.,ROTY=-74.183,ROTZ=12.241                                          113                  AA
                I     ICSN=20                                                                   114                  AA
                      TX=0.,TY=102.,TZ=0.                                                       115                  AA
                      ROTX=-5.,ROTY=0.,ROTZ=0.                                                  116                  AA
                I     ICSN=21                                                                   117                  AA
                      TX=0.,TY=-102.,TZ=0.                                                      118                  AA
                      ROTX=5.,ROTY=0.,ROTZ=0.                                                   119                  AA
                BCS        PCCY                                                                 120                  AA
                S  SURF=145,TYPE=TRAP,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                         121                  AA
                   P1=-698.,102.,0.                                                             122                  AA
                   P2=-698.,102.,-125.                                                          123                  AA
                   P3=-728.,102.,-125.                                                          124                  AA
                   P4=-711.,102.,0.                                                             125                  AA
                   PROP=0.,0.                                                                   126                  AA
                   COM=* +Y REAR SIDE TAPER*                                                    127                  AA
                S  SURF=146,TYPE=TRAP,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                      128                  AA
                   P1=-698.,-102.,0.                                                            129                  AA
                   P2=-698.,-102.,-125.                                                         130                  AA
                   P3=-728.,-102.,-125.                                                         131                  AA
                   P4=-711.,-102.,0.                                                            132                  AA
                   PROP=0.,0.                                                                   133                  AA
                   COM= * - Y. REAR SIDE TAPER...*                                              134                  AA
                S     SURFN=707,TYPE=OTSC,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                    135                  AA
                      P1=218.,104.,-47.                                                         136                  AA
                      P2=218.,104.,-59.                                                         137                  AA
                      P3=215.,104.,-47.                                                         138                  AA
                      P4=215.,104.,-47.                                                         139                  AA
                      PROP=0.,0.                                                                140                  AA
                      COM=*.....JULY 8 EVAP..3 IN. RAD. OF FRONT CLOSE UNDER WING*              141                  AA
                S  SURF=147,TYPE=PARAB,ACTIVE=OUT,SHADE=BOTH,BSHADE=BOTH                        142                  AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
          DIMENSIONS=4.4,0.0,100.,0.,360.                                                                  143                AA
          ICSN=13                                                                                          144                AA
          PROP=0.,0.                                                                                       145                AA
          COM=* TOP  ENGIN *                                                                               146                AA
     S    SURF=148,TYPE=PARAB,ACTIVE= OUT,SHADE=BOTH,BSHADE=BOTH                                           147                AA
          DIMENSIONS=4.4,0.0,100.,0.,360.                                                                  148                AA
          ICSN=14,TY=+50.                                                                                  149                AA
             PROP=0.,0.                                                                                    150                AA
          COM = * + Y ENGIN *                                                                              151                AA
     S    SURF=149,TYPE=PARAB,ACTIVE=OUT,SHADE=BOTH,BSHADE=BOTH                                            152                AA
          DIMENSIONS=4.4,0.0,100.,0.,360.                                                                  153                AA
          ICSN = 14, TY =-50.                                                                              154                AA
             PROP=0.,0.                                                                                    155                AA
          COM = * -Y ENGIN...*                                                                             156                AA
     S    SURF=20,TYPE=DISC,ACTIVE=OUT,SHADE=BOTH,BSHADE=BOTH                                              157                AA
             DIMENSIONS=0.0,0.0,45.,125.,335.                                                              158                AA
          PROP=0.,0.                                                                                       159                AA
          ICSN=11                                                                                          160                AA
          COM = * ...-Y OWS SEALER ...*                                                                    161                AA
     S    SURF=21,TYPE=DISC,ACTIVE=OUT,SHADE=BOTH,BSHADE=BOTH                                              162                AA
             DIMENSIONS=0.0,0.0,45.,25.,235.                                                               163                AA
          PROP=0.,0.                                                                                       164                AA
          ICSN=12                                                                                          165                AA
          COM= * ..+Y OWS SEALER ...*                                                                      166                AA
     S       SURF=222,TYPE=RECT,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                                       167                AA
             P1=-728.,-102.,-125.                                                                          168                AA
             P2=-728.,102.,-125.                                                                           169                AA
              P3=-711.,102.,0.0                                                                            170                AA
              PROP=0.,0.                                                                                   171                AA
              COM=*  BACK RECT   7.35DEG*                                                                  172                AA
     S        SURF=23,TYPE=DISC,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                          173                AA
             DIMENSIONS=0.0,0.0,102.,90.,270.                                                              174                AA
             PROP=0.,0.                                                                                    175                AA
             ICSN=15                                                                                       176                AA
             COM=* REAR END HALF DISK*                                                                     177                AA
     S       SURF=407,TYPE=DISC,ACTIVE=TOP,SHADE=BOTH,BSHADE= BOTH                                         178                AA
             P1=-592.0,113.,-77.                                                                           179                AA
             P2=-592.0,113.,-80.                                                                           180                AA
             P3=-595.0,113.,-77.                                                                           181                AA
             P4=-595.0,113.,-77.                                                                           182                AA
             PROP=0.,0.                                                                                    183                AA
             COM=*  BACK SIDE EVAPORAT, UPDATED JULY 18, 6 IN DIA.*                                        184                AA
     S       SURF=15,TYPE=DISC,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                           185                AA
             P1=-719.,126.,-95.                                                                            186                AA
             P2=-719.,126.,-98.                                                                            187                AA
             P3=-722.,126.,-95.                                                                            188                AA
             P4=-722.,126.,-95.                                                                            189                AA
             PROP=0.,0.                                                                                    190                AA
             COM=* REAR END EVAPORATOR*                                                                    191                AA
     S       SURF=10,TYPE=POLY,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                                        192                AA
             P1=230.,0.,-102.                                                                              193                AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  P2=-192.,-89.,-60.                                                                  194                  AA
                  P3=-192.,0.,-60.                                                                    195                  AA
                  ICSN=21                                                                             196                  AA
                  PROP=0.,0.                                                                          197                  AA
                  COM=*....LEFT FRONT WING  A ...*                                                    198                  AA
          S       SURF=11,TYPE=POLY,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                 199                  AA
                  P1=-192.,-89.,-60.                                                                  200                  AA
                  P2=-483.,-89.,-85.                                                                  201                  AA
                  P3=-483.,-366.,-85.                                                                 202                  AA
                  ICSN=21                                                                             203                  AA
                  PROP=1.,0.                                                                          204                  AA
                  COM=*......LEFT MIDDLE WING BACK,B ... *                                            205                  AA
          S       SURF=141,TYPE=RECT,ACTIVE=TOP,BSHADE=BOTH,SHADE=BOTH                                206                  AA
                   P1=-192.,0.,-60.                                                                   207                  AA
                  P2=-483.,0.,-85.                                                                    208                  AA
                  P3=-483.,-89.,-85.                                                                  209                  AA
                   ICSN=21                                                                            210                  AA
                   PROP=0.,0.                                                                         211                  AA
                   COM=*  BS INNER WING          *                                                    212                  AA
          S       SURF=12,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                 213                  AA
                  P1=-644.,-89.,-90.                                                                  214                  AA
                  P2=-644.,-366.,-90.                                                                 215                  AA
                  P3=-483.,-366.,-85.                                                                 216                  AA
                  ICSN=21                                                                             217                  AA
                  PROP=0.,0.                                                                          218                  AA
                  COM=* ..... LEFT BACK RECT. WING C .... *                                           219                  AA
          S        SURF=142,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                               220                  AA
                  P1=-644.,0.,-90.                                                                    221                  AA
                  P2=-644.,-89.,-90.                                                                  222                  AA
                  P3=-483.,-89.,-85.                                                                  223                  AA
                  ICSN=21                                                                             224                  AA
                  PROP=0.,0.                                                                          225                  AA
                  COM=*  INNER WING C*                                                                226                  AA
          S       SURF=13,TYPE=POLY,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                 227                  AA
                  P1=-698.,0.,-102.                                                                   228                  AA
                  P2=-644.,-366.,-90.                                                                 229                  AA
                  P3=-644.,0.,-90.                                                                    230                  AA
                  PROP=0.,0.                                                                          231                  AA
                  ICSN=21                                                                             232                  AA
                  COM=* ..... LEFT WING TAIL  EDGE  ..D . *                                           233                  AA
          S       SURF=1,TYPE=POLY,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                  234                  AA
                  P1=230.,0.,-70.                                                                     235                  AA
                  P2=-192.,89.,-60.                                                                   236                  AA
                  P3=-192.,0.,-60.                                                                    237                  AA
                  PROP= 0.,0.                                                                         238                  AA
                  ICSN=20                                                                             239                  AA
                  COM=*...FRONT WING TRIANGLE RT,A.582.1024*                                          240                  AA
          S       SURF=2,TYPE=POLY,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                               241                  AA
                  PROP=0.,0.                                                                          242                  AA
                  P1=-192.,89.,-60.                                                                   243                  AA
                  P2=-483.,89.,-85.                                                                   244                  AA
```

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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  P3=-483.,366.,-85.                                                                                    245                AA
                  COM=*.....MIDDLE WING TRAP, RT 6 ..1024,1292*                                                         246                AA
                  ICSN=20                                                                                               247                AA
              S    SURF=143,TYPE=RECT,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                                              248                AA
                  P1=-192.,0.,-80.                                                                                      249                AA
                  P2=-483.,0.,-85.                                                                                      250                AA
                  P3=-483.,89.,-85.                                                                                     251                AA
                  PROP=0.,1.                                                                                            252                AA
                  ICSN=20                                                                                               253                AA
                  COM=*P  +Y RECTANGLE WING*                                                                            254                AA
              S   SURF=3,TYPE=RECT,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                                                 255                AA
                  P1=-644.,89.,-90.                                                                                     256                AA
                  P2=-644.,366.,-90.                                                                                    257                AA
                  P3=-483.,366.,-85.                                                                                    258                AA
                  PROP=0.,1.                                                                                            259                AA
                  ICSN=20                                                                                               263                AA
                  COM=*.... BACK WING RECT.  RTC .1292,1453*                                                            261                AA
              S    SURF=144,TYPE=RECT,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                                              262                AA
                  P1=-644.,0.,-90.                                                                                      263                AA
                  P2=-644.,89.,-90.                                                                                     264                AA
                  P3=-483.,89.,-85.                                                                                     265                AA
                  PROP=0.,1.                                                                                            266                AA
                  ICSN=20                                                                                               267                AA
                  COM=*   INNER WING C RECT*                                                                            268                AA
              S   SURF=4,TYPE=POLY,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                                                 269                AA
                  P1=-698.,0.,-102.                                                                                     270                AA
                  P2=-644.,366.,-90.                                                                                    271                AA
                  P3=-644.,0.,-90.                                                                                      272                AA
                  PROP=0.,1.                                                                                            273                AA
                  ICSN=20                                                                                               274                AA
                  COM=*...WING TAIL FLAP RT 1453,1507*                                                                  275                AA
              S   SURFN=  150,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                                            276                AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BAY AREA CYLINDER                *                                   277                AA
                  TYPE=CYLINDER  ,ACTIVE=INSIDE ,ALPH= 1.02000E+02                                                      278                AA
                  RMIN= 0.          ,RMAX= 7.00000E+02,ZMIN= 0.                                                         279                AA
                  ZMAX= 1.80000E+02,NNX=     2,NNY=     4,ICSN=    -0                                                   280                AA
                  POSITION=-4.70000E+02, 0.          , 0.                                                             281                AA
                  ROTZ     =    -0.     , ROTY     =    90.0000, ROTX     =     0.                                   282                AA
              S   SURFN=  140,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                                            283                AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*  END  BAY AREA DISK             *                                   284                AA
                  TYPE=DISC       ,ACTIVE=TOP     ,ALPH= 0.                                                             285                AA
                  RMIN= 0.          ,RMAX= 1.02000E+02,ZMIN= 0.                                                         286                AA
                  ZMAX= 3.60000E+02,NNX=     1,NNY=     1,ICSN=    -0                                                   287                AA
                  POSITION=-4.70000E+02, 0.          , 0.                                                             288                AA
                  ROTZ     =    -0.     , ROTY     =    90.0000, ROTX     =     0.                                   289                AA
              S   SURFN=  135,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                                            290                AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=* FRONT BAY AREA DISK             *                                   291                AA
                  TYPE=DISC       ,ACTIVE=TOP     ,ALPH= 0.                                                             292                AA
                  RMIN= 0.          ,RMAX= 1.02000E+02,ZMIN= 0.                                                         293                AA
                  ZMAX= 3.60000E+02,NNX=     1,NNY=     1,ICSN=    -0                                                   294                AA
                  POSITION= 2.30000E+02, 0.          , 0.                                                             295                AA
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INPUT CARD CCL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NC.  LABEL
                  ROTZ    =   -0.    , ROTY    =  -90.0000, ROTX    =    0.                                296              AA
              S   SURFN=  122,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.   ,EMISS=-0.                                  297              AA
                  TRANS=-0.   ,TRANI=-0.   ,COM=* VERY NOSE CONE                          *                  298              AA
                  TYPE=PARABOLOID,ACTIVE=OUTSIDE,ALPH= 6.13000E+00                                           299              AA
                  RMIN= 0.          ,RMAX= 2.00000E+02,CMIN= 0.                                              300              AA
                  CMAX= 3.60000E+02,NNX=    4,NNY=    1,ICSN=    1                                         301              AA
                  POSITION= 2.00000E+02, 0.          ,-3.00000E+01                                           302              AA
                  ROTZ    = -180.0000, ROTY    =  -90.0000, ROTX    =    0.                                303              AA
              S   SURFN= 320,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.   ,EMISS=-0.                                  304              AA
                  TRANS=-0.   ,TRANI=-0.   ,COM=*   NOSE CYLINDER                         *                  305              AA
                  TYPE=CYLINDER  ,ACTIVE=OUTSIDE,ALPH= 7.00000E+01                                           306              AA
                  RMIN= 0.          ,RMAX= 1.73000E+02,CMIN= 0.                                              307              AA
                  CMAX= 3.60000E+02,NNX=    4,NNY=    4,ICSN=    1                                         308              AA
                  POSITION= 4.00000E+02, 0.          ,-3.00000E+01                                           309              AA
                  ROTZ    = -180.0000, ROTY    =  -90.0000, ROTX    =    0.                                310              AA
              S   SURFN= 340,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.   ,EMISS=-0.                                  311              AA
                  TRANS=-0.   ,TRANI=-0.   ,COM=*   HOCO PARTIAL BACK                     *                  312              AA
                  TYPE=PARABOLOID,ACTIVE=OUTSIDE,ALPH= 7.03000E+00                                           313              AA
                  RMIN= 2.60000E+02,RMAX= 3.70000E+02,CMIN= 0.                                              314              AA
                  CMAX= 3.60000E+02,NNX=    4,NNY=    4,ICSN=    1                                         315              AA
                  POSITION= 2.00000E+02, 0.          , 0.                                                    316              AA
                  ROTZ    = -180.0000, ROTY    =  -90.0000, ROTX    =    0.                                317              AA
              S   SURFN= 360,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.   ,EMISS=-0.                                  318              AA
                  TRANS=-0.   ,TRANI=-0.   ,COM=* WINDOW                                  *                  319              AA
                  TYPE=PARABOLOID,ACTIVE=OUTSIDE,ALPH= 2.38000E+01                                           320              AA
                  RMIN= 1.69000E+01,RMAX= 7.68000E+01,CMIN= 0.                                              321              AA
                  CMAX= 3.60000E+02,NNX=    4,NNY=    4,ICSN=    1                                         322              AA
                  POSITION= 3.83200E+02, 0.          , 0.                                                    323              AA
                  ROTZ    = -180.0000, ROTY    =  -90.0000, ROTX    =    0.                                324              AA
              S   SURFN=  401,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                               325              AA
                  TRANS=-0.   ,TRANI=-0.   ,COM=*BODY BOTTOM (FRT)                  4 1   *                  326              AA
                  TYPE=RECTANGLE ,ACTIVE=BOTTOM ,ALPH= 0.                                                    327              AA
                  RMIN=-1.02000E+02,RMAX= 1.02000E+02,CMIN= 0.                                              328              AA
                  CMAX= 2.26000E+02,NNX=    1,NNY=    1,ICSN=    1                                         329              AA
                  POSITION= 5.70000E+02, 0.          ,-1.02000E+02                                           330              AA
                  ROTZ    =   -0.    , ROTY    =   5.3870, ROTX    =    0.                                331              AA
              S   SURFN=  402,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                               332              AA
                  TRANS=-0.   ,TRANI=-0.   ,COM=*BODY BOTTOM (REAR)          402    *                  333              AA
                  TYPE=RECTANGLE ,ACTIVE=BOTTOM ,ALPH=-1.25000E+02                                           334              AA
                  RMIN=-1.02000E+02,RMAX= 1.02000E+02,CMIN= 2.25000E+02                                      335              AA
                  CMAX= 9.72000E+02,NNX=    1,NNY=    1,ICSN=    1                                         336              AA
                  POSITION= 5.70000E+02, 0.          , 0.                                                    337              AA
                  ROTZ    =   -0.    , ROTY    =   -0.    , ROTX    =    0.                                338              AA
              S   SURFN=  182,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.   ,EMISS=-0.                                  339              AA
                  TRANS=-0.   ,TRANI=-0.   ,COM=* CMSP0001                                *                  340              AA
                  TYPE=CYLINDER  ,ACTIVE=OUTSIDE,ALPH= 4.50000E+01                                           341              AA
                  RMIN= 0.          ,RMAX= 2.35000E+02,CMIN= 3.50000E+01                                     342              AA
                  CMAX= 2.49000E+02,NNX=    1,NNY=    1,ICSN=   -0                                         343              AA
                  POSITION=-4.78000E+02,-7.81400E+01, 6.55600E+01                                           344              AA
                  ROTZ    =   -0.    , ROTY    =  -90.0000, ROTX    =    0.                                345              AA
              S   SURFN=  172,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.   ,EMISS=-0.                                  346              AA
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SURFACE DATA INPUT BLOCK

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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  TRANS=-0.    ,TRANI=-0.    ,COM=* CMSPCDC2                                *          347                  AA
                  TYPE=CYLINDER  ,ACTIVE=OLTSIDE,ALPH= 4.50000E+01                                     348                  AA
                  GMAX= 1.46000E+02,NNX=     1,NNY=     1,ICSN=    -0                                 349                  AA
                  BMIN= 0.          ,BMAX= 2.35000E+02,GMIN=-6.60000E+01                            350                  AA
                  POSITION=-4.70000E+02, 7.81400E+01, 6.55600E+01                                   351                  AA
                  ROTZ     =    -0.     , ROTY     =   -90.0000, ROTX     =     0.                 352                  AA
            S     SURFN=   781,TYPE=CYL,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                          353                  AA
                  P1=230.,201.34,37.98                                                              354                  AA
                  P2=230.,103.,19.                                                                  355                  AA
                  P3=230.,201.34,-64.02                                                             356                  AA
                  P4=-470.,201.34,-64.02                                                            357                  AA
                  PROP=0.,0.                                                                        358                  AA
                  NNX=2,NNY=2                                                                       359                  AA
                  COM=*.....+Y SIDE DOOR.....*                                                      360                  AA
            S     SURFN=   791,TYPE=CYL,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                          361                  AA
                  P1=230.,-201.34,37.98                                                             362                  AA
                  P2=230.,-201.34,-64.02                                                            363                  AA
                  P3=230.,-103.,19.                                                                 364                  AA
                  P4=-470.,-103.,19.                                                                365                  AA
                  PROP=0.0,0.                                                                       366                  AA
                  NNX=2,NNY=2                                                                       367                  AA
                  COM=*... -Y SIDE DOOR....*                                                        368                  AA
            S     SURFN=   301,TYPE=TRAP,BSHADE=BOTH,SHADE=BOTH,ACTIVE=TOP                          369                  AA
                  P1=230.,102.,-102.                                                                370                  AA
                  P2=4.,102.,-125.                                                                  371                  AA
                  P3=4.,102.,19.                                                                    372                  AA
                  P4=230.,102.,19.                                                                  373                  AA
                  COM=* +Y SIDE FRONT TRAPCZOID*                                                    374                  AA
                  PROP=0.,0.                                                                        375                  AA
            S     SURFN=   305,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                     376                  AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY SIDE (MIDDLE-PORT)   305 *                 377                  AA
                  TYPE=RECTANGLE ,ACTIVE=TOP     ,ALPH= 1.02000E+02                                 378                  AA
                  BMIN=-1.25000E+02,BMAX= 19.         ,GMIN= 2.25000E+02                            379                  AA
                  GMAX= 5.72000E+02,NNX=     1,NNY=     1,ICSN=     1                              380                  AA
                  POSITION= 5.70000E+02, 0.          , 0.                                           381                  AA
                  ROTZ     =    -0.     , ROTY     =    -0.     , ROTX     =    90.0000           382                  AA
            S     SURFN=   306,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                     383                  AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY SIDE (BACK-PORT)     306 *                 384                  AA
                  TYPE=RECTANGLE ,ACTIVE=TOP     ,ALPH= 1.02000E+02                                 385                  AA
                  BMIN=-1.25000E+02,BMAX= 19.         ,GMIN= 5.72000E+02                            386                  AA
                  GMAX= 9.30000E+02,NNX=     1,NNY=     1,ICSN=     1                              387                  AA
                  POSITION= 9.70000E+02, 0.          , 0.                                           388                  AA
                  ROTZ     =    -0.     , ROTY     =    -0.     , ROTX     =    90.0000           389                  AA
            S     SURFN=   311,TYPE=TRAP,BSHADE=BOTH,SHADE=BOTH,ACTIVE=BOTTOM                       390                  AA
                  P1=230.,102.,-102.                                                                391                  AA
                  P2=4.,102.,-125.                                                                  392                  AA
                  P3=4.,102.,19.                                                                    393                  AA
                  P4=230.,102.,19.                                                                  394                  AA
                  COM=* -Y SIDE FRONT TRAPCZOID*                                                    395                  AA
                  PROP=0.,0.                                                                        396                  AA
            S     SURFN=   315,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                     397                  AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY SIDE (MIDDLE-STBD)   315 *          398                  AA
                  TYPE=RECTANGLE ,ACTIVE=TOP     ,ALPH= 1.02000E+02                        399                  AA
                  BMIN= 19.         ,BMAX= 1.25000E+02,GMIN= 2.25000E+02                   400                  AA
                  GMAX= 5.72000E+02,NNX=     1,NNY=     1,ICSN=     1                      401                  AA
                  POSITION= 5.70000E+02, 0.          , 0.                                   402                  AA
                  ROTZ     =    -0.     , ROTY     =    -0.     , ROTX     =  -90.0000    403                  AA
          S       SURFN=  316,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900            404                  AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY SIDE (BACK-STBD)     316 *      405                  AA
                  TYPE=RECTANGLE ,ACTIVE=TOP     ,ALPH= 1.02000E+02                      406                  AA
                  BMIN= 19.         ,BMAX= 1.25000E+02,GMIN= 5.72000E+02                 407                  AA
                  GMAX= 9.30000E+02,NNX=     1,NNY=     1,ICSN=     1                    408                  AA
                  POSITION= 5.70000E+02, 0.          , 0.                                 409                  AA
                  ROTZ     =    -0.     , ROTY     =    -0.     , ROTX     =  -90.0000  410                  AA
          S       SURFN=  202,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900          411                  AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY TOP (STBD-REAR)  202      *     412                  AA
                  TYPE=CYLINDER  ,ACTIVE=OUTSIDE,ALPH= 1.02000E+02                       413                  AA
                  BMIN= 7.00000E+02,BMAX= 9.30000E+02,GMIN= 2.70000E+02                  414                  AA
                  GMAX= 3.60000E+02,NNX=     1,NNY=     1,ICSN=     1                    415                  AA
                  POSITION= 5.70000E+02, 0.          , 0.                                 416                  AA
                  ROTZ     =    -0.     , ROTY     =   90.0000, ROTX     =     0.       417                  AA
          S       SURFN=  212,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900          418                  AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY TOP (PORT-REAR)  212      *     419                  AA
                  TYPE=CYLINDER  ,ACTIVE=OUTSIDE,ALPH= 1.02000E+02                       420                  AA
                  BMIN= 7.00000E+02,BMAX= 9.30000E+02,GMIN= 1.80000E+02                  421                  AA
                  GMAX= 2.70000E+02,NNX=     1,NNY=     1,ICSN=     1                    422                  AA
                  POSITION= 5.70000E+02, 0.          , 0.                                 423                  AA
                  ROTZ     =    -0.     , ROTY     =   90.0000, ROTX     =     0.       424                  AA
          S       SURFN= 382 ,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900          425                  AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*VERTICAL FIN (PORT)       20     *     426                  AA
                  TYPE=TRAPEZOID ,ACTIVE=TOP     ,ALPH= 0.                               427                  AA
                  BMIN= 1.48400E+02,BMAX= 3.93400E+02,GMIN= 3.00000E+01                  428                  AA
                  GMAX= 4.50000E+01,NNX=     1,NNY=     1,ICSN=     1                    429                  AA
                  POSITION= 1.65840E+03, 0.          , 4.95400E+02                       430                  AA
                  ROTZ     =    -0.     , ROTY     = -180.0000, ROTX     =    90.0000  431                  AA
          S       SURFN= 385,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900            432                  AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*VERTICAL FIN (PORT-AFT) 20     *     433                  AA
                  TYPE=TRAPEZOID ,ACTIVE=TOP     ,ALPH= 0.                               434                  AA
                  BMIN= 1.48400E+02,BMAX= 3.93400E+02,GMIN= 1.50000E+01                  435                  AA
                  GMAX= 3.00000E+01,NNX=     1,NNY=     1,ICSN=     1                    436                  AA
                  POSITION= 1.65840E+03, 0.          , 4.95400E+02                       437                  AA
                  ROTZ     =    -0.     , ROTY     = -180.0000, ROTX     =    90.0000  438                  AA
          S       SURFN= 392,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900            439                  AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*VERTICAL FIN (STBD)       20     *     440                  AA
                  TYPE=TRAPEZOID ,ACTIVE=BOTTOM ,ALPH= 0.                                441                  AA
                  BMIN= 1.48400E+02,BMAX= 3.93400E+02,GMIN= 3.00000E+01                  442                  AA
                  GMAX= 4.50000E+01,NNX=     1,NNY=     1,ICSN=     1                    443                  AA
                  POSITION= 1.65840E+03, 1.00000E-01, 4.95400E+02                        444                  AA
                  ROTZ     =    -0.     , ROTY     = -180.0000, ROTX     =    90.0000  445                  AA
          S       SURFN= 395,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900            446                  AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*VERTICAL FIN (STBD-AFT) 20     *     447                  AA
                  TYPE=TRAPEZOID ,ACTIVE=BOTTOM ,ALPH= 0.                                448                  AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  BMIN= 1.48400E+02,BMAX= 3.93400E+02,GMIN= 1.50000E+01                                449                 AA
                  GMAX= 3.00000E+01,NNX=     1,NNY=     1,ICSN=     1                                    450                 AA
                  POSITION= 1.65840E+03, 1.20000E-01, 4.95400E+02                                      451                 AA
                  ROTZ     =    -0.     , ROTY     = -180.0000, ROTX     =    90.0000                 452                 AA
            S      SURF=705,TYPE=DISC,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                453                 AA
                   P1=327.,85.,-72.                                                                    454                 AA
                   P2=327.,85.,-75.                                                                    455                 AA
                   P3=324.,85.,-72.                                                                    456                 AA
                   P4=324.,85.,-72.                                                                    457                 AA
                   PROP=0.,0.                                                                          458                 AA
                   COM=*..MOST FORWARD EVAPORATOR.....LOOKING +Y,6 IN DIA.*                             459                 AA
            S      SURFN=700,TYPE=DISC,ACTIVE=BOTH,BSHADE=BOTH,SHADE=BOTH                              460                 AA
                   DIMENSIONS=70.,0.,22.5,0.,360.                                                      461                 AA
                   ICSN=16,PROP=0.,0.                                                                  462                 AA
                   COM=*.......SUPER ENGINS (OMS LOCATION)..+Y..*                                      463                 AA
            S      SURFN=702,TYPE=DISC,ACTIVE=BOTH,BSHADE=BOTH,SHADE=BOTH                              464                 AA
                   DIMENSIONS=70.,0.,22.5,0.,360.                                                      465                 AA
                   ICSN=17,PROP=0.,0.                                                                  466                 AA
                   COM=*.......SUPER ENGINS (OMS LOCATION)..-Y..*                                      467                 AA
            S      SURFN=24,TYPE=DISC,ACTIVE=BOTH,SHADE=NO,BSHADE=BOTH                                 468                 AA
                   P1=-765.,134.,59.                                                                   469                 AA
                   P2=-765.,134.,62.                                                                   470                 AA
                   P3=-767.82,132.97,59.                                                               471                 AA
                   P4=-767.82,132.97,59.                                                               472                 AA
                   PROP=0.,0.                                                                          473                 AA
                   COM=*...BACK RCS ...LOOKING +/- Y.(10 DEG CANT) .*                                  474                 AA
            S      SURFN=18,TYPE=DISC,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                               475                 AA
                   P1=467.5,50.,-48.9                                                                  476                 AA
                   P2=470.5,52.,-48.9                                                                  477                 AA
                   P3=467.5,52.457,-47.18                                                              478                 AA
                   P4=467.5,52.457,-47.18                                                              479                 AA
                   PROP=0.,0.                                                                          480                 AA
                   COM=*...FRONT RCS..LOCKING +/-Y AT 45 DEG. 7/23/74...*                              481                 AA
            S      SURFN=26,TYPE=DISC,ACTIVE=BOTH,SHADE=NO,BSHADE=BOTH                                 482                 AA
                   P1=-765.,118.,57.                                                                   483                 AA
                   P2=-765.,115.,57.                                                                   484                 AA
                   P3=-768.03,118.,57.00                                                               485                 AA
                   P4=-768.03,118.,57.00                                                               486                 AA
                   PROP=0.,0.                                                                          487                 AA
                   COM=*...BACK RCS LOCKING +/- Z...7/23/74.*                                          488                 AA
            S      SURFN=16,TYPE=DISC,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                               489                 AA
                   P1=-247.,105.,-21.                                                                  490                 AA
                   P2=-247.,105.,-24.                                                                  491                 AA
                   P3=-250.,105.,-21.                                                                  492                 AA
                   P4=-250.,105.,-21.                                                                  493                 AA
                   PROP=0.,0.                                                                          494                 AA
                   COM=*...MIDDLE EVAP. LOOKING +/- Y.........*                                        495                 AA
            S      SURFN=160,TYPE=RECT,ACTIVE=BOTH,SHADE=NO,BSHADE=BOTH                                496                 AA
                   P1=230.,102.,19.                                                                    497                 AA
                   P2=230.,103.,19.                                                                    498                 AA
                   P3=55.,103.,19.                                                                     499                 AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  PROP=0.,0.                                                                                          500          AA
                  COM=*...THIN STRIP BETWEEN DOORS AND BODY(7/25/74).1ST FRONT*                                       501          AA
            S     SURFN=162,TYPE=RECT,ACTIVE=BOTH,SHADE=NO,BSHADE=BOTH                                                502          AA
                  P1=55.,102.,19.                                                                                     503          AA
                  P2=55.,103.,19.                                                                                     504          AA
                  P3=-120.,103.,19.                                                                                   505          AA
                  PROP=0.,0.                                                                                          506          AA
                  COM=*...THIN STRIP BETWEEN DOORS AND BODY(7/25/74).2ND FRONT*                                       507          AA
            S     SURFN=164,TYPE=RECT,ACTIVE=BOTH,SHADE=NO,BSHADE=BOTH                                                508          AA
                  P1=-120.,102.,19.                                                                                   509          AA
                  P2=-120.,103.,19.                                                                                   510          AA
                  P3=-295.,103.,19.                                                                                   511          AA
                  PROP=0.,0.                                                                                          512          AA
                  COM=*...THIN STRIP BETWEEN DOORS AND BODY(7/25/74).3RD END..*                                       513          AA
            S     SURFN=166,TYPE=RECT,ACTIVE=BOTH,SHADE=NO,BSHADE=BOTH                                                514          AA
                  P1=-295.,102.,19.                                                                                   515          AA
                  P2=-295.,103.,19.                                                                                   516          AA
                  P3=-470.,103.,19.                                                                                   517          AA
                  PROP=0.,0.                                                                                          518          AA
                  COM=*...THIN STRIP BETWEEN DOORS AND BODY(7/25/74).4RD END..*                                       519          AA
            S     SURFN= 399,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                                         520          AA
                  TRANS=-1.   ,TRANI=-0.   ,COM=*VERT. FIN LDG. EDGE     2    *                                     521          AA
                  TYPE=RECTANGLE ,ACTIVE=TOP.   ,ALPH= 0.                                                             522          AA
                  RMIN=-6.00000E+00,RMAX= 6.00000E+00,GMIN=-5.50000E+02                                               523          AA
                  GMAX=-2.10000E+02,NNX=    1,NNY=    1,ICSN=    1                                                    524          AA
                  POSITION= 1.65840E+03, 0.         , 4.95400E+02                                                     525          AA
                  ROTZ    =   -0.    , ROTY    = -45.0000, ROTX    =    0.                                          526          AA
            BCS   SPLAB                                                                                               527          AA
            S     SURF=1000,TYPE=CYL,ACTIVE=CUT,BSHADE=BOTH, SHADE=BOTH                                               528          AA
                     ICSN=50                                                                                          529          AA
                  P1=582.,0.,366.                                                                                     530          AA
                  P2=582.,31.5,366.                                                                                   531          AA
                  P3=582.,31.5,366.                                                                                   532          AA
                  P4=672.4,31.5,400.                                                                                  533          AA
                  PROP=0.,0.                                                                                          534          AA
                  COM=* TUNNEL 1, X=582 TO 672.4, SPACELAB1 *                                                         535          AA
            S     SURF=1010,TYPE=CYL,ACTIVE=OUT,BSHADE=BOTH,SHADE=BOTH                                                536          AA
                     ICSN=50                                                                                          537          AA
                  P1=672.4,0.,400.                                                                                    538          AA
                  P2=672.4,31.5,400.                                                                                  539          AA
                  P3=672.4,31.5,400.                                                                                  540          AA
                  P4=731.4,31.5,400.                                                                                  541          AA
                  PROP=0.,0.                                                                                          542          AA
                  COM=* TUNNEL 2, X=672.4 TO 790.4, SPACELAB1 ,SEG 1     *                                            543          AA
            S     SURF=1015,TYPE=CYL,ACTIVE=CUT,BSHADE=BOTH,SHADE=BOTH                                                544          AA
                     ICSN=50                                                                                          545          AA
                  P1=731.4,0.,400.                                                                                    546          AA
                  P2=731.4,31.5,400.                                                                                  547          AA
                  P3=731.4,31.5,400.                                                                                  548          AA
                  P4=790.4,31.5,400.                                                                                  549          AA
                  PROP=0.,0.                                                                                          550          AA
```

```
INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  COM=* TUNNEL 2, X=672.4 TO 790.4, SPACELAB1 ,SEG 2    *                                551                AA
              S   SURF=1020,TYPE=CONE,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                              552                AA
                    ICSN=50                                                                             553                AA
                  P1=816.1,0.,400.                                                                      554                AA
                  P2=816.1,79.9,400.                                                                    555                AA
                  P3=816.1,79.9,400.                                                                    556                AA
                  P4=773.68,0.,400.                                                                     557                AA
                  P5=790.4,31.5,400.                                                                    558                AA
                  PROP=0.,0.                                                                            559                AA
                  COM=*FWD CONE, X=790.4 TO 816.1, SPACELAB 1  *                                        560                AA
              S   SURF=1200,TYPE=DISC,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                                561                AA
                    ICSN=50                                                                             562                AA
                  P1=802.1,0.,425.44                                                                    563                AA
                  P2=802.10,3.0,425.44                                                                  564                AA
                  P3=804.74,0.00,426.84                                                                 565                AA
                  P4=804.74,0.,426.84                                                                   566                AA
                  PROP=0.,0.                                                                            567                AA
                  COM=*ECS CONDENSATE VENT  802.1, SPACELAB 1  *                                        568                AA
              S   SURF=1030,TYPE=CYL,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                              569                AA
                    ICSN=50                                                                             570                AA
                  P1=816.1,0.,400.                                                                      571                AA
                  P2=816.1,79.9,400.                                                                    572                AA
                  P3=816.1,79.9,400.                                                                    573                AA
                  P4=922.,79.9,400.                                                                     574                AA
                  PROP=0.,0.                                                                            575                AA
                  COM=*     CORE  SEGMENT   X=816.1 TO 922. , SPACELAB 1*                               576                AA
              S   SURF=1040,TYPE=CYL,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                              577                AA
                    ICSN=50                                                                             578                AA
                  P1=922.,0.,400.                                                                       579                AA
                  P2=922.,79.9,400.                                                                     580                AA
                  P3=922.,79.9,400.                                                                     581                AA
                  P4=1027.9,79.9,400.                                                                   582                AA
                  PROP=0.,0.                                                                            583                AA
                  COM= *    EXPERIMENT SEGMENT  X=922 TO 1027.9, SPACELAB1*                             584                AA
              S   SURF=1050,TYPE=CONE,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                             585                AA
                    ICSN=50                                                                             586                AA
                  P1=1027.9,0.,400.                                                                     587                AA
                  P2=1027.9,79.9,400.                                                                   588                AA
                  P3=1027.9,79.9,400.                                                                   589                AA
                  P4=1078.07,0.,400.                                                                    590                AA
                  P5=1059.3,25.6,400.                                                                   591                AA
                  PROP=0.,0.                                                                            592                AA
                  COM=*  AFT CONE TAPER, X=1027.9 TO 1059.3 SPACELAB1*                                  593                AA
              S   SURF=1060,TYPE=CYL,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                              594                AA
                    ICSN=50                                                                             595                AA
                  P1=1059.3,0.,400.                                                                     596                AA
                  P2=1059.3,25.6,400.                                                                   597                AA
                  P3=1059.3,25.6,400.                                                                   598                AA
                  P4=1088.8,25.6,400.0                                                                  599                AA
                  PROP=0.,0.                                                                            600                AA
                  COM=*  AFT AIRLOCK, X=1059.3 TO 1088.8, SPACELAB1*                                    601                AA
```

SURFACE DATA INPUT BLOCK

INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO. LABEL

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      S     SURF=1065,TYPE=DISC,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                    602          AA
              ICSN=50                                                                603          AA
            P1=1088.8,0.,400.                                                        604          AA
            P2=1088.8,25.6,400.                                                      605          AA
            P3=1088.8,00.0,425.6                                                     606          AA
            P4=1088.8,00.0,425.6                                                     607          AA
            PROP=0.,0.                                                               608          AA
            COM=*  AFT AIRLOCK DISC X= 1088.8, SPACELAB1*                            609          AA
      S     SURF=1070,TYPE=CYL,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                 610          AA
              ICSN=50                                                                611          AA
            P1=1101.2,0.,400.                                                        612          AA
            P2=1101.2,78.8,400.                                                      613          AA
            P3=1101.2,-78.8,400.                                                     614          AA
            P4=1215.2,-78.8,400.                                                     615          AA
            PROP=0.,0.                                                               616          AA
            COM = * PALLET BOTTOM CYLINDER X= 1101.2 TO 1215.2 *                     617          AA
      S     SURF=1080,TYPE=RECT,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                618          AA
              ICSN=50                                                                619          AA
            P1=1101.2,-78.8,400.                                                     620          AA
            P2=1215.2,-78.8,400.                                                     621          AA
            P3=1215.2,-78.8,414.                                                     622          AA
            PROP= 0.,0.                                                              623          AA
            COM=  * -Y PALLET OUTSIDE STRIP *                                        624          AA
      S     SURF=1081,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                    625          AA
              ICSN=50                                                                626          AA
            P1=1215.2,78.8,414.                                                      627          AA
            P2=1215.2,78.8,400.                                                      628          AA
            P3=1101.2,78.8,400.                                                      629          AA
            PROP= 0.,0.                                                              630          AA
            COM=*  +Y PALLET OUTSIDE STRIP *                                         631          AA
      S     SURF=1082,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                    632          AA
              ICSN=50                                                                633          AA
            P1=1101.2,-78.8,414.                                                     634          AA
            P2=1215.2,-78.8,414.                                                     635          AA
            P3=1215.2,-72.8,414.                                                     636          AA
            PROP=0.,0.                                                               637          AA
            COM=*-Y PALLET TOP STRIP X=1101.2 TO 1215.2 *                            638          AA
      S     SURF=1083,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                    639          AA
              ICSN=50                                                                640          AA
            P1=1101.2,72.8,414.                                                      641          AA
            P2=1215.2,72.8, 414.                                                     642          AA
            P3=1215.2,78.8,414.                                                      643          AA
            PROP=0.,0.                                                               644          AA
            COM= * +Y PALLET TOP STRIP ,X= 1101.2 TO 1215.2 *                        645          AA
      S     SURF=1084,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                    646          AA
              ICSN=50                                                                647          AA
            P1=1101.2,-72.8,414.                                                     648          AA
            P2=1215.2,-72.8,414.                                                     649          AA
            P3=1215.2,-58.5,371.                                                     650          AA
            PROP=0.,0.                                                               651          AA
            COM = * -Y INSIDE TOP PANNEL,X=1101.2 TO 1215.2 *                        652          AA
```

SURFACE DATA INPUT BLOCK

```
INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                S     SURF=1085,TYPE = RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                    653              AA
                        ICSN=50                                                                                  654              AA
                      P1=1215.2,58.5,371.                                                                        655              AA
                      P2=1215.2,72.8,414.                                                                        656              AA
                      P3=1101.2,72.8,414.                                                                        657              AA
                      PRCP=0.,0.                                                                                 658              AA
                      COM= * +Y INSIDE TOP PANNEL,X=1101.2 TO 1215.2 *                                           659              AA
                S     SURF=1086, TYPE= RECT, ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                   660              AA
                        ICSN=50                                                                                  661              AA
                      P1=1101.2,-58.5,371.                                                                       662              AA
                      P2=1215.2,-58.5,371.                                                                       663              AA
                      P3=1215.2,-34.5,344.3                                                                      664              AA
                      PRCP=0.,0.                                                                                 665              AA
                      COM=* -Y INSIDE BOTTOM PANNEL, X=1101.2 TO 1215.2 *                                        666              AA
                S     SURF=1087,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                      667              AA
                        ICSN=50                                                                                  668              AA
                      P1=1101.2,34.5,344.3                                                                       669              AA
                      P2=1215.2,34.5,344.3                                                                       670              AA
                      P3=1215.2,58.5,371.                                                                        671              AA
                      PRCP=0.,0.                                                                                 672              AA
                      COM=* +Y INSIDE BOTTOM PANNEL,X 1101.2 TO 1215.2 *                                         673              AA
                S     SURF=1088 , TYPE= RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                   674              AA
                        ICSN=50                                                                                  675              AA
                      P1=1101.2,-34.5,344.3                                                                      676              AA
                      P2=1215.2,-34.5,344.3                                                                      677              AA
                      P3=1215.2,34.5,344.3                                                                       678              AA
                      PRCP= 0.,0.                                                                                679              AA
                      COM = * PALLET BOTTOM,X= 1101.2 TO 1215.2 *                                                680              AA
                S     SURF=1100,TYPE=DISC,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                                     681              AA
                        ICSN=50                                                                                  682              AA
                      P1=627.,0.,418.19                                                                          683              AA
                      P2=608.22,0.,411.35                                                                        684              AA
                      P3=627.,25.,418.19                                                                         685              AA
                      P4=627.,25.,418.19                                                                         686              AA
                      PRCP = 0.,0.                                                                               687              AA
                      COM = * TUNNEL EVA HATCH X=627. SPACE LAB 1*                                               688              AA
                S     SURF=1110,TYPE=DISC,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                                     689              AA
                        ICSN=50                                                                                  690              AA
                      P1=869.,0.,480.9                                                                           691              AA
                      P2=869.,19.7,480.9                                                                         692              AA
                      P3=849.3,0.,480.9                                                                          693              AA
                      P4=849.3,0.,480.9                                                                          694              AA
                      PRCP=0.,0.                                                                                 695              AA
                      COM= * CORE SEGMENT WINDOW, X=869. SPACELAB 1 *                                            696              AA
                S     SURF=1120,TYPE=DISC, ACTIVE=BOTH,SHADE= BOTH, BSHADE=BOTH                                  697              AA
                        ICSN=50                                                                                  698              AA
                      P1=975.,0.,480.9                                                                           699              AA
                      P2=975.,25.6,480.9                                                                         700              AA
                      P3=949.4,0.,480.9                                                                          701              AA
                      P4=949.4,0.,490.9                                                                          702              AA
                      PRCP=0.,0.                                                                                 703              AA
```

SURFACE DATA INPUT BLOCK

```
INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL

                  COM=*   EXPERIMENT SEGIMENT WINDOW,X=975. SPACELAB 1*                          693                AA
                  SURF=1131,TYPE=DISC,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                         694                AA
               S     ICSN=5J                                                                     695                AA
                  P1=1043.6,0.,455.09                                                            696                AA
                  P2=1039.43,0.,461.74                                                           697                AA
                  P3=1043.6,7.85,455.09                                                          698                AA
                  P4=1043.6,7.85,455.09                                                          699                AA
                  PROP=0.,0.                                                                     700                AA
                  COM=* AFT VIEWING WINDOW X=1043.6, SPACELAB1*                                  701                AA
```

SPACELAB-1 VIEWFACTOR DATA MATRIX

The following pages contain the viewfactor data computer printouts for the Spacelab-1/Orbiter configuration.

FORM FACTOR CALCULATION LINK.

145 FF SUM = 0. ROW CP TIME = 1.389 + TRAP +Y REAR SIDE TAPER

146 FF SUM = 0. ROW CP TIME = 1.382 - TRAP - Y. REAR SIDE TAPER...

707 FF SUM = 0. ROW CP TIME = 2.861 - DISC .....JULY 8 EVAP..3 IN. RAD.

708 FF SUM = 0. ROW CP TIME = 1.204 + DISC .....JULY 8 EVAP..3 IN. RAD.

147 FF SUM = 0. ROW CP TIME = 5.193 + PARAB TOP ENGIN

148 FF SUM = 0. ROW CP TIME = 3.005 + PARAB + Y ENGIN

149 FF SUM = 0. ROW CP TIME = 2.988 + PARAB -Y ENGIN...

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC))	
20	1039	CAL.	.002388	.000167	.002388	.002388	1.000000	1.000000	1.607	
20	1040	CAL.	.005851	.000408	.005851	.005851	1.000000	1.000000	1.879	
20	1059	CAL.	.052526	.009272	.052526	.059970	.875869	.875869	2.752	
20	1060	CAL.	.003103	.002427	.003103	.003103	1.000000	1.000000	3.033	
20	1065	CAL.	.009669	.017427	.009669	.009669	1.000000	1.000000	3.572	R
20	1081	CAL.	.003709	.008625	.003709	.003709	1.000000	1.000000	4.149	R
20	1082	CAL.	.000747	.004052	.000747	.000747	1.000000	1.000000	5.138	R
20	1083	CAL.	.005846	.031716	.005846	.005846	1.000000	1.000000	6.084	R
20	1084	CAL.	.015514	.011144	.015514	.015514	1.000000	1.000000	6.518	
20	1085	CAL.	.003710	.002665	.003710	.003710	1.000000	1.000000	6.843	
20	1086	CAL.	.011959	.010843	.011959	.011959	1.000000	1.000000	7.307	
20	1087	CAL.	.006441	.005840	.006441	.007381	.872652	.872652	7.741	
20	1088	CAL.	.023784	.011221	.023784	.023784	1.000000	1.000000	8.114	

20 FF SUM = .1452 ROW CP TIME = 8.122 + DISC ...-Y OWS SEALER ...

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. F FACTOR	SHAD. A FACTOR	CP TIME (SEC)	
21	1030	CAL.	.002388	.000167	.002388	.002388	1.000000	1.000000	1.712	
21	1040	CAL.	.005851	.000408	.005851	.005851	1.000000	1.000000	2.003	
21	1050	CAL.	.052804	.009322	.052804	.059954	.880735	.880735	2.854	
21	1060	CAL.	.003103	.002427	.003103	.003103	1.000000	1.000000	3.138	
21	1065	CAL.	.009669	.017427	.009669	.009669	1.000000	1.000000	3.672	R
21	1080	CAL.	.003709	.008625	.003709	.003709	1.000000	1.000000	4.210	R
21	1082	CAL.	.005846	.031716	.005846	.005846	1.000000	1.000000	5.195	R
21	1083	CAL.	.000747	.004052	.000747	.000747	1.000000	1.000000	6.178	R
21	1094	CAL.	.003710	.002665	.003710	.003710	1.000000	1.000000	6.502	
21	1085	CAL.	.015514	.011144	.015514	.015514	1.000000	1.000000	6.938	
21	1086	CAL.	.006441	.005840	.006441	.007381	.872652	.872652	7.371	
21	1087	CAL.	.011959	.010843	.011959	.011959	1.000000	1.000000	7.826	
21	1088	CAL.	.023784	.011221	.023784	.023784	1.000000	1.000000	8.189	
21	FF SUM =	.1455	ROW CP TIME =	8.196	+ DISC	..+Y OWS SEALER ...				
222	FF SUM =	0.	ROW CP TIME =	1.013	- RECT	BACK RECT 7.350EG				
23	FF SUM =	0.	ROW CP TIME =	1.131	+ DISC	REAR END HALF DISK				
407	FF SUM =	0.	ROW CP TIME =	1.206	+ DISC	BACK SIDE EVAPORAT, UPDATED				
15	FF SUM =	0.	ROW CP TIME =	1.210	+ DISC	REAR END EVAPORATOR				
10	FF SUM =	0.	ROW CP TIME =	17.267	- TRAP	....LEFT FRONT WING A ...				
11	1030	CAL.	.000556	.000423	.000556	.000687	.809501	.809501	.962	
11	1040	CAL.	.000114	.000087	.000114	.006199	.018409	.018409	2.709	*
11	FF SUM =	.0007	ROW CP TIME =	4.649	+ TRAP	......LEFT MIDDLE WING BACK.8				

MODEL = TAPE3 STEP = 1
FORM FACTOR CALCULATION LINK.

SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)*	
141	FF SUM =	0.	ROW CP TIME =		9.850		+ RECT		ES INNER WING	
12	1030	CAL.	.000281	.000236	.000281	.000388	.725381	.725381	.910	
12	1040	CAL.	.000529	.000444	.000529	.000804	.658039	.658039	1.078	
12	FF SUM =	.0008	ROW CP TIME =		2.559		+ RECT		..... LEFT BACK RECT. WING C	
142	FF SUM =	0.	ROW CP TIME =		2.413		+ RECT		INNER WING C	
13	FF SUM =	0.	ROW CP TIME =		2.330		+ TRAP		..... LEFT WING TAIL EDGE	
1	FF SUM =	0.	ROW CP TIME =		22.435		+ TRAP		...FRONT WING TRIANGLE PT.A.58	
2	1030	CAL.	.000566	.000423	.000566	.000687	.809501	.809501	.972	
2	1040	CAL.	.000114	.000087	.000114	.000199	.018409	.018409	2.844	*
2	FF SUM =	.0007	ROW CP TIME =		4.781		- TRAP		....MIDDLE WING TRAP, RT B ..	
143	FF SUM =	0.	ROW CP TIME =		10.025		- RECT		B +Y RECTANGLE WING	
3	1030	CAL.	.000281	.000236	.000281	.000388	.725381	.725381	.916	
3	1040	CAL.	.000529	.000444	.000529	.000804	.658039	.658039	1.089	
3	FF SUM =	.0008	ROW CP TIME =		2.569		- RECT		.... BACK WING RECT. RTC .129	
144	FF SUM =	0.	ROW CP TIME =		2.479		- RECT		INNER WING C RECT	
4	FF SUM =	0.	ROW CP TIME =		2.374		- TRAP		...WING TAIL FLAP RT 1453,1507	
150	1030	CAL.	.000205	.000198	.000205	.000205	1.000000	1.000000	1.418	
150	1040	CAL.	.001251	.000660	.001251	.001251	1.000000	1.000000	1.632	
150	1050	CAL.	.038067	.050774	.038067	.073109	.520691	.520691	2.960	R

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC))	
150	1070	CAL.	.430157	.427370	.430157	.430157	1.000000	1.000000	56.260	*
150	1081	CAL.	.016158	.283866	.016158	.016158	1.000000	1.000000	60.750	R
150	1084	CAL.	.005355	.029064	.005355	.036435	.146972	.146972	65.605	R
150	1086	CAL.	.002933	.020097	.002933	.026519	.110619	.110619	68.382	R
150	FF SUM =	.4941	ROW CP TIME =		68.724		- CYLN	BAY AREA CYLINDER		
151	1030	CAL.	.025332	.013360	.025332	.025332	1.000000	1.000000	4.182	*
151	1040	CAL.	.432843	.228279	.432843	.432843	1.000000	1.000000	21.711	*
151	1050	CAL.	.094272	.125740	.094272	.094272	1.000000	1.000000	34.567	*R
151	1060	CAL.	.020772	.122745	.020772	.027572	.753398	.753398	35.786	R
151	1070	CAL.	.018229	.018111	.018229	.018229	1.000000	1.000000	42.759	*
151	1081	CAL.	.000955	.016783	.000955	.000955	1.000000	1.000000	43.761	*R
151	1084	CAL.	.000868	.048132	.000868	.014627	.606279	.606279	44.634	R
151	1086	CAL.	.005864	.040176	.005864	.009788	.667322	.667322	45.158	R
151	1088	CAL.	.001770	.006309	.001770	.002970	.595805	.595805	46.649	*R
151	FF SUM =	.6089	ROW CP TIME =		46.657		- CYLN	BAY AREA CYLINDER		
152	1000	CAL.	.009461	.013877	.009461	.009938	.951915	.951915	2.594	*R
152	1010	CAL.	.018484	.044382	.018484	.019508	.947467	.947467	6.508	*R
152	1015	CAL.	.058030	.139338	.058030	.064390	.901229	.901229	7.242	R
152	1020	CAL.	.089210	.130426	.089210	.089210	1.000000	1.000000	18.413	*R
152	1030	CAL.	.418305	.220612	.418305	.418305	1.000000	1.000000	38.072	*
152	1040	CAL.	.016706	.008811	.016706	.016706	1.000000	1.000000	40.740	*
152	1070	CAL.	.000164	.000163	.000164	.000164	1.000000	1.000000	41.381	
152	1081	CAL.	.000014	.000247	.000014	.000014	1.000000	1.000000	41.731	R
152	FF SUM =	.6134	ROW CP TIME =		42.770		- CYLN	BAY AREA CYLINDER		
153	1000	CAL.	.159010	.233235	.159010	.159010	1.000000	1.000000	1.443	R
153	1010	CAL.	.080322	.192863	.080322	.080322	1.000000	1.000000	2.438	R
153	1015	CAL.	.037446	.089913	.037446	.037446	1.000000	1.000000	6.792	*R
153	1020	CAL.	.054125	.079131	.054125	.062575	.864965	.864965	7.637	R
153	1030	CAL.	.001148	.000605	.001148	.001148	1.000000	1.000000	8.204	
153	1040	CAL.	.000194	.000103	.000194	.000194	1.000000	1.000000	8.793	
153	1070	CAL.	.000027	.000027	.000027	.000027	1.000000	1.000000	9.051	
153	1081	CAL.	.000002	.000039	.000002	.000002	1.000000	1.000000	9.434	R
153	FF SUM =	.3323	ROW CP TIME =		10.441		- CYLN	BAY AREA CYLINDER		
154	1030	CAL.	.000205	.000108	.000205	.000205	1.000000	1.000000	1.580	

MODEL = TAPE2 STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC))	
154	1040	CAL.	.001251	.000660	.001251	.001251	1.000000	1.000000	1.795	
154	1050	CAL.	.035964	.047969	.035964	.073047	.492344	.492344	3.171	R
154	1070	CAL.	.430157	.427370	.430157	.430157	1.000000	1.000000	56.292	*
154	1000	CAL.	.016158	.283866	.016158	.016158	1.000000	1.000000	60.861	R
154	1085	CAL.	.005355	.029064	.005355	.036435	.146972	.146972	65.795	R
154	1087	CAL.	.002933	.020097	.002933	.026519	.110619	.110619	68.562	R
154	FF SUM =	.4920	ROW CP TIME =		68.861		- CYLN		BAY AREA CYLINDER	
155	1030	CAL.	.025332	.013360	.025332	.025332	1.000000	1.000000	4.283	*
155	1040	CAL.	.432843	.228279	.432843	.432843	1.000000	1.000000	21.793	*
155	1050	CAL.	.094272	.125740	.094272	.094272	1.000000	1.000000	34.742	*R
155	1060	CAL.	.020305	.119585	.020305	.027336	.742803	.742803	35.949	R
155	1070	CAL.	.018229	.018111	.018229	.018229	1.000000	1.000000	42.942	*
155	1080	CAL.	.000955	.016783	.000955	.000955	1.000000	1.000000	43.935	*R
155	1085	CAL.	.008868	.048132	.008868	.014627	.606279	.606279	44.909	R
155	1087	CAL.	.005864	.040176	.005864	.008788	.667322	.667322	45.397	R
155	1088	CAL.	.001770	.006309	.001770	.002970	.595805	.595805	46.852	*R
155	FF SUM =	.6084	ROW CP TIME =		46.860		- CYLN		BAY AREA CYLINDER	
156	1000	CAL.	.009461	.013877	.009461	.009938	.951915	.951915	2.518	*R
156	1010	CAL.	.018866	.045299	.018866	.019890	.948476	.948476	6.453	*R
156	1015	CAL.	.058815	.141222	.058815	.063850	.921132	.921132	7.128	R
156	1020	CAL.	.089753	.131219	.089753	.089753	1.000000	1.000000	17.966	*R
156	1030	CAL.	.418305	.220612	.418305	.418305	1.000000	1.000000	37.634	*
156	1040	CAL.	.016706	.008811	.016706	.016706	1.000000	1.000000	40.299	*
156	1070	CAL.	.000164	.000163	.000164	.000164	1.000000	1.000000	40.939	
156	1080	CAL.	.000014	.000247	.000014	.000014	1.000000	1.000000	41.256	R
156	FF SUM =	.6121	ROW CP TIME =		42.326		- CYLN		BAY AREA CYLINDER	
157	1000	CAL.	.158702	.232784	.158702	.158702	1.000000	1.000000	1.473	R
157	1010	CAL.	.080322	.192863	.080322	.080322	1.000000	1.000000	2.512	R
157	1015	CAL.	.037356	.089697	.037356	.037356	1.000000	1.000000	6.605	*R
157	1020	CAL.	.054125	.079131	.054125	.062579	.864965	.864965	7.477	R
157	1030	CAL.	.001148	.000605	.001148	.001148	1.000000	1.000000	8.046	
157	1040	CAL.	.000194	.000103	.000194	.000194	1.000000	1.000000	8.237	
157	1070	CAL.	.000027	.000027	.000027	.000027	1.000000	1.000000	8.901	
157	1080	CAL.	.000002	.000039	.000002	.000002	1.000000	1.000000	9.252	R

MODEL = TAPE3 STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)	
157	FF SUM = .3319		RCW CP TIME = 10.325			- CYLN		BAY AREA CYLINDER		
140	1050	CAL.	.061761	.096027	.061761	.076199	.810527	.810527	3.002	R
140	1060	CAL.	.001088	.007494	.001088	.001088	1.000000	1.000000	3.229	R
140	1065	CAL.	.013873	.220232	.013873	.015172	.914338	.914338	11.714	R
140	1082	CAL.	.001177	.056251	.001177	.001177	1.000000	1.000000	13.025	*R
140	1083	CAL.	.001174	.056120	.001174	.001174	1.000000	1.000000	14.076	*R
140	1084	CAL.	.024380	.154256	.024380	.024380	1.000000	1.000000	16.852	R
140	1085	CAL.	.023765	.150359	.023765	.023931	.993048	.993048	19.632	R
140	1086	CAL.	.018489	.147659	.018489	.019727	.937253	.937253	22.564	R
140	1087	CAL.	.018214	.145456	.018214	.018434	.988027	.988027	25.499	R
140	1088	CAL.	.035641	.148095	.035641	.035945	.991541	.991541	28.751	R
140	FF SUM = .1996		RCW CP TIME = 28.760			+ DISC		END BAY AREA DISK		
135	1000	CAL.	.092990	.159001	.092990	.107834	.862347	.862347	11.751	*R
135	1021	CAL.	.043876	.074778	.043876	.069566	.630721	.630721	13.117	R
135	1200	CAL.	.000018	.021484	.000018	.000056	.327645	.327645	13.562	R
135	FF SUM = .1369		RCW CP TIME = 16.027			+ DISC		FRONT BAY AREA DISK		
122	FF SUM = 0.		RCW CP TIME = 1.487			+ PARAB		VERY NOSE CONE		
123	FF SUM = 0.		RCW CP TIME = 1.484			+ PARAB		VERY NOSE CONE		
124	FF SUM = 0.		RCW CP TIME = 1.496			+ PARAB		VERY NOSE CONE		
125	FF SUM = 0.		RCW CP TIME = 1.483			+ PARAB		VERY NOSE CONE		
320	FF SUM = 0.		RCW CP TIME = .917			+ CYLN		NOSE CYLINDER		
321	FF SUM = 0.		RCW CP TIME = .909			+ CYLN		NOSE CYLINDER		

MODEL = TAPE3. STEP = 1
FORM FACTOR CALCULATION LINK.

SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)
322	FF SUM =	0.	ROW CP TIME =		.938		+ CYLN		NOSE CYLINDER
323	FF SUM =	0.	ROW CP TIME =		.907		+ CYLN		NOSE CYLINDER
324	FF SUM =	0.	ROW CP TIME =		.912		+ CYLN		NOSE CYLINDER
325	FF SUM =	0.	ROW CP TIME =		.912		+ CYLN		NOSE CYLINDER
326	FF SUM =	0.	ROW CP TIME =		.911		+ CYLN		NOSE CYLINDER
327	FF SUM =	0.	ROW CP TIME =		.913		+ CYLN		NOSE CYLINDER
328	FF SUM =	0.	ROW CP TIME =		1.117		+ CYLN		NOSE CYLINDER
329	FF SUM =	0.	ROW CP TIME =		1.089		+ CYLN		NOSE CYLINDER
330	FF SUM =	0.	ROW CP TIME =		1.082		+ CYLN		NOSE CYLINDER
331	FF SUM =	0.	ROW CP TIME =		1.086		+ CYLN		NOSE CYLINDER
332	FF SUM =	0.	ROW CP TIME =		1.079		+ CYLN		NOSE CYLINDER
333	FF SUM =	0.	ROW CP TIME =		1.082		+ CYLN		NOSE CYLINDER

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC))
334	FF SUM =	0.	ROW CP TIME =		1.098		+ CYLN		NOSE CYLINDER
335	FF SUM =	0.	ROW CP TIME =		1.075		+ CYLN		NOSE CYLINDER
340	FF SUM =	0.	ROW CP TIME =		1.452		+ PARAB		HOOD PARTIAL BACK
341	FF SUM =	0.	ROW CP TIME =		1.450		+ PARAB		HOOD PARTIAL BACK
342	FF SUM =	0.	ROW CP TIME =		1.457		+ PARAB		HOOD PARTIAL BACK
343	FF SUM =	0.	ROW CP TIME =		1.456		+ PARAB		HOOD PARTIAL BACK
344	FF SUM =	0.	ROW CP TIME =		1.446		+ PARAB		HOOD PARTIAL BACK
345	FF SUM =	0.	ROW CP TIME =		1.443		+ PARAB		HOOD PARTIAL BACK
346	FF SUM =	0.	ROW CP TIME =		1.456		+ PARAB		HOOD PARTIAL BACK
347	FF SUM =	0.	ROW CP TIME =		1.455		+ PARAB		HOOD PARTIAL BACK
348	FF SUM =	0.	ROW CP TIME =		1.467		+ PARAB		HOOD PARTIAL BACK
349	FF SUM =	0.	ROW CP TIME =		1.476		+ PARAB		HOOD PARTIAL BACK

FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(@ INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC))
350	FF SUM = 0.	ROW CP TIME =			1.506		+ PARAB		HOOD PARTIAL BACK
351	FF SUM = 0.	ROW CP TIME =			1.489		+ PARAB		HOOD PARTIAL BACK
352	FF SUM = 0.	ROW CP TIME =			1.451		+ PARAB		HOOD PARTIAL BACK
353	FF SUM = 0.	ROW CP TIME =			1.452		+ PARAB		HOOD PARTIAL BACK
354	FF SUM = 0.	ROW CP TIME =			1.476		+ PARAB		HOOD PARTIAL BACK
355	FF SUM = 0.	ROW CP TIME =			1.479		+ PARAB		HOOD PARTIAL BACK
360	FF SUM = 0.	ROW CP TIME =			1.443		+ PARAB	WINDOW	
361	FF SUM = 0.	ROW CP TIME =			1.441		+ PARAB	WINDOW	
362	FF SUM = 0.	ROW CP TIME =			1.440		+ PARAB	WINDOW	
363	FF SUM = 0.	ROW CP TIME =			1.441		+ PARAB	WINDOW	
364	FF SUM = 0.	ROW CP TIME =			1.438		+ PARAB	WINDOW	
365	FF SUM = 0.	ROW CP TIME =			1.438		+ PARAB	WINDOW	

FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)*
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)*
366	FF SUM = 0.	ROW CP TIME =			1.478		+ PARAB	WINDOW	
367	FF SUM = 0.	ROW CP TIME =			1.448		+ PARAB	WINDOW	
368	FF SUM = 0.	ROW CP TIME =			1.462		+ PARAB	WINDOW	
369	FF SUM = 0.	ROW CP TIME =			1.455		+ PARAB	WINDOW	
370	FF SUM = 0.	ROW CP TIME =			1.459		+ PARAB	WINDOW	
371	FF SUM = 0.	ROW CP TIME =			1.457		+ PARAB	WINDOW	
372	FF SUM = 0.	ROW CP TIME =			1.446		+ PARAB	WINDOW	
373	FF SUM = 0.	ROW CP TIME =			1.443		+ PARAB	WINDOW	
374	FF SUM = 0.	ROW CP TIME =			1.455		+ PARAB	WINDOW	
375	FF SUM = 0.	ROW CP TIME =			1.453		+ PARAB	WINDOW	
401	FF SUM = 0.	ROW CP TIME =			1.015		- RECT	BODY BOTTOM (FRT)	4 1
402	FF SUM = 0.	ROW CP TIME =			.931		- RECT	BODY BOTTOM (REAR)	402

FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)
182	FF SUM =	0.	ROW CP TIME =		1.225		+ CYLN	CMSPCOC1	
172	FF SUM =	0.	ROW CP TIME =		1.187		+ CYLN	CMSPCOC2	
781	FF SUM =	0.	ROW CP TIME =		1.331		- CYLN	.....+Y SIDE DOOR.....	
782	FF SUM =	0.	ROW CP TIME =		45.235		+ CYLN	.....+Y SIDE DOOR.....	
783	FF SUM =	0.	ROW CP TIME =		1.304		- CYLN	.....+Y SIDE DOOR.....	
784	FF SUM =	0.	ROW CP TIME =		19.254		+ CYLN	.....+Y SIDE DOOR.....	
785	FF SUM =	0.	ROW CP TIME =		2.859		- CYLN	.....+Y SIDE DOOR.....	
786	FF SUM =	0.	ROW CP TIME =		7.995		+ CYLN	.....+Y SIDE DOOR.....	
787	FF SUM =	0.	ROW CP TIME =		2.476		- CYLN	.....+Y SIDE DOOR.....	
788	FF SUM =	0.	ROW CP TIME =		4.564		+ CYLN	.....+Y SIDE DOOR.....	
791	FF SUM =	0.	ROW CP TIME =		2.952		- CYLN	... -Y SIDE DOOR....	
792	FF SUM =	0.	ROW CP TIME =		6.243		+ CYLN	... -Y SIDE DOOR....	

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC))	
793	FF SUM = 0.		RCW CP TIME =	2.427		- CYLN		... -Y SIDE DOOR....		
794	FF SUM = 0.		RCW CP TIME =	4.665		+ CYLN		... -Y SIDE DOOR....		
795	FF SUM = 0.		RCW CP TIME =	1.223		- CYLN		... -Y SIDE DOOR....		
796	1030	CAL.	.002728	.001238	.002728	.015550	.175458	.175458	3.520	*
796	1040	CAL.	.057906	.026279	.057906	.140085	.413362	.413362	8.031	*
796	1050	CAL.	.024303	.027893	.024303	.055518	.437747	.437747	13.594	*R
796	1060	CAL.	.007190	.036562	.007190	.013714	.524308	.524308	14.019	R
796	1070	CAL.	.023659	.020261	.023699	.107894	.219654	.219654	22.137	*
796	1081	CAL.	.026215	.396299	.026215	.035332	.741951	.741951	48.297	*R
796	1084	CAL.	.004536	.021184	.004536	.023927	.189562	.189562	50.310	R
796	1086	CAL.	.004140	.024407	.004140	.021479	.192749	.192749	52.544	R
796	FF SUM = .1517		RCW CP TIME =	53.229		+ CYLN		... -Y SIDE DOOR....		
797	FF SUM = 0.		RCW CP TIME =	1.214		- CYLN		... -Y SIDE DOOR....		
798	1000	CAL.	.027810	.035101	.027810	.051587	.539089	.539089	1.404	*R
798	1010	CAL.	.022397	.046277	.022397	.035024	.639492	.639492	1.694	R
798	1015	CAL.	.021998	.045245	.021998	.035571	.615615	.615615	1.975	R
798	1020	CAL.	.024415	.030715	.024415	.050856	.480069	.480069	7.560	*R
798	1030	CAL.	.052424	.023792	.052424	.137164	.382203	.382203	12.114	*
798	1040	CAL.	.002248	.001020	.002248	.012639	.177841	.177841	13.989	*
798	1081	CAL.	.000313	.000190	.000313	.000022	.560191	.560191	15.280	R
798	FF SUM = .1512		RCW CP TIME =	16.476		+ CYLN		... -Y SIDE DOOR....		
301	FF SUM = 0.		RCW CP TIME =	1.227		+ TRAP		+Y SIDE FRONT TRAPOZOID		
305	FF SUM = 0.		RCW CP TIME =	.847		+ RECT		BODY SIDE (MIDDLE-PORT)		305

FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC))		
306	FF SUM = 0.		RCW CP TIME =	.879		+ RECT	BODY SIDE (BACK-PORT)			306	
311	1015	CAL.	.010714	.027474	.010714	.045154	.237268	.237268	4.536	*R	
311	1030	CAL.	.000349	.000197	.000349	.012611	.027685	.027685	8.878	*	
311	FF SUM = .0111		RCW CP TIME =	10.310		- TRAP	-Y SIDE FRONT TRAPOZCID				
315	FF SUM = 0.		RCW CP TIME =	.926		+ RECT	BODY SIDE (MIDDLE-STBD)			315	
316	FF SUM = 0.		RCW CP TIME =	.940		+ RECT	BODY SIDE (BACK-STBD)			316	
202	FF SUM = 0.		RCW CP TIME =	1.127		+ CYLN	BODY TOP (STBD-REAR)			202	
212	FF SUM = 0.		RCW CP TIME =	1.127		+ CYLN	BODY TOP (PORT-REAR)			212	
380	1030	CAL.	.000107	.000056	.000107	.000107	1.000000	1.000000	.937		
380	1040	CAL.	.000222	.000117	.000222	.000222	1.000000	1.000000	1.143		
380	1050	CAL.	.000920	.001228	.000920	.001168	.787992	.787992	1.454	R	
380	1060	CAL.	.000009	.000053	.000009	.000030	.296793	.296793	1.633	R	
380	1082	CAL.	.000035	.001433	.000035	.000269	.129759	.129759	2.436	R	
380	1084	CAL.	.000079	.000426	.000079	.001193	.065839	.065839	2.734	R	
380	FF SUM = .0014		RCW CP TIME =	3.229		+ TRAP	VERTICAL FIN (PORT)			20	
385	1030	CAL.	.000062	.000024	.000062	.000062	1.000000	1.000000	.972		
385	1040	CAL.	.000114	.000044	.000114	.000114	1.000000	1.000000	1.180		
385	1050	CAL.	.000211	.000206	.000211	.000624	.337590	.337590	1.455		
385	1060	CAL.	.000007	.000030	.000007	.000012	.572888	.572888	1.648	R	
385	1065	CAL.	.000003	.000025	.000003	.000019	.129746	.129746	1.887	R	
385	1082	CAL.	.000003	.000090	.000003	.000091	.032936	.032936	2.398	R	
385	FF SUM = .0004		RCW CP TIME =	3.199		+ TRAP	VERTICAL FIN (PORT-AFT)			20	
390	1030	CAL.	.000107	.000056	.000107	.000107	1.000000	1.000000	1.031		
390	1040	CAL.	.000222	.000117	.000222	.000222	1.000000	1.000000	1.235		
390	1050	CAL.	.000919	.001225	.000919	.001165	.787990	.787990	1.537	R	

MODEL = TAPE3 STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)*	
390	1060	CAL.	.000039	.000052	.000039	.000030	.296727	.296727	1.715	R
390	1083	CAL.	.000035	.001431	.000035	.000269	.129735	.129735	2.546	R
390	1085	CAL.	.000078	.001426	.000078	.001191	.065837	.065837	2.829	R
390	FF SUM =	.0014	ROW CP TIME =	3.213		- TRAP	VERTICAL FIN (STBD)		20	
395	1030	CAL.	.000062	.000024	.000062	.000062	1.000000	1.000000	1.059	
395	1040	CAL.	.000114	.000044	.000114	.000114	1.000000	1.000000	1.264	
395	1050	CAL.	.000210	.000205	.000210	.000623	.337582	.337582	1.528	
395	1060	CAL.	.000027	.000030	.000007	.000012	.572771	.572771	1.721	R
395	1065	CAL.	.000003	.000026	.000003	.000019	.129745	.129745	1.920	R
395	1081	CAL.	.000003	.000089	.000003	.000090	.032933	.032933	2.483	R
395	FF SUM =	.0004	ROW CP TIME =	3.145		- TRAP	VERTICAL FIN (STBD-AFT)		20	
705	FF SUM =	0.	ROW CP TIME =	1.168		+ DISC	..POS1 FORWARD EVAPORATOR.....			
700	FF SUM =	0.	ROW CP TIME =	3.974		- DISC	.....SUPER ENGINS (OMS LOCAT			
701	FF SUM =	0.	ROW CP TIME =	1.146		+ DISC	.....SUPER ENGINS (OMS LOCAT			
702	FF SUM =	0.	ROW CP TIME =	3.871		- DISC	.....SUPER ENGINS (OMS LOCAT			
703	FF SUM =	0.	ROW CP TIME =	1.157		+ DISC	.....SUPER ENGINS (OMS LOCAT			
24	FF SUM =	0.	ROW CP TIME =	1.169		- DISC	...BACK RCS ...LOOKING +/- Y.(			
25	FF SUM =	0.	ROW CP TIME =	3.815		+ DISC	...BACK RCS ...LOCKING +/- Y.(			

FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)*	
18	FF SUM =	0.	RCW CP TIME =		1.165		- DISC	...FRONT RCS..LOOKING +/-Y AT		
19	FF SUM =	0.	RCW CP TIME =		2.519		+ DISC	...FRONT RCS..LOOKING +/-Y AT		
26	FF SUM =	0.	RCW CP TIME =		1.335		- DISC	...BACK RCS LOOKING +/- Z...7/		
27	FF SUM =	0.	RCW CP TIME =		3.807		+ DISC	...BACK RCS LOOKING +/- Z...7/		
16	FF SUM =	0.	RCW CP TIME =		3.700		- DISC	...MIDDLE EVAP. LOOKING +/- Y.		
17	FF SUM =	0.	RCW CP TIME =		1.164		+ DISC	...MIDDLE EVAP. LOOKING +/- Y.		
160	FF SUM =	0.	RCW CP TIME =		16.333		- RECT	...THIN STRIP BETWEEN DOORS AN		
161	1020	CAL.	.011248	.000103	.011248	.011248	1.000000	1.000000	1.627	
161	1030	CAL.	.000676	.000002	.000676	.000676	1.000000	1.000000	3.609	
161	1040	CAL.	.000112	.000000	.000112	.000112	1.000000	1.000000	4.278	
161	FF SUM =	.0120	RCW CP TIME =		5.716		+ RECT	...THIN STRIP BETWEEN DOORS AN		
162	FF SUM =	0.	RCW CP TIME =		14.199		- RECT	...THIN STRIP BETWEEN DOORS AN		
163	1020	CAL.	.014060	.000128	.014060	.014060	1.000000	1.000000	.875	
163	1030	CAL.	.040770	.000134	.040770	.040770	1.000000	1.000000	4.519	*
163	1040	CAL.	.003091	.000010	.003091	.003091	1.000000	1.000000	6.610	*
163	FF SUM =	.0579	RCW CP TIME =		8.050		+ RECT	...THIN STRIP BETWEEN DOORS AN		

MODEL = TAPE3 STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)*	
164	FF SUM = 0.		ROW CP TIME =		16.118		- RECT		...THIN STRIP BETWEEN DOORS AN	
165	1030	CAL.	.003698	.000012	.003698	.003698	1.000000	1.000000	4.256	*
165	1040	CAL.	.041346	.000136	.041346	.041346	1.000000	1.000000	6.818	*
165	1050	CAL.	.007475	.000062	.007475	.007475	1.000000	1.000000	8.585	*
165	FF SUM = .0525		ROW CP TIME =		9.875		+ RECT		...THIN STRIP BETWEEN DOORS AN	
166	FF SUM = 0.		ROW CP TIME =		18.542		- RECT		...THIN STRIP BETWEEN DOORS AN	
167	1030	CAL.	.000118	.000000	.000118	.000118	1.000000	1.000000	3.370	
167	1040	CAL.	.000738	.000002	.000738	.000738	1.000000	1.000000	4.138	
167	1050	CAL.	.012331	.000103	.012331	.012331	1.000000	1.000000	5.521	
167	FF SUM = .0132		ROW CP TIME =		6.822		+ RECT		...THIN STRIP BETWEEN DOORS AN	
399	1030	CAL.	.001440	.000112	.001440	.001440	1.000000	1.000000	2.521	
399	1040	CAL.	.002218	.000173	.002218	.002218	1.000000	1.000000	3.175	
399	1050	CAL.	.000325	.001644	.000325	.000019	.923118	.923118	4.280	
399	1060	CAL.	.000501	.000438	.000501	.000501	1.000000	1.000000	4.911	
399	1065	CAL.	.000865	.001744	.000865	.000865	1.000000	1.000000	5.812	R
399	1082	CAL.	.000091	.000553	.000091	.000091	1.000000	1.000000	6.957	R
399	1084	CAL.	.000202	.000163	.000202	.000202	1.000000	1.000000	8.056	
399	1086	CAL.	.000002	.000002	.000002	.000002	1.000000	1.000000	8.604	R
399	FF SUM = .0136		ROW CP TIME =		8.908		+ RECT	VERT. FIN LDG. EDGE		2
1000	1010	CAL.	.002043	.003344	.002043	.002043	1.000000	1.000000	.117	R
1000	1015	CAL.	.000569	.000931	.000569	.000569	1.000000	1.000000	.228	R
1000	1020	CAL.	.007840	.007814	.007840	.007840	1.000000	1.000000	.430	
1000	1191	CAL.	.070935	.099592	.070935	.070935	1.000000	1.000000	67.165	*R
1000	FF SUM = .7693		ROW CP TIME =		67.707		+ CYLN	TUNNEL 1, X=582 TO 672.4, SPA		
1010	1020	CAL.	.018818	.011458	.018818	.018818	1.000000	1.000000	.243	
1010	FF SUM = .5438		ROW CP TIME =		2.183		+ CYLN	TUNNEL 2, X=672.4 TO 790.4, S		
1015	1020	CAL.	.108074	.065824	.108074	.108074	1.000000	1.000000	6.419	*

MODEL = TAPF3 STEP = 1
FORM FACTOR CALCULATION LINK.

SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)*	
1015	FF SUM =	.6419	RCW CP TIME =		8.354		+ CYLN	TUNNEL 2, X=672.4 TO 790.4, S		
1020	FF SUM =	.6107	RCW CP TIME =		2.062		+ CONE	FWD CONE, X=790.4 TO 816.1, SP		
1200	FF SUM =	.0215	RCW CP TIME =		1.742		- DISC	ECS CONDENSATE VENT 802.1, SP		
1201	1131	CAL.	.000128	.000015	.000128	.000387	.330651	.330651	3.828	
1201	FF SUM =	.0001	RCW CP TIME =		3.834		+ DISC	ECS CONDENSATE VENT 802.1, SP		
1030	FF SUM =	.4967	RCW CP TIME =		1.271		+ CYLN	CORE SEGMENT X=816.1 T		
1040	1120	CAL.	.001770	.045713	.001770	.001770	1.000000	1.000000	1.508	*R
1040	FF SUM =	.5073	RCW CP TIME =		1.691		+ CYLN	EXPERIMENT SEGMENT X=922		
1050	1060	CAL.	.022611	.100172	.022611	.022611	1.000000	1.000000	7.156	*R
1050	1082	CAL.	.000558	.017163	.000558	.000566	.986787	.986787	9.623	*R
1050	1083	CAL.	.000883	.027141	.000883	.000883	1.000000	1.000000	10.083	R
1050	1084	CAL.	.013960	.056807	.013960	.015796	.883781	.883781	10.972	R
1050	1085	CAL.	.014901	.060637	.014901	.016132	.923705	.923705	11.850	R
1050	1086	CAL.	.011198	.057519	.011198	.012279	.911968	.911968	12.386	R
1050	1087	CAL.	.009515	.048875	.009515	.011842	.803556	.803556	12.907	R
1050	1088	CAL.	.016876	.045102	.016876	.019769	.853656	.853656	13.697	R
1050	1131	CAL.	.000035	.003008	.000035	.000035	1.000000	1.000000	14.809	*R
1050	FF SUM =	.5879	RCW CP TIME =		14.814		+ CONE	AFT CONE TAPER, X=1027.9 TO		
1060	1082	CAL.	.000135	.000937	.000135	.000135	1.000000	1.000000	.466	R
1060	1083	CAL.	.000135	.000937	.000135	.000135	1.000000	1.000000	.703	R
1060	1084	CAL.	.019222	.017656	.019222	.019222	1.000000	1.000000	8.191	*
1060	1085	CAL.	.019222	.017656	.019222	.019222	1.000000	1.000000	15.794	*
1060	1086	CAL.	.015230	.017657	.015230	.015230	1.000000	1.000000	20.041	*R
1060	1087	CAL.	.015158	.017574	.015158	.015158	1.000000	1.000000	24.188	*R
1060	1088	CAL.	.025858	.015598	.025858	.025858	1.000000	1.000000	30.299	*
1060	1131	CAL.	.000062	.001217	.000062	.000088	.709988	.709988	31.255	R

MODEL = TAPE2 STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC))	
1060	FF SUM = .4874		RCW CP TIME = 31.283			+ CYLN		AFT AIRLOCK, X=1059.3 TO 108		
1065	1084	CAL.	.081426	.032452	.081426	.081426	1.000000	1.000000	1.046	
1065	1085	CAL.	.081426	.032452	.081426	.081426	1.000000	1.000000	1.722	
1065	1086	CAL.	.071248	.035842	.071248	.071248	1.000000	1.000000	2.362	
1065	1087	CAL.	.071248	.035842	.071248	.071248	1.000000	1.000000	2.991	
1065	1088	CAL.	.142823	.037383	.142823	.142823	1.000000	1.000000	5.150	
1065	FF SUM = .7051		RCW CP TIME = 5.683			+ DISC		AFT AIRLOCK DISC X= 1088.8,		
1070	FF SUM = .9116		RCW CP TIME = .980			+ CYLN		PALLET BOTTOM CYLINDER X= 110		
1080	FF SUM = .3096		RCW CP TIME = .569			+ RECT		-Y PALLET OUTSIDE STRIP		
1081	FF SUM = .7060		RCW CP TIME = .550			+ RECT		+Y PALLET OUTSIDE STRIP		
1082	1130	CAL.	.000293	.000826	.000293	.000429	.682741	.682741	2.172	R
1082	FF SUM = .1125		RCW CP TIME = 2.230			+ RECT		-Y PALLET TOP STRIP X=1101.2 T		
1083	1130	CAL.	.000283	.000797	.000283	.000429	.659053	.659053	2.124	R
1083	FF SUM = .1218		RCW CP TIME = 2.184			+ RECT		+Y PALLET TOP STRIP ,X= 1101.		
1084	1085	CAL.	.069758	.069758	.069758	.069758	1.000000	1.000000	.973	
1084	1086	CAL.	.015740	.019867	.015740	.015740	1.000000	1.000000	1.195	R
1084	1087	CAL.	.055797	.070429	.055797	.055797	1.000000	1.000000	1.588	R
1084	1088	CAL.	.088759	.058292	.088759	.088759	1.000000	1.000000	2.483	
1084	1130	CAL.	.000382	.000140	.000382	.000552	.692625	.692625	3.599	R
1084	FF SUM = .6044		RCW CP TIME = 3.647			+ RECT		-Y INSIDE TOP PANNEL,X=1101.2		
1085	1086	CAL.	.055797	.070429	.055797	.055797	1.000000	1.000000	.413	R
1085	1087	CAL.	.015740	.019867	.015740	.015740	1.000000	1.000000	.634	R
1085	1088	CAL.	.088759	.058292	.088759	.088759	1.000000	1.000000	1.529	
1085	1130	CAL.	.000382	.000125	.000382	.000552	.691151	.691151	2.632	R

MODEL = TAPE3 STEP = 1
FORM FACTOR CALCULATION LINK.

SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. F FACTER	SHAD. A FACTOR	CP TIME (SEC)*	
1085	FF SUM = .5830		ROW CP TIME = 2.701				* RECT		+Y INSIDE TOP PANNEL,X=1101.2	
1086	1087	CAL.	.061000	.061000	.061000	.061000	1.000000	1.000000	.352	
1086	1088	CAL.	.093268	.048528	.093268	.093268	1.000000	1.000000	1.399	
1086	1130	CAL.	.000106	.001794	.000106	.000205	.516850	.516850	2.521	R
1086	1131	CAL.	.000016	.000274	.000016	.000048	.336514	.336514	2.675	R
1086	FF SUM = .6047		ROW CP TIME = 2.681				* RECT		-Y INSIDE BOTTOM PANNEL, X=11	
1087	1088	CAL.	.093268	.048528	.093268	.093268	1.000000	1.000000	1.074	
1087	1130	CAL.	.000075	.001260	.000075	.000205	.364571	.364571	2.199	R
1087	FF SUM = .5693		ROW CP TIME = 2.343				* RECT		+Y INSIDE BOTTOM PANNEL,X 110	
1088	FF SUM = .4949		ROW CP TIME = 1.196				* RECT		FALLET BOTTOM,X= 1101.2 TO 12	
1100	FF SUM = 0.		ROW CP TIME = .022				- DISC		TUNNEL EVA HATCH X=627. ,SPACE	
1101	FF SUM = .6906		ROW CP TIME = .022				* DISC		TUNNEL EVA HATCH X=627. SPACE	
1110	FF SUM = 0.		ROW CP TIME = .021				- DISC		CORE SEGMENT WINDOW, X=869. S	
1111	FF SUM = 0.		ROW CP TIME = .022				* DISC		CORE SEGMENT WINDOW, X=869. S	
1120	FF SUM = .0457		ROW CP TIME = .025				- DISC		EXPERIMENT SEGIMENT WINDOW,	
1121	FF SUM = 0.		ROW CP TIME = .023				* DISC		EXPERIMENT SEGIMENT WINDOW,	

MODEL = TAPE7 STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)	
1130	FF SUM =	.0209	ROW CP TIME =	.045		- DISC		AFT AIRLOCK WINDOW X=1043.6.		
1131	FF SUM =	.0045	ROW CP TIME =	.024		* DISC		AFT AIRLOCK WINDOW X=1043.6.		

TOTAL CP TIME (SEC) FOR PROBLEM = 1078.201

FORM FACTOR CALCULATION LINK.

145 FF SUM = 0. ROW CP TIME = .795 + TRAP +Y REAR SIDE TAPER

146 FF SUM = 0. ROW CP TIME = .803 - TRAP - Y. REAR SIDE TAPER...

707 FF SUM = 0. ROW CP TIME = 1.451 - DISC ......JULY 8 EVAP..3 IN. RAD.

708 FF SUM = 0. ROW CP TIME = .679 + DISC ......JULY 8 EVAP..3 IN. RAD.

147 FF SUM = 0. ROW CP TIME = 2.201 + PARAB TOP ENGIN

148 FF SUM = 0. ROW CP TIME = 1.549 + PARAB + Y ENGIN

149 FF SUM = 0. ROW CP TIME = 1.557 + PARAB -Y ENGIN...

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)*	
20	1110	CAL.	.000008	.000024	.000008	.000057	.137966	.137966	1.416	R
20	1111	CAL.	.000032	.000096	.000032	.000032	1.000000	1.000000	1.652	R
20	1120	CAL.	.000083	.000150	.000083	.000219	.380890	.380890	2.002	R
20	1121	CAL.	.000127	.000228	.000127	.000127	1.000000	1.000000	2.229	R
20	1130	CAL.	.000779	.014941	.000779	.000779	1.000000	1.000000	2.709	R
20	FF SUM = .0010		ROW CP TIME = 2.771			+ DISC		...-Y OMS SEALER ...		
21	1110	CAL.	.000008	.000024	.000008	.000057	.137966	.137966	1.397	R
21	1111	CAL.	.000032	.000096	.000032	.000032	1.000000	1.000000	1.632	R
21	1120	CAL.	.000083	.000150	.000083	.000219	.380890	.380890	1.976	R
21	1121	CAL.	.000127	.000228	.000127	.000127	1.000000	1.000000	2.199	R
21	1130	CAL.	.000779	.014941	.000779	.000779	1.000000	1.000000	2.682	R

MODEL = TAPE3 STEP = 1
FORM FACTOR CALCULATION LINK.

SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC))
21	FF SUM =	.0010	ROW CP TIME =		2.767		+ DISC		..+Y OWS SEALER ...
222	FF SUM =	0.	ROW CP TIME =		.585		- RECT		BACK RECT 7.350EG
23	FF SUM =	0.	ROW CP TIME =		.653		+ DISC		REAR END HALF DISK
407	FF SUM =	0.	ROW CP TIME =		.673		+ DISC		BACK SIDE EVAPORAT, UPDATED
15	FF SUM =	0.	ROW CP TIME =		.671		+ DISC		REAR END EVAPORATOR
10	FF SUM =	0.	ROW CP TIME =		1.681		- TRAP		....LEFT FRONT WING A ...
11	FF SUM =	0.	ROW CP TIME =		1.535		+ TRAP		......LEFT MIDDLE WING BACK.B
141	FF SUM =	0.	ROW CP TIME =		1.397		+ RECT		BS INNER WING
12	FF SUM =	0.	ROW CP TIME =		1.414		+ RECT		..... LEFT BACK RECT. WING C
142	FF SUM =	0.	ROW CP TIME =		1.337		+ RECT		INNER WING C
13	FF SUM =	0.	ROW CP TIME =		1.465		+ TRAP		..... LEFT WING TAIL EDGE
1	FF SUM =	0.	ROW CP TIME =		1.661		+ TRAP		...FRONT WING TRIANGLE RT.A.58

MODEL = TAPE3 STEP = 1
FORM FACTOR CALCULATION LINK.

SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)*
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)*		
2	FF SUM = 0.		ROW CP TIME =		1.561		- TRAP		.....MIDDLE WING TRAP, RT B ..		
143	FF SUM = 0.		ROW CP TIME =		1.419		- RECT		B +Y RECTANGLE WING		
3	FF SUM = 0.		ROW CP TIME =		1.405		- RECT		.... BACK WING RECT. RTC .129		
144	FF SUM = 0.		ROW CP TIME =		1.353		- RECT		INNER WING C RECT		
4	FF SUM = 0.		ROW CP TIME =		1.501		- TRAP		...WING TAIL FLAP RT 1453,1507		
150	FF SUM = 0.		ROW CP TIME =		2.580		- CYLN		BAY AREA CYLINDER		
151	FF SUM = 0.		ROW CP TIME =		7.285		- CYLN		BAY AREA CYLINDER		
152	1201	CAL.	.000013	.013283	.000013	.000255	.052189	.052189	3.361	R	
152	FF SUM = .0000		ROW CP TIME =		8.224		- CYLN		BAY AREA CYLINDER		
153	1200	CAL.	.000001	.000332	.000000	.000000	1.000000	1.000000	.191	R	
153	1201	CAL.	.000013	.012985	.000013	.000042	.306986	.306986	.592	R	
153	1101	CAL.	.003303	.047161	.003303	.024136	.136833	.136833	4.247	R	
153	FF SUM = .0033		ROW CP TIME =		5.563		- CYLN		BAY AREA CYLINDER		
154	FF SUM = 0.		ROW CP TIME =		2.609		- CYLN		BAY AREA CYLINDER		
155	FF SUM = 0.		ROW CP TIME =		7.529		- CYLN		BAY AREA CYLINDER		
156	1201	CAL.	.000013	.013283	.000013	.000255	.052189	.052189	3.333	R	

MODEL = TAPE3 STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)*	
156	FF SUM = .0000		ROW CP TIME =	8.243		- CYLN		BAY AREA CYLINDER		
157	1200	CAL.	.000000	.000332	.000000	.000000	1.000000	1.000000	.197	R
157	1201	CAL.	.000013	.012985	.000013	.000042	.306986	.306986	.613	R
157	1101	CAL.	.003465	.049485	.003465	.024136	.143576	.143576	4.434	R
157	FF SUM = .0035		ROW CP TIME =	5.790		- CYLN		BAY AREA CYLINDER		
140	1130	CAL.	.000690	.116549	.000690	.000690	1.000000	1.000000	3.972	R
140	FF SUM = .0007		ROW CP TIME =	4.039		+ DISC		END BAY AREA DISK		
135	1200	CAL.	.000034	.039426	.000034	.000037	.913602	.913602	.340	R
135	1100	CAL.	.017353	.288864	.017353	.017353	1.000000	1.000000	2.004	R
135	1101	CAL.	.001137	.018930	.001137	.008102	.140363	.140363	2.800	R
135	FF SUM = .0185		ROW CP TIME =	13.937		+ DISC		FRONT BAY AREA DISK		
122	FF SUM = 0.		ROW CP TIME =	.830		+ PARAB		VERY NOSE CONE		
123	FF SUM = 0.		ROW CP TIME =	.829		+ PARAB		VERY NOSE CONE		
124	FF SUM = 0.		ROW CP TIME =	.825		+ PARAB		VERY NOSE CONE		
125	FF SUM = 0.		ROW CP TIME =	.829		+ PARAB		VERY NOSE CONE		
320	FF SUM = 0.		ROW CP TIME =	.560		+ CYLN		NOSE CYLINDER		
321	FF SUM = 0.		ROW CP TIME =	.556		+ CYLN		NOSE CYLINDER		

MODEL = TAPE3 STEP = 1
FORM FACTOR CALCULATION LINK.

SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)*
322	FF SUM = 0.	ROW CP TIME =			.568		+ CYLN		NOSE CYLINDER
323	FF SUM = 0.	ROW CP TIME =			.552		+ CYLN		NOSE CYLINDER
324	FF SUM = 0.	ROW CP TIME =			.552		+ CYLN		NOSE CYLINDER
325	FF SUM = 0.	ROW CP TIME =			.554		+ CYLN		NOSE CYLINDER
326	FF SUM = 0.	ROW CP TIME =			.552		+ CYLN		NOSE CYLINDER
327	FF SUM = 0.	ROW CP TIME =			.548		+ CYLN		NOSE CYLINDER
328	FF SUM = 0.	ROW CP TIME =			.840		+ CYLN		NOSE CYLINDER
329	FF SUM = 0.	ROW CP TIME =			.838		+ CYLN		NOSE CYLINDER
330	FF SUM = 0.	ROW CP TIME =			.836		+ CYLN		NOSE CYLINDER
331	FF SUM = 0.	ROW CP TIME =			.842		+ CYLN		NOSE CYLINDER
332	FF SUM = 0.	ROW CP TIME =			.834		+ CYLN		NOSE CYLINDER
333	FF SUM = 0.	ROW CP TIME =			.832		+ CYLN		NOSE CYLINDER

MODEL = TAPE3 STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVICED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)
334	FF SUM = 0.	ROW CP TIME =			.857		+ CYLN		NOSE CYLINDER
335	FF SUM = 0.	ROW CP TIME =			.824		+ CYLN		NOSE CYLINDER
340	FF SUM = 0.	ROW CP TIME =			.823		+ PARAB		HOOD PARTIAL BACK
341	FF SUM = 0.	ROW CP TIME =			.825		+ PARAB		HOOD PARTIAL BACK
342	FF SUM = 0.	ROW CP TIME =			.820		+ PARAB		HOOD PARTIAL BACK
343	FF SUM = 0.	ROW CP TIME =			.822		+ PARAB		HOOD PARTIAL BACK
344	FF SUM = 0.	ROW CP TIME =			.822		+ PARAB		HOOD PARTIAL BACK
345	FF SUM = 0.	ROW CP TIME =			.820		+ PARAB		HOOD PARTIAL BACK
346	FF SUM = 0.	ROW CP TIME =			.825		+ PARAB		HOOD PARTIAL BACK
347	FF SUM = 0.	ROW CP TIME =			.822		+ PARAB		HOOD PARTIAL BACK
348	FF SUM = 0.	ROW CP TIME =			.816		+ PARAB		HOOD PARTIAL BACK
349	FF SUM = 0.	ROW CP TIME =			.822		+ PARAB		HOOD PARTIAL BACK

MODEL = TAPE3 STEP = 1
FORM FACTOR CALCULATION LINK.

SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC))
350	FF SUM = 0.	ROW CP TIME =			.846		+ PARAB	HOOD PARTIAL BACK	
351	FF SUM = 0.	ROW CP TIME =			.818		+ PARAB	HOOD PARTIAL BACK	
352	FF SUM = 0.	ROW CP TIME =			.816		+ PARAB	HOOD PARTIAL BACK	
353	FF SUM = 0.	ROW CP TIME =			.817		+ PARAB	HOOD PARTIAL BACK	
354	FF SUM = 0.	ROW CP TIME =			.814		+ PARAB	HOOD PARTIAL BACK	
355	FF SUM = 0.	ROW CP TIME =			.815		+ PARAB	HOOD PARTIAL BACK	
360	FF SUM = 0.	ROW CP TIME =			.801		+ PARAB	WINDOW	
361	FF SUM = 0.	ROW CP TIME =			.805		+ PARAB	WINDOW	
362	FF SUM = 0.	ROW CP TIME =			.813		+ PARAB	WINDOW	
363	FF SUM = 0.	ROW CP TIME =			.816		+ PARAB	WINDOW	
364	FF SUM = 0.	ROW CP TIME =			.800		+ PARAB	WINDOW	
365	FF SUM = 0.	ROW CP TIME =			.796		+ PARAB	WINDOW	

MODEL = TAPE3 STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC))	
366	FF SUM = 0.	ROW CP TIME =			.835		+ PARAB	WINDOW		
367	FF SUM = 0.	ROW CP TIME =			.818		+ PARAB	WINDOW		
368	FF SUM = 0.	ROW CP TIME =			.796		+ PARAB	WINDOW		
369	FF SUM = 0.	ROW CP TIME =			.800		+ PARAB	WINDOW		
370	FF SUM = 0.	ROW CP TIME =			.811		+ PARAB	WINDOW		
371	FF SUM = 0.	ROW CP TIME =			.811		+ PARAB	WINDOW		
372	FF SUM = 0.	ROW CP TIME =			.795		+ PARAB	WINDOW		
373	FF SUM = 0.	ROW CP TIME =			.791		+ PARAB	WINDOW		
374	FF SUM = 0.	ROW CP TIME =			.800		+ PARAB	WINDOW		
375	FF SUM = 0.	ROW CP TIME =			.812		+ PARAB	WINDOW		
401	FF SUM = 0.	ROW CP TIME =			.589		- RECT	BODY BOTTOM (FRT)	4	1
402	FF SUM = 0.	ROW CP TIME =			.536		- RECT	BODY BOTTOM (REAR)	402	

MODEL = TAPE3 STEP = 1
FORM FACTOR CALCULATION LINK.

SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)*	
182	FF SUM = 0.	ROW CP TIME =	.737	+ CYLN	ONSPODC1					
172	1121	CAL.	.000000	.000001	.000000	.000000	1.000000	1.000000	.656	R
172	FF SUM = .0000	ROW CP TIME =	.779	+ CYLN	ONSPODC2					
781	FF SUM = 0.	ROW CP TIME =	.700	- CYLN	.....+Y SIDE DOOR.....					
782	FF SUM = 0.	ROW CP TIME =	2.422	+ CYLN	.....+Y SIDE DOOR.....					
783	FF SUM = 0.	ROW CP TIME =	.695	- CYLN	.....+Y SIDE DOOR.....					
784	FF SUM = 0.	ROW CP TIME =	2.206	+ CYLN	.....+Y SIDE DOOR.....					
785	FF SUM = 0.	ROW CP TIME =	2.090	- CYLN	.....+Y SIDE DOOR.....					
786	FF SUM = 0.	ROW CP TIME =	.847	+ CYLN	.....+Y SIDE DOOR.....					
787	FF SUM = 0.	ROW CP TIME =	1.801	- CYLN	.....+Y SIDE DOOR.....					
788	FF SUM = 0.	ROW CP TIME =	.813	+ CYLN	.....+Y SIDE DOOR.....					
791	FF SUM = 0.	ROW CP TIME =	2.117	- CYLN	... -Y SIDE DOOR....					
792	FF SUM = 0.	ROW CP TIME =	.856	+ CYLN	... -Y SIDE DOOR....					

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)		
793	FF SUM = 0.		ROW CP TIME =		1.813		- CYLN	... -Y SIDE DOOR....			
794	FF SUM = 0.		ROW CP TIME =		.824		+ CYLN	... -Y SIDE DOOR....			
795	FF SUM = 0.		ROW CP TIME =		.688		- CYLN	... -Y SIDE DOOR....			
796	1130	CAL.	.000096	.011941	.000096	.000119	.802736	.802736	2.570	R	
796	FF SUM = .0001		ROW CP TIME =		2.854		+ CYLN	... -Y SIDE DOOR....			
797	FF SUM = 0.		ROW CP TIME =		.692		- CYLN	... -Y SIDE DOOR....			
798	1200	CAL.	.000001	.001250	.000001	.000002	.885621	.885621	.197	R	
798	1201	CAL.	.000018	.015160	.000018	.000050	.355953	.355953	.501	R	
798	1101	CAL.	.001248	.015334	.001248	.003484	.358130	.358130	.946	R	
798	FF SUM = .0013		ROW CP TIME =		2.293		+ CYLN	... -Y SIDE DOOR....			
301	FF SUM = 0.		ROW CP TIME =		.681		+ TRAP	+Y SIDE FRONT TRAPOZOID			
305	FF SUM = 0.		ROW CP TIME =		.490		+ RECT	BODY SIDE (MIDDLE-PORT)			305
306	FF SUM = 0.		ROW CP TIME =		.488		+ RECT	BODY SIDE (BACK-PORT)			306
311	FF SUM = 0.		ROW CP TIME =		1.789		- TRAP	-Y SIDE FRONT TRAPOZOID			
315	FF SUM = 0.		ROW CP TIME =		.538		+ RECT	BODY SIDE (MIDDLE-STBD)			315

MODEL = TAPE3 STEP = 1
FORM FACTOR CALCULATION LINK.

SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)(	
316	FF SUM = 0.		ROW CP TIME =		.560		+ RECT	BODY SIDE (BACK-STBD)		316
202	FF SUM = 0.		ROW CP TIME =		.613		+ CYLN	BODY TOP (STBD-REAR)		202
212	FF SUM = 0.		ROW CP TIME =		.612		+ CYLN	BODY TOP (PORT-REAR)		212
380	FF SUM = 0.		ROW CP TIME =		1.461		+ TRAP	VERTICAL FIN (PORT)		20
385	FF SUM = 0.		ROW CP TIME =		1.528		+ TRAP	VERTICAL FIN (PORT-AFT)		20
390	FF SUM = 0.		ROW CP TIME =		1.372		- TRAP	VERTICAL FIN (STBD)		20
395	FF SUM = 0.		ROW CP TIME =		1.423		- TRAP	VERTICAL FIN (STBD-AFT)		20
705	FF SUM = 0.		ROW CP TIME =		.654		+ DISC	..MOST FORWARD EVAPORATOR.....		
700	FF SUM = 0.		ROW CP TIME =		1.563		- DISC	.......SUPER ENGINS (OMS LOCAT		
701	FF SUM = 0.		ROW CP TIME =		.657		+ DISC	.......SUPER ENGINS (OMS LOCAT		
702	FF SUM = 0.		ROW CP TIME =		1.579		- DISC	.......SUPER ENGINS (OMS LOCAT		
703	FF SUM = 0.		ROW CP TIME =		.654		+ DISC	.......SUPER ENGINS (OMS LOCAT		

FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)*
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAC	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)*	
24	FF SUM = 0.		ROW CP TIME =		.682		- DISC		...BACK RCS ...LOOKING +/- Y.(	
25	FF SUM = 0.		ROW CP TIME =		1.486		+ DISC		...BACK RCS ...LOOKING +/- Y.(	
18	FF SUM = 0.		ROW CP TIME =		.634		- DISC		...FRONT RCS..LOOKING +/-Y AT	
19	FF SUM = 0.		ROW CP TIME =		1.460		+ DISC		...FRONT RCS..LOOKING +/-Y AT	
26	FF SUM = 0.		ROW CP TIME =		1.579		- DISC		...BACK RCS LOOKING +/- Z...7/	
27	FF SUM = 0.		ROW CP TIME =		.646		+ DISC		...BACK RCS LOOKING +/- Z...7/	
16	FF SUM = 0.		ROW CP TIME =		1.514		- DISC		...MIDDLE EVAP. LOOKING +/- Y.	
17	FF SUM = 0.		ROW CP TIME =		.646		+ DISC		...MIDDLE EVAP. LOOKING +/- Y.	
160	FF SUM = 0.		ROW CP TIME =		1.781		- RECT		...THIN STRIP BETWEEN DOORS AN	
161	1200	CAL.	.000008	.000049	.000008	.000008	1.000000	1.000000	1.322	R
161	1201	CAL.	.000000	.000002	.000000	.000000	1.000000	1.000000	1.599	R
161	1100	CAL.	.000006	.000001	.000006	.000006	1.000000	1.000000	1.901	
161	1101	CAL.	.000001	.000000	.000001	.000017	.080238	.080238	2.290	
161	FF SUM = .0000		ROW CP TIME =		6.890		+ RECT		...THIN STRIP BETWEEN DOORS AN	
162	FF SUM = 0.		ROW CP TIME =		1.771		- RECT		...THIN STRIP BETWEEN DOORS AN	
163	1201	CAL.	.000013	.000084	.000013	.000067	.199986	.199986	1.354	R

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)*	
163	FF SUM =	.0000	ROW CP TIME =		6.098		+ RECT	...THIN STRIP BETWEEN DOORS AN		
164	FF SUM =	0.	ROW CP TIME =		1.762		- RECT	...THIN STRIP BETWEEN DOORS AN		
165	1130	CAL.	.000024	.000022	.000024	.000024	1.000000	1.000000	5.066	
165	1131	CAL.	.000001	.000001	.000001	.000405	.002881	.002881	6.147	
165	FF SUM =	.0000	ROW CP TIME =		6.153		+ RECT	...THIN STRIP BETWEEN DOORS AN		
166	FF SUM =	0.	ROW CP TIME =		1.846		- RECT	...THIN STRIP BETWEEN DOORS AN		
167	1130	CAL.	.000222	.000201	.000222	.000222	1.000000	1.000000	7.725	
167	FF SUM =	.0002	ROW CP TIME =		7.886		+ RECT	...THIN STRIP BETWEEN DOORS AN		
399	1100	CAL.	.000004	.000009	.000004	.000006	.694301	.694301	1.285	R
399	1111	CAL.	.000157	.000536	.000157	.000157	1.000000	1.000000	2.644	R
399	1121	CAL.	.000461	.000930	.000461	.000461	1.000000	1.000000	3.488	R
399	1130	CAL.	.000190	.004074	.000190	.000190	1.000000	1.000000	4.254	R
399	FF SUM =	.0008	ROW CP TIME =		4.321		+ RECT	VERT. FIN LOG. EDGE	2	
1000	1101	CAL.	.070935	.690592	.070935	.070935	1.000000	1.000000	65.246	*R
1000	FF SUM =	.0709	ROW CP TIME =		65.788		+ CYLN	TUNNEL 1, X=582 TO 672.4, SPA		
1010	1200	CAL.	.000009	.003670	.000009	.000009	1.000000	1.000000	.162	R
1010	FF SUM =	.0000	ROW CP TIME =		.909		+ CYLN	TUNNEL 2, X=672.4 TO 790.4, S		
1015	1201	CAL.	.000046	.019146	.000046	.000046	1.000000	1.000000	.293	R
1015	FF SUM =	.0000	ROW CP TIME =		.988		+ CYLN	TUNNEL 2, X=672.4 TO 790.4, S		
1020	1200	CAL.	.000109	.074433	.000109	.000109	1.000000	1.000000	.708	*R
1020	1201	CAL.	.000224	.153325	.000224	.000224	1.000000	1.000000	1.828	*R

MODEL = TAPE3 STEP = 1
FORM FACTOR CALCULATION LINK.

SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)	
1020	FF SUM =	.0003	ROW CP TIME =	2.727		+ CONE	FWD CONE, X=790.4 TO 816.1, SP			
1200	FF SUM =	.1195	ROW CP TIME =	1.543		- DISC	ECS CONDENSATE VENT 802.1, SP			
1201	FF SUM =	.2403	ROW CP TIME =	3.799		+ DISC	ECS CONDENSATE VENT 802.1, SP			
1030	FF SUM =	0.	ROW CP TIME =	.574		+ CYLN	CORE SEGMENT X=816.1 T			
1040	1120	CAL.	.001770	.045713	.001770	.001770	1.000000	1.000000	.860	*R
1040	FF SUM =	.0018	ROW CP TIME =	1.042		+ CYLN	EXPERIMENT SEGMENT X=922			
1050	FF SUM =	0.	ROW CP TIME =	.639		+ CONE	AFT CONE TAPER, X=1027.9 TO			
1060	1130	CAL.	.000371	.009085	.000371	.000371	1.000000	1.000000	.872	R
1060	FF SUM =	.0004	ROW CP TIME =	.991		+ CYLN	AFT AIRLOCK, X=1059.3 TO 108			
1065	FF SUM =	0.	ROW CP TIME =	.554		+ DISC	AFT AIRLOCK DISC X= 1066.8,			
1070	FF SUM =	0.	ROW CP TIME =	.547		+ CYLN	PALLET BOTTOM CYLINDER X= 110			
1080	FF SUM =	0.	ROW CP TIME =	.351		+ RECT	-Y PALLET OUTSIDE STRIP			
1081	FF SUM =	0.	ROW CP TIME =	.350		+ RECT	+Y PALLET OUTSIDE STRIP			
1082	1130	CAL.	.000448	.001583	.000448	.000448	1.000000	1.000000	1.970	R

MODEL = TAPE3 STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC))	
1082	FF SUM =	.0004	ROW CP TIME =	2.052	+ RECT	-Y PALLET TOP STRIP X=1101.2 T				
1083	1130	CAL.	.000448	.001583	.000448	.000448	1.000000	1.000000	1.963	R
1083	FF SUM =	.0004	ROW CP TIME =	2.021	+ RECT	+Y PALLET TOP STRIP ,X= 1101.				
1084	1130	CAL.	.000667	.017811	.000667	.000667	1.000000	1.000000	1.120	R
1084	FF SUM =	.0007	ROW CP TIME =	1.169	+ RECT	-Y INSIDE TOP PANNEL,X=1101.2				
1085	1130	CAL.	.000668	.017814	.000668	.000668	1.000000	1.000000	1.128	R
1085	FF SUM =	.0007	ROW CP TIME =	1.176	+ RECT	+Y INSIDE TOP PANNEL,X=1101.2				
1086	1130	CAL.	.000210	.004434	.000210	.000369	.568863	.568863	1.197	R
1086	FF SUM =	.0002	ROW CP TIME =	1.250	+ RECT	-Y INSIDE BOTTOM PANNEL, X=11				
1087	1130	CAL.	.000177	.003752	.000177	.000369	.481220	.481220	1.192	R
1087	FF SUM =	.0002	ROW CP TIME =	1.245	+ RECT	+Y INSIDE BOTTOM PANNEL,X 110				
1088	FF SUM =	0.	ROW CP TIME =	1.180	+ RECT	PALLET BOTTOM,X= 1101.2 TO 12				
1100	FF SUM =	.2889	ROW CP TIME =	.470	- DISC	TUNNEL EVA HATCH X=627. SPACE				
1101	FF SUM =	.8215	ROW CP TIME =	.966	+ DISC	TUNNEL EVA HATCH X=627. SPACE				
1110	FF SUM =	.0000	ROW CP TIME =	.508	- DISC	CORE SEGMENT WINDOW, X=869. S				
1111	FF SUM =	.0007	ROW CP TIME =	.270	+ DISC	CORE SEGMENT WINDOW, X=869. S				

MODEL = TAPE3 STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)*
(R INDICATES FF CALCULATED FROM J TO I)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)*	
1120	FF SUM =	.0460	ROW CP TIME =		.437		- DISC			EXPERIMENT SEGIMENT WINDOW.
1121	FF SUM =	.0014	ROW CP TIME =		.152		+ DISC			EXPERIMENT SEGIMENT WINDOW.
1130	FF SUM =	.2187	ROW CP TIME =		.085		- DISC			AFT VIEWING WINDOW X=1043.6.
1131	FF SUM =	.0000	ROW CP TIME =		.021		+ DISC			AFT VIEWING WINDOW X=1043.6.

TOTAL CP TIME (SEC) FOR PROBLEM = 318.057

SPACELAB-1 GEOMETRIC RELATIONSHIP DATA MATRIX

The following pages contain the geometric relationship data computer printouts for the Spacelab-1/Orbiter configuration.

MODEL = TAPE3 STEP = 1
PROCESSING OPERATIONS DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
20	1030	.002388	3.71E+03	25.67	113.20	4.44844E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1040	.005851	3.71E+03	33.15	119.83	3.52392E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1050	.052526	3.71E+03	36.84	66.61	2.81665E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1060	.003103	3.71E+03	36.51	119.75	2.43793E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1065	.009669	3.71E+03	36.30	36.30	2.24825E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1081	.003709	3.71E+03	33.81	82.92	1.34560E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1082	.000747	3.71E+03	58.64	72.10	2.14848E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1083	.005846	3.71E+03	31.63	59.81	1.31307E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1084	.015514	3.71E+03	58.62	32.82	2.14693E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1085	.003710	3.71E+03	39.58	90.23	1.45062E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1096	.011959	3.71E+03	59.17	30.85	2.18181E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1097	.006441	3.71E+03	49.69	74.75	1.72810E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1098	.023784	3.71E+03	56.02	47.28	2.00041E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
21	1030	.002388	3.71E+03	11.49	87.83	4.09150E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1040	.005851	3.71E+03	15.44	87.10	3.06101E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1050	.052804	3.71E+03	21.85	28.59	2.42870E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1060	.003103	3.71E+03	28.45	71.75	2.22865E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1065	.009669	3.71E+03	36.30	36.30	2.24825E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1080	.003709	3.71E+03	33.81	82.92	1.34560E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1082	.005846	3.71E+03	31.63	59.81	1.31307E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1083	.000747	3.71E+03	58.64	72.10	2.14848E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1084	.003710	3.71E+03	39.58	90.23	1.45062E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1085	.015514	3.71E+03	58.62	32.82	2.14693E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1096	.006441	3.71E+03	49.69	74.75	1.72810E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1097	.011959	3.71E+03	59.17	30.85	2.18181E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1098	.023784	3.71E+03	56.02	47.28	2.00041E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
11	1030	.000556	4.05E+04	85.52	138.85	4.27961E+02	-3.46E+03	-3.51E+03	4.02E+04	-3.37E+02	-2.42E+02	-8.51E+01
11	1040	.000114	4.05E+04	83.41	150.35	3.70826E+02	-3.46E+03	-3.51E+03	4.02E+04	-3.37E+02	-2.42E+02	-8.51E+01

12	1030	.000281	4.46E+04	85.00	128.40	6.45489E+02	-1.38E+03	-3.89E+03	4.44E+04	-5.63E+02	-3.21E+02	-1.07E+02
12	1040	.000529	4.46E+04	83.99	134.85	5.68460E+02	-1.38E+03	-3.89E+03	4.44E+04	-5.63E+02	-3.21E+02	-1.07E+02
2	1030	.000586	4.05E+04	81.63	60.02	3.25104E+02	-3.46E+03	3.51E+03	4.02E+04	-3.38E+02	2.42E+02	-8.51E+01
2	1040	.000114	4.05E+04	76.69	48.47	2.45051E+02	-3.46E+03	3.51E+03	4.02E+04	-3.38E+02	2.42E+02	-8.51E+01
3	1030	.000281	4.46E+04	82.81	64.52	5.60412E+02	-1.38E+03	3.89E+03	4.44E+04	-5.63E+02	3.21E+02	-1.07E+02
3	1040	.000529	4.46E+04	81.00	59.11	4.69637E+02	-1.38E+03	3.89E+03	4.44E+04	-5.63E+02	3.21E+02	-1.07E+02
150	1030	.000215	2.80E+04	83.54	115.30	3.65759E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1040	.001251	2.80E+04	53.62	124.68	2.67190E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1050	.038067	2.80E+04	45.66	75.49	1.99919E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1070	.430157	2.80E+04	52.72	95.01	7.84008E+01	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1081	.016158	2.80E+04	51.91	94.61	8.30409E+01	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1084	.005355	2.80E+04	21.77	44.27	1.54196E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1086	.002933	2.80E+04	32.70	56.78	1.24695E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
151	1030	.025332	2.80E+04	43.73	134.24	2.17904E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1040	.432843	2.80E+04	22.36	152.50	1.71386E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1050	.094272	2.80E+04	20.73	131.06	1.49392E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1060	.020772	2.80E+04	29.87	134.88	1.38496E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1070	.018229	2.80E+04	73.93	92.29	1.67204E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1081	.000955	2.80E+04	72.50	92.25	1.78340E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1084	.000868	2.80E+04	48.07	58.99	2.14170E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1086	.000864	2.80E+04	57.27	69.39	1.94085E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1088	.001770	2.80E+04	68.10	95.61	1.67876E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
152	1000	.009461	2.80E+04	61.66	115.99	2.36485E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1010	.018484	2.80E+04	46.83	124.78	1.81649E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1015	.058035	2.80E+04	31.11	135.56	1.45144E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1020	.089210	2.80E+04	19.14	124.97	1.49655E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1030	.418305	2.80E+04	23.00	151.99	1.72190E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1040	.016706	2.80E+04	44.03	133.60	2.20467E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1070	.000164	2.80E+04	82.03	91.15	3.33657E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1081	.000014	2.80E+04	81.21	91.14	3.35240E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
153	1000	.159010	2.80E+04	22.18	148.74	1.21223E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1010	.080322	2.80E+04	21.79	140.74	1.33834E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1015	.037446	2.80E+04	40.40	129.42	1.63192E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01

MODEL = TAPE3 STEP = 1
PROCESSING OPERATIONS DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
153	1020	.054125	2.80E+04	46.88	70.57	2.06844E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1030	.001148	2.80E+04	54.10	124.22	2.70309E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1040	.000194	2.80E+04	63.82	115.03	3.59298E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1070	.000027	2.80E+04	84.75	90.76	5.05912E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1081	.000002	2.80E+04	84.20	90.75	5.06957E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
154	1030	.000205	2.80E+04	81.87	91.38	3.21735E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1040	.001251	2.80E+04	78.06	92.03	2.19862E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1050	.035964	2.80E+04	65.79	36.02	1.56772E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1070	.430157	2.80E+04	52.72	95.01	7.64006E+01	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1080	.016158	2.80E+04	51.91	94.61	8.30409E+01	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1085	.005355	2.80E+04	21.77	44.27	1.54106E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1087	.002933	2.80E+04	32.70	56.78	1.24695E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
155	1030	.025332	2.80E+04	73.08	92.85	1.56304E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1040	.432843	2.80E+04	55.09	95.61	7.95107E+01	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1050	.094272	2.80E+04	39.45	104.90	8.32445E+01	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1060	.020305	2.80E+04	39.42	64.64	1.08607E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1070	.018229	2.80E+04	73.93	92.29	1.67204E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1080	.000955	2.80E+04	72.50	92.25	1.70340E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1085	.008868	2.80E+04	48.07	58.99	2.14170E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1087	.005864	2.80E+04	57.27	69.39	1.94085E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1088	.001770	2.80E+04	68.10	95.61	1.67876E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
156	1010	.009461	2.80E+04	71.77	79.18	2.16419E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1010	.018866	2.80E+04	58.96	74.77	1.54625E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1015	.059815	2.80E+04	43.24	68.21	1.09448E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1020	.089753	2.80E+04	38.08	103.18	7.95442E+01	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1030	.418305	2.80E+04	55.93	95.49	8.12303E+01	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1040	.016706	2.80E+04	73.46	92.79	1.59858E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1070	.000164	2.80E+04	82.03	91.15	3.33657E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1080	.000014	2.80E+04	81.21	91.14	3.35240E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
157	1000	.158702	2.80E+04	25.29	57.14	7.48814E+01	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1010	.081322	2.80E+04	31.93	64.37	9.39348E+01	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1015	.037356	2.80E+04	52.99	72.14	1.32454E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1020	.054125	2.80E+04	67.48	33.41	1.63448E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1030	.001148	2.80E+04	78.26	91.99	2.23642E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1040	.000194	2.80E+04	81.97	91.37	3.25633E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1070	.000027	2.80E+04	84.75	90.76	5.05912E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1080	.000002	2.80E+04	84.20	90.75	5.06957E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
140	1050	.061761	3.27E+04	24.84	56.96	2.48399E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1060	.001088	3.27E+04	21.35	111.35	2.10390E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1065	.013873	3.27E+04	16.18	16.18	1.88675E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1092	.001177	3.27E+04	48.77	94.73	1.69627E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10

MODEL = TAPE2 STEP = 1
PROCESSING OPERATIONS DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I		POSITION VECTOR I		
140	1083	.001174	3.27E+04	14.29	96.97	1.15370E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1084	.024380	3.27E+04	46.28	45.66	1.61749E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1085	.023765	3.27E+04	8.37	81.72	1.13025E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1086	.018489	3.27E+04	43.56	49.19	1.54269E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1087	.018214	3.27E+04	20.85	77.96	1.19637E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1088	.035641	3.27E+04	34.04	65.62	1.34917E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
135	1080	.052990	3.27E+04	55.82	144.12	1.01819E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1020	.043876	3.27E+04	24.58	52.55	2.56498E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1200	.000018	3.27E+04	13.80	68.72	2.37639E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10

796	1030	.002728	2.41E+04	57.36	130.76	2.98792E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1040	.057906	2.41E+04	45.37	148.24	2.89423E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1050	.024307	2.41E+04	38.35	105.42	1.76376E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1060	.007190	2.41E+04	36.79	170.05	1.42919E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1070	.023699	2.41E+04	29.50	116.58	1.46895E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1081	.026215	2.41E+04	73.83	61.26	7.56285E+01	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1084	.004536	2.41E+04	27.15	27.60	1.91627E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1086	.004140	2.41E+04	28.96	37.42	1.76037E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
798	1030	.027810	2.41E+04	47.05	141.21	1.88161E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1010	.022397	2.41E+04	38.83	162.93	1.53429E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01

MODEL = TAPE3 STEP = 1
PROCESSING OPERATIONS DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
798	1015	.021898	2.41E+04	36.19	172.01	1.48107E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1020	.024415	2.41E+04	39.16	99.12	1.80598E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1030	.052424	2.41E+04	45.89	147.40	2.31941E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1040	.002248	2.41E+04	57.72	130.26	3.01828E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1081	.000013	2.41E+04	87.09	84.98	4.15283E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
311	1015	.010714	2.99E+04	52.24	52.24	1.15131E+02	6.57E-07	-2.99E+04	-7.98E-18	1.17E+02	1.02E+02	-4.71E+01
311	1030	.000349	2.99E+04	83.43	83.43	1.93182E+02	6.57E-07	-2.99E+04	-7.98E-18	1.17E+02	1.02E+02	-4.71E+01
380	1030	.000107	2.81E+04	82.70	97.30	6.28414E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1040	.000222	2.81E+04	81.36	98.64	5.31941E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1050	.000920	2.81E+04	83.44	47.51	4.66951E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1060	.000039	2.81E+04	86.66	93.34	4.29083E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1082	.000035	2.81E+04	78.12	55.12	3.68121E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1084	.000079	2.81E+04	80.02	69.05	3.78935E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
385	1030	.000062	2.05E+04	83.61	96.39	7.17846E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1040	.000114	2.05E+04	82.58	97.42	6.18950E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1050	.000211	2.05E+04	84.46	44.11	5.52141E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1060	.000047	2.05E+04	87.20	92.80	5.27423E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1065	.000003	2.05E+04	90.00	27.42	5.15283E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1082	.000003	2.05E+04	80.26	61.97	4.47875E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
390	1030	.000107	2.81E+04	97.31	97.31	6.28427E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1040	.000222	2.81E+04	98.65	98.65	5.31956E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1050	.000918	2.81E+04	96.57	47.52	4.66963E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1060	.000039	2.81E+04	93.36	93.36	4.29089E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1083	.000035	2.81E+04	78.13	55.12	3.68101E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1085	.000078	2.81E+04	80.04	69.06	3.78917E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
395	1030	.000062	2.05E+04	96.40	96.40	7.17857E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1040	.000114	2.05E+04	97.43	97.43	6.18963E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1050	.000210	2.05E+04	95.55	44.12	5.52151E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1060	.000007	2.05E+04	92.81	92.81	5.23428E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1065	.000003	2.05E+04	90.01	27.42	5.15283E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1083	.000003	2.05E+04	80.27	61.96	4.47858E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02

161	1020	.011248	1.75E+02	97.08	12.36	1.54256E+02	0.	0.	1.75E+02	1.43E+02	1.02E+02	1.90E+01
161	1030	.000676	1.75E+02	95.10	83.93	2.13600E+02	0.	0.	1.75E+02	1.43E+02	1.02E+02	1.90E+01
161	1040	.000112	1.75E+02	93.42	85.94	3.18820E+02	0.	0.	1.75E+02	1.43E+02	1.02E+02	1.90E+01
163	1020	.014060	1.75E+02	109.00	93.82	5.83677E+01	0.	0.	1.75E+02	-3.25E+01	1.02E+02	1.90E+01
163	1030	.040770	1.75E+02	113.85	61.25	4.69858E+01	0.	0.	1.75E+02	-3.25E+01	1.02E+02	1.90E+01
163	1040	.003091	1.75E+02	97.50	81.06	1.45478E+02	0.	0.	1.75E+02	-3.25E+01	1.02E+02	1.90E+01
165	1030	.003698	1.75E+02	97.71	80.81	1.41563E+02	0.	0.	1.75E+02	-2.07E+02	1.02E+02	1.90E+01
165	1040	.041346	1.75E+02	115.62	59.05	4.39461E+01	0.	0.	1.75E+02	-2.07E+02	1.02E+02	1.90E+01
165	1050	.007475	1.75E+02	107.15	94.68	6.44401E+01	0.	0.	1.75E+02	-2.07E+02	1.02E+02	1.90E+01
167	1030	.000118	1.75E+02	93.46	85.88	3.14838E+02	0.	0.	1.75E+02	-3.82E+02	1.02E+02	1.90E+01
167	1040	.000738	1.75E+02	95.20	83.81	2.09640E+02	0.	0.	1.75E+02	-3.82E+02	1.02E+02	1.90E+01
167	1050	.012331	1.75E+02	97.39	14.50	1.47649E+02	0.	0.	1.75E+02	-3.82E+02	1.02E+02	1.90E+01
399	1030	.001440	4.15E+03	68.64	98.05	5.70693E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1040	.002218	4.15E+03	73.80	99.65	4.76530E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1050	.009325	4.15E+03	78.31	50.65	4.13435E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1060	.000501	4.15E+03	80.63	93.80	3.86511E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1065	.000865	4.15E+03	83.47	38.47	3.81598E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1082	.000091	4.15E+03	87.62	48.92	3.20473E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1084	.000202	4.15E+03	90.33	65.97	3.22843E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1086	.000002	4.15E+03	94.29	53.13	3.55003E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
1000	1010	.002043	1.91E+04	90.00	90.00	7.66106E+01	-1.39E-07	1.91E+04	1.62E-07	1.73E+02	3.15E+01	-1.70E+01
1000	1015	.000569	1.91E+04	90.00	90.00	1.34776E+02	-1.39E-07	1.91E+04	1.62E-07	1.73E+02	3.15E+01	-1.70E+01
1000	1020	.007840	1.91E+04	82.21	36.15	1.78516E+02	-1.39E-07	1.91E+04	1.62E-07	1.73E+02	3.15E+01	-1.70E+01
1000	1101	.070035	1.91E+04	118.37	32.34	3.99922E+01	-1.39E-07	1.91E+04	1.62E-07	1.73E+02	3.15E+01	-1.70E+01
1010	1020	.018818	1.17E+04	76.57	41.39	1.04206E+02	9.09E-08	1.17E+04	9.09E-08	9.81E+01	3.15E+01	3.39E-10

MODEL = TAPE3 STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))
PROCESSING OPERATIONS DATA

1015	1020	.108074	1.17E+04	60.26	57.71	4.87776E+01	9.09E-08	1.17E+04	9.09E-08	3.91E+01	3.15E+01	3.39E-10
1201	1131	.000128	2.81E+01	69.19	33.73	2.44749E+02	-1.31E+01	-1.86E-10	-2.48E+01	-7.80E-01	6.25E-09	2.47E+01
1040	1120	.001770	5.32E+04	134.29	45.01	1.14429E+02	4.14E-07	5.32E+04	4.14E-07	-1.75E+02	7.99E+01	6.31E-06
1050	1060	.022611	2.10E+04	75.39	46.73	4.04733E+01	-1.78E+04	1.12E+04	2.62E-08	-2.45E+02	5.33E+01	5.22E-10
1050	1082	.000558	2.10E+04	22.00	96.89	1.16664E+02	-1.78E+04	1.12E+04	2.62E-08	-2.45E+02	5.33E+01	5.22E-10
1050	1083	.000883	2.10E+04	80.81	94.65	1.72578E+02	-1.78E+04	1.12E+04	2.62E-08	-2.45E+02	5.33E+01	5.22E-10
1050	1084	.013960	2.10E+04	26.19	82.95	1.14533E+02	-1.78E+04	1.12E+04	2.62E-08	-2.45E+02	5.33E+01	5.22E-10
1050	1085	.014901	2.10E+04	78.46	45.58	1.64696E+02	-1.78E+04	1.12E+04	2.62E-08	-2.45E+02	5.33E+01	5.22E-10
1050	1086	.011198	2.10E+04	40.33	78.98	1.21451E+02	-1.78E+04	1.12E+04	2.62E-08	-2.45E+02	5.33E+01	5.22E-10
1050	1087	.009515	2.10E+04	74.06	49.23	1.57071E+02	-1.78E+04	1.12E+04	2.62E-08	-2.45E+02	5.33E+01	5.22E-10
1050	1088	.016876	2.10E+04	80.39	66.07	1.37323E+02	-1.78E+04	1.12E+04	2.62E-08	-2.45E+02	5.33E+01	5.22E-10
1050	1131	.000035	2.10E+04	111.37	61.39	7.36981E+01	-1.78E+04	1.12E+04	2.62E-08	-2.45E+02	5.33E+01	5.22E-10
1060	1082	.000135	4.75E+03	59.52	98.13	9.89811E+01	3.69E-08	4.75E+03	3.69E-08	-2.74E+02	2.56E+01	2.42E-10
1060	1083	.000135	4.75E+03	139.93	96.06	1.32511E+02	3.69E-08	4.75E+03	3.69E-08	-2.74E+02	2.56E+01	2.42E-10
1060	1084	.019222	4.75E+03	64.64	64.42	9.34959E+01	3.69E-08	4.75E+03	3.69E-08	-2.74E+02	2.56E+01	2.42E-10
1060	1085	.019222	4.75E+03	137.21	44.33	1.24354E+02	3.69E-08	4.75E+03	3.69E-08	-2.74E+02	2.56E+01	2.42E-10
1060	1086	.015230	4.75E+03	77.49	62.97	9.64964E+01	3.69E-08	4.75E+03	3.69E-08	-2.74E+02	2.56E+01	2.42E-10
1060	1087	.015158	4.75E+03	127.43	46.32	1.18636E+02	3.69E-08	4.75E+03	3.69E-08	-2.74E+02	2.56E+01	2.42E-10
1060	1088	.025858	4.75E+03	104.23	57.66	1.04111E+02	3.69E-08	4.75E+03	3.69E-08	-2.74E+02	2.56E+01	2.42E-10
1060	1131	.000062	4.75E+03	108.62	78.72	6.64211E+01	3.69E-08	4.75E+03	3.69E-08	-2.74E+02	2.56E+01	2.42E-10
1065	1084	.081426	2.06E+03	43.50	50.68	9.56785E+01	-2.06E+03	-2.91E-08	1.50E-08	-2.89E+02	8.38E-09	-1.28E+01
1065	1085	.081426	2.06E+03	43.50	50.68	9.56785E+01	-2.06E+03	-2.91E-08	1.50E-08	-2.89E+02	8.38E-09	-1.28E+01
1065	1086	.071248	2.06E+03	38.45	52.18	8.86105E+01	-2.06E+03	-2.91E-08	1.50E-08	-2.89E+02	8.38E-09	-1.28E+01
1065	1087	.071248	2.06E+03	38.45	52.18	8.86105E+01	-2.06E+03	-2.91E-08	1.50E-08	-2.89E+02	8.38E-09	-1.28E+01
1065	1088	.142823	2.06E+03	31.72	58.28	8.15890E+01	-2.06E+03	-2.91E-08	1.50E-08	-2.89E+02	8.38E-09	-1.28E+01
1082	1130	.000293	6.84E+02	73.07	64.92	1.41139E+02	0.	0.	6.84E+02	-3.58E+02	7.58E+01	1.40E+01
1083	1130	.000283	6.84E+02	73.63	65.77	1.45783E+02	0.	0.	6.84E+02	-3.58E+02	-7.58E+01	1.40E+01
1084	1085	.069758	5.17E+03	18.39	18.39	1.31300E+02	6.93E-08	-4.90E+03	1.63E+03	-3.58E+02	6.57E+01	-7.50E+00
1084	1086	.015740	5.17E+03	79.61	76.84	3.97649E+01	6.93E-08	-4.90E+03	1.63E+03	-3.58E+02	6.57E+01	-7.50E+00
1084	1087	.055797	5.17E+03	35.66	24.69	1.17440E+02	6.93E-08	-4.90E+03	1.63E+03	-3.58E+02	6.57E+01	-7.50E+00
1084	1088	.088759	5.17E+03	54.68	53.71	8.14442E+01	6.93E-08	-4.90E+03	1.63E+03	-3.58E+02	6.57E+01	-7.50E+00

MODEL = TAPE3 STEP = 1
PROCESSING OPERATIONS DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
1084	1130	.000382	5.17E+03	57.32	71.50	1.44232E+02	6.93E-08	-4.90E+03	1.63E+03	-3.58E+02	6.57E+01	-7.50E+00
1085	1086	.055797	5.17E+03	35.66	24.69	1.17440E+02	-3.35E-08	4.90E+03	1.63E+03	-3.58E+02	-6.56E+01	-7.50E+00
1085	1087	.015740	5.17E+03	79.61	76.84	3.97649E+01	-3.35E-08	4.90E+03	1.63E+03	-3.58E+02	-6.56E+01	-7.50E+00
1085	1088	.088759	5.17E+03	54.68	53.71	8.14442E+01	-3.35E-08	4.90E+03	1.63E+03	-3.58E+02	-6.56E+01	-7.50E+00
1085	1130	.000382	5.17E+03	54.42	72.01	1.48179E+02	-3.35E-08	4.90E+03	1.63E+03	-3.58E+02	-6.56E+01	-7.50E+00
1086	1087	.061000	4.09E+03	41.95	41.95	9.30000E+01	4.31E-08	-3.04E+03	2.74E+03	-3.58E+02	4.65E+01	-4.24E+01
1086	1088	.093268	4.09E+03	57.97	73.98	4.83784E+01	4.31E-08	-3.04E+03	2.74E+03	-3.58E+02	4.65E+01	-4.24E+01
1086	1130	.000106	4.09E+03	51.87	81.54	1.56207E+02	4.31E-08	-3.04E+03	2.74E+03	-3.58E+02	4.65E+01	-4.24E+01
1086	1131	.000016	4.09E+03	51.87	98.46	1.56207E+02	4.31E-08	-3.04E+03	2.74E+03	-3.58E+02	4.65E+01	-4.24E+01
1087	1088	.093268	4.09E+03	57.97	73.98	4.83784E+01	-4.31E-08	3.04E+03	2.74E+03	-3.58E+02	-4.65E+01	-4.24E+01
1087	1130	.000075	4.09E+03	49.57	81.68	1.58802E+02	-4.31E-08	3.04E+03	2.74E+03	-3.58E+02	-4.65E+01	-4.24E+01

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
20	1110	.000008	3.71E+03	13.70	89.88	4.02611E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1111	.000032	3.71E+03	13.70	90.12	4.02611E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1120	.000083	3.71E+03	18.67	89.83	2.97883E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1121	.000127	3.71E+03	18.67	90.17	2.97883E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1130	.000779	3.71E+03	24.33	34.39	2.48474E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
21	1110	.000008	3.71E+03	13.70	89.88	4.02611E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1111	.000032	3.71E+03	13.70	90.12	4.02611E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1120	.000083	3.71E+03	18.67	89.83	2.97883E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1121	.000127	3.71E+03	18.67	90.17	2.97883E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1130	.000779	3.71E+03	22.72	33.34	2.45442E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
152	1201	.000013	2.80E+04	19.74	31.61	1.50618E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
153	1200	.000000	2.80E+04	46.37	103.02	2.05446E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1201	.000013	2.80E+04	46.37	76.98	2.05446E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1101	.003303	2.80E+04	13.97	41.67	1.27469E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01

156	1201	.000013	2.80E+04	19.74	31.61	1.50618E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
157	1200	.000000	2.80E+04	46.37	103.02	2.05448E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1201	.000013	2.80E+04	46.37	76.98	2.05448E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1101	.003465	2.80E+04	19.45	32.13	1.12437E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
140	1130	.000690	3.27E+04	18.96	47.24	2.39392E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
135	1200	.000034	3.27E+04	18.21	76.08	2.42947E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1100	.017353	3.27E+04	49.21	91.25	8.72475E+01	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1101	.001137	3.27E+04	49.21	88.75	8.72475E+01	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10

172	1121	.000000	3.91E+04	103.22	88.13	4.15483E+02	9.79E-08	3.00E+04	2.52E+04	-5.87E+02	1.13E+02	9.45E+01
796	1130	.000096	2.41E+04	62.47	87.13	1.46529E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
798	1200	.000001	2.41E+04	64.01	103.96	1.45530E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1201	.000018	2.41E+04	64.01	76.04	1.45530E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1101	.001248	2.41E+04	57.88	69.33	1.76637E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01

161	1200	.000008	1.75E+02	78.06	79.04	1.80062E+02	0.	0.	1.75E+02	1.43E+02	1.02E+02	1.90E+01	
161	1201	.000000	1.75E+02	78.06	100.96	1.80062E+02	0.	0.	1.75E+02	1.43E+02	1.02E+02	1.90E+01	
161	1100	.000006	1.75E+02	90.49	94.57	9.50311E+01	0.	0.	1.75E+02	1.43E+02	1.02E+02	1.90E+01	
161	1101	.000001	1.75E+02	90.49	85.43	9.50311E+01	0.	0.	1.75E+02	1.43E+02	1.02E+02	1.90E+01	
163	1201	.000013	1.75E+02	70.86	65.13	1.13575E+02	0.	0.	1.75E+02	-3.25E+01	1.02E+02	1.90E+01	
165	1130	.000024	1.75E+02	71.03	116.63	1.11008E+02	0.	0.	1.75E+02	-2.07E+02	1.02E+02	1.90E+01	
165	1131	.000001	1.75E+02	71.03	63.37	1.11008E+02	0.	0.	1.75E+02	-2.07E+02	1.02E+02	1.90E+01	
167	1130	.000222	1.75E+02	78.04	55.55	1.74106E+02	0.	0.	1.75E+02	-3.82E+02	1.02E+02	1.90E+01	
399	1100	.000004	4.15E+03	60.19	90.70	7.88182E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02	
399	1111	.000157	4.15E+03	60.77	74.23	5.28628E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02	
399	1121	.000461	4.15E+03	64.77	70.23	4.24813E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02	
399	1130	.000190	4.15E+03	71.23	5.90	3.83487E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02	
1000	1101	.070935	1.91E+04	118.37	32.04	3.99922E+01	-1.39E-07	1.91E+04	1.62E-07	1.73E+02	3.15E+01	-1.70E+01	

MODEL = TAPE3 STEP = 1
PROCESSING OPERATIONS DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB1 (RECIEVING SHUTTLE))

1010	1200	.000009	1.17E+04	105.48	91.63	1.18036E+02	9.09E-08	1.17E+04	9.09E-08	9.81E+01	3.15E+01	3.39E-10
1015	1201	.000046	1.17E+04	114.56	65.86	7.57997E+01	9.09E-08	1.17E+04	9.09E-08	3.91E+01	3.15E+01	3.39E-10
1020	1200	.000109	1.92E+04	107.59	129.94	7.91925E+01	1.69E+04	8.99E+03	1.36E-07	-3.25E+00	5.57E+01	-8.00E-10
1020	1201	.000224	1.92E+04	107.59	50.06	7.91925E+01	1.69E+04	8.99E+03	1.36E-07	-3.25E+00	5.57E+01	-8.00E-10
1040	1120	.001770	5.32E+04	134.29	45.01	1.14429E+02	4.14E-07	5.32E+04	4.14E-07	-1.75E+02	7.99E+01	6.31E-06
1060	1130	.000371	4.75E+03	109.00	93.00	6.65726E+01	3.69E-08	4.75E+03	3.69E-08	-2.74E+02	2.56E+01	2.42E-10
1082	1130	.000448	6.84E+02	73.10	57.84	1.41377E+02	0.	0.	6.84E+02	-3.58E+02	7.58E+01	1.40E+01
1083	1130	.000448	6.84E+02	73.60	58.86	1.45525E+02	0.	0.	6.84E+02	-3.58E+02	-7.58E+01	1.40E+01
1084	1130	.000667	5.17E+03	57.16	63.78	1.44432E+02	6.93E-08	-4.90E+03	1.63E+03	-3.58E+02	6.57E+01	-7.50E+00
1085	1130	.000668	5.17E+03	54.57	64.45	1.47957E+02	-3.35E-08	4.90E+03	1.63E+03	-3.58E+02	-6.56E+01	-7.50E+00
1086	1130	.000210	4.09E+03	51.74	73.15	1.56334E+02	4.31E-08	-3.04E+03	2.74E+03	-3.58E+02	4.65E+01	-4.24E+01
1087	1130	.000177	4.09E+03	49.69	73.41	1.58652E+02	-4.31E-08	3.04E+03	2.74E+03	-3.58E+02	-4.65E+01	-4.24E+01

3.5.2 Spacelab-2/Orbiter Data Matrices - Figure 6 depicts the computer drawing of the modeled Spacelab-2 configuration indicating the nodal numbering assignments assigned to the primary Spacelab surfaces. (The Orbiter nodal assignments are depicted in Figure 4.) This is followed by a summary listing and description of the Spacelab-2/Orbiter nodal surfaces. The ensuing computer printouts contain the Input Data, View-factor Data, and Geometric Relationship Data matrices for the Spacelab-2/Orbiter configuration.

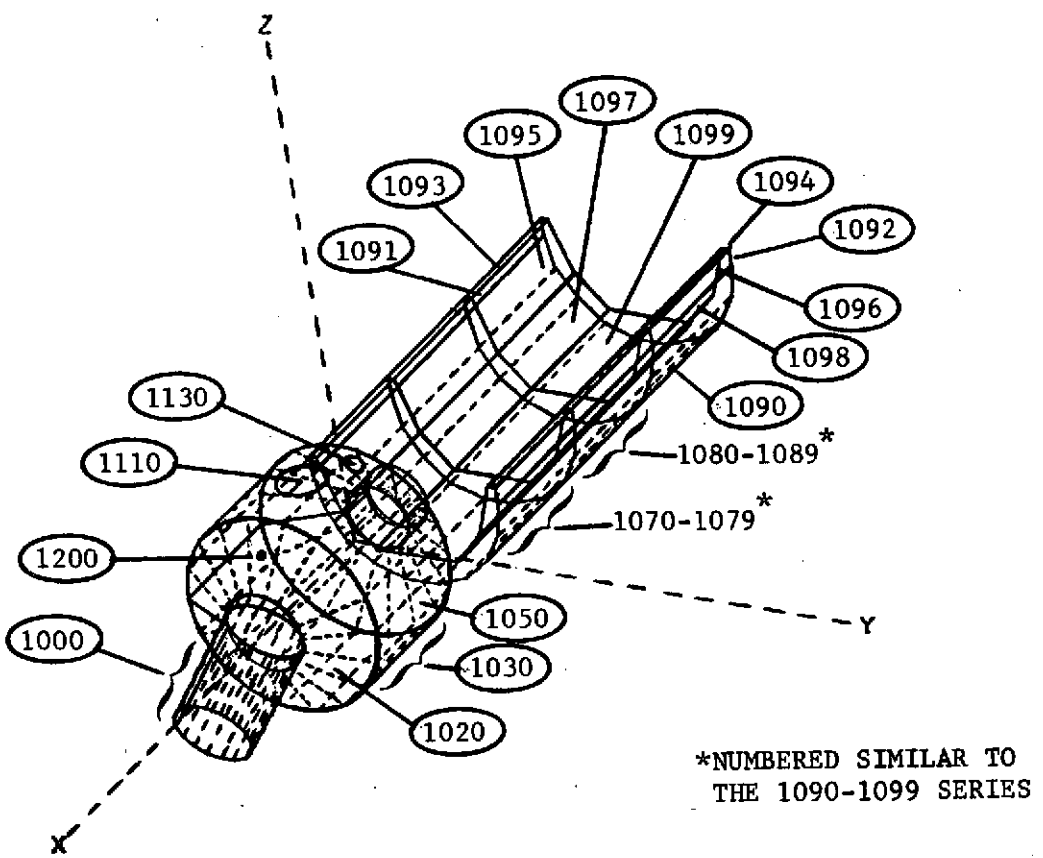

Figure 6. Primary Spacelab-2 Nodal Surface Number Assignments

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))
PROCESSING OPERATION DATA

NODE	BDS	AREA	ALPH	EMISS	SURF. TYPE	ACTIVE	--------COMMENTS----------
145	BODY	2.687E+03	0.	0.	TRAPEZOID	TOP	+Y REAR SIDE TAPER
146	BODY	2.687E+03	0.	0.	TRAPEZOID	BOTTOM	- Y. REAR SIDE TAPER...
707	BODY	2.827E+01	0.	0.	DISC	BOTTOM	.....JULY 8 EVAP..3 IN. RAD.
708	BODY	2.827E+01	0.	0.	DISC	TOP	.....JULY 8 EVAP..3 IN. RAD.
147	BODY	1.358E+04	0.	0.	PARABOLOID	OUTSID	TOP ENGIN
148	BODY	1.958E+04	0.	0.	PARABOLOID	OUTSID	+ Y ENGIN
149	BODY	1.958E+04	0.	0.	PARABOLOID	OUTSID	-Y ENGIN...
20	BODY	3.711E+03	0.	0.	DISC	TOP	...-Y OMS SEALER ...
21	BODY	3.711E+03	0.	0.	DISC	TOP	..+Y OMS SEALER ...
292	BODY	7.735E+04	0.	0.	RECTANGLE	BOTTOM	BACK RECT 7.350E6
23	BODY	1.534E+04	0.	1.	DISC	TOP	REAR END HALF DISK
607	BODY	2.827E+01	0.	0.	DISC	TOP	BACK SIDE EVAPORAT. UPDATED
16	BODY	2.827E+01	0.	1.	DISC	TOP	REAR END EVAPORATOR
17	BODY	1.437E+04	0.	0.	TRAPEZOID	BOTTOM	....LEFT FRONT WING A ...
11	BODY	4.945E+04	0.	0.	TRAPEZOID	TOP	.....LEFT MIDDLE WING BACK.8
141	BODY	2.559E+04	0.	0.	RECTANGLE	TOP	RS INNER WING
12	BODY	1.462E+04	0.	0.	RECTANGLE	TOP	..... LEFT BACK RECT. WING C
142	BODY	1.474E+04	0.	0.	RECTANGLE	TOP	INNER WING C
13	BODY	1.112E+04	0.	0.	TRAPEZOID	TOP	..... LEFT WING TAIL EDGE
1	BODY	1.973E+04	0.	0.	TRAPEZOID	TOP	...FRONT WING TRIANGLE RT.A.58
2	BODY	4.345E+04	0.	0.	TRAPEZOID	BOTTOM	.....MIDDLE WING TRAP, RT P ..
143	BODY	2.590E+04	0.	0.	RECTANGLE	BOTTOM	+Y RECTANGLE WING
3	BODY	4.462E+04	0.	0.	RECTANGLE	BOTTOM	.... BACK WING RECT. RTC .129
144	BODY	1.434E+04	0.	0.	RECTANGLE	BOTTOM	INNER WING C RECT
4	BODY	1.012E+04	0.	0.	TRAPEZOID	BOTTOM	...WING TAIL FLAP RT 1453,1507
150	BODY	2.306E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
151	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
152	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
153	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
154	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
155	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
156	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
157	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
140	BODY	3.269E+04	-0.	-0.	DISC	TOP	END BAY AREA DISK
135	BODY	7.269E+04	-0.	-0.	DISC	TOP	FRONT BAY AREA DISK
122	BODY	1.527E+04	-0.	-0.	PARABOLOID	OUTSID	VERY NOSE CONE
123	BODY	1.527E+04	-0.	-0.	PARABOLOID	OUTSID	VERY NOSE CONE
124	BODY	1.527E+04	-0.	-0.	PARABOLOID	OUTSID	VERY NOSE CONE
125	BODY	1.527E+04	-0.	-0.	PARABOLOID	OUTSID	VERY NOSE CONE
320	BODY	4.573E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
321	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
322	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
323	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
324	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
325	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
326	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER

NODE	BAS	AREA	ALPH	EMISS	SURF. TYPE	ACTIVE	--------COMMENTS----------	
327	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER	
329	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER	
329	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER	
330	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER	
331	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER	
332	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER	
333	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER	
334	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER	
335	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER	
340	BODY	3.878E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK	
341	BODY	4.022E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK	
342	BODY	4.197E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK	
343	BODY	4.366E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK	
344	BODY	3.878E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK	
345	BODY	4.022E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK	
346	BODY	4.197E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK	
347	BODY	4.366E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK	
348	BODY	3.878E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK	
349	BODY	4.022E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK	
350	BODY	4.197E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK	
351	BODY	4.366E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK	
352	BODY	3.878E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK	
353	BODY	4.022E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK	
354	BODY	4.197E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK	
355	BODY	4.366E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK	
360	BODY	1.593E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW	
361	BODY	1.825E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW	
362	BODY	2.031E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW	
363	BODY	2.218E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW	
364	BODY	1.593E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW	
365	BODY	1.825E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW	
366	BODY	2.031E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW	
367	BODY	2.218E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW	
368	BODY	1.593E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW	
369	BODY	1.825E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW	
370	BODY	2.031E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW	
371	BODY	2.218E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW	
372	BODY	1.593E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW	
373	BODY	1.825E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW	
374	BODY	2.031E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW	
375	BODY	2.218E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW	
401	BODY	4.610E+04	.900	.900	RECTANGLE	BOTTOM	BODY BOTTOM (FRT)	4 1
402	BODY	1.438E+05	.900	.900	RECTANGLE	BOTTOM	BODY BOTTOM (REAR)	402
192	BODY	3.971E+04	-0.	-0.	CYLINDER	OUTSID	OMSPODC1	
172	BODY	3.971E+04	-0.	-0.	CYLINDER	OUTSID	OMSPODC2	
701	BODY	2.470E+04	0.	0.	CYLINDER	INSIDE	.....+Y SIDE BODY.....	

NODE	BDS	AREA	ALPH	EMISS	SURF. TYPE	ACTIVE	--------COMMENTS----------	
782	BODY	2.470E+04	0.	0.	CYLINDER	OUTSID	.....+Y SIDE DOOR.....	
783	BODY	2.470E+04	0.	0.	CYLINDER	INSIDE	.....+Y SIDE DOOR.....	
784	BODY	2.470E+04	0.	0.	CYLINDER	OUTSID	.....+Y SIDE DOOR.....	
785	BODY	2.470E+04	0.	0.	CYLINDER	INSIDE	.....+Y SIDE DOOR.....	
786	BODY	2.470E+04	0.	0.	CYLINDER	OUTSID	.....+Y SIDE DOOR.....	
787	BODY	2.470E+04	0.	0.	CYLINDER	INSIDE	.....+Y SIDE DOOR.....	
788	BODY	2.470E+04	0.	0.	CYLINDER	OUTSID	.....+Y SIDE DOOR.....	
791	BODY	2.417E+04	0.	0.	CYLINDER	INSIDE	... -Y SIDE DOOR....	
792	BODY	2.417E+04	0.	0.	CYLINDER	OUTSID	... -Y SIDE DOOR....	
793	BODY	2.417E+04	0.	0.	CYLINDER	INSIDE	... -Y SIDE DOOR....	
794	BODY	2.417E+04	0.	0.	CYLINDER	OUTSID	... -Y SIDE DOOR....	
795	BODY	2.413E+04	0.	0.	CYLINDER	INSIDE	... -Y SIDE DOOR....	
796	BODY	2.413E+04	0.	0.	CYLINDER	OUTSID	... -Y SIDE DOOR....	
797	BODY	2.413E+04	0.	0.	CYLINDER	INSIDE	... -Y SIDE DOOR....	
798	BODY	2.413E+04	0.	0.	CYLINDER	OUTSID	... -Y SIDE DOOR....	
791	BODY	2.894E+04	0.	0.	TRAPEZOID	TOP	+Y SIDE FRONT TRAPOZOID	
305	BODY	4.997E+04	.900	.900	RECTANGLE	TOP	BODY SIDE (MIDDLE-PORT)	305
306	BODY	5.155E+04	.900	.900	RECTANGLE	TOP	BODY SIDE (BACK-PORT)	306
311	BODY	2.894E+04	0.	0.	TRAPEZOID	BOTTOM	-Y SIDE FRONT TRAPOZOID	
315	BODY	3.678E+04	.900	.900	RECTANGLE	TOP	BODY SIDE (MIDDLE-STBD)	315
316	BODY	3.795E+04	.900	.900	RECTANGLE	TOP	BODY SIDE (BACK-STBD)	316
202	BODY	3.685E+04	.900	.900	CYLINDER	OUTSID	BODY TOP (STBD-REAR) 202	
212	BODY	3.685E+04	.900	.900	CYLINDER	OUTSID	BODY TOP (PORT-REAR) 212	
381	BODY	2.855E+04	.900	.900	TRAPEZOID	TOP	VERTICAL FIN (PORT) 20	
385	BODY	2.854E+04	.900	.900	TRAPEZOID	TOP	VERTICAL FIN (PORT-AFT) 20	
390	BODY	2.855E+04	.900	.900	TRAPEZOID	BOTTOM	VERTICAL FIN (STBD) 20	
395	BODY	2.854E+04	.900	.900	TRAPEZOID	BOTTOM	VERTICAL FIN (STBD-AFT) 20	
796	BODY	2.827E+01	0.	0.	DISC	TOP	..MOST FORWARD EVAPORATOR.....	
797	BODY	1.590E+03	0.	0.	DISC	BOTTOM	.....SUPER ENGINS (OMS LOCAT	
791	BODY	1.590E+03	0.	0.	DISC	TOP	.....SUPER ENGINS (OMS LOCAT	
792	BODY	1.590E+03	0.	0.	DISC	BOTTOM	.....SUPER ENGINS (OMS LOCAT	
793	BODY	1.590E+03	0.	0.	DISC	TOP	.....SUPER ENGINS (OMS LOCAT	
24	BODY	2.832E+01	0.	0.	DISC	BOTTOM	...BACK RCS ...LOOKING +/- Y.(	
25	BODY	2.832E+01	0.	0.	DISC	TOP	...BACK RCS ...LOOKING +/- Y.(	
18	BODY	2.832E+01	0.	0.	DISC	BOTTOM	...FRONT RCS..LOOKING +/-Y AT	
19	BODY	2.832E+01	0.	0.	DISC	TOP	...FRONT RCS..LOOKING +/-Y AT	
26	BODY	2.832E+01	0.	0.	DISC	BOTTOM	...BACK RCS LOOKING +/- Z...7/	
27	BODY	2.832E+01	0.	0.	DISC	TOP	...BACK RCS LOOKING +/- Z...7/	
16	BODY	2.827E+01	0.	0.	DISC	BOTTOM	...MIDDLE EVAP. LOOKING +/- Y.	
17	BODY	2.827E+01	0.	0.	DISC	TOP	...MIDDLE EVAP. LOOKING +/- Y.	
393	BODY	4.152E+03	.900	.900	RECTANGLE	TOP	VERT. FIN LOG. EDGE 2	
1000	SOLAR	1.836E+04	0.	0.	CYLINDER	OUTSID	TUNNEL 1, X=592 TO 668.3, SPA	
1020	SOLAR	1.919E+04	0.	0.	CONE	OUTSID	END CONE, X=668.3 TO 694.0, SP	
1210	SOLAR	2.855E+01	0.	0.	DISC	BOTTOM	ECS,CONDENSATE VENT,X=681, SPA	
1201	SOLAR	2.855E+01	0.	0.	DISC	TOP	ECS,CONDENSATE VENT,X=681, SPA	
1070	SOLAR	5.316E+04	0.	0.	CYLINDER	OUTSID	CORE SEGMENT X=694.0 T	

PROCESSING OPERATION DATA

NODE	PCS	AREA	ALPH	EMISS	SURF. TYPE	ACTIVE	--------COMMENTS----------
1050	SPLAB	2.102E+04	0.	0.	CONE	OUTSID	AFT CONE TAPER, X=799.90 TO
1060	SPLAB	4.745E+03	0.	0.	CYLINDER	OUTSID	AFT AIRLOCK, X=831.30 TO 860
1065	SPLAB	2.159E+03	0.	0.	DISC	TOP	AFT AIR LOCK DISK SL2
1070	SPLAB	2.822E+04	0.	0.	CYLINDER	OUTSID	PALLET1 BOTTOM CYLINDER SL2
1071	SPLAB	1.596E+03	0.	0.	RECTANGLE	TOP	-Y PALLET1 OUTSIDE STRIP SL2
1072	SPLAB	1.596E+03	0.	0.	RECTANGLE	TOP	+Y PALLET1 OUTSIDE STRIP SL2
1073	SPLAB	6.840E+02	0.	0.	RECTANGLE	TOP	-Y PALLET3 TOP STRIP X=873.2 T
1074	SPLAB	6.840E+02	0.	0.	RECTANGLE	TOP	+Y PALLET3 TOP STRIP ,X= 873.
1075	SPLAB	5.166E+03	0.	0.	RECTANGLE	TOP	-Y INSIDE TOP PANNEL3 ,X=873.
1076	SPLAB	5.166E+03	0.	0.	RECTANGLE	TOP	+Y INSIDE TOP PANNEL3,X=873.2
1077	SPLAB	4.397E+03	0.	0.	RECTANGLE	TOP	-Y INSIDE BOTTOM PANNEL3, X=8
1078	SPLAB	4.397E+03	0.	0.	RECTANGLE	TOP	+Y INSIDE BOTTOM PANNEL3,X 87
1079	SPLAB	7.866E+03	0.	0.	RECTANGLE	TOP	...BOTTOM PANNEL3 ,X=873.2 TO
1080	SPLAB	2.822E+04	0.	0.	CYLINDER	OUTSID	PALLET4 BOTTOM CYLINDER X= 98
1081	SPLAB	1.596E+03	0.	0.	RECTANGLE	TOP	-Y PALLET4 OUTSIDE STRIP SL2
1082	SPLAB	1.596E+03	0.	0.	RECTANGLE	TOP	+Y PALLET4 OUTSIDE STRIP SL2
1083	SPLAB	6.840E+02	0.	0.	RECTANGLE	TOP	-Y PALLET4 TOP STRIP X=987.2 T
1084	SPLAB	6.840E+02	0.	0.	RECTANGLE	TOP	+Y PALLET4 TOP STRIP ,X= 987.
1085	SPLAB	5.166E+03	0.	0.	RECTANGLE	TOP	-Y INSIDE TOP PANNEL4,X=987.2
1086	SPLAB	5.166E+03	0.	0.	RECTANGLE	TOP	+Y INSIDE TOP PANNEL4,X=987.2
1087	SPLAB	4.397E+03	0.	0.	RECTANGLE	TOP	-Y INSIDE BOTTOM PANNEL4, X=9
1088	SPLAB	4.397E+03	0.	0.	RECTANGLE	TOP	+Y INSIDE BOTTOM PANNEL4,X 98
1089	SPLAB	7.866E+03	0.	0.	RECTANGLE	TOP	PALLET4 BOTTOM,X= 987.2 TO 11
1090	SPLAB	2.822E+04	0.	0.	CYLINDER	OUTSID	PALLET5 BOTTOM CYLINDER X= 11
1091	SPLAB	1.596E+03	0.	0.	RECTANGLE	TOP	-Y PALLET5 OUTSIDE STRIP
1092	SPLAB	1.596E+03	0.	0.	RECTANGLE	TOP	+Y PALLET5 OUTSIDE STRIP
1093	SPLAB	6.840E+02	0.	0.	RECTANGLE	TOP	-Y PALLET5 TOP STRIP X=1101.2
1094	SPLAB	6.840E+02	0.	0.	RECTANGLE	TOP	+Y PALLET5 TOP STRIP ,X= 1101
1095	SPLAB	5.166E+03	0.	0.	RECTANGLE	TOP	-Y INSIDE TOP PANNEL5,X=1101.
1096	SPLAB	5.166E+03	0.	0.	RECTANGLE	TOP	+Y INSIDE TOP PANNEL5,X=1101.
1097	SPLAB	4.397E+03	0.	0.	RECTANGLE	TOP	-Y INSIDE BOTTOM PANNEL5, X=1
1098	SPLAB	4.397E+03	0.	0.	RECTANGLE	TOP	+Y INSIDE BOTTOM PANNEL5,X 11
1099	SPLAB	7.866E+03	0.	0.	RECTANGLE	TOP	PALLET 5 BOTTOM,X=1011.2 TO 12
1110	SPLAB	1.219E+03	0.	0.	DISC	BOTTOM	CORE SEGMENT WINDOW, X=746.9
1111	SPLAB	1.219E+03	0.	0.	DISC	TOP	CORE SEGMENT WINDOW, X=746.9
1170	SPLAB	1.936E+02	0.	0.	DISC	BOTTOM	AFT VIEWING WINDOW X=815.6, S
1171	SPLAB	1.936E+02	0.	0.	DISC	TOP	AFT VIEWING WINDOW X=815.6, S

SPACELAB-2 INPUT DATA MATRIX

The following pages contain the input data computer printouts for the Spacelab-2/Orbiter configuration.

```
INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  HEADER      SURFACE DATA                                                                                  AA
                  T       IDSN=1                                                                                            AA
                        TX=0.,  TY=0.,  TZ=0.                                                                               AA
                        ROTX=1.,  ROTY=0.,  ROTZ=0.                                                                         AA
                  T       IDSN    =          1                                                                              AA
                          TX=800.,TY=1.,TZ=1.                                                                               AA
                          ROTZ=-180.,ROTY=0.,ROTX=0.                                                                        AA
                  I       IDSN    =          2                                                                              AA
                          TX      =    -5.000000000E+02                                                                     AA
                          TY      =     0.                                                                                  AA
                          TZ      =     5.                                                                                  AA
                          ROTZ    =  -180.1000                                                                              AA
                          ROTY    =    -5.                                                                                  AA
                          ROTX    =     0.                                                                                  AA
                  I       IDSN    =          3                                                                              AA
                          TX      =     4.000000000E+02                                                                     AA
                          TY      =     0.                                                                                  AA
                          TZ      =     0.                                                                                  AA
                          ROTZ    =   -90.0000                                                                              AA
                          ROTY    =    -0.                                                                                  AA
                          ROTX    =    90.0000                                                                              AA
                  I       IDSN    =          4                                                                              AA
                          TX      =     4.300000000E+02                                                                     AA
                          TY      =     6.000000000E+01                                                                     AA
                          TZ      =     2.410000000E+01                                                                     AA
                          ROTZ    =    79.7000                                                                              AA
                          ROTY    =    41.3000                                                                              AA
                          ROTX    =     0.                                                                                  AA
                  T       IDSN    =          5                                                                              AA
                          TX      =     4.300000000E+02                                                                     AA
                          TY      =    -6.000000000E+01                                                                     AA
                          TZ      =     2.410000000E+01                                                                     AA
                          ROTZ    =   180.3000                                                                              AA
                          ROTY    =   -41.3000                                                                              AA
                          ROTX    =     0.                                                                                  AA
                  I       IDSN=    6                                                                                         AA
                        TY=-135.                                                                                            AA
                        TX=0.                                                                                               AA
                        TZ=14.                                                                                              AA
                           ROTX=0.,  ROTY=90.,  ROTZ=0.                                                                     AA
                  T        IDSN=7                                                                                           AA
                           TX=-116.,  TY=0.,  TZ=14.                                                                        AA
                           ROTX=0.,  ROTY=90.,  ROTZ=0.                                                                     AA
                  T       IDSN=8                                                                                            AA
                        TX=-116.,  TY=0.,  TZ=14.                                                                           AA
                           ROTX=1.,  ROTY=90.,  ROTZ=0.                                                                     AA
                  I       IDSN=9                                                                                            AA
                        TX=-116.,  TY=0.,  TZ=14.                                                                           AA
                           ROTX=1.,  ROTY=-90.,  ROTZ=0.                                                                    AA
                  L       IDSN=10                                                                                           AA
                        TX=-116.,  TY=0.,  TZ=-14.                                                                          AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO. LABEL

```
                  ROTX=0.,ROTY=90.,ROTZ=0.                                    114          AA
         I      ICSN = 11                                                     115          AA
                TX=-470.,TY=-78.14,TZ=65.56                                   116          AA
                   ROTY=0.,ROTY=90.,ROTZ=0.                                   117          AA
         T      TCSN=12                                                       118          AA
                TX=-470.,TY=+78.14,TZ=65.56                                   119          AA
                ROTX=0., ROTY=90.0,ROTZ=0.                                    120          AA
         I      TCSN=13                                                       121          AA
                TX =-720.,TY=10.,TZ=50.                                       122          AA
                ROTX=0.0,ROTY=-80.,ROTZ=0.                                    123          AA
         T      TCSN=14                                                       124          AA
                TX=-717.,TY=0.0,TZ=-50.                                       125          AA
                ROTX=0.0,ROTY=-90.,ROTZ=0.                                    126          AA
         I         TCSN=15                                                    127          AA
                   TX=-711.,TY=0.0,TZ=0.0                                     128          AA
                   ROTY=0.0,  ROTY=-97.35,  ROTZ=0.0                          129          AA
         I        TCSN=16                                                     130          AA
                  TX=-705.,TY=88.,TZ=70.5                                     131          AA
                  ROTY=0.,ROTY=-74.183,ROTZ=12.241                            132          AA
         I        TCSN=17                                                     133          AA
                  TY=-705.,TY=-88.,TZ=70.5                                    134          AA
                  ROTX=0.,ROTY=-74.183,ROTZ=12.241                            135          AA
         I        TCSN=20                                                     136          AA
                  TY=0.,TY=102.,TZ=0.                                         137          AA
                  ROTX=-5.,ROTY=0.,ROTZ=0.                                    138          AA
         I        TCSN=21                                                     139          AA
                  TX=0.,TY=-102.,TZ=0.                                        140          AA
                  ROTX=5.,ROTY=0.,ROTZ=0.                                     141          AA
         RCS          BODY                                                    142          AA
         S      SURF=145,TYPE=TRAP,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH          143          AA
                P1=-698.,102.,0.                                              144          AA
                P2=-698.,102.,-125.                                           145          AA
                P3=-729.,102.,-125.                                           146          AA
                P4=-711.,102.,0.                                              147          AA
                PROP=0.,0.                                                    148          AA
                COM=* +Y REAR SIDE TAPE*                                      149          AA
         S      SURF=146,TYPE=TRAP,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH       150          AA
                P1=-698.,-102.,0.                                             151          AA
                P2=-698.,-102.,-125.                                          152          AA
                P3=-729.,-102.,-125.                                          153          AA
                P4=-711.,-102.,0.                                             154          AA
                PROP=0.,0.                                                    155          AA
                COM=* - Y. REAR SIDE TAPE*...*                                156          AA
         S        SURFN=207,TYPE=DISC,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH      157          AA
                  P1=218.,104.,-47.                                           158          AA
                  P2=218.,104.,-50.                                           159          AA
                  P3=215.,104.,-47.                                           160          AA
                  P4=215.,104.,-47.                                           161          AA
                  PROP=0.,0.                                                  162          AA
                  COM=*.....JULY 8 EVAP..3 IN. RAD. UP FRONT CLOSE UNDER WTNG*  163          AA
         S      SURF=147,TYPE=PARAB,ACTIVE=OUT,SHADE=BOTH,BSHADE=BOTH         164          AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  DIMENSIONS=4.,4.,0.0,100.,0.,360.                                                    165                AA
                  TCSN=13                                                                              166                AA
                  PROP=0.,0.                                                                           167                AA
                  COM=* TOP  ENGIN *                                                                   168                AA
              S   SURF=148,TYPE=PARAB,ACTIVE= OUT,SHADE=BOTH,BSHADE=BOTH                               169                AA
                  DIMENSIONS=4.,4,0.0,100.,0.,360.                                                     170                AA
                  TCSN=14,TY=+50.                                                                      171                AA
                     PROP=0.,0.                                                                        172                AA
                  COM = * + Y ENGIN *                                                                  173                AA
              S   SURF=149,TYPE=PARAB,ACTIVE=OUT,SHADE=BOTH,BSHADE=BOTH                               174                AA
                  DIMENSIONS=4.,4,0.0,100.,0.,360.                                                     175                AA
                  TCSN = 14, TY =-50.                                                                  176                AA
                     PROP=0.,0.                                                                        177                AA
                  COM = * -Y ENGIN...*                                                                 178                AA
              S   SURF=20,TYPE=DISC,ACTIVE=OUT,SHADE=BOTH,BSHADE=BOTH                                 179                AA
                     DIMENSIONS=0.0,0.0,45.,125.,335.                                                  180                AA
                  PROP=0.,0.                                                                           181                AA
                  TCSN=11                                                                              182                AA
                  COM = * ...-Y OWS SEALER ...*                                                        183                AA
              S   SURF=21,TYPE=DISC,ACTIVE=OUT,SHADE=BOTH,BSHADE=BOTH                                 184                AA
                     DIMENSIONS=0.0,0.0,45.,25.,235.                                                   185                AA
                  PROP=0.,0.                                                                           186                AA
                  TCSN=12                                                                              187                AA
                  COM= * ..+Y OWS SEALER ...*                                                          188                AA
              S      SURF=222,TYPE=RECT,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                           189                AA
                     P1=-728.,-102.,-125.                                                              190                AA
                     P2=-728.,102.,-125.                                                               191                AA
                      P3=-711.,102.,0.0                                                                192                AA
                      PROP=1.,0.                                                                       193                AA
                      COM=*  BACK RECT   7.35DEG*                                                      194                AA
              S       SURF=27,TYPE=DISC,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                              195                AA
                     DIMENSIONS=0.0,0.0,102.,90.,270.                                                  196                AA
                     PROP=0.,0.                                                                        197                AA
                     TCSN=15                                                                           198                AA
                     COM=* REAR END HALF DISK*                                                         199                AA
              S      SURF=457,TYPE=DISC,ACTIVE=TOP,SHADE=BOTH,BSHADE= BOTH                             200                AA
                     P1=-592.0,113.,-77.                                                               201                AA
                     P2=-592.0,113.,-80.                                                               202                AA
                     P3=-595.0,113.,-77.                                                               203                AA
                     P4=-595.0,113.,-77.                                                               204                AA
                     PROP=0.,0.                                                                        205                AA
                     COM=*  BACK SIDE EVAPORAT, UPDATED JULY 18. 6 IN DIA.*                            206                AA
              S      SURF=15,TYPE=DISC,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                               207                AA
                     P1=-719.,126.,-95.                                                                208                AA
                     P2=-719.,126.,-98.                                                                209                AA
                     P3=-722.,126.,-95.                                                                210                AA
                     P4=-722.,126.,-95.                                                                211                AA
                     PROP=0.,0.                                                                        212                AA
                     COM=* REAR END EVAPORATOR*                                                        213                AA
              S      SURF=10,TYPE=POLY,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                            214                AA
                     P1=230.,0.,-102.                                                                  215                AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  P2=-192.,-39.,-60.                                                                    216              AA
                  P3=-192.,0.,-60.                                                                      217              AA
                  TOSN=21                                                                               218              AA
                  PROP=0.,0.                                                                            219              AA
                  COM=*....LEFT FRONT WING  A ...*                                                      220              AA
C                 SURF=141,TYPE=POLY,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                  221              AA
                  P1=-132.,-89.,-60.                                                                    222              AA
                  P2=-483.,-39.,-85.                                                                    223              AA
                  P3=-483.,-366.,-85.                                                                   224              AA
                  TOSN=21                                                                               225              AA
                  PROP=0.,0.                                                                            226              AA
                  COM=*.....LEFT MIDDLE WING BACK.B ... *                                               227              AA
S                 SURF=141,TYPE=RECT,ACTIVE=TOP,BSHADE=BOTH,SHADE=BOTH                                  228              AA
                   P1=-132.,0.,-60.                                                                     229              AA
                  P2=-483.,0.,-85.                                                                      230              AA
                  P3=-483.,-39.,-85.                                                                    231              AA
                   TOSN=21                                                                              232              AA
                   PROP=0.,0.                                                                           233              AA
                   COM=*  SS INNER WING         *                                                       234              AA
S                 SURF=12,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                   235              AA
                  P1=-644.,-39.,-90.                                                                    236              AA
                  P2=-644.,-366.,-90.                                                                   237              AA
                  P3=-483.,-366.,-85.                                                                   238              AA
                  TOSN=21                                                                               239              AA
                  PROP=0.,0.                                                                            240              AA
                  COM=* ..... LEFT BACK RECT. WING C .... *                                             241              AA
S                  SURF=142,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                 242              AA
                  P1=-644.,0.,-90.                                                                      243              AA
                  P2=-644.,-39.,-90.                                                                    244              AA
                  P3=-483.,-39.,-85.                                                                    245              AA
                  TOSN=21                                                                               246              AA
                  PROP=0.,0.                                                                            247              AA
                  COM=*  INNER WING C*                                                                  248              AA
S                 SURF=13,TYPE=POLY,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                   249              AA
                  P1=-698.,0.,-102.                                                                     250              AA
                  P2=-644.,-366.,-90.                                                                   251              AA
                  P3=-644.,0.,-90.                                                                      252              AA
                  PROP=0.,0.                                                                            253              AA
                  TOSN=21                                                                               254              AA
                  COM=* ..... LEFT WING TAIL  EDGE  ..D . *                                             255              AA
S                 SURF=1,TYPE=POLY,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                    256              AA
                  P1=230.....,-70.                                                                      257              AA
                  P2=-192.,89.,-60.                                                                     258              AA
                  P3=-192.,0.,-60.                                                                      259              AA
                  PROP= 0.,0.                                                                           260              AA
                  TOSN=21                                                                               261              AA
                  COM=*...FRONT WING TRIANGLE PT.A.532.1024*                                            262              AA
S                 SURF=2,TYPE=POLY,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                                 263              AA
                  PROP=0.,0.                                                                            264              AA
                  P1=-132.,89.,-60.                                                                     265              AA
                  P2=-483.,89.,-85.                                                                     266              AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  P3=-483.,366.,-85.                                                                                    267                 AA
                  COM=*.....MIDDLE WING TRAP, PT 8 ..1024,1292*                                                         268                 AA
                  TCSN=22                                                                                               269                 AA
S                  SURF=143,TYPE=RECT,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                                              270                 AA
                  P1=-192..0.,-69.                                                                                      271                 AA
                  P2=-483.,0.,-85.                                                                                      272                 AA
                  P3=-483.,89..-85.                                                                                     273                 AA
                  P20P=0.,0.                                                                                            274                 AA
                  TCSN=20                                                                                               275                 AA
                  COM=*8  +Y RECTANGLE WING*                                                                            276                 AA
S                 SURF=3,TYPE=RECT,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                                                 277                 AA
                  P1=-644..89.,-90.                                                                                     278                 AA
                  P2=-644..366.,-90.                                                                                    279                 AA
                  P3=-483.,366.,-85.                                                                                    280                 AA
                  P20P=0.,0.                                                                                            281                 AA
                  TCSN=21                                                                                               282                 AA
                  COM=*.... BACK WING RECT.  PTC .1292,1453*                                                            283                 AA
S                  SURF=144,TYPE=RECT,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                                              284                 AA
                  P1=-644..]..-9].                                                                                      285                 AA
                  P2=-644.,89.,-90.                                                                                     286                 AA
                  P3=-483.,89.,-85.                                                                                     287                 AA
                  P20P=].,C.                                                                                            288                 AA
                  TCSN=23                                                                                               289                 AA
                  COM=*   INNER WING C RECT*                                                                            290                 AA
S                 SURF=4,TYPE=POLY,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                                                 291                 AA
                  P1=-693.,0.,-102.                                                                                     292                 AA
                  P2=-644.,366.,-90.                                                                                    293                 AA
                  P3=-644.,].,-90.                                                                                      294                 AA
                  P20P=0.,0.                                                                                            295                 AA
                  TCSN=23                                                                                               296                 AA
                  COM=*...WING TAIL FLAP PT 1453,1507*                                                                  297                 AA
C                SURFN=  150,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                                            298                 AA
TRANS=-0.    ,TRANT=-0.    ,COM=*BAY AREA CYLINDER                *                                                   299                 AA
TYPE=CYLINDER  ,ACTIVE=INSIDE ,ALPH= 1.02000E+02                                                                      300                 AA
RMIN= 0.          ,RMAX= 7.00000E+02,GMIN= 0.                                                                         301                 AA
GMAX= 1.40000E+02,NMX=     2,NNY=     4,TCSN=    -0                                                                  302                 AA
POSITION=-4.70000E+02, 0.          , 0.                                                                               303                 AA
POTZ     =    -0.     , POTY     =    90.0000, POTX     =     0.                                                      304                 AA
S                SURFN=  140,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                                           305                 AA
TRANS=-1.    ,TRANT=-0.    ,COM=*  END  BAY AREA DISK             *                                                   306                 AA
TYPE=DISC      ,ACTIVE=TOP    ,ALPH= 0.                                                                               307                 AA
RMIN= 0.          ,RMAX= 1.02000E+02,GMIN= 0.                                                                         308                 AA
GMAX= 7.60000E+02,NMX=     1,NNY=     1,TCSN=    -0                                                                  309                 AA
POSITION=-4.70000E+02, 0.          , 0.                                                                               310                 AA
POTZ     =    -0.     , POTY     =    90.0000, POTX     =     0.                                                      311                 AA
S                SURFN=  135,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                                           312                 AA
TRANS=-0.    ,TRANT=-0.    ,COM=* FRONT BAY AREA DISK             *                                                   313                 AA
TYPE=DISC      ,ACTIVE=TOP    ,ALPH= 0.                                                                               314                 AA
RMIN= 0.          ,RMAX= 1.02000E+02,GMIN= 0.                                                                         315                 AA
GMAX= 5.60000E+02,NMX=     1,NNY=     1,TCSN=    -0                                                                  316                 AA
POSITION= 3.30000E+02, 0.          , 0.                                                                               317                 AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  ROTZ    =    -0.     , ROTY    =  -90.0000, ROTX    =     0.                    318                    AA
                S SUREN=  122,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                      319                    AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=* VERY NOSE CONE                          *     320                    AA
                  TYPE=PARABOLOID,ACTIVE=OUTSIDE,ALPH= 6.13000E+00                             321                    AA
                  RMIN= 0.          ,RMAX= 2.00000E+02,GMIN= 0.                                322                    AA
                  GMAX= 3.68000E+02,NMX=    4,NMY=    1,ICSN=    1                           323                    AA
                  POSITION= 2.00000E+02, 0.          ,-3.00000E+01                             324                    AA
                  ROTZ    = -180.0000, ROTY    =  -90.0000, ROTX    =     0.                    325                    AA
                S SUREN=  320,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                      326                    AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*   NOSE CYLINDER                         *     327                    AA
                  TYPE=CYLINDER  ,ACTIVE=OUTSIDE,ALPH= 7.00000E+01                             328                    AA
                  RMIN= 0.          ,RMAX= 1.70000E+02,GMIN= 0.                                329                    AA
                  GMAX= 3.68000E+02,NMX=    4,NMY=    4,ICSN=    1                           330                    AA
                  POSITION= 4.00000E+02, 0.          ,-3.00000E+01                             331                    AA
                  ROTZ    = -180.0000, ROTY    =  -90.0000, ROTX    =     0.                    332                    AA
                S SUREN=  340,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                      333                    AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*   4000 PARTIAL BACK                     *     334                    AA
                  TYPE=PARABOLOID,ACTIVE=OUTSIDE,ALPH= 7.03000E+00                             335                    AA
                  RMIN= 2.60000E+02,RMAX= 3.70000E+02,GMIN= 0.                                 336                    AA
                  GMAX= 3.68000E+02,NMX=    4,NMY=    4,ICSN=    1                           337                    AA
                  POSITION= 2.00000E+02, 0.          , 0.                                      338                    AA
                  ROTZ    = -180.0000, ROTY    =  -90.0000, ROTX    =     0.                    339                    AA
                S SUREN=  360,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                      340                    AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=* WINDOW                                  *     341                    AA
                  TYPE=PARABOLOID,ACTIVE=OUTSIDE,ALPH= 2.38000E+01                             342                    AA
                  RMIN= 1.68000E+01,RMAX= 7.68000E+01,GMIN= 0.                                 343                    AA
                  GMAX= 3.68000E+02,NMX=    4,NMY=    4,ICSN=    1                           344                    AA
                  POSITION= 3.83200E+02, 0.          , 0.                                      345                    AA
                  ROTZ    = -180.0000, ROTY    =  -90.0000, ROTX    =     0.                    346                    AA
                S SUREN=  401,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                  347                    AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY BOTTOM (FRT)        4 1          *     348                    AA
                  TYPE=RECTANGLE ,ACTIVE=BOTTOM ,ALPH= 0.                                      349                    AA
                  RMIN=-1.02000E+02,RMAX= 1.02000E+02,GMIN= 0.                                 350                    AA
                  GMAX= 2.25000E+02,NMX=    1,NMY=    1,ICSN=    1                           351                    AA
                  POSITION= 5.70000E+02, 0.          ,-1.02000E+02                             352                    AA
                  ROTZ    =    -0.     , ROTY    =    90.3870, ROTX    =     0.                    353                    AA
                S SUREN=  402,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                  354                    AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY BOTTOM (REAR)       402          *     355                    AA
                  TYPE=RECTANGLE ,ACTIVE=BOTTOM ,ALPH=-1.25000E+02                             356                    AA
                  RMIN=-1.02000E+02,RMAX= 1.02000E+02,GMIN= 2.25000E+02                        357                    AA
                  GMAX= 9.70000E+02,NMX=    1,NMY=    1,ICSN=    1                           358                    AA
                  POSITION= 5.70000E+02, 0.          , 0.                                      359                    AA
                  ROTZ    =    -0.     , ROTY    =    -0.     , ROTX    =     0.                    360                    AA
                S SUREN=  182,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                      361                    AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=* OMSPOD1                                 *     362                    AA
                  TYPE=CYLINDER  ,ACTIVE=OUTSIDE,ALPH= 4.50000E+01                             363                    AA
                  RMIN= 0.          ,RMAX= 2.75000E+02,GMIN= 3.50000E+01                       364                    AA
                  GMAX= 2.48300E+02,NMX=    1,NMY=    1,ICSN=   -0                          365                    AA
                  POSITION=-4.70000E+02,-7.81400E+01, 6.55600E+01                              366                    AA
                  ROTZ    =    -0.     , ROTY    =  -90.0000, ROTX    =     0.                    367                    AA
                S SUREN=  172,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                      368                    AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  TRANS=-0.    ,TRANI=-0.    ,COM=* OMSPOOC?                          *          369                  AA
                  TYPE=CYLINDER  ,ACTIVE=OUTSIDE,ALPH= 4.510000E+01                              370                  AA
                  GMAX= 1.460000E+02,NNX=     1,NNY=     1,IGSN=    -0                       371                  AA
                  BMIN= 0.          ,BMAX= 2.350000E+02,GMIN=-6.610000E+01                    372                  AA
                  POSITION=-4.760000E+02, 7.614000E+01, 6.556000E+01                          373                  AA
                  ROTZ     =    -0.     , ROTY     =  -90.0000, ROTX     =     0.           374                  AA
            S     SURFN=  781,TYPE=CYL,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                     375                  AA
                  P1=230.,201.34,37.98                                                        376                  AA
                  P2=230.,103.,19.                                                            377                  AA
                  P3=230.,201.34,-64.02                                                       378                  AA
                  P4=-470.,201.34,-64.02                                                      379                  AA
                  PROP=0.,0.                                                                  380                  AA
                  NNX=2,NNY=2                                                                 381                  AA
                  COM=*.....+Y SIDE DOOR.....*                                                382                  AA
            S     SURFN=  791,TYPE=CYL,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                     383                  AA
                  P1=230.,-201.34,37.98                                                       384                  AA
                  P2=230.,-201.34,-64.02                                                      385                  AA
                  P3=230.,-103.,19.                                                           386                  AA
                  P4=-470.,-103.,19.                                                          387                  AA
                  PROP=0.,0.                                                                  388                  AA
                  NNX=2,NNY=2                                                                 389                  AA
                  COM=*... -Y SIDE DOOR....*                                                  390                  AA
            S     SURFN=  301,TYPE=TRAP,BSHADE=BOTH,SHADE=BOTH,ACTIVE=TOP                     391                  AA
                  P1=230.,102.,-102.                                                          392                  AA
                  P2=4.,102.,-125.                                                            393                  AA
                  P3=4.,102.,19.                                                              394                  AA
                  P4=230.,102.,19.                                                            395                  AA
                  COM=* +Y SIDE FRONT TRAPOZOID*                                              396                  AA
                  PROP=0.,0.                                                                  397                  AA
            S     SURFN=  305,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                398                  AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY SIDE (MIDDLE-PORT)   305 *          399                  AA
                  TYPE=RECTANGLE ,ACTIVE=TOP     ,ALPH= 1.020000E+02                          400                  AA
                  BMIN=-1.250000E+02,BMAX= 19.          ,GMIN= 2.250000E+02                   401                  AA
                  GMAX= 5.720000E+02,NNX=     1,NNY=     1,IGSN=     1                       402                  AA
                  POSITION= 5.720000E+02, 0.          , 0.                                    403                  AA
                  ROTZ     =    -0.     , ROTY     =   -0.     , ROTX     =    90.0000      404                  AA
            S     SURFN=  306,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                405                  AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY SIDE (BACK-PORT)     306 *          406                  AA
                  TYPE=RECTANGLE ,ACTIVE=TOP     ,ALPH= 1.020000E+02                          407                  AA
                  BMIN=-1.250000E+02,BMAX= 19.          ,GMIN= 5.720000E+02                   408                  AA
                  GMAX= 9.330000E+02,NNX=     1,NNY=     1,IGSN=     1                       409                  AA
                  POSITION= 5.720000E+02, 0.          , 0.                                    410                  AA
                  ROTZ     =    -0.     , ROTY     =   -0.     , ROTX     =    90.0000      411                  AA
            S     SURFN=  311,TYPE=TRAP,BSHADE=BOTH,SHADE=BOTH,ACTIVE=BOTTOM                  412                  AA
                  P1=230.,102.,-102.                                                          413                  AA
                  P2=4.,102.,-125.                                                            414                  AA
                  P3=4.,102.,19.                                                              415                  AA
                  P4=230.,102.,19.                                                            416                  AA
                  COM=* -Y SIDE FRONT TRAPOZOID*                                              417                  AA
                  PROP=0.,0.                                                                  418                  AA
            S     SURFN=  315,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                419                  AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY SIDE (MIDDLE-STBD)   315 *          420                AA
                  TYPE=RECTANGLE ,ACTIVE=TOP     ,ALPH= 1.02000E+02                        421                AA
                  RMIN= 19.          ,RMAX= 1.25000E+02,GMIN= 2.25000E+02                  422                AA
                  GMAX= 5.72000E+02,NNX=     1,NNY=     1,ICSN=     1                      423                AA
                  POSITION= 5.70000E+02, 0.          , 0.                                  424                AA
                  ROTZ     =    -0.     , ROTY     =    -0.     , ROTX     =  -90.0000    425                AA
              S   SUREN=  316,SHADE=BOTH,RSHADE=BOTH,ALPHA=  .900,EMISS=  .900            426                AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY SIDE (BACK-STBD)     316 *      427                AA
                  TYPE=RECTANGLE ,ACTIVE=TOP     ,ALPH= 1.02000E+02                        428                AA
                  RMIN= 19.          ,RMAX= 1.25000E+02,GMIN= 5.72000E+02                  429                AA
                  GMAX= 9.30000E+02,NNX=     1,NNY=     1,ICSN=     1                      430                AA
                  POSITION= 5.70000E+02, 0.          , 0.                                  431                AA
                  ROTZ     =    -0.     , ROTY     =    -0.     , ROTX     =  -90.0000    432                AA
              S   SUREN=  202,SHADE=BOTH,RSHADE=BOTH,ALPHA=  .900,EMISS=  .900            433                AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY TOP (STBD-REAR)  202     *      434                AA
                  TYPE=CYLINDER  ,ACTIVE=OUTSIDE,ALPH= 1.02000E+02                        435                AA
                  RMIN= 7.00000E+02,RMAX= 9.30000E+02,GMIN= 2.70000E+02                  436                AA
                  GMAX= 3.60000E+02,NNX=     1,NNY=     1,ICSN=     1                      437                AA
                  POSITION= 5.70000E+02, 0.          , 0.                                  438                AA
                  ROTZ     =    -0.     , ROTY     =    90.0000, ROTX     =    0.        439                AA
              S   SUREN=  212,SHADE=BOTH,RSHADE=BOTH,ALPHA=  .900,EMISS=  .900            440                AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY TOP (PORT-REAR)  212     *      441                AA
                  TYPE=CYLINDER  ,ACTIVE=OUTSIDE,ALPH= 1.02000E+02                        442                AA
                  RMIN= 7.00000E+02,RMAX= 9.30000E+02,GMIN= 1.80000E+02                  443                AA
                  GMAX= 2.70000E+02,NNX=     1,NNY=     1,ICSN=     1                      444                AA
                  POSITION= 5.70000E+02, 0.          , 0.                                  445                AA
                  ROTZ     =    -0.     , ROTY     =    90.0000, ROTX     =    0.        446                AA
              S   SUREN= 380 ,SHADE=BOTH,RSHADE=BOTH,ALPHA=  .900,EMISS=  .900            447                AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*VERTICAL FIN (PORT)       20    *      448                AA
                  TYPE=TRAPEZOID ,ACTIVE=TOP     ,ALPH= 0.                                 449                AA
                  RMIN= 1.48400E+02,RMAX= 3.93400E+02,GMIN= 3.00000E+01                  450                AA
                  GMAX= 4.50000E+01,NNX=     1,NNY=     1,ICSN=     1                      451                AA
                  POSITION= 1.65840E+03, 0.          , 4.95400E+02                         452                AA
                  ROTZ     =    -0.     , ROTY     = -180.0000, ROTX     =   90.0000    453                AA
              S   SUREN= 385,SHADE=BOTH,RSHADE=BOTH,ALPHA=  .900,EMISS=  .900            454                AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*VERTICAL FIN (PORT-AFT) 20    *      455                AA
                  TYPE=TRAPEZOID ,ACTIVE=TOP     ,ALPH= 0.                                 456                AA
                  RMIN= 1.48400E+02,RMAX= 3.93400E+02,GMIN= 1.50000E+01                  457                AA
                  GMAX= 3.00000E+01,NNX=     1,NNY=     1,ICSN=     1                      458                AA
                  POSITION= 1.65840E+03, 0.          , 4.95400E+02                         459                AA
                  ROTZ     =    -0.     , ROTY     = -180.0000, ROTX     =   90.0000    460                AA
              S   SUREN= 390,SHADE=BOTH,RSHADE=BOTH,ALPHA=  .900,EMISS=  .900            461                AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*VERTICAL FIN (STBD)       20    *      462                AA
                  TYPE=TRAPEZOID ,ACTIVE=BOTTOM ,ALPH= 0.                                 463                AA
                  RMIN= 1.48400E+02,RMAX= 3.93400E+02,GMIN= 3.00000E+01                  464                AA
                  GMAX= 4.50000E+01,NNX=     1,NNY=     1,ICSN=     1                      465                AA
                  POSITION= 1.65840E+03, 1.00000E-01, 4.95400E+02                        466                AA
                  ROTZ     =    -0.     , ROTY     = -180.0000, ROTX     =   90.0000    467                AA
              S   SUREN= 395,SHADE=BOTH,RSHADE=BOTH,ALPHA=  .900,EMISS=  .900            468                AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*VERTICAL FIN (STBD-AFT) 20    *      469                AA
                  TYPE=TRAPEZOID ,ACTIVE=BOTTOM ,ALPH= 0.                                 470                AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL

                  BMIN= 1.464300E+02,BMAX= 3.934000E+02,GMIN= 1.500000E+01                                    471          AA
                  GMAX= 3.000000E+01,NNX=    1,NNY=    1,ICSN=    1                                          472          AA
                  POSITION= 1.653405E+03, 1.000000E-01, 4.954000E+02                                         473          AA
                  POTZ    =   -0.    , POTY    = -180.0000, POTX    =   90.0000                            474          AA
S                  SURF=705,TYPE=DISC,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                                     475          AA
                   P1=327.,85.,-72.                                                                          476          AA
                   P2=327.,65.,-75.                                                                          477          AA
                   P3=324.,85.,-72.                                                                          478          AA
                   P4=324.,35.,-72.                                                                          479          AA
                   PROP=3.,0.                                                                                480          AA
                   COM=*..MOST FORWARD EVAPORATOR.....LOOKING +Y,6 TN DIA.*                                   481          AA
S                 SURFN=720,TYPE=DISC,ACTIVE=BOTH,BSHADE=BOTH,SHADE=BOTH                                     482          AA
                  DIMENSIONS=70.,0.,22.5,3.,360.                                                             483          AA
                  ICSN=16,PROP=3.,0.                                                                         484          AA
                  COM=*.......SUPER ENGINS (OMS LOCATION)..+Y..*                                             485          AA
S                 SURFN=712,TYPE=DISC,ACTIVE=BOTH,BSHADE=BOTH,SHADE=BOTH                                     486          AA
                  DIMENSIONS=70.,0.,22.5,3.,360.                                                             487          AA
                  ICSN=17,PROP=0.,0.                                                                         488          AA
                  COM=*.......SUPER ENGINS (OMS LOCATION)..-Y..*                                             489          AA
S                 SURFN=24,TYPE=DISC,ACTIVE=BOTH,SHADE=NO,BSHADE=BOTH                                        490          AA
                  P1=-765.,134.,59.                                                                          491          AA
                  P2=-765.,134.,62.                                                                          492          AA
                  P3=-767.82,132.97,59.                                                                      493          AA
                  P4=-767.82,132.97,59.                                                                      494          AA
                  PROP=0.,0.                                                                                 495          AA
                  COM=*...BACK RCS ...LOOKING +/- Y.(10 DEG CANT) .*                                         496          AA
S                 SURFN=13,TYPE=DISC,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                                      497          AA
                  P1=467.5,51.,-48.0                                                                         498          AA
                  P2=470.5,51.,-48.0                                                                         499          AA
                  P3=467.5,52.457,-47.18                                                                     500          AA
                  P4=467.5,52.457,-47.18                                                                     501          AA
                  PROP=0.,0.                                                                                 502          AA
                  COM=*...FRONT RCS..LOOKING +/-Y AT 35 DEG. 7/23/74...*                                     503          AA
S                 SURFN=26,TYPE=DISC,ACTIVE=BOTH,SHADE=NO,BSHADE=BOTH                                        504          AA
                  P1=-765.,118.,57.                                                                          505          AA
                  P2=-765.,115.,57.                                                                          506          AA
                  P3=-767.82.118.,58.03                                                                      507          AA
                  P4=-767.82,118.,58.03                                                                      508          AA
                  PROP=0.,0.                                                                                 509          AA
                  COM=*...BACK RCS LOOKING +/- Z...7/23/74.(10 DEGG CANT)..*                                 510          AA
S                 SURFN=15,TYPE=DISC,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                                      511          AA
                  P1=-247.,115.,-21.                                                                         512          AA
                  P2=-247.,105.,-24.                                                                         513          AA
                  P3=-250.,105.,-21.                                                                         514          AA
                  P4=-250.,115.,-21.                                                                         515          AA
                  PROP=0.,0.                                                                                 516          AA
                  COM=*...MIDDLE EVAP. LOOKING +/- Y.........*                                               517          AA
S                 SURFN= 749,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                                518          AA
                  TRANS=-1.    ,TRANT=-1.    ,COM=*VERT. RTN LOG. EDGE      2    *                         519          AA
                  TYPE=RECTANGLE ,ACTIVE=TOP    ,ALPH= 0.                                                    520          AA
                  PMIN=-5.500000+02,PMAX= 5.000000+01,GMIN=-5.560000E+02                                     521          AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  GMAX=-2.10000E+02,NMX=     1,NMY=     1,ICSN=     1                                  522              AA
                  POSITION= 1.65840E+03, 0.          , 4.95400E+02                                      523              AA
                  ROTZ     =    -0.    , ROTY     =  -45.0000, ROTX     =    0.                       524              AA
                                                                                                        525              AA
            BCD     SPLAB                                                                               526              AA
            S     SURF=1100,TYPE=CYL,ACTIVE=OUT,BSHADE=BOTH, SHADE=BOTH                                 527              AA
                     TCSN=50                                                                            528              AA
                  P1=582.,0.,366.                                                                       529              AA
                  P2=582.,31.5,366.                                                                     530              AA
                  P3=582.,31.5,366.                                                                     531              AA
                  P4=668.3,31.5,400.                                                                    532              AA
                  PROP=0.,0.                                                                            533              AA
                  COM=* TUNNEL 1, X=582 TO 668.3, SPACELAB2 *                                           534              AA
            S     SURF=1020,TYPE=CONE,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                             535              AA
                     TCSN=50                                                                            536              AA
                  P1=694.0,0.,400.                                                                      537              AA
                  P2=694.0,79.9,400.                                                                    538              AA
                  P3=694.0,79.9,400.                                                                    539              AA
                  P4=651.54,0.,400.                                                                     540              AA
                  P5=668.3,31.5,400.                                                                    541              AA
                  PROP=0.,0.                                                                            542              AA
                  COM=*FWD CONE, X=668.3 TO 694.0, SPACELAB 2  *                                        543              AA
            S     SURF=1200,TYPE=DISC,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                                544              AA
                     TCSN=50                                                                            545              AA
                  P1=681.0,0.,456.94                                                                    546              AA
                  P2=681.0,3.0,456.94                                                                   547              AA
                  P3=633.64,00.0,458.34                                                                 548              AA
                  P4=683.64,0.,459.34                                                                   549              AA
                  PROP=0.,0.                                                                            550              AA
                  COM=*FCS,CONDENSATE VENT,X=681, SPACELAB 2  *                                         551              AA
            S     SURF=1070,TYPE=CYL,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                              552              AA
                     TCSN=50                                                                            553              AA
                  P1=694.0,0.,400.                                                                      554              AA
                  P2=694.0,79.9,400.                                                                    555              AA
                  P3=694.0,79.9,400.                                                                    556              AA
                  P4=799.9,79.9,400.                                                                    557              AA
                  PROP=0.,0.                                                                            558              AA
                  COM=*     CORE  SEGMENT   X=694.0 TO 799.9 , SPACELAB 2*                              559              AA
            S     SURF=1050,TYPE=CONE,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                             560              AA
                     TCSN=50                                                                            561              AA
                  P1=799.90,0.,400.                                                                     562              AA
                  P2=799.90,79.9,400.                                                                   563              AA
                  P3=799.90,79.9,400.                                                                   564              AA
                  P4=850.070,0.,400.                                                                    565              AA
                  P5=831.30,25.6,400.                                                                   566              AA
                  PROP=0.,0.                                                                            567              AA
                  COM=*  AFT CONE TAPER, X=799.90 TO 831.30 SPACELAB2*                                  568              AA
            S     SURF=1060,TYPE=CYL,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                              569              AA
                     TCSN=50                                                                            570              AA
                  P1=831.30,0.,400.                                                                     571              AA
                  P2=831.30,25.6,400.                                                                   572              AA
                  P3=831.30,25.6,400.
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  P4=861.60,25.6,400.                                                                    573                AA
                  PROP=0.,0.                                                                             574                AA
                  COM=*  AFT AIRLOCK, X=831.30 TO 860.80, SPACELAB2*                                     575                AA
              S   SURF=1065,TYPE=DISC,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                  576                AA
                     TCSN=50                                                                             577                AA
                  P1=861.60,0.,400.                                                                      578                AA
                  P2=860.80,25.6,400.                                                                    579                AA
                  P3=860.80,00.0,425.6                                                                   580                AA
                  P4=861.61,00.0,425.6                                                                   581                AA
                  PROP=0.,0.                                                                             582                AA
                  COM=*AFT AIR LOCK DISK SL2*                                                            583                AA
              S   SURF=1070,TYPE=CYL,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                               584                AA
                     TCSN=50                                                                             585                AA
                  P1=873.2,0.,400.                                                                       586                AA
                  P2=873.2,78.8,400.                                                                     587                AA
                  P3=873.2,-78.8,400.                                                                    588                AA
                  P4=987.2,-78.8,400.                                                                    589                AA
                  PROP= 0.,0.                                                                            590                AA
                  COM=  *  PALLET1 BOTTOM CYLINDER SL2  *                                                591                AA
              S   SURF=1071,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                  592                AA
                     TCSN=50                                                                             593                AA
                  P1=873.2,-78.8,400.                                                                    594                AA
                  P2=987.2,-78.8,400.                                                                    595                AA
                  P3=987.2,-78.8,414.                                                                    596                AA
                  PROP= 0.,0.                                                                            597                AA
                  COM=  * -Y PALLET1 OUTSIDE STRIP SL2  *                                                598                AA
              S   SURF=1072,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                  599                AA
                     TCSN=50                                                                             600                AA
                  P1=987.2,78.8,414.                                                                     601                AA
                  P2=987.2,78.8,400.                                                                     602                AA
                  P3=873.2,78.8,400.                                                                     603                AA
                  PROP= 0.,0.                                                                            604                AA
                  COM=*  +Y PALLET1 OUTSIDE STRIP SL2   *                                                605                AA
              S   SURF=1073,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                  606                AA
                     TCSN=50                                                                             607                AA
                  P1=873.2,-78.8,414.                                                                    608                AA
                  P2=987.2,-78.8,414.                                                                    609                AA
                  P3=987.2,-72.8,414.                                                                    610                AA
                  PROP=0.,0.                                                                             611                AA
                  COM=*-Y PALLET1 TOP STRIP X=873.2 TO 987.2 SL2 *                                       612                AA
              S   SURF=1074,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                  613                AA
                     TCSN=50                                                                             614                AA
                  P1=873.2,72.8,414.                                                                     615                AA
                  P2=987.2,72.8, 414.                                                                    616                AA
                  P3=987.2,78.8,414.                                                                     617                AA
                  PROP=0.,0.                                                                             618                AA
                  COM= * +Y PALLET1 TOP STRIP ,X= 873.2 TO 987.2 SL2  *                                  619                AA
              S   SURF=1075,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                  620                AA
                     TCSN=50                                                                             621                AA
                  P1=873.2,-72.8,414.                                                                    622                AA
                  P2=987.2,-72.8,414.                                                                    623                AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8  EDIT NO.  OLD EDIT NO.  LABEL
                  P3=987.2,-58.5,371.                                                                  624                  AA
                  PROP=0.,0.                                                                           625                  AA
                  COM = * -Y INSIDE TOP PANNEL3 ,X=873.2 TO 987.2SL2 *                                 626                  AA
              S   SURF=1076,TYPE = RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                              627                  AA
                     TCSN=50                                                                           628                  AA
                  P1=987.2,58.5,371.                                                                   629                  AA
                  P2=987.2,72.8,414.                                                                   630                  AA
                  P3=873.2,72.8,414.                                                                   631                  AA
                  PROP=1.,0.                                                                           632                  AA
                  COM= * +Y INSIDE TOP PANNEL3,X=873.2 TO 987.2 SL2  *                                 633                  AA
              S   SURF=1077, TYPE= RECT, ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                             634                  AA
                     TCSN=50                                                                           635                  AA
                  P1=873.2,-58.5,371.                                                                  636                  AA
                  P2=987.2,-58.5,371.0                                                                 637                  AA
                  P3=987.2,-34.5,344.3                                                                 638                  AA
                  PROP=1.,0.                                                                           639                  AA
                  COM=* -Y INSIDE BOTTOM PANNEL3, X=873.2 TO 987.2SL2  *                               640                  AA
              S   SURF=1078,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                               641                  AA
                     TCSN=50                                                                           642                  AA
                  P1=873.2,34.5,344.3                                                                  643                  AA
                  P2=987.2,34.5,344.3                                                                  644                  AA
                  P3=987.2,58.5,371.                                                                   645                  AA
                  PROP=0.,0.                                                                           646                  AA
                  COM=* +Y INSIDE BOTTOM PANNEL3,Y 873.2 TO 987.2 SL2  *                               647                  AA
              S   SURF=1079 , TYPE= RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                            648                  AA
                     TCSN=50                                                                           649                  AA
                  P1=873.2,-34.5,344.3                                                                 650                  AA
                  P2=987.2,-34.5,344.3                                                                 651                  AA
                  P3=987.2,34.5,344.3                                                                  652                  AA
                  PROP= 0.,0.                                                                          653                  AA
                  COM=*...BOTTOM PANNEL3 ,X=873.2 TO 987.2, SL2*                                       654                  AA
              S   SURF=1080,TYPE=CYL,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                            655                  AA
                     TCSN=50                                                                           656                  AA
                  P1=987.2,0.,400.                                                                     657                  AA
                  P2=987.2,78.8,400.                                                                   658                  AA
                  P3=987.2,-78.8,400.                                                                  659                  AA
                  P4=1101.2,-78.8,400.                                                                 660                  AA
                  PROP=0.,0.                                                                           661                  AA
                  COM = * PALLET4 BOTTOM CYLINDER X= 987.2 TO 1101.2 SL2*                              662                  AA
              S   SURF=1081,TYPE=RECT,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                          663                  AA
                     TCSN=50                                                                           664                  AA
                  P1=987.2,-78.8,400.                                                                  665                  AA
                  P2=1101.2,-78.8,400.                                                                 666                  AA
                  P3=1101.2,-78.8,414.                                                                 667                  AA
                  PROP= 0.,0.                                                                          668                  AA
                  COM=  * -Y PALLET4 OUTSIDE STRIP SL2  *                                              669                  AA
              S   SURF=1082,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                              670                  AA
                     TCSN=50                                                                           671                  AA
                  P1=1101.2,78.8,414.                                                                  672                  AA
                  P2=1101.2,78.8,400.                                                                  673                  AA
                  P3=987.2,78.8,400.                                                                   674                  AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
          PROP= 0.,0.                                                                                    675                AA
          COM=*  +Y PALLET4 OUTSIDE STRIP SL2   *                                                        676                AA
     S    SURF=1003,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                          677                AA
            TCSN=50                                                                                      678                AA
          P1=987.2,-78.8,414.                                                                            679                AA
          P2=1101.2,-78.8,414.                                                                           680                AA
          P3=1101.2,-72.8,414.                                                                           681                AA
          PROP=0.,0.                                                                                     682                AA
          COM=*-Y PALLET4 TOP STRIP X=987.2 TO 1101.2 SL2 *                                              683                AA
     S    SURF=1004,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                          684                AA
            TCSN=50                                                                                      685                AA
          P1=987.2,72.8,414.                                                                             686                AA
          P2=1101.2,72.8, 414.                                                                           687                AA
          P3=1101.2,78.8,414.                                                                            688                AA
          PROP=0.,0.                                                                                     689                AA
          COM= *  +Y PALLET4 TOP STRIP ,X= 987.2 TO 1101.2SL2  *                                         690                AA
     S    SURF=1005,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                          691                AA
            TCSN=50                                                                                      692                AA
          P1=987.2,-72.8,414.                                                                            693                AA
          P2=1101.2,-72.8,414.                                                                           694                AA
          P3=1101.2,-58.5,371.                                                                           695                AA
          PROP=0.,0.                                                                                     696                AA
          COM = * -Y INSIDE TOP PANNEL4,X=987.2 TO 1101.2 *                                              697                AA
     S    SURF=1006,TYPE = RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                        698                AA
            TCSN=50                                                                                      699                AA
          P1=1101.2,58.5,371.                                                                            700                AA
          P2=1101.2,72.8,414.                                                                            701                AA
          P3=987.2,72.8,414.                                                                             702                AA
          PROP=0.,0.                                                                                     703                AA
          COM= * +Y INSIDE TOP PANNEL4,X=987.2 TO 1101.2 SL2   *                                         704                AA
     S    SURF=1007, TYPE= RECT, ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                       705                AA
            TCSN=50                                                                                      706                AA
          P1=987.2,-58.5,371.                                                                            707                AA
          P2=1101.2,-58.5,371.0                                                                          708                AA
          P3=1101.2,-34.5,344.3                                                                          709                AA
          PROP=0.,0.                                                                                     710                AA
          COM=* -Y INSIDE BOTTOM PANNEL4, X=987.2 TO 1101.2 SL2 *                                        711                AA
     S    SURF=1008,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                          712                AA
            TCSN=50                                                                                      713                AA
          P1=987.2,34.5,344.3                                                                            714                AA
          P2=1101.2,34.5,344.3                                                                           715                AA
          P3=1101.2,58.5,371.                                                                            716                AA
          PROP=0.,0.                                                                                     717                AA
          COM=* +Y INSIDE BOTTOM PANNEL4,X 987.2 TO 1101.2  SL2*                                         718                AA
     S    SURF=1009 , TYPE= RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                       719                AA
            TCSN=50                                                                                      720                AA
          P1=987.2,-34.5,344.3                                                                           721                AA
          P2=1101.2,-34.5,344.3                                                                          722                AA
          P3=1101.2,34.5,344.3                                                                           723                AA
          PROP= 0.,0.                                                                                    724                AA
          COM = * PALLET4 BOTTOM,X= 987.2 TO 1101.2 SL2 *                                                725                AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
      S     SURF=1090,TYPE=CYL,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                                    726                AA
               TCSN=50                                                                                 727                AA
            P1=1101.2,0.,400.                                                                          728                AA
            P2=1101.2,78.8,400.                                                                        729                AA
            P3=1101.2,-78.8,400.                                                                       730                AA
            P4=1215.2,-78.8,400.                                                                       731                AA
            PROP=0.,0.                                                                                 732                AA
            COM = * PALLETS BOTTOM CYLINDER X= 1101.2 TO 1215.2 *                                      733                AA
      S     SURF=1091,TYPE=RECT,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                                  734                AA
               TCSN=50                                                                                 735                AA
            P1=1101.2,-78.8,400.                                                                       736                AA
            P2=1215.2,-78.8,400.                                                                       737                AA
            P3=1215.2,-78.8,414.                                                                       738                AA
            PROP= 0.,0.                                                                                739                AA
            COM=  * -Y PALLETS OUTSIDE STRIP *                                                         740                AA
      S     SURF=1092,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                      741                AA
               TCSN=50                                                                                 742                AA
            P1=1215.2,78.8,414.                                                                        743                AA
            P2=1215.2,78.8,400.                                                                        744                AA
            P3=1101.2,78.8,400.                                                                        745                AA
            PROP= 0.,0.                                                                                746                AA
            COM=*  +Y PALLETS OUTSIDE STRIP *                                                          747                AA
      S     SURF=1093,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                      748                AA
               TCSN=50                                                                                 749                AA
            P1=1101.2,-78.8,414.                                                                       750                AA
            P2=1215.2,-78.8,414.                                                                       751                AA
            P3=1215.2,-72.8,414.                                                                       752                AA
            PROP=0.,0.                                                                                 753                AA
            COM=*-Y PALLETS TOP STRIP X=1101.2 TO 1215.2 *                                             754                AA
      S     SURF=1094,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                      755                AA
               TCSN=50                                                                                 756                AA
            P1=1101.2,72.8,414.                                                                        757                AA
            P2=1215.2,72.8, 414.                                                                       758                AA
            P3=1215.2,78.8,414.                                                                        759                AA
            PROP=0.,0.                                                                                 760                AA
            COM= * +Y PALLETS TOP STRIP ,X= 1101.2 TO 1215.2 *                                         761                AA
      S     SURF=1095,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                      762                AA
               TCSN=50                                                                                 763                AA
            P1=1101.2,-72.8,414.                                                                       764                AA
            P2=1215.2,-72.8,414.                                                                       765                AA
            P3=1215.2,-58.5,371.                                                                       766                AA
            PROP=0.,0.                                                                                 767                AA
            COM = * -Y INSIDE TOP PANNELS,X=1101.2 TO 1215.2 *                                         768                AA
      S     SURF=1096,TYPE = RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                    769                AA
               TCSN=50                                                                                 770                AA
            P1=1215.2,58.5,371.                                                                        771                AA
            P2=1215.2,72.8,414.                                                                        772                AA
            P3=1101.2,72.8,414.                                                                        773                AA
            PROP=1.,1.                                                                                 774                AA
            COM= * +Y INSIDE TOP PANNELS,X=1101.2 TO 1215.2 *                                          775                AA
      S     SURF=1097, TYPE= RECT, ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                   776                AA
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INPUT TAPE COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL

            TCSN=50                                                          777        AA
         P1=1101.2,-58.5,371.                                                778        AA
         P2=1215.2,-58.5,371.0                                               779        AA
         P3=1215.2,-34.5,344.3                                               780        AA
         PROP=1.,0.                                                          781        AA
         COM=* -Y INSIDE BOTTOM PANNELS, X=1101.2 TO 1215.2 *                782        AA
 S       SURF=1098,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH               783        AA
            TCSN=50                                                          784        AA
         P1=1101.2,34.5,344.3                                                785        AA
         P2=1215.2,34.5,344.3                                                786        AA
         P3=1215.2,58.5,371.                                                 787        AA
         PROP=0.,0.                                                          788        AA
         COM=* +Y INSIDE BOTTOM PANNELS,X 1101.2 TO 1215.2 *                 789        AA
 S       SURF=1099 , TYPE= RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH            790        AA
            TCSN=50                                                          791        AA
         P1=1101.2,-34.5,344.3 ,                                             792        AA
         P2=1215.2,-34.5,344.3                                               793        AA
         P3=1215.2,34.5,344.3                                                794        AA
         PROP= 0.,0.                                                         795        AA
         COM=*PALLET 5 BOTTOM,X=1011.2 TO 1215.2 SL2*                        796        AA
 S       SURF=1110,TYPE=DISC,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH              797        AA
            TCSN=50                                                          798        AA
         P1=746.9,0.,480.9                                                   799        AA
         P2=746.9,19.7,480.9                                                 800        AA
         P3=727.2,0.,480.9                                                   801        AA
         P4=727.2,0.,480.9                                                   802        AA
         PROP=0.,0.                                                          803        AA
         COM= * CORE SEGMENT WINDOW, X=746.9 SPACELAB 2 *                    804        AA
 S       SURF=1170,TYPE=DISC,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH              805        AA
            TCSN=50                                                          806        AA
         P1=815.6,0.,454.49                                                  807        AA
         P2=811.43,0.,462.23                                                 808        AA
         P3=815.6,7.85,454.49                                                809        AA
         P4=815.6,7.85,454.49                                                810        AA
         PROP=0.,0.                                                          811        AA
         COM=* AFT VIEWING WINDOW X=815.6, SPACELAB2*                        812        AA
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SPACELAB-2 VIEWFACTOR MATRIX

The following pages contain the viewfactor data printouts for the Spacelab-2/Orbiter configuration.

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

145	FF SUM = 0.	ROW CP TIME =	2.542	+ TRAP	+Y REAR SIDE TAPER
146	FF SUM = 0.	ROW CP TIME =	2.524	- TRAP	- Y. REAR SIDE TAPER...
707	FF SUM = 0.	ROW CP TIME =	5.583	- DISC	......JULY 8 EVAP..3 IN. RAD.
708	FF SUM = 0.	ROW CP TIME =	2.201	+ DISC	......JULY 8 EVAP..3 IN. RAD.
147	FF SUM = 0.	ROW CP TIME =	11.396	+ PARAB	TOP ENGIN
148	FF SUM = 0.	ROW CP TIME =	5.813	+ PARAB	+ Y ENGIN
149	FF SUM = 0.	ROW CP TIME =	5.813	+ PARAB	-Y ENGIN...

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. F FACTOR	SHAD. A FACTOR	CP TIME (SEC)
20	1070	CAL.	.001088	.000376	.001088	.001088	1.000000	1.000000	1.194
20	1050	CAL.	.020541	.007626	.020541	.020360	.991593	.991593	2.132
20	1060	CAL.	.000428	.000735	.000428	.000428	1.000000	1.000000	2.464
21	1065	CAL.	.003312	.005960	.003312	.003312	1.000000	1.000000	3.132
20	1072	CAL.	.000187	.000435	.000187	.000187	1.000000	1.000000	3.860
20	1073	CAL.	.000217	.001177	.000217	.000217	1.000000	1.000000	5.354
20	1074	CAL.	.000329	.001786	.000329	.000329	1.000000	1.000000	6.607
20	1075	CAL.	.004577	.003348	.004577	.004577	1.000000	1.000000	7.260
20	1076	CAL.	.000369	.000265	.000369	.000369	1.000000	1.000000	7.670
20	1077	CAL.	.003688	.003344	.003688	.003688	1.000000	1.000000	8.337
20	1078	CAL.	.001086	.000085	.001086	.001086	.007878	.007878	8.917
20	1079	CAL.	.005682	.002681	.005682	.005682	1.000000	1.000000	9.449
20	1082	CAL.	.000611	.001421	.000611	.000611	1.000000	1.000000	10.133
20	1083	CAL.	.000457	.002479	.000457	.000457	1.000000	1.000000	11.426
20	1084	CAL.	.001058	.005742	.001058	.001058	1.000000	1.000000	12.568
20	1085	CAL.	.009572	.000476	.009572	.009572	1.000000	1.000000	13.154
20	1086	CAL.	.001269	.000702	.001269	.001269	1.000000	1.000000	13.572

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)
20	1087	CAL.	.007595	.006897	.007595	.007595	1.000000	1.000000	14.146
20	1088	CAL.	.002740	.002466	.002719	.003125	.898935	.898935	14.732
20	1089	CAL.	.013723	.006002	.013723	.013723	1.000000	1.000000	15.201
20	1092	CAL.	.003709	.003625	.003709	.003709	1.000000	1.000000	15.820
20	1093	CAL.	.000747	.000682	.000747	.000747	1.000000	1.000000	16.912
20	1094	CAL.	.005846	.031715	.005846	.005846	1.000000	1.000000	17.909
20	1095	CAL.	.015514	.011144	.015514	.015514	1.000000	1.000000	18.395
20	1096	CAL.	.003710	.002665	.003710	.003710	1.000000	1.000000	19.738
20	1097	CAL.	.011959	.010847	.011959	.011959	1.000000	1.000000	19.243
20	1098	CAL.	.006441	.005840	.006441	.007381	.872652	.872652	19.725
20	1099	CAL.	.023784	.011221	.023784	.023784	1.000000	1.000000	20.122
20	1110	CAL.	.000004	.000013	.000004	.000027	.155613	.155613	20.504
20	1111	CAL.	.000015	.000045	.000015	.000015	1.000000	1.000000	20.771
20	1130	CAL.	.000091	.001739	.000091	.000272	.333685	.333685	21.281
20	FF SUM =	.1491	ROW CP TIME =	21.357		+ DISC		...-W DWS SEALER ...	
21	1030	CAL.	.001183	.000376	.001088	.001088	1.000000	1.000000	1.275
21	1058	CAL.	.000541	.000526	.000541	.000550	.931593	.931593	2.213
21	1062	CAL.	.000428	.000335	.000428	.000428	1.000000	1.000000	2.540
21	1065	CAL.	.003712	.005969	.003712	.003712	1.000000	1.000000	3.230
21	1071	CAL.	.000187	.000435	.000187	.000187	1.000000	1.000000	3.498
21	1073	CAL.	.001329	.001786	.001329	.001329	1.000000	1.000000	5.218
21	1074	CAL.	.000217	.001177	.000217	.000217	1.000000	1.000000	6.708
21	1075	CAL.	.000369	.000265	.000369	.000369	1.000000	1.000000	7.114
21	1076	CAL.	.004577	.003288	.004577	.004577	1.000000	1.000000	7.773
21	1077	CAL.	.001086	.000965	.001086	.001106	.967878	.967878	8.359
21	1078	CAL.	.003698	.003344	.003698	.003698	1.000000	1.000000	9.030
21	1079	CAL.	.005682	.002691	.005682	.005682	1.000000	1.000000	9.559
21	1091	CAL.	.000611	.001421	.000611	.000611	1.000000	1.000000	10.208
21	1097	CAL.	.001058	.005742	.001058	.001058	1.000000	1.000000	11.416
21	1084	CAL.	.000457	.002479	.000457	.000457	1.000000	1.000000	12.692
21	1085	CAL.	.001060	.000762	.001060	.001060	1.000000	1.000000	13.079
21	1086	CAL.	.009572	.006676	.009572	.009572	1.000000	1.000000	13.659
21	1087	CAL.	.002719	.002466	.002719	.003125	.898935	.898935	14.235
21	1088	CAL.	.007595	.006887	.007595	.007595	1.000000	1.000000	14.844
21	1089	CAL.	.013723	.006002	.013723	.013723	1.000000	1.000000	15.310
21	1091	CAL.	.003709	.003625	.003709	.003709	1.000000	1.000000	15.891
21	1093	CAL.	.005846	.031715	.005846	.005846	1.000000	1.000000	16.934
21	1094	CAL.	.000747	.004059	.000747	.000747	1.000000	1.000000	18.026
21	1095	CAL.	.003710	.002665	.003710	.003710	1.000000	1.000000	18.769
21	1096	CAL.	.015514	.011144	.015514	.015514	1.000000	1.000000	18.852
21	1097	CAL.	.006441	.005840	.006441	.007381	.872652	.872652	19.333
21	1098	CAL.	.011959	.010843	.011959	.011959	1.000000	1.000000	19.837
21	1099	CAL.	.023784	.011221	.023784	.023784	1.000000	1.000000	20.229

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)*

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)*	
21	1110	CAL.	.000004	.000013	.000004	.000027	.155613	.155613	20.610	
21	1111	CAL.	.000015	.000045	.000015	.000315	1.000000	1.000000	20.895	
21	1130	CAL.	.000090	.001728	.000090	.000272	.331520	.331520	21.405	
21	FF SUM =	.1491	ROW CP TIME =	21.476		+ DISC		...+Y OMS SEALER ...		
222	FF SUM =	0.	ROW CP TIME =	1.703		- RECT		BACK RECT 7.350EG		
23	FF SUM =	0.	ROW CP TIME =	1.950		+ DISC		REAR END HALF DISK		
407	FF SUM =	0.	ROW CP TIME =	2.210		+ DISC		BACK SIDE EVAPORAT, UPDATED		
15	FF SUM =	0.	ROW CP TIME =	2.202		+ DISC		REAR END EVAPORATOR		
10	FF SUM =	0.	ROW CP TIME =	32.034		- TRAP		....LEFT FRONT WING A ...		
11	1030	CAL.	.000204	.000155	.000204	.000239	.853585	.853585	.824	
11	FF SUM =	.0002	ROW CP TIME =	6.578		+ TRAP		......LEFT MIDDLE WING BACK.B		
141	FF SUM =	0.	ROW CP TIME =	12.727		+ RECT		BS INNER WING		
12	1030	CAL.	.000144	.000121	.000144	.000180	.801353	.801353	.715	
12	FF SUM =	.0001	ROW CP TIME =	4.653		+ RECT		..... LEFT BACK RECT. WING C		
142	FF SUM =	0.	ROW CP TIME =	4.514		+ RECT		INNER WING C		

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION (TNK.

(* INDICATES NODE PATH HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)	
13	FF SUM =	3.	ROW CP TIME =	3.695		+ TRAP		..... LEFT WING TAIL EDGE		
1	FF SUM =	0.	ROW CP TIME =	34.857		+ TRAP		...FRONT WING TRIANGLE RT.A,5B		
2	1070	CAL.	.000704	.000155	.000204	.000239	.853585	.853585	.771	
2	FF SUM =	.0002	ROW CP TIME =	6.543		- TRAP		.....MIDDLE WING TRAP, RT B ..		
147	FF SUM =	0.	ROW CP TIME =	12.977		- RECT		B +Y RECTANGLE WING		
3	1070	CAL.	.000144	.000121	.000144	.000180	.801353	.801353	.734	
3	FF SUM =	.0001	ROW CP TIME =	4.706		- RECT		.... BACK WING RECT. RTC .129		
144	FF SUM =	0.	ROW CP TIME =	4.623		- RECT		INNER WING C RECT		
4	FF SUM =	0.	ROW CP TIME =	3.739		- TRAP		...WING TAIL FLAP RT 1453,1507		
150	1030	CAL.	.000051	.000027	.000051	.000351	1.000000	1.000000	1.089	
150	1070	CAL.	.000493	.000495	.000498	.000498	1.000000	1.000000	2.904	
150	1072	CAL.	.000046	.000030	.000046	.000346	1.000000	1.000000	3.348	
150	1081	CAL.	.044195	.047098	.044195	.044185	1.000000	1.000000	14.774	*
150	1082	CAL.	.001819	.001973	.001819	.001319	1.000000	1.000000	16.590	*
150	1090	CAL.	.470157	.497370	.470157	.470157	1.000000	1.000000	69.539	*
150	1092	CAL.	.016158	.293866	.016158	.016158	1.000000	1.000000	74.160	
150	1095	CAL.	.035355	.020064	.035355	.035435	.146972	.146972	78.530	
150	1097	CAL.	.002933	.020097	.002933	.026519	.110619	.110619	82.615	
150	FF SUM =	.5012	ROW CP TIME =	83.961		- CYLN		BAY AREA CYLINDER		
151	1130	CAL.	.000456	.000240	.000456	.000456	1.000000	1.000000	.832	
151	1070	CAL.	.264467	.262753	.264467	.264467	1.000000	1.000000	29.868	*
151	1072	CAL.	.110037	.176140	.110037	.110037	1.000000	1.000000	35.401	*
151	1080	CAL.	.406454	.407821	.406454	.406454	1.000000	1.000000	93.734	*
151	1082	CAL.	.217383	.264340	.217383	.217383	1.000000	1.000000	98.316	
151	1090	CAL.	.001221	.011111	.001221	.011221	1.000000	1.000000	111.255	*

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. F FACTOR	SHAD. A FACTOR	CP-TIME (SEC)!	
151	1132	CAL.	.303955	.016793	.303955	.000355	1.000000	1.000000	112.959	*
151	FF SUM =	.7157	ROW CP TIME =		117.343		- CYLN		BAY AREA CYLINDER	
152	1130	CAL.	.238778	.125970	.238778	.238778	1.000000	1.000000	16.691	*
152	1050	CAL.	.120607	.169864	.120607	.130769	.922287	.922287	30.337	*
152	1060	CAL.	.324408	.144295	.324408	.275618	.685251	.685251	31.991	
152	1065	CAL.	.004269	.158119	.004269	.004799	.889738	.889738	32.354	
152	1070	CAL.	.185469	.184665	.185469	.185469	1.000000	1.000000	51.030	*
152	1072	CAL.	.007101	.124743	.007101	.007101	1.000000	1.000000	55.722	*
152	1075	CAL.	.007768	.040099	.007768	.025051	.294924	.294924	57.549	
152	1077	CAL.	.034555	.031203	.034555	.016932	.259232	.259232	59.396	
152	1079	CAL.	.003876	.009127	.003876	.007197	.121750	.121750	59.610	
152	1081	CAL.	.001095	.001084	.001095	.001095	1.000000	1.000000	59.911	
152	1082	CAL.	.000107	.001847	.000107	.000107	1.000000	1.000000	60.304	
152	1085	CAL.	.001182	.006415	.001182	.006378	.171896	.171896	60.731	
152	1087	CAL.	.000578	.000687	.000578	.000370	.150396	.150396	61.231	
152	1090	CAL.	.000164	.000163	.000164	.000164	1.000000	1.000000	61.768	
152	1092	CAL.	.000014	.000247	.000014	.000014	1.000000	1.000000	62.192	
152	1095	CAL.	.000167	.000905	.000167	.000409	.092429	.092429	63.677	
152	1130	CAL.	.000059	.000561	.000059	.000295	.201118	.201118	65.544	
152	FF SUM =	.5972	ROW CP TIME =		66.828		- CYLN		BAY AREA CYLINDER	
153	1100	CAL.	.142973	.216363	.142973	.152338	.938526	.938526	1.594	
153	1120	CAL.	.118390	.177087	.118390	.119765	.988526	.988526	16.720	*
153	1201	CAL.	.000617	.017359	.000617	.000231	.078642	.078642	19.714	
153	1130	CAL.	.224778	.118157	.224778	.224778	1.000000	1.000000	31.533	*
153	1170	CAL.	.000354	.000350	.000354	.000354	1.000000	1.000000	32.163	
153	1172	CAL.	.000039	.000555	.000039	.000039	1.000000	1.000000	32.532	
153	1180	CAL.	.000079	.000078	.000079	.000079	1.000000	1.000000	33.774	
153	1190	CAL.	.000107	.000116	.000107	.000107	1.000000	1.000000	34.202	
153	1200	CAL.	.000027	.000027	.000027	.000027	1.000000	1.000000	35.539	
153	1202	CAL.	.000002	.000039	.000002	.000002	1.000000	1.000000	35.964	
153	FF SUM =	.4859	ROW CP TIME =		40.133		- CYLN		BAY AREA CYLINDER	
154	1030	CAL.	.000351	.000027	.000351	.000351	1.000000	1.000000	1.166	
154	1070	CAL.	.000498	.001487	.000498	.000498	1.000000	1.000000	2.993	
154	1071	CAL.	.000046	.000010	.000046	.000046	1.000000	1.000000	3.798	
154	1100	CAL.	.244185	.047539	.244185	.244185	1.000000	1.000000	14.994	*
154	1120	CAL.	.101813	.031957	.101813	.101813	1.000000	1.000000	16.791	*
154	1130	CAL.	.437157	.422779	.437157	.437157	1.000000	1.000000	69.432	*

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. F FACTOR	SHAD. A FACTOR	CP TIME (SEC)!	
154	1091	CAL.	.016158	.283866	.016158	.016158	1.000000	1.000000	74.184	
154	1096	CAL.	.005355	.029064	.005355	.036435	.146972	.146972	79.597	
154	1098	CAL.	.002933	.020097	.002933	.026519	.110619	.110619	82.639	
154	FF SUM =	.9912	ROW CP TIME =		93.946		- CYLN		BAY AREA CYLINDER	
155	1030	CAL.	.000456	.000240	.000456	.000456	1.000000	1.000000	.979	
155	1070	CAL.	.264467	.262753	.264467	.264467	1.000000	1.000000	30.653	*
155	1071	CAL.	.010037	.176340	.010037	.010037	1.000000	1.000000	35.963	*
155	1080	CAL.	.406454	.403821	.406454	.406454	1.000000	1.000000	94.743	*
155	1081	CAL.	.015083	.264966	.015083	.015083	1.000000	1.000000	99.345	
155	1090	CAL.	.018229	.018111	.018229	.018229	1.000000	1.000000	112.894	*
155	1091	CAL.	.000955	.016783	.000955	.000955	1.000000	1.000000	113.961	*
155	FF SUM =	.7157	ROW CP TIME =		118.097		- CYLN		BAY AREA CYLINDER	
156	1030	CAL.	.238778	.125970	.238778	.238778	1.000000	1.000000	16.590	*
156	1060	CAL.	.125536	.167439	.125536	.135516	.926424	.926424	30.407	*
156	1060	CAL.	.024279	.143466	.024279	.035408	.685706	.685706	31.879	
156	1065	CAL.	.004268	.058119	.004268	.004799	.889338	.889338	32.247	
156	1070	CAL.	.185869	.194665	.185869	.185869	1.000000	1.000000	50.894	*
156	1071	CAL.	.007101	.124743	.007101	.007101	1.000000	1.000000	55.495	*
156	1075	CAL.	.007388	.041099	.007388	.025051	.294924	.294924	57.449	
156	1078	CAL.	.004555	.031207	.004555	.016930	.269032	.269032	59.264	
156	1079	CAL.	.006876	.003123	.006876	.007197	.121750	.121750	59.428	
156	1080	CAL.	.001095	.001088	.001095	.001095	1.000000	1.000000	59.728	
156	1081	CAL.	.000107	.001987	.000107	.000107	1.000000	1.000000	60.082	
156	1085	CAL.	.001132	.006415	.001132	.006376	.171896	.171896	60.686	
156	1088	CAL.	.000535	.003687	.000535	.003579	.150386	.150386	61.094	
156	1090	CAL.	.000164	.000168	.000164	.000164	1.000000	1.000000	61.578	
156	1091	CAL.	.000014	.000247	.000014	.000014	1.000000	1.000000	61.957	
156	1096	CAL.	.000167	.000935	.000167	.001805	.092429	.092429	62.569	
156	1130	CAL.	.000067	.004261	.000067	.000295	.193644	.193644	65.353	
156	FF SUM =	.6020	ROW CP TIME =		65.632		- CYLN		BAY AREA CYLINDER	
157	1000	CAL.	.142621	.217826	.142621	.152157	.937948	.937948	1.592	
157	1020	CAL.	.123111	.179842	.123111	.124365	.988953	.988953	14.383	*
157	1031	CAL.	.000817	.017758	.000817	.000221	.078682	.078682	17.487	
157	1030	CAL.	.294078	.118157	.294078	.294078	1.000000	1.000000	29.282	*
157	1070	CAL.	.000354	.000352	.000354	.000354	1.000000	1.000000	29.913	
157	1071	CAL.	.000032	.000055	.000032	.000032	1.000000	1.000000	30.245	
157	1080	CAL.	.000079	.000079	.000079	.000079	1.000000	1.000000	31.629	

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION (TNK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. F FACTOR	SHAD. A FACTOR	CP TIME (SEC)!	
137	1131	CAL.	.000007	.000116	.000007	.000007	1.000000	1.000000	31.914	
137	1093	CAL.	.000027	.000027	.000027	.000027	1.000000	1.000000	33.313	
137	1091	CAL.	.000002	.000039	.000002	.000002	1.000000	1.000000	33.720	
137	FF SUM =	.4902	ROW CP TIME =	38.000		= CYLN	BAY AREA CYLINDER			
140	1150	CAL.	.024299	.337781	.024299	.024299	1.000000	1.000000	1.599	
140	1151	CAL.	.000112	.000768	.000112	.000112	1.000000	1.000000	1.891	
140	1165	CAL.	.003783	.060054	.003783	.003783	1.000000	1.000000	2.831	
140	1177	CAL.	.000055	.002647	.000055	.000055	1.000000	1.000000	3.420	
140	1174	CAL.	.000048	.002311	.000048	.000048	1.000000	1.000000	3.806	
140	1175	CAL.	.002416	.015289	.002416	.002416	1.000000	1.000000	4.225	
140	1176	CAL.	.002408	.015278	.002408	.002408	1.000000	1.000000	4.643	
140	1177	CAL.	.001869	.014927	.001869	.001869	1.000000	1.000000	5.077	
140	1178	CAL.	.001873	.014980	.001873	.001873	1.000000	1.000000	5.511	
140	1179	CAL.	.003207	.013327	.003207	.003207	1.000000	1.000000	5.861	
140	1183	CAL.	.000185	.008852	.000185	.000185	1.000000	1.000000	6.423	
140	1184	CAL.	.000137	.006527	.000137	.000137	1.000000	1.000000	6.781	
140	1185	CAL.	.007173	.045384	.007173	.007173	1.000000	1.000000	7.184	
140	1186	CAL.	.007065	.044699	.007065	.007065	1.000000	1.000000	7.587	
140	1187	CAL.	.005650	.044321	.005650	.005650	1.000000	1.000000	8.084	
140	1188	CAL.	.005610	.044801	.005610	.005610	1.000000	1.000000	8.574	
140	1189	CAL.	.009626	.039999	.009626	.009626	1.000000	1.000000	9.266	
140	1193	CAL.	.001177	.056251	.001177	.001177	1.000000	1.000000	10.653	*
140	1194	CAL.	.001174	.056120	.001174	.001174	1.000000	1.000000	11.748	*
140	1195	CAL.	.024380	.154256	.024380	.024380	1.000000	1.000000	14.466	
140	1196	CAL.	.023765	.150759	.023765	.023931	.993048	.993048	17.169	
141	1197	CAL.	.018489	.147659	.018489	.019727	.937253	.937253	20.212	
140	1198	CAL.	.018214	.145456	.018214	.018474	.986027	.986027	23.242	
140	1199	CAL.	.035641	.148095	.035641	.035945	.991541	.991541	25.704	
140	1130	CAL.	.000090	.016271	.000090	.000274	.330461	.330461	27.612	
140	FF SUM =	.1987	ROW CP TIME =	27.891		+ DISC	END BAY AREA DISK			
135	1190	CAL.	.105990	.188734	.105990	.105990	1.000000	1.000000	13.448	*
135	1120	CAL.	.128749	.019425	.128749	.168549	.763417	.763417	19.796	
135	1200	CAL.	.000064	.074450	.000064	.000090	.710215	.710215	20.308	
135	1131	CAL.	.000367	.011283	.000367	.000378	.979708	.979708	28.579	
135	FF SUM =	.2349	ROW CP TIME =	28.585		+ DISC	FRONT BAY AREA DISK			

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)
122	FF SUM = 0.	ROW CP TIME =	2.750		+ PARAB		VERY NOSE CONE		
123	FF SUM = 0.	ROW CP TIME =	2.724		+ PARAB		VERY NOSE CONE		
124	FF SUM = 0.	ROW CP TIME =	2.725		+ PARAB		VERY NOSE CONE		
125	FF SUM = 0.	ROW CP TIME =	2.699		+ PARAB		VERY NOSE CONE		
320	FF SUM = 0.	ROW CP TIME =	1.642		+ CYLN		NOSE CYLINDER		
321	FF SUM = 0.	ROW CP TIME =	1.646		+ CYLN		NOSE CYLINDER		
322	FF SUM = 0.	ROW CP TIME =	1.638		+ CYLN		NOSE CYLINDER		
323	FF SUM = 0.	ROW CP TIME =	1.631		+ CYLN		NOSE CYLINDER		
324	FF SUM = 0.	ROW CP TIME =	1.642		+ CYLN		NOSE CYLINDER		
325	FF SUM = 0.	ROW CP TIME =	1.638		+ CYLN		NOSE CYLINDER		
326	FF SUM = 0.	ROW CP TIME =	1.641		+ CYLN		NOSE CYLINDER		
327	FF SUM = 0.	ROW CP TIME =	1.639		+ CYLN		NOSE CYLINDER		

MODEL = CONTAM STEP = 1
FORM FACTOR CALCULATION LINK.

SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. F FACTER	SHAD. A FACTOR	CP TIME (SEC)
328	FF SUM =	0.	ROW CP TIME =		2.276		+ CYLN		NOSE CYLINDER
329	FF SUM =	0.	ROW CP TIME =		2.257		+ CYLN		NOSE CYLINDER
330	FF SUM =	0.	ROW CP TIME =		2.259		+ CYLN		NOSE CYLINDER
331	FF SUM =	0.	ROW CP TIME =		2.253		+ CYLN		NOSE CYLINDER
332	FF SUM =	0.	ROW CP TIME =		2.253		+ CYLN		NOSE CYLINDER
333	FF SUM =	0.	ROW CP TIME =		2.244		+ CYLN		NOSE CYLINDER
334	FF SUM =	0.	ROW CP TIME =		2.239		+ CYLN		NOSE CYLINDER
335	FF SUM =	0.	ROW CP TIME =		2.239		+ CYLN		NOSE CYLINDER
340	FF SUM =	0.	ROW CP TIME =		2.716		+ PARAB		HOOD PARTIAL BACK
341	FF SUM =	0.	ROW CP TIME =		2.722		+ PARAB		HOOD PARTIAL BACK
342	FF SUM =	0.	ROW CP TIME =		2.729		+ PARAB		HOOD PARTIAL BACK
343	FF SUM =	0.	ROW CP TIME =		2.713		+ PARAB		HOOD PARTIAL BACK

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)*

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)*	
344	FF SUM =	0.	ROW CP TIME =		2.744		+ PARAB		HOOD PARTIAL BACK	
345	FF SUM =	0.	ROW CP TIME =		2.714		+ PARAB		HOOD PARTIAL BACK	
346	FF SUM =	0.	ROW CP TIME =		2.727		+ PARAB		HOOD PARTIAL BACK	
347	FF SUM =	0.	ROW CP TIME =		2.721		+ PARAB		HOOD PARTIAL BACK	
348	FF SUM =	0.	ROW CP TIME =		2.724		+ PARAB		HOOD PARTIAL BACK	
349	FF SUM =	0.	ROW CP TIME =		2.718		+ PARAB		HOOD PARTIAL BACK	
350	FF SUM =	0.	ROW CP TIME =		2.719		+ PARAB		HOOD PARTIAL BACK	
351	FF SUM =	0.	ROW CP TIME =		2.723		+ PARAB		HOOD PARTIAL BACK	
352	FF SUM =	0.	ROW CP TIME =		2.690		+ PARAB		HOOD PARTIAL BACK	
353	FF SUM =	0.	ROW CP TIME =		2.693		+ PARAB		HOOD PARTIAL BACK	
354	FF SUM =	0.	ROW CP TIME =		2.705		+ PARAB		HOOD PARTIAL BACK	
355	FF SUM =	0.	ROW CP TIME =		2.700		+ PARAB		HOOD PARTIAL BACK	

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)
360	FF SUM =	0.	ROW CP TIME =		2.729		+ PARAB	WINDOW	
361	FF SUM =	0.	ROW CP TIME =		2.710		+ PARAB	WINDOW	
362	FF SUM =	0.	ROW CP TIME =		2.713		+ PARAB	WINDOW	
363	FF SUM =	0.	ROW CP TIME =		2.737		+ PARAB	WINDOW	
364	FF SUM =	0.	ROW CP TIME =		2.719		+ PARAB	WINDOW	
365	FF SUM =	0.	ROW CP TIME =		2.713		+ PARAB	WINDOW	
366	FF SUM =	0.	ROW CP TIME =		2.703		+ PARAB	WINDOW	
367	FF SUM =	0.	ROW CP TIME =		2.729		+ PARAB	WINDOW	
368	FF SUM =	0.	ROW CP TIME =		2.723		+ PARAB	WINDOW	
369	FF SUM =	0.	ROW CP TIME =		2.722		+ PARAB	WINDOW	
370	FF SUM =	0.	ROW CP TIME =		2.721		+ PARAB	WINDOW	
371	FF SUM =	0.	ROW CP TIME =		2.724		+ PARAB	WINDOW	

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)		
372	FF SUM =	0.	ROW CP TIME =		2.720		+ PARAB	WINDOW			
373	FF SUM =	0.	ROW CP TIME =		2.711		+ PARAB	WINDOW			
374	FF SUM =	0.	ROW CP TIME =		2.706		+ PARAB	WINDOW			
375	FF SUM =	0.	ROW CP TIME =		2.706		+ PARAB	WINDOW			
401	FF SUM =	0.	ROW CP TIME =		1.767		- RECT	BODY BOTTOM (FRT)		4	1
402	FF SUM =	0.	ROW CP TIME =		1.509		- RECT	BODY BOTTOM (REAR)		402	
182	FF SUM =	0.	ROW CP TIME =		1.995		+ CYLN	OMSPODC1			
172	FF SUM =	0.	ROW CP TIME =		1.981		+ CYLN	OMSPODC2			
781	FF SUM =	0.	ROW CP TIME =		2.242		- CYLN	.....+Y SIDE DOOR.....			
782	FF SUM =	0.	ROW CP TIME =		63.077		+ CYLN	.....+Y SIDE DOOR.....			
783	FF SUM =	0.	ROW CP TIME =		2.241		- CYLN	.....+Y SIDE DOOR.....			
784	FF SUM =	0.	ROW CP TIME =		33.689		+ CYLN	.....+Y SIDE DOOR.....			

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)	
785	FF SUM = 1.		ROW CP TIME = 5.874			- CYLN		.....+Y SIDE DOOR.....		
786	FF SUM = 1.		ROW CP TIME = 14.023			+ CYLN		.....+Y SIDE DOOR.....		
787	FF SUM = 1.		ROW CP TIME = 4.974			- CYLN		.....+Y SIDE DOOR.....		
788	FF SUM = 0.		ROW CP TIME = 8.557			+ CYLN		.....+Y SIDE DOOR.....		
791	FF SUM = 0.		ROW CP TIME = 6.055			- CYLN		... -Y SIDE DOOR....		
792	FF SUM = 0.		ROW CP TIME = 12.005			+ CYLN		... -Y SIDE DOOR....		
793	FF SUM = 0.		ROW CP TIME = 4.870			- CYLN		... -Y SIDE DOOR....		
794	FF SUM = 0.		ROW CP TIME = 9.620			+ CYLN		... -Y SIDE DOOR....		
795	FF SUM = 0.		ROW CP TIME = 2.174			- CYLN		... -Y SIDE DOOR....		
796	1058	CAL.	.002900	.033432	.002990	.019128	.156310	.156310	1.741	
796	1073	CAL.	.008443	.097218	.008443	.064113	.131689	.131689	8.908	*
796	1079	CAL.	.016698	.252472	.016698	.020747	.804828	.804828	24.103	*
796	1080	CAL.	.027129	.323193	.027129	.109396	.246637	.246637	34.816	*
796	1082	CAL.	.031458	.475562	.031458	.036171	.895978	.895978	51.513	*
796	1096	CAL.	.023699	.020261	.023699	.107894	.219654	.219654	64.308	*
796	1092	CAL.	.032511	.491499	.032511	.036129	.900358	.900358	81.288	*
796	1095	CAL.	.002426	.011333	.002426	.023327	.131409	.131409	83.441	
796	1097	CAL.	.001589	.009903	.001589	.021479	.078213	.078213	85.900	
796	1130	CAL.	.000137	.004641	.000137	.000160	.232745	.232745	87.678	

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED):

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. F FACTER	SHAD. A FACTOR	CP TIME (SEC):	
796	FF SUM = .1471		ROW CP TIME = 37.777			+ CYLN		... -Y SIDE DOOR....		
797	FF SUM = 0.		ROW CP TIME = 2.171			- CYLN		... -Y SIDE DOOR....		
798	1000	CAL.	.025169	.033078	.025169	.049766	.509842	.509842	1.476	*
798	1020	CAL.	.021169	.026572	.021169	.040120	.527646	.527646	5.046	*
798	1041	CAL.	.000004	.000567	.000004	.000062	.067295	.067295	5.683	
798	1030	CAL.	.055255	.025076	.055255	.149726	.369037	.369037	9.401	*
798	1050	CAL.	.020193	.023176	.020193	.043709	.461974	.461974	12.420	*
798	1060	CAL.	.007245	.006841	.007245	.012618	.578808	.578808	12.759	
798	1070	CAL.	.011161	.013542	.011161	.046469	.240139	.240139	17.553	*
798	1072	CAL.	.012452	.186038	.012452	.014385	.847896	.847896	28.897	*
798	1075	CAL.	.001589	.007424	.001589	.014051	.113122	.113122	29.856	
798	1077	CAL.	.002077	.012242	.002077	.012220	.169938	.169938	30.507	
798	1082	CAL.	.001496	.001465	.001496	.000162	.594390	.594390	31.616	
798	1085	CAL.	.000667	.003115	.000667	.004817	.138430	.138430	32.374	
798	1087	CAL.	.000487	.003873	.000487	.003756	.129758	.129758	32.962	
798	1092	CAL.	.000313	.000190	.000313	.000122	.560191	.560191	34.159	
798	1095	CAL.	.000166	.000773	.000166	.001537	.107670	.107670	34.711	
798	1130	CAL.	.000032	.004000	.000032	.000122	.262133	.262133	36.236	
798	FF SUM = .1578		ROW CP TIME = 36.529			+ CYLN		... -Y SIDE DOOR....		
801	FF SUM = 0.		ROW CP TIME = 2.190			+ TRAP		+Y SIDE FRONT TRAPOZOID		
305	FF SUM = 0.		ROW CP TIME = 1.447			+ RECT		BODY SIDE (MIDDLE-PORT)		305
306	FF SUM = 0.		ROW CP TIME = 1.438			+ RECT		BODY SIDE (BACK-PORT)		306
311	1020	CAL.	.006360	.009930	.006360	.067994	.093536	.093536	7.652	*
311	1130	CAL.	.029529	.016632	.029529	.249933	.118148	.118148	18.217	*
311	FF SUM = .0359		ROW CP TIME = 24.174			- TRAP		-Y SIDE FRONT TRAPOZOID		

FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. F FACTER	SHAD. A FACTOR	CP TIME (SEC)	
315	FF SUM = 0.		ROW CP TIME =	1.631		+ RECT		BODY SIDE (MIDDLE-STBD)		315
316	FF SUM = 0.		ROW CP TIME =	1.608		+ RECT		BODY SIDE (BACK-STBD)		316
202	FF SUM = 0.		ROW CP TIME =	1.909		+ CYLN		BODY TOP (STBD-REAR)		202
212	FF SUM = 0.		ROW CP TIME =	1.902		+ CYLN		BODY TOP (PORT-REAR)		212
360	1030	CAL.	.000375	.000018	.000035	.000053	.662201	.662201	.755	
340	1050	CAL.	.000245	.000328	.000245	.000361	.682059	.682059	1.082	
380	1073	CAL.	.000036	.001460	.000036	.000036	1.000000	1.000000	2.589	
360	1076	CAL.	.000162	.000882	.000162	.000162	1.000000	1.000000	3.078	
340	1077	CAL.	.000055	.000376	.000055	.000126	.435784	.435784	3.501	
390	1087	CAL.	.000056	.000200	.000056	.000038	.638174	.638174	4.681	
380	1035	CAL.	.000140	.000763	.000140	.000398	.753125	.753125	5.091	
380	1087	CAL.	.000077	.000529	.000077	.000292	.264340	.264340	5.456	
330	1093	CAL.	.000035	.001433	.000035	.000269	.129759	.129759	6.302	
360	1095	CAL.	.000079	.000426	.000079	.001193	.065939	.065939	6.591	
390	FF SUM = .0009		ROW CP TIME =	7.641		+ TRAP		VERTICAL FIN (PORT)		20
335	1030	CAL.	.000033	.000013	.000033	.000033	1.000000	1.000000	.798	
395	1050	CAL.	.000181	.000177	.000181	.000233	.778079	.778079	1.164	
365	1073	CAL.	.000011	.001323	.000011	.000018	.596608	.596608	2.471	
385	1075	CAL.	.000041	.000162	.000041	.000080	.509510	.509510	2.900	
335	1077	CAL.	.000026	.000128	.000026	.000064	.396536	.396536	3.314	
385	1093	CAL.	.000019	.000065	.000019	.000038	.501948	.501948	4.421	
395	1085	CAL.	.000057	.000229	.000057	.000167	.343543	.343543	4.810	
385	1087	CAL.	.000014	.000068	.000014	.000130	.104605	.104605	5.141	
385	1097	CAL.	.000003	.000000	.000003	.000091	.032936	.032936	5.922	
330	FF SUM = .0004		ROW CP TIME =	7.292		+ TRAP		VERTICAL FIN (PORT-AFT)		20
390	1030	CAL.	.000035	.000018	.000035	.000053	.662482	.662482	.720	
390	1050	CAL.	.000245	.000328	.000245	.000360	.682066	.682066	1.041	
390	1074	CAL.	.000036	.001458	.000036	.000036	1.000000	1.000000	2.516	
330	1076	CAL.	.000162	.000880	.000162	.000162	1.000000	1.000000	2.992	
			.000055	.000375	.000055	.000126	.435813	.435813	3.414	

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. F FACTOR	SHAD. A FACTOR	CP TIME (SEC)!
790	1096	CAL.	.000140	.000761	.000140	.000397	.353151	.353151	4.852
790	1098	CAL.	.000377	.000529	.000377	.000291	.264755	.264355	5.249
790	1094	CAL.	.000335	.001431	.000335	.000268	.129735	.129735	5.995
790	1095	CAL.	.000378	.001426	.000378	.000191	.065837	.065837	6.276
790	FF SUM =	.0019	ROW CP TIME =	7.189		- IRAP	VERTICAL FIN (ST9O)	20	
795	1090	CAL.	.000033	.000017	.000033	.000037	1.000000	1.000000	.771
795	1093	CAL.	.000181	.000177	.000181	.000232	.778076	.778076	1.129
795	1094	CAL.	.000011	.001722	.000011	.000018	.596603	.596603	2.431
795	1096	CAL.	.000041	.000162	.000041	.000080	.509557	.509557	2.850
795	1098	CAL.	.000125	.000123	.000125	.000264	.396564	.396564	3.259
795	1094	CAL.	.000019	.000565	.000019	.000037	.501939	.501939	4.228
795	1096	CAL.	.000057	.000227	.000057	.000156	.363977	.363977	4.635
795	1093	CAL.	.000014	.000158	.000014	.000130	.104615	.104615	4.939
795	1094	CAL.	.000003	.000049	.000003	.000030	.032933	.032933	5.628
795	FF SUM =	.0004	ROW CP TIME =	6.636		- IRAP	VERTICAL FIN (ST8O-AFT)	20	
795	FF SUM =	0.	ROW CP TIME =	2.171		+ DISC	..MOST FORWARD EVAPORATOR.....		
700	FF SUM =	0.	ROW CP TIME =	8.505		- DISC	.....SUPER ENGINS (OMS LOCAT		
701	FF SUM =	0.	ROW CP TIME =	2.109		+ DISC	.....SUPER ENGINS (OMS LOCAT		
702	FF SUM =	0.	ROW CP TIME =	8.265		- DISC	.....SUPER ENGINS (OMS LOCAT		
707	FF SUM =	0.	ROW CP TIME =	2.115		+ DISC	.....SUPER ENGINS (OMS LOCAT		
24	FF SUM =	0.	ROW CP TIME =	2.144		- DISC	...BACK RCS ...LOOKING +/- Y.(		

MODEL = CONTAM STEP = 1
FORM FACTOR CALCULATION LINK.

SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. F FACTOR	SHAD. A FACTOR	CP TIME (SEC)
25	FF SUM =	0.	ROW CP TIME =		7.822		+ DISC	...BACK RCS ...LOOKING +/- Y.(	
18	FF SUM =	0.	ROW CP TIME =		2.130		- DISC	...FRONT RCS..LOOKING +/-Y AT	
19	FF SUM =	0.	ROW CP TIME =		4.992		+ DISC	...FRONT RCS..LOOKING +/-Y AT	
26	FF SUM =	0.	ROW CP TIME =		7.978		- DISC	...BACK RCS LOOKING +/- Z...7/	
27	FF SUM =	0.	ROW CP TIME =		2.145		+ DISC	...BACK RCS LOOKING +/- Z...7/	
16	FF SUM =	0.	ROW CP TIME =		7.504		- DISC	...MIDDLE EVAP. LOOKING +/- Y.	
17	FF SUM =	0.	ROW CP TIME =		2.171		+ DISC	...MIDDLE EVAP. LOOKING +/- Y.	
390	1030	CAL.	.000916	.000072	.000916	.000916	1.000000	1.000000	2.012
390	1050	CAL.	.006192	.001227	.006192	.006192	1.000000	1.000000	3.595
390	1060	CAL.	.000207	.000131	.000207	.000207	1.000000	1.000000	4.372
390	1065	CAL.	.000810	.001634	.000810	.000810	1.000000	1.000000	5.499
390	1073	CAL.	.000127	.000773	.000127	.000127	1.000000	1.000000	7.835
390	1074	CAL.	.000027	.000163	.000027	.000127	.210764	.210764	9.456
390	1075	CAL.	.000612	.000497	.000612	.000612	1.000000	1.000000	10.447
390	1076	CAL.	.000177	.000142	.000177	.000612	.289577	.289577	11.137
390	1077	CAL.	.000548	.000556	.000548	.000548	1.000000	1.000000	12.187
390	1078	CAL.	.000351	.000356	.000351	.000548	.640349	.640349	13.097
390	1079	CAL.	.001212	.000640	.001212	.001212	1.000000	1.000000	13.877
390	1033	CAL.	.000135	.001122	.000135	.000135	1.000000	1.000000	16.065
390	1035	CAL.	.000313	.000573	.000313	.000313	1.000000	1.000000	18.220
390	1037	CAL.	.000526	.000577	.000526	.000526	1.000000	1.000000	19.720
390	1099	CAL.	.000999	.000526	.000999	.000999	1.000000	1.000000	20.999
390	1097	CAL.	.000091	.000553	.000091	.000091	1.000000	1.000000	22.211
390	1097	CAL.	.000292	.000143	.000292	.000292	1.000000	1.000000	22.370
390	1037	CAL.	.000302	.000172	.000302	.000302	1.000000	1.000000	23.[illegible]
390	1111	CAL.	.000393	.000316	.000393	.000393	1.000000	1.000000	25.[illegible]
390	1137	CAL.	.000071	.000667	.000071	.000302	.237000	.237000	25.913

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(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)!	
399	FF SUM =	.0141	ROW CP TIME =	26.016		+ RECT	VERT. FIN LOG. EDGE	2		
1028	1028	CAL.	.067777	.064879	.067777	.067777	1.000000	1.000000	10.754	*
1028	1291	CAL.	.000009	.000846	.000009	.000009	1.000000	1.000000	10.967	
1000	FF SUM =	.7258	ROW CP TIME =	14.622		+ CYLN	TUNNEL 1, X=582 TO 668.3, SPA			
1029	1029	CAL.	.000057	.000196	.000057	.000057	1.000000	1.000000	.664	*
1029	1291	CAL.	.000048	.000559	.000048	.000048	1.000000	1.000000	1.359	*
1030	FF SUM =	.6739	ROW CP TIME =	3.739		+ CONE	FWD CONE, X=668.3 TO 694.0, SP			
1031	FF SUM =	.1136	ROW CP TIME =	1.968		+ DISC	ECS,CONDENSATE VENT,X=681, SPA			
1291	FF SUM =	.0759	ROW CP TIME =	7.582		+ DISC	ECS,CONDENSATE VENT,X=681, SPA			
1030	FF SUM =	.5313	ROW CP TIME =	1.752		+ CYLN	CORE SEGMENT X=694.0 T			
1050	1051	CAL.	.022611	.100172	.022611	.022611	1.000000	1.000000	6.896	*
1050	1073	CAL.	.000558	.017163	.000558	.000566	.986787	.986787	9.323	*
1050	1074	CAL.	.000883	.027141	.000883	.000883	1.000000	1.000000	9.747	
1050	1075	CAL.	.013960	.056837	.013960	.015796	.883781	.883781	10.529	
1050	1076	CAL.	.014901	.060637	.014901	.016132	.923705	.923705	11.332	
1050	1077	CAL.	.011198	.057519	.011198	.012279	.911968	.911968	11.846	
1050	1078	CAL.	.009515	.048575	.009515	.011842	.803556	.803556	12.338	
1050	1079	CAL.	.016876	.045102	.016876	.019769	.853696	.853696	17.095	
1050	1093	CAL.	.000143	.004401	.000143	.000143	1.000000	1.000000	13.836	
1050	1094	CAL.	.000143	.004401	.000143	.000143	1.000000	1.000000	14.377	
1050	1095	CAL.	.004563	.018570	.004563	.004563	1.000000	1.000000	14.838	
1050	1096	CAL.	.004563	.018570	.004563	.004563	1.000000	1.000000	15.292	
1050	1097	CAL.	.003534	.018163	.003534	.003534	1.000000	1.000000	15.771	
1050	1098	CAL.	.003534	.018163	.003534	.003534	1.000000	1.000000	16.249	
1050	1089	CAL.	.006101	.016304	.006101	.006101	1.000000	1.000000	16.634	
1050	1092	CAL.	.000147	.001459	.000147	.000147	1.000000	1.000000	17.417	
1050	1094	CAL.	.000147	.001459	.000147	.000147	1.000000	1.000000	17.980	
1050	1095	CAL.	.001795	.006939	.001795	.001795	1.000000	1.000000	18.487	
1050	1096	CAL.	.001795	.006939	.001795	.001795	1.000000	1.000000	18.994	
1050	1097	CAL.	.001721	.006743	.001721	.001721	1.000000	1.000000	19.504	
1050	1098	CAL.	.001721	.006743	.001721	.001721	1.000000	1.000000	20.014	

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)	
1050	1129	CAL.	.002262	.006045	.002262	.002262	1.000000	1.000000	20.421	
1050	1130	CAL.	.000005	.000492	.000005	.000005	1.000000	1.000000	21.075	*
1050	1131	CAL.	.008917	.968236	.008917	.008917	1.000000	1.000000	21.849	*
1050	FF SUM =	.9326	ROW CP TIME =	21.854		+ CONE		AFT CONE TAPER, X=799.90 TO		
1060	1073	CAL.	.000135	.000937	.000135	.000135	1.000000	1.000000	.471	
1060	1074	CAL.	.000135	.000937	.000135	.000135	1.000000	1.000000	.703	
1060	1075	CAL.	.019222	.017656	.019222	.019222	1.000000	1.000000	8.080	*
1060	1076	CAL.	.019222	.017656	.019222	.019222	1.000000	1.000000	15.522	*
1060	1077	CAL.	.015230	.017657	.015230	.015230	1.000000	1.000000	19.581	*
1060	1078	CAL.	.015158	.017574	.015158	.015158	1.000000	1.000000	23.551	*
1060	1079	CAL.	.025858	.015538	.025858	.025858	1.000000	1.000000	29.696	*
1060	1083	CAL.	.000006	.000041	.000006	.000006	1.000000	1.000000	33.129	
1060	1084	CAL.	.000006	.000041	.000006	.000006	1.000000	1.000000	33.396	
1060	1085	CAL.	.000556	.000511	.000556	.000556	1.000000	1.000000	33.624	
1060	1086	CAL.	.000556	.000511	.000556	.000556	1.000000	1.000000	33.851	
1060	1087	CAL.	.000344	.000399	.000344	.000344	1.000000	1.000000	34.043	
1060	1088	CAL.	.000344	.000399	.000344	.000344	1.000000	1.000000	34.229	
1060	1089	CAL.	.000463	.000279	.000463	.000463	1.000000	1.000000	34.453	
1060	1093	CAL.	.000001	.000006	.000001	.000001	1.000000	1.000000	34.914	
1060	1094	CAL.	.000001	.000006	.000001	.000001	1.000000	1.000000	35.212	
1060	1095	CAL.	.000086	.000079	.000086	.000086	1.000000	1.000000	35.463	
1060	1096	CAL.	.000086	.000079	.000086	.000086	1.000000	1.000000	35.719	
1060	1097	CAL.	.000051	.000059	.000051	.000051	1.000000	1.000000	35.915	
1060	1098	CAL.	.000051	.000059	.000051	.000051	1.000000	1.000000	36.114	
1060	1099	CAL.	.000071	.000043	.000071	.000071	1.000000	1.000000	36.343	
1060	1131	CAL.	.001093	.026802	.001093	.002452	.445995	.445995	37.918	
1060	FF SUM =	.9250	ROW CP TIME =	37.991		+ CYLN		AFT AIRLOCK, X=831.30 TO 860		
1065	1075	CAL.	.081426	.032452	.081426	.081426	1.000000	1.000000	1.056	
1065	1076	CAL.	.081426	.032452	.081426	.081426	1.000000	1.000000	1.714	
1065	1077	CAL.	.071248	.035942	.071248	.071248	1.000000	1.000000	2.368	
1065	1078	CAL.	.071248	.035942	.071248	.071248	1.000000	1.000000	3.023	
1065	1079	CAL.	.142923	.037383	.142923	.142923	1.000000	1.000000	5.260	
1065	1085	CAL.	.014935	.005952	.014935	.014935	1.000000	1.000000	5.991	
1065	1086	CAL.	.014935	.005952	.014935	.014935	1.000000	1.000000	6.314	
1065	1087	CAL.	.011807	.005940	.011807	.011807	1.000000	1.000000	6.668	
1065	1088	CAL.	.011807	.005940	.011807	.011807	1.000000	1.000000	7.017	
1065	1089	CAL.	.020748	.005431	.020748	.020748	1.000000	1.000000	7.340	
1065	1095	CAL.	.003857	.001537	.003857	.003857	1.000000	1.000000	8.097	
1065	1096	CAL.	.003857	.001537	.003857	.003857	1.000000	1.000000	8.445	
1065	1097	CAL.	.003001	.001518	.003001	.003001	1.000000	1.000000	8.819	

FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. F FACTOR	SHAD. A FACTOR	CP TIME (SEC)!	
1065	1098	CAL.	.003001	.001510	.003001	.003001	1.000000	1.000000	9.190	
1065	1099	CAL.	.005161	.001361	.005161	.005161	1.000000	1.000000	9.541	
1065	FF SUM =	.7311	ROW CP TIME =	9.783		+ DISC		AFT AIR LOCK DISK SL2		
1070	FF SUM =	.9133	ROW CP TIME =	1.626		+ CYLN		PALLET1 BOTTOM CYLINDER SL2		
1071	FF SUM =	.3029	ROW CP TIME =	.969		+ RECT		-Y PALLET1 OUTSIDE STRIP SL2		
1072	FF SUM =	.7435	ROW CP TIME =	.941		+ RECT		+Y PALLET1 OUTSIDE STRIP SL2		
1073	1130	CAL.	.000221	.000780	.000221	.000662	.333418	.333418	1.815	
1073	FF SUM =	.0265	ROW CP TIME =	1.887		+ RECT		-Y PALLET3 TOP STRIP X=873.2 T		
1074	1130	CAL.	.000236	.000835	.000236	.000662	.357347	.357347	1.769	
1074	FF SUM =	.0755	ROW CP TIME =	1.835		+ RECT		+Y PALLET3 TOP STRIP ,X= 873.		
1075	1076	CAL.	.069758	.069758	.069758	.069758	1.000000	1.000000	1.176	
1075	1077	CAL.	.015740	.019867	.015740	.015740	1.000000	1.000000	1.407	
1075	1078	CAL.	.055797	.070429	.055797	.055797	1.000000	1.000000	1.834	
1075	1079	CAL.	.088759	.053292	.088759	.088759	1.000000	1.000000	2.858	
1075	1096	CAL.	.032622	.032622	.032622	.032622	1.000000	1.000000	3.329	
1075	1097	CAL.	.001545	.001950	.001545	.001545	1.000000	1.000000	3.610	
1075	1098	CAL.	.022966	.023089	.022966	.022966	1.000000	1.000000	3.896	
1075	1099	CAL.	.023828	.015649	.023828	.023828	1.000000	1.000000	4.145	
1075	1096	CAL.	.006480	.006480	.006480	.006480	1.000000	1.000000	4.657	
1075	1097	CAL.	.000147	.000054	.000043	.000043	1.000000	1.000000	4.953	
1075	1098	CAL.	.003832	.004837	.003832	.003832	1.000000	1.000000	5.270	
1075	1099	CAL.	.002172	.001496	.002172	.002172	1.000000	1.000000	5.534	
1075	1130	CAL.	.000373	.000947	.000373	.001176	.316867	.316867	6.037	
1075	FF SUM =	.4087	ROW CP TIME =	6.093		+ RECT		-Y INSIDE TOP PANNEL3 ,X=873.		
1076	1077	CAL.	.055797	.070429	.055797	.055797	1.000000	1.000000	.442	

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)	
1076	1078	CAL.	.015740	.013867	.015740	.015740	1.000000	1.000000	.674	
1076	1079	CAL.	.088759	.058292	.088759	.088759	1.000000	1.000000	1.731	
1076	1085	CAL.	.032622	.032622	.032622	.032622	1.000000	1.000000	2.181	
1076	1087	CAL.	.022966	.023388	.022966	.022966	1.000000	1.000000	2.505	
1076	1086	CAL.	.001545	.001545	.001545	.001545	1.000000	1.000000	2.786	
1076	1089	CAL.	.027928	.015649	.023328	.027928	1.000000	1.000000	3.037	
1076	1095	CAL.	.006490	.006490	.006490	.006490	1.000000	1.000000	3.528	
1076	1097	CAL.	.003832	.004837	.003832	.003832	1.000000	1.000000	3.884	
1076	1098	CAL.	.000043	.000054	.000043	.000043	1.000000	1.000000	4.176	
1076	1099	CAL.	.002172	.001426	.002172	.002172	1.000000	1.000000	4.446	
1076	1130	CAL.	.000377	.010349	.000377	.001176	.320695	.320695	4.953	
1076	FF SUM =	.4947	ROW CP TIME =	5.009		+ RECT		+Y INSIDE TOP PANNEL3,X=873.2		
1077	1078	CAL.	.061990	.061990	.061990	.061990	1.000000	1.000000	.393	
1077	1079	CAL.	.093268	.049528	.093268	.093268	1.000000	1.000000	1.674	
1077	1085	CAL.	.001950	.001545	.001950	.001950	1.000000	1.000000	2.153	
1077	1086	CAL.	.028988	.022966	.028988	.028988	1.000000	1.000000	2.437	
1077	1088	CAL.	.019607	.019607	.019607	.019607	1.000000	1.000000	2.779	
1077	1089	CAL.	.010132	.005272	.010132	.010132	1.000000	1.000000	9.403	*
1077	1095	CAL.	.000054	.000043	.000054	.000054	1.000000	1.000000	9.983	
1077	1096	CAL.	.004837	.003832	.004837	.004837	1.000000	1.000000	10.229	
1077	1098	CAL.	.002231	.002231	.002231	.002231	1.000000	1.000000	10.591	
1077	1099	CAL.	.000405	.000211	.000405	.000405	1.000000	1.000000	10.859	
1077	1131	CAL.	.000074	.001559	.000074	.000350	.277596	.277596	11.395	
1077	FF SUM =	.4876	ROW CP TIME =	11.456		+ RECT		-Y INSIDE BOTTOM PANNEL3, X=8		
1078	1079	CAL.	.093268	.049528	.093268	.093268	1.000000	1.000000	1.290	
1078	1085	CAL.	.023988	.022966	.023988	.028388	1.000000	1.000000	1.787	
1078	1086	CAL.	.001950	.001545	.001950	.001950	1.000000	1.000000	2.063	
1078	1087	CAL.	.019607	.019607	.019607	.019607	1.000000	1.000000	2.373	
1078	1089	CAL.	.010132	.005272	.010132	.010132	1.000000	1.000000	3.038	*
1078	1096	CAL.	.004837	.003832	.004837	.004837	1.000000	1.000000	9.577	
1078	1096	CAL.	.000054	.000043	.000054	.000054	1.000000	1.000000	9.869	
1078	1097	CAL.	.002271	.002231	.002231	.002231	1.000000	1.000000	10.199	
1078	1099	CAL.	.000405	.000211	.000405	.000405	1.000000	1.000000	10.509	
1078	1130	CAL.	.000177	.007740	.000177	.000350	.186210	.186210	11.051	
1078	FF SUM =	.4566	ROW CP TIME =	11.111		+ RECT		+Y INSIDE BOTTOM PANNEL3,X 87		
1079	1085	CAL.	.015649	.023328	.015649	.015649	1.000000	1.000000	.476	
1079	1086	CAL.	.015649	.023328	.015649	.015649	1.000000	1.000000	.725	

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION (TNK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED):

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. F FACTOR	SHAD. A FACTOR	CP TIME (SEC):	
1079	1097	CAL.	.005272	.010132	.005272	.005272	1.000000	1.000000	7.364	*
1079	1098	CAL.	.005272	.010132	.005272	.005272	1.000000	1.000000	13.932	*
1079	1095	CAL.	.001426	.002172	.001426	.001426	1.000000	1.000000	14.455	
1079	1096	CAL.	.001426	.002172	.001426	.001426	1.000000	1.000000	14.719	
1079	1097	CAL.	.000211	.000405	.000211	.000211	1.000000	1.000000	15.003	
1079	1098	CAL.	.000211	.000405	.000211	.000211	1.000000	1.000000	15.270	
1079	FF SUM =	.3824	ROW CP TIME =	15.862		+ RECT		...BOTTOM PANNEL3 ,X=873.2 TO		
1080	FF SUM =	.9210	ROW CP TIME =	1.159		+ CYLN		PALLET4 BOTTOM CYLINDER X= 99		
1081	FF SUM =	.3004	ROW CP TIME =	.677		+ RECT		-Y PALLET4 OUTSIDE STRIP SL2		
1082	FF SUM =	.7774	ROW CP TIME =	.657		+ RECT		+Y PALLET4 OUTSIDE STRIP SL2		
1087	1132	CAL.	.000058	.000205	.000058	.000166	.350280	.350280	1.533	
1087	FF SUM =	.0256	ROW CP TIME =	1.600		+ RECT		-Y PALLET4 TOP STRIP X=987.2 T		
1094	1133	CAL.	.000059	.000210	.000059	.000166	.358266	.358266	1.457	
1094	FF SUM =	.0221	ROW CP TIME =	1.523		+ RECT		+Y PALLET4 TOP STRIP ,X= 987.		
1085	1086	CAL.	.069758	.069758	.069758	.069758	1.000000	1.000000	1.407	
1085	1087	CAL.	.015740	.019867	.015740	.015740	1.000000	1.000000	1.671	
1085	1088	CAL.	.055797	.070429	.055797	.055797	1.000000	1.000000	2.159	
1085	1089	CAL.	.088759	.059292	.088759	.088759	1.000000	1.000000	3.377	
1085	1096	CAL.	.032622	.032622	.032622	.032622	1.000000	1.000000	3.872	
1085	1097	CAL.	.001545	.001950	.001545	.001545	1.000000	1.000000	4.162	
1085	1098	CAL.	.022966	.028988	.022966	.022966	1.000000	1.000000	4.452	
1085	1099	CAL.	.027828	.035649	.027828	.027828	1.000000	1.000000	4.693	
1085	1130	CAL.	.000106	.000828	.000106	.000317	.333898	.333898	5.238	
1085	FF SUM =	.4813	ROW CP TIME =	5.293		+ RECT		-Y INSIDE TOP PANNEL4,X=987.2		
1086	1087	CAL.	.055797	.070429	.055797	.055797	1.000000	1.000000	.509	

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)*

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. F FACTOR	SHAD. A FACTOR	CP TIME (SEC)*	
1096	1098	CAL.	.015740	.019867	.015740	.015740	1.000000	1.000000	.770	
1096	1099	CAL.	.088759	.059202	.088759	.088759	1.000000	1.000000	1.979	
1096	1095	CAL.	.032622	.032622	.032622	.032622	1.000000	1.000000	2.446	
1096	1097	CAL.	.022966	.028988	.022966	.022966	1.000000	1.000000	2.769	
1096	1098	CAL.	.001545	.001950	.001545	.001545	1.000000	1.000000	3.052	
1096	1099	CAL.	.023328	.015649	.023328	.023328	1.000000	1.000000	3.295	
1096	1130	CAL.	.000117	.000295	.000117	.000317	.325312	.325312	3.829	
1096	FF SUM =	.4769	ROW CP TIME =		3.833		+ RECT		+Y INSIDE TOP PANNEL4,X=987.2	
1097	1098	CAL.	.061000	.061000	.061000	.061000	1.000000	1.000000	.421	
1097	1099	CAL.	.093268	.048528	.093268	.093268	1.000000	1.000000	1.857	
1097	1095	CAL.	.001950	.001545	.001950	.001950	1.000000	1.000000	2.346	
1097	1096	CAL.	.028988	.022966	.028988	.028988	1.000000	1.000000	2.661	
1097	1098	CAL.	.019607	.019607	.019607	.019607	1.000000	1.000000	3.005	
1097	1099	CAL.	.010132	.005272	.010132	.010132	1.000000	1.000000	9.609	*
1097	1130	CAL.	.000110	.000295	.000110	.000331	.333312	.333312	10.295	
1097	FF SUM =	.4519	ROW CP TIME =		10.267		+ RECT		-Y INSIDE BOTTOM PANNEL4, X=9	
1088	1089	CAL.	.093268	.048528	.093268	.093268	1.000000	1.000000	1.422	
1088	1095	CAL.	.028986	.022966	.028988	.028988	1.000000	1.000000	1.938	
1088	1096	CAL.	.001950	.001545	.001950	.001950	1.000000	1.000000	2.214	
1088	1097	CAL.	.019607	.019607	.019607	.019607	1.000000	1.000000	2.526	
1088	1099	CAL.	.010132	.005272	.010132	.010132	1.000000	1.000000	9.198	*
1088	1130	CAL.	.000109	.000297	.000109	.000331	.327913	.327913	9.786	
1088	FF SUM =	.4490	ROW CP TIME =		9.849		+ RECT		+Y INSIDE BOTTOM PANNEL4,X 98	
1089	1095	CAL.	.015649	.023328	.015649	.015649	1.000000	1.000000	.453	
1089	1096	CAL.	.015649	.023328	.015649	.015649	1.000000	1.000000	.700	
1089	1097	CAL.	.005272	.010132	.005272	.005272	1.000000	1.000000	7.426	*
1089	1098	CAL.	.005272	.010132	.005272	.005272	1.000000	1.000000	14.142	*
1089	1130	CAL.	.000117	.004771	.000117	.000353	.332436	.332436	14.731	
1089	FF SUM =	.3720	ROW CP TIME =		14.792		+ RECT		PALLET4 BOTTOM,X= 987.2 TO 11	
1090	FF SUM =	.9116	ROW CP TIME =		.675		+ CYLN		PALLET5 BOTTOM CYLINDER X= 11	

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. F FACTER	SHAD. A CP FACTOR	TIME (SEC)!	
1091	FF SUM =	.7096	ROW CP TIME =	.416		+ RECT		-Y PALLETS OUTSIDE STRIP		
1092	FF SUM =	.8012	ROW CP TIME =	.381		+ RECT		+Y PALLETS OUTSIDE STRIP		
1093	1130	CAL.	.000020	.001070	.000020	.000355	.355331	.355331	1.217	
1093	FF SUM =	.0956	ROW CP TIME =	1.213		+ RECT		-Y PALLETS TOP STRIP X=1101.2		
1094	1130	CAL.	.000020	.000870	.000020	.000355	.358968	.358968	1.172	
1094	FF SUM =	.0949	ROW CP TIME =	1.237		+ RECT		+Y PALLETS TOP STRIP ,X= 1101		
1095	1096	CAL.	.069756	.069756	.069756	.069738	1.000000	1.000000	1.169	
1095	1097	CAL.	.015740	.019867	.015740	.015740	1.000000	1.000000	1.419	
1095	1098	CAL.	.055797	.070429	.055797	.055797	1.000000	1.000000	1.862	
1095	1099	CAL.	.088759	.058292	.088759	.088759	1.000000	1.000000	2.892	
1095	1130	CAL.	.000037	.000986	.000037	.000109	.339242	.339242	3.455	
1095	FF SUM =	.5429	ROW CP TIME =	3.510		+ RECT		-Y INSIDE TOP PANNELS,X=1101.		
1096	1097	CAL.	.055797	.070429	.055797	.055797	1.000000	1.000000	.459	
1096	1098	CAL.	.015740	.019867	.015740	.015740	1.000000	1.000000	.712	
1096	1099	CAL.	.088759	.058292	.088759	.088759	1.000000	1.000000	1.739	
1096	1130	CAL.	.000036	.000951	.000036	.000109	.327164	.327164	2.309	
1096	FF SUM =	.5267	ROW CP TIME =	2.363		+ RECT		+Y INSIDE TOP PANNELS,X=1101.		
1097	1098	CAL.	.061000	.061000	.061000	.061000	1.000000	1.000000	.393	
1097	1099	CAL.	.093268	.048528	.093268	.093268	1.000000	1.000000	1.639	
1097	1130	CAL.	.000042	.000879	.000042	.000123	.339059	.339059	2.251	
1097	FF SUM =	.5155	ROW CP TIME =	2.313		+ RECT		-Y INSIDE BOTTOM PANNELS, X=1		
1098	1099	CAL.	.093268	.048528	.093268	.093268	1.000000	1.000000	1.257	
1098	1130	CAL.	.000041	.000859	.000041	.000123	.331418	.331418	1.673	
1098	FF SUM =	.5034	ROW CP TIME =	1.937		+ RECT		+Y INSIDE BOTTOM PANNELS,X 11		

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED):

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC):	
1099	FF SUM =	.4366	ROW CP TIME =	.673		+ RECT			PALLET 5 BOTTOM,X=1311.2 TO 12	
1110	FF SUM =	.0000	ROW CP TIME =	.396		- DISC			CORE SEGMENT WINDOW, X=746.9	
1111	FF SUM =	.0004	ROW CP TIME =	.135		+ DISC			CORE SEGMENT WINDOW, X=746.9	
1130	FF SUM =	.1201	ROW CP TIME =	.082		- DISC			AFT VIEWING WINDOW X=815.6, S	
1131	FF SUM =	.9795	ROW CP TIME =	.024		+ DISC			AFT VIEWING WINDOW X=815.6, S	

TOTAL CP TIME (SEC) FOR PROBLEM = 1690.135

SPACELAB-2 GEOMETRIC RELATIONSHIP DATA MATRIX

The following pages contain the geometric relationship data computer printouts for the Spacelab-2/Orbiter configuration.

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))
PROCESSING OPERATION DATA

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
20	1030	.001038	3.71E+03	20.22	108.77	5.67+11E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1050	.020541	3.71E+03	20.43	50.94	4.83851E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1060	.000428	3.71E+03	16.89	105.66	4.48176E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1065	.003312	3.71E+03	18.02	18.02	4.30299E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1072	.000187	3.71E+03	12.43	87.27	3.47357E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1073	.000217	3.71E+03	28.37	80.16	3.86166E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1074	.000329	3.71E+03	11.46	79.02	3.46758E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1075	.004577	3.71E+03	29.34	69.14	3.86175E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1076	.000769	3.71E+03	15.22	90.10	3.52148E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1077	.003688	3.71E+03	29.87	61.13	3.88131E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1078	.001036	3.71E+03	21.20	82.84	3.64456E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1079	.003682	3.71E+03	26.02	68.97	3.78129E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1082	.000611	3.71E+03	18.35	86.06	2.37392E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1083	.000457	3.71E+03	39.09	76.38	2.90340E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1084	.001158	3.71E+03	16.96	73.76	2.76367E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1085	.000572	3.71E+03	39.07	61.66	2.90818E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1086	.001160	3.71E+03	22.26	90.14	2.43297E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1087	.007595	3.71E+03	39.68	50.33	2.93410E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1088	.002740	3.71E+03	38.27	79.99	2.61438E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1089	.012723	3.71E+03	36.39	61.03	2.88184E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1092	.013720	3.71E+03	37.81	82.92	1.74568E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1093	.000747	3.71E+03	53.64	72.10	2.14348E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1094	.026946	3.71E+03	31.67	59.81	1.31707E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1095	.015514	3.71E+03	58.62	32.82	2.14583E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1096	.003710	3.71E+03	39.53	90.23	1.45362E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1097	.011954	3.71E+03	59.17	32.85	2.18191E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1098	.006441	3.71E+03	49.69	74.75	1.72810E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1099	.023784	3.71E+03	56.02	47.28	2.00141E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1110	.000004	3.71E+03	10.53	89.90	5.22937E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1111	.000015	3.71E+03	10.53	90.10	5.22937E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1130	.000091	3.71E+03	12.72	13.84	4.65824E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
21	1030	.001038	3.71E+03	8.86	88.32	5.29352E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1050	.020541	3.71E+03	11.27	28.49	4.62345E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1060	.000428	3.71E+03	14.06	90.81	4.37142E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1065	.003712	3.71E+03	18.02	18.02	4.30299E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))
PROCESSING OPERATION DATA

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
21	1071	.000197	3.71E+03	12.43	87.27	3.47353E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1073	.000329	3.71E+03	11.46	79.02	3.46708E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1074	.000217	3.71E+03	24.37	80.16	3.86156E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1075	.000369	3.71E+03	15.22	90.10	3.52148E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1076	.004577	3.71E+03	29.34	62.14	3.86175E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1077	.001096	3.71E+03	21.20	82.94	3.64456E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1078	.003686	3.71E+03	28.87	61.13	3.84031E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1079	.005682	3.71E+03	26.02	68.97	3.78129E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1081	.000611	3.71E+03	16.35	86.00	3.37389E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1083	.004058	3.71E+03	15.96	73.76	3.36057E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1084	.010457	3.71E+03	39.09	76.88	2.90940E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1085	.001068	3.71E+03	22.26	90.14	2.43837E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1086	.009772	3.71E+03	39.97	51.66	2.90819E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1087	.002719	3.71E+03	30.27	79.99	2.61436E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1088	.007595	3.71E+03	39.68	50.33	2.97610E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1089	.012723	3.71E+03	36.30	61.03	2.80184E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1091	.003709	3.71E+03	33.61	82.99	1.34560E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1092	.005846	3.71E+03	31.63	59.81	1.31307E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1094	.001747	3.71E+03	58.64	72.11	2.14348E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1095	.003719	3.71E+03	39.53	90.23	1.45062E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1096	.015514	3.71E+03	58.62	32.82	2.14653E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1097	.006441	3.71E+03	49.69	74.75	1.72310E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1098	.011959	3.71E+03	59.17	30.85	2.18181E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1099	.023784	3.71E+03	56.32	47.24	2.00141E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1110	.000054	3.71E+03	10.53	89.90	5.22037E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1111	.000015	3.71E+03	10.53	90.10	5.22177E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1170	.000090	3.71E+03	11.90	13.01	4.64214E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
11	1030	.000204	4.05E+04	97.43	128.88	5.13434E+02	-3.46E+03	-3.51E+03	4.02E+04	-3.37E+02	-2.42E+02	-8.51E+01
12	1030	.000144	4.46E+04	85.95	122.65	7.43175E+02	-1.38E+03	-3.89E+03	4.44E+04	-5.63E+02	-3.21E+02	-1.07E+02
2	1070	.000204	4.05E+04	85.10	67.38	4.31459E+02	-3.46E+03	3.51E+03	4.02E+04	-3.38E+02	2.42E+02	-8.51E+01
2	1030	.000144	4.46E+04	84.32	68.93	6.70598E+02	-1.38E+03	3.89E+03	4.44E+04	-5.63E+02	3.21E+02	-1.07E+02

150	1039	.000051	2.80E+04	73.16	109.09	4.66923E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1070	.000408	2.80E+04	79.85	91.46	2.62492E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1072	.000046	2.80E+04	78.83	91.45	2.64501E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1080	.044185	2.80E+04	72.76	92.45	1.56120E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1082	.001819	2.80E+04	71.26	92.40	1.59475E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1091	.470157	2.80E+04	52.72	95.01	7.64106E+01	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1092	.016159	2.80E+04	51.91	94.61	8.30409E+01	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1095	.035355	2.81E+04	21.77	44.27	1.54106E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1097	.002033	2.80E+04	32.70	56.78	1.24695E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
151	1070	.000456	2.80E+04	59.27	119.35	3.10151E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1070	.264467	2.80E+04	64.10	93.61	1.05933E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1072	.010077	2.80E+04	62.47	93.45	1.10818E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1081	.406654	2.80E+04	55.25	94.72	8.12010E+01	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1082	.015042	2.80E+04	54.15	94.79	8.24768E+01	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1093	.018220	2.81E+04	73.93	92.29	1.67204E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1092	.000355	2.81E+04	72.51	92.25	1.71340E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
152	1070	.239778	2.80E+04	32.90	147.65	1.38765E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1071	.120697	2.80E+04	16.73	111.45	1.45591E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1080	.024408	2.80E+04	10.66	143.10	1.22212E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1082	.004268	2.80E+04	17.73	106.86	9.75824E+01	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1090	.135869	2.80E+04	67.63	93.15	1.21622E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1092	.107121	2.80E+04	65.99	93.04	1.25309E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1095	.007398	2.80E+04	37.68	52.43	1.90341E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1097	.004556	2.81E+04	47.91	64.12	1.56537E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1079	.070876	2.80E+04	59.27	97.70	1.22544E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1081	.001796	2.80E+04	78.06	91.71	2.23749E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1082	.000107	2.80E+04	76.90	91.69	2.26102E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1085	.001162	2.80E+04	56.71	64.96	2.60721E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1087	.000538	2.80E+04	64.59	73.77	2.44495E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1090	.000164	2.80E+04	82.03	91.15	2.33657E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1092	.000016	2.80E+04	81.21	91.14	2.35240E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1095	.000167	2.80E+04	66.54	72.13	2.59496E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1131	.000059	2.81E+04	15.43	91.72	1.48552E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
153	1068	.142973	2.80E+04	22.78	148.33	1.21751E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1070	.118390	2.80E+04	18.00	105.23	1.48662E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1081	.000017	2.80E+04	17.81	46.22	1.48701E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1090	.224078	2.80E+04	33.72	142.92	1.98565E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1092	.000354	2.80E+04	80.56	91.35	2.82156E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1093	.000332	2.80E+04	79.61	91.35	2.84126E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1095	.000379	2.80E+04	83.24	90.97	3.93425E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1082	.000007	2.80E+04	82.54	90.97	3.94760E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01

MODEL = CONTAM STEP = 1
PROCESSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
153	1090	.000027	2.80E+04	84.75	90.76	5.05312E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1092	.000062	2.80E+04	84.20	90.75	5.06957E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
154	1131	.000051	2.80E+04	94.00	91.01	4.41350E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1070	.000408	2.80E+04	79.85	91.46	2.62492E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1071	.000046	2.80E+04	78.83	91.45	2.64501E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1088	.044185	2.80E+04	72.76	92.45	1.56120E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1081	.001819	2.80E+04	71.26	92.40	1.59475E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1090	.430157	2.80E+04	52.72	95.01	7.64035E+01	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1091	.016159	2.80E+04	51.91	94.61	8.30409E+01	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1096	.003755	2.80E+04	71.77	44.27	1.54106E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1090	.000033	2.80E+04	32.70	56.78	1.24695E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
155	1130	.000456	2.80E+04	80.71	91.55	2.70460E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1070	.004467	2.80E+04	64.10	93.61	1.05933E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1071	.010077	2.80E+04	62.47	93.45	1.10818E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1088	.406454	2.80E+04	55.25	94.72	8.12100E+01	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1091	.015083	2.80E+04	54.15	94.38	8.74768E+01	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1099	.718029	2.80E+04	77.93	92.29	1.67204E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1091	.047985	2.80E+04	72.50	92.25	1.72340E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
156	1070	.238778	2.80E+04	66.97	93.37	1.12166E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1050	.126536	2.80E+04	32.49	72.06	7.62130E+01	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1052	.024279	2.80E+04	15.08	57.63	8.69917E+01	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1065	.104268	2.80E+04	17.73	106.86	9.75324E+01	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1070	.185469	2.80E+04	67.63	93.15	1.21522E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1071	.287131	2.80E+04	65.99	93.04	1.25393E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1076	.007348	2.80E+04	37.58	52.40	1.80941E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1078	.014555	2.80E+04	47.01	64.12	1.56337E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1079	.003876	2.80E+04	59.27	97.70	1.22544E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1080	.001095	2.80E+04	78.06	91.71	2.23749E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1081	.000107	2.80E+04	76.93	91.69	2.26102E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1085	.001182	2.80E+04	66.71	64.96	2.60721E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1088	.000930	2.80E+04	64.58	73.77	2.44490E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1090	.000104	2.80E+04	82.03	91.15	2.33657E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1091	.000014	2.80E+04	81.21	91.14	2.35248E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1096	.000167	2.80E+04	66.54	72.13	3.59498E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1130	.000057	2.80E+04	17.95	91.76	1.44804E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
157	1090	.142621	2.80E+04	26.62	57.56	7.57341E+01	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1092	.123011	2.80E+04	36.27	68.40	7.76608E+01	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1091	.000217	2.80E+04	17.41	46.22	1.48901E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1088	.224278	2.80E+04	66.73	93.87	1.15168E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1070	.000354	2.80E+04	80.56	91.36	2.82156E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1071	.000032	2.80E+04	79.61	91.35	2.84326E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1081	.000079	2.80E+04	83.24	90.97	3.93425E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01

MODEL = CONTAM STEP = 1
PROCESSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
157	1081	.000007	2.80E+04	82.54	90.97	3.94769E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1082	.000027	2.80E+04	84.75	90.76	5.05912E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1081	.000002	2.80E+04	84.20	90.75	5.06857E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
140	1059	.024299	3.27E+04	12.96	45.08	4.65272E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1060	.003142	3.27E+04	10.24	130.24	4.70815E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1063	.003783	3.27E+04	7.32	7.32	4.12965E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1077	.000155	3.27E+04	20.58	92.21	3.62358E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1074	.000048	3.27E+04	4.79	92.35	3.40391E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1075	.002416	3.27E+04	18.98	71.66	3.59343E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1076	.002418	3.27E+04	2.77	87.26	3.40198E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1077	.001869	3.27E+04	17.37	73.55	3.56179E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1078	.001874	3.27E+04	7.14	85.83	3.42458E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1079	.003207	3.27E+04	12.53	81.79	3.48091E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1083	.000185	3.27E+04	20.47	93.09	2.59345E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1084	.000177	3.27E+04	7.19	93.53	2.27589E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1085	.007173	3.27E+04	27.37	63.60	2.54262E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1086	.007065	3.27E+04	6.17	85.88	2.26399E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1087	.005550	3.27E+04	25.21	66.17	2.49670E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1088	.005618	3.27E+04	10.68	83.76	2.29781E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1089	.009526	3.27E+04	18.49	76.47	2.38095E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1093	.001177	3.27E+04	49.77	94.73	1.69527E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1094	.001174	3.27E+04	14.29	96.97	1.15370E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1095	.002389	3.27E+04	46.29	45.66	1.61749E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1096	.023765	3.27E+04	8.37	81.72	1.13035E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1097	.018489	3.27E+04	47.56	49.19	1.54269E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1098	.018214	3.27E+04	20.85	77.96	1.19577E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1099	.035644	3.27E+04	34.04	65.62	1.34017E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1170	.000000	3.27E+04	9.66	17.77	4.61340E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
135	1128	.105990	3.27E+04	56.79	145.03	1.68682E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1129	.128748	3.27E+04	43.63	71.79	1.54076E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1200	.001964	3.27E+04	34.69	89.27	1.37393E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1131	.000067	3.27E+04	17.49	12.65	2.57498E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10

796	1070	.002990	2.41E+04	64.97	63.33	3.25707E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1070	.009447	2.41E+04	51.15	108.10	2.11528E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1072	.016604	2.41E+04	62.88	77.64	1.69354E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1080	.027129	2.41E+04	23.98	117.57	1.42096E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1082	.033145R	2.41E+04	71.28	56.34	6.56206E+01	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1090	.033699	2.41E+04	25.50	116.58	1.46899E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1092	.032511	2.41E+04	73.83	61.26	7.56295E+01	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1095	.022496	2.41E+04	37.15	27.60	1.91627E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1097	.011691	2.41E+04	28.96	37.42	1.76137E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1130	.000837	2.41E+04	77.77	71.88	3.11146E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
798	1011	.025169	2.41E+04	47.42	140.73	1.89451E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1020	.021169	2.41E+04	39.87	138.29	1.82976E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1031	.000004	2.41E+04	64.74	52.09	1.40446E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1030	.055255	2.41E+04	34.48	176.17	1.95517E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1050	.029193	2.41E+04	41.10	144.93	1.83547E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1060	.007245	2.41E+04	48.80	144.10	1.73776E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1070	.011161	2.41E+04	54.40	106.77	2.27781E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1072	.012452	2.41E+04	43.67	78.95	1.89301E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1075	.001789	2.41E+04	57.85	49.01	2.58384E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1077	.002077	2.41E+04	51.53	55.62	2.47776E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1082	.000006	2.41E+04	86.00	87.38	3.02170E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1085	.001667	2.41E+04	54.10	60.94	3.49639E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1087	.001487	2.41E+04	63.18	65.82	3.41347E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1092	.000017	2.41E+04	87.09	84.98	4.15933E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1095	.000166	2.41E+04	70.21	67.88	4.51067E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1130	.000072	2.41E+04	63.79	121.67	1.54051E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
711	1020	.006360	2.99E+04	45.50	72.30	6.60578E+01	6.57E-07	-2.99E+04	-7.98E-18	1.17E+02	1.02E+02	-4.71E+01
711	1030	.029590	2.99E+04	74.45	74.45	8.24296E+01	6.57E-07	-2.99E+04	-7.98E-18	1.17E+02	1.02E+02	-4.71E+01

380	1070	.000035	2.81E+04	83.87	96.17	7.42840E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1070	.000246	2.81E+04	85.47	41.08	6.74642E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1073	.000036	2.81E+04	82.31	68.18	5.66392E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1075	.000162	2.81E+04	83.43	76.33	5.73479E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1077	.000055	2.81E+04	85.45	68.71	5.86614E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1083	.000056	2.81E+04	80.39	63.01	4.63854E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1085	.000140	2.81E+04	82.01	73.33	4.72432E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1087	.000077	2.81E+04	84.54	64.14	4.89340E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1093	.000035	2.81E+04	78.12	55.12	3.68121E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1096	.000079	2.81E+04	80.02	69.06	3.78935E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
385	1070	.000033	2.05E+04	84.50	95.50	8.34017E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1070	.000181	2.05E+04	86.00	39.61	7.65271E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1073	.000011	2.05E+04	83.36	71.26	6.55362E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1075	.000041	2.05E+04	84.30	78.18	6.61+96E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1077	.000026	2.05E+04	86.04	71.55	6.72315E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1083	.000019	2.05E+04	82.07	67.48	5.49590E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1085	.000057	2.05E+04	83.23	75.92	5.56491E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1087	.000014	2.05E+04	85.32	68.19	5.70+07E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1093	.000003	2.05E+04	80.26	61.97	4.47875E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
390	1070	.000035	2.81E+04	96.18	96.18	7.42350E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1070	.000245	2.81E+04	94.64	41.09	6.74650E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1074	.000036	2.81E+04	92.32	68.18	5.66379E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1076	.000162	2.81E+04	83.44	76.34	5.73468E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1078	.000055	2.81E+04	85.46	68.72	5.86606E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1084	.000056	2.81E+04	80.61	63.01	4.63738E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1086	.000140	2.81E+04	82.03	73.35	4.72468E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1088	.000077	2.81E+04	84.55	64.15	4.89371E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1094	.000035	2.81E+04	78.13	55.12	3.68101E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1096	.000078	2.81E+04	80.04	69.06	3.78917E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
395	1070	.000033	2.05E+04	95.50	95.50	8.34017E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1070	.000181	2.05E+04	94.00	39.62	7.65238E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1074	.000011	2.05E+04	83.37	71.26	6.55350E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1076	.000041	2.05E+04	84.31	78.19	6.61456E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1078	.000025	2.05E+04	86.05	71.55	6.72903E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1084	.000019	2.05E+04	82.08	67.48	5.49576E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1086	.000057	2.05E+04	83.24	75.93	5.56479E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1088	.000014	2.05E+04	85.33	68.20	5.70+99E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1094	.000003	2.05E+04	80.27	61.96	4.47358E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02

799	1031	.000016	4.15E+03	64.51	96.71	6.83538E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
799	1051	.006192	4.15E+03	66.56	42.74	5.15891E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
799	1051	.000007	4.15E+03	67.55	92.50	5.86908E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
799	1065	.000411	4.15E+03	69.26	24.25	5.77732E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
799	1073	.000127	4.15E+03	69.96	65.57	5.09199E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
799	1074	.000027	4.15E+03	69.96	65.57	5.09199E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
799	1075	.000612	4.15E+03	72.06	74.80	5.17173E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
799	1076	.000177	4.15E+03	72.06	74.81	5.17173E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
799	1077	.000548	4.15E+03	75.33	66.78	5.31608E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
799	1078	.000351	4.15E+03	75.33	66.78	5.31608E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
799	1079	.001212	4.15E+03	76.50	58.90	5.76424E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
799	1083	.000185	4.15E+03	75.76	59.09	4.09975E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
799	1086	.000817	4.15E+03	79.19	71.16	4.19617E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
799	1087	.000526	4.15E+03	82.90	60.85	4.37410E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
799	1089	.000960	4.15E+03	84.22	50.78	4.43243E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
799	1093	.000091	4.15E+03	87.62	48.92	3.20473E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
799	1096	.000209	4.15E+03	91.73	65.97	3.32843E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
799	1097	.000002	4.15E+03	94.29	53.13	3.55103E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
799	1111	.000393	4.15E+03	57.83	77.17	6.46383E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
799	1120	.000231	4.15E+03	61.56	6.97	5.96745E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
1000	1199	.067777	1.84E+04	57.54	53.01	6.33336E+01	-1.31E-07	1.84E+04	1.56E-07	1.75E+02	3.15E+01	-1.70E+01
1000	1201	.000005	1.84E+04	109.33	66.08	9.65912E+01	-1.31E-07	1.84E+04	1.56E-07	1.75E+02	3.15E+01	-1.70E+01
1021	1200	.000057	1.92E+04	108.27	129.52	7.91675E+01	1.69E+04	8.99E+03	1.36E-07	1.19E+02	5.57E+01	-8.00E-10
1023	1201	.000048	1.92E+04	108.27	50.48	7.91676E+01	1.69E+04	8.99E+03	1.36E-07	1.19E+02	5.57E+01	-8.00E-10
1050	1060	.022611	2.10E+04	75.39	46.73	4.04733E+01	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1177	.000556	2.10E+04	22.30	96.89	1.16664E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10

MODEL = CONTAM STEP = 1
PROCESSSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
1050	1074	.000487	2.10E+04	80.81	94.66	1.73578E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1075	.013960	2.10E+04	26.19	82.95	1.14533E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1076	.014991	2.10E+04	78.46	45.58	1.64696E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1077	.011198	2.10E+04	40.33	78.98	1.21451E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1078	.009515	2.10E+04	74.06	49.23	1.57171E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1079	.016976	2.10E+04	60.38	66.07	1.37323E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1087	.000143	2.10E+04	26.70	93.50	2.29156E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1084	.000143	2.10E+04	61.74	93.06	2.62078E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1085	.004563	2.10E+04	29.09	86.47	2.28178E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1086	.014563	2.10E+04	69.74	63.34	2.86956E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1087	.003534	2.10E+04	35.26	84.25	2.31529E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1088	.003534	2.10E+04	55.36	66.00	2.52138E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1089	.006101	2.10E+04	46.84	76.69	2.40832E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1093	.003047	2.10E+04	28.45	92.34	3.42646E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1094	.003047	2.10E+04	62.86	92.20	3.65484E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1095	.001705	2.10E+04	30.09	87.65	3.41326E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1096	.001705	2.10E+04	51.34	71.42	3.61329E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1097	.001721	2.10E+04	73.03	86.13	3.44395E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1098	.001721	2.10E+04	43.77	73.37	3.59423E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1099	.002202	2.10E+04	41.83	60.35	3.50219E+02	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1170	.000005	2.10E+04	111.62	96.34	7.35656E+01	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1050	1171	.000917	2.10E+04	111.62	83.66	7.35656E+01	-1.78E+04	1.12E+04	2.62E-08	-1.66E+01	5.33E+01	5.22E-10
1060	1073	.000135	4.75E+03	59.52	98.13	9.89911E+01	3.69E-09	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1074	.000175	4.75E+03	139.93	96.06	1.32511E+02	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1075	.019222	4.75E+03	64.64	84.42	9.34359E+01	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1076	.019222	4.75E+03	137.21	44.33	1.24354E+02	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1077	.015230	4.75E+03	77.49	62.97	9.64364E+01	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1078	.015158	4.75E+03	127.43	46.32	1.18630E+02	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1079	.025658	4.75E+03	104.23	57.66	1.04111E+02	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1083	.000030	4.75E+03	75.82	93.92	2.04380E+02	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1084	.000006	4.75E+03	117.04	93.60	2.23228E+02	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1085	.000556	4.75E+03	78.56	78.49	2.02296E+02	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1086	.000556	4.75E+03	114.71	65.95	2.18240E+02	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1087	.000344	4.75E+03	84.11	77.57	2.03710E+02	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1088	.000344	4.75E+03	109.59	67.61	2.15171E+02	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1089	.000467	4.75E+03	97.09	74.42	2.07416E+02	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1093	.000001	4.75E+03	80.97	92.54	3.16471E+02	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1094	.000001	4.75E+03	107.98	92.44	3.28515E+02	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1095	.000046	4.75E+03	92.69	82.53	3.14798E+02	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1096	.000046	4.75E+03	106.20	74.13	3.25301E+02	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1097	.000051	4.75E+03	96.20	82.12	3.15702E+02	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1098	.000051	4.75E+03	102.39	75.31	3.23156E+02	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1099	.000071	4.75E+03	94.62	79.99	3.18112E+02	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10
1060	1130	.001093	4.75E+03	109.15	71.53	6.60779E+01	3.69E-08	4.75E+03	3.69E-08	-4.60E+01	2.56E+01	2.42E-10

MODEL = CONTAM STEP = 1
PROCESSSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
1065	1075	.081426	2.06E+03	43.50	50.68	9.56785E+01	-2.06E+03	-2.91E-08	1.50E-08	-6.08E+01	6.60E-09	-1.28E+01
1065	1076	.081426	2.06E+03	43.50	50.68	9.56785E+01	-2.06E+03	-2.91E-08	1.50E-08	-6.08E+01	6.60E-09	-1.28E+01
1065	1077	.071248	2.06E+03	38.45	52.18	8.86105E+01	-2.06E+03	-2.91E-08	1.50E-08	-6.08E+01	6.60E-09	-1.28E+01
1065	1078	.071248	2.06E+03	38.45	52.18	8.86105E+01	-2.06E+03	-2.91E-08	1.50E-08	-6.08E+01	6.60E-09	-1.28E+01
1065	1079	.142823	2.06E+03	31.72	59.28	8.15390E+01	-2.06E+03	-2.91E-08	1.50E-08	-6.08E+01	6.60E-09	-1.28E+01
1065	1085	.014475	2.06E+03	19.75	71.87	1.94868E+02	-2.06E+03	-2.91E-08	1.50E-08	-6.08E+01	6.60E-09	-1.28E+01
1065	1086	.014935	2.06E+03	19.75	71.87	1.94868E+02	-2.06E+03	-2.91E-08	1.50E-08	-6.08E+01	6.60E-09	-1.28E+01
1065	1087	.011807	2.06E+03	16.72	73.52	1.91497E+02	-2.06E+03	-2.91E-08	1.50E-08	-6.08E+01	6.60E-09	-1.28E+01
1065	1088	.011807	2.06E+03	16.72	73.52	1.91497E+02	-2.06E+03	-2.91E-08	1.50E-08	-6.08E+01	6.60E-09	-1.28E+01
1065	1089	.009749	2.06E+03	13.17	76.83	1.88351E+02	-2.06E+03	-2.91E-08	1.50E-08	-6.08E+01	6.60E-09	-1.28E+01
1065	1095	.003857	2.06E+03	12.49	78.52	3.04636E+02	-2.06E+03	-2.91E-08	1.50E-08	-6.08E+01	6.60E-09	-1.28E+01
1065	1096	.003857	2.06E+03	12.49	78.52	3.04636E+02	-2.06E+03	-2.91E-08	1.50E-08	-6.08E+01	6.60E-09	-1.28E+01
1065	1097	.003091	2.06E+03	10.50	79.65	3.02460E+02	-2.06E+03	-2.91E-08	1.50E-08	-6.08E+01	6.60E-09	-1.28E+01
1065	1098	.003091	2.06E+03	10.50	79.65	3.02460E+02	-2.06E+03	-2.91E-08	1.50E-08	-6.08E+01	6.60E-09	-1.28E+01
1065	1099	.005161	2.06E+03	8.21	81.79	3.00478E+02	-2.06E+03	-2.91E-08	1.50E-08	-6.08E+01	6.60E-09	-1.28E+01
1073	1130	.000221	6.84E+02	73.34	41.20	1.41704E+02	0.	0.	6.84E+02	-1.30E+02	7.58E+01	1.40E+01
1074	1130	.000236	6.84E+02	73.83	43.04	1.45357E+02	0.	0.	6.84E+02	-1.30E+02	-7.58E+01	1.40E+01
1075	1076	.369758	5.17E+03	18.39	18.39	1.21300E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1077	.015740	5.17E+03	79.61	76.84	3.97649E+01	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1078	.055797	5.17E+03	35.66	24.69	1.17440E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1079	.088759	5.17E+03	54.68	53.71	8.14442E+01	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1086	.032622	5.17E+03	44.23	44.23	1.73884E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1087	.021545	5.17E+03	86.59	85.70	1.20736E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1088	.022966	5.17E+03	54.34	49.71	1.63571E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1089	.023828	5.17E+03	70.36	69.88	1.40104E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1096	.006480	5.17E+03	61.74	61.74	2.63104E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1097	.003043	5.17E+03	88.22	87.76	2.31442E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1098	.003832	5.17E+03	68.16	65.41	2.56469E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1099	.002172	5.17E+03	78.79	78.52	2.42110E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1130	.009373	5.17E+03	57.18	44.60	1.44173E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1076	1077	.055797	5.17E+03	35.66	24.69	1.17440E+02	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1076	1078	.015740	5.17E+03	79.61	76.84	3.97649E+01	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1076	1079	.088759	5.17E+03	54.68	53.71	8.14442E+01	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1076	1085	.032622	5.17E+03	44.23	44.23	1.73884E+02	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1076	1087	.022966	5.17E+03	54.34	49.31	1.63671E+02	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1076	1088	.021545	5.17E+03	86.59	85.70	1.20736E+02	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1076	1089	.023828	5.17E+03	70.36	69.88	1.40104E+02	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1076	1095	.006480	5.17E+03	61.74	61.74	2.63104E+02	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1076	1097	.003832	5.17E+03	68.16	65.41	2.56469E+02	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00

MODEL = CONTAM STEP = 1
PROCESSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
1076	1098	.000043	5.17E+03	88.22	87.76	2.31442E+02	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1076	1099	.000179	5.17E+03	78.79	78.52	2.42110E+02	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1076	1130	.000377	5.17E+03	54.59	45.97	1.47704E+02	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1077	1078	.061030	4.09E+03	41.95	41.95	9.70300E+01	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1077	1079	.093268	4.09E+03	57.97	73.98	4.83784E+01	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1077	1095	.001959	4.09E+03	85.70	86.59	1.20736E+02	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1077	1096	.023988	4.09E+03	49.31	54.34	1.63671E+02	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1077	1097	.019687	4.09E+03	61.96	61.96	1.47122E+02	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1077	1098	.010432	4.09E+03	78.04	83.81	1.23841E+02	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1077	1099	.000054	4.09E+03	87.76	88.22	2.31442E+02	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1077	1095	.014837	4.09E+03	65.41	68.16	2.56469E+02	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1077	1097	.002231	4.09E+03	73.69	73.69	2.46238E+02	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1077	1098	.000465	4.09E+03	83.68	86.72	2.33176E+02	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1077	1131	.000074	4.09E+03	51.92	51.62	1.55361E+02	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1078	1079	.037268	4.09E+03	57.97	73.98	4.83784E+01	-4.31E-08	3.04E+03	2.74E+03	-1.30E+02	-4.65E+01	-4.24E+01
1078	1095	.020088	4.09E+03	49.31	54.34	1.63671E+02	-4.31E-08	3.04E+03	2.74E+03	-1.30E+02	-4.65E+01	-4.24E+01
1078	1096	.001959	4.09E+03	85.70	86.59	1.20736E+02	-4.31E-08	3.04E+03	2.74E+03	-1.30E+02	-4.65E+01	-4.24E+01
1078	1097	.019687	4.09E+03	61.96	61.96	1.47122E+02	-4.31E-08	3.04E+03	2.74E+03	-1.30E+02	-4.65E+01	-4.24E+01
1078	1098	.010432	4.09E+03	78.04	83.81	1.23841E+02	-4.31E-08	3.04E+03	2.74E+03	-1.30E+02	-4.65E+01	-4.24E+01
1078	1095	.014837	4.09E+03	65.41	68.16	2.56469E+02	-4.31E-08	3.04E+03	2.74E+03	-1.30E+02	-4.65E+01	-4.24E+01
1078	1096	.000054	4.09E+03	87.76	88.22	2.31442E+02	-4.31E-08	3.04E+03	2.74E+03	-1.30E+02	-4.65E+01	-4.24E+01
1078	1097	.002231	4.09E+03	73.69	73.69	2.46238E+02	-4.31E-08	3.04E+03	2.74E+03	-1.30E+02	-4.65E+01	-4.24E+01
1078	1099	.000465	4.09E+03	83.68	86.72	2.33176E+02	-4.31E-08	3.04E+03	2.74E+03	-1.30E+02	-4.65E+01	-4.24E+01
1078	1130	.000177	4.09E+03	49.77	52.28	1.58284E+02	-4.31E-08	3.04E+03	2.74E+03	-1.30E+02	-4.65E+01	-4.24E+01
1079	1095	.015649	7.87E+03	69.88	70.36	1.40104E+02	0.	0.	7.87E+03	-1.30E+02	8.49E-09	-5.57E+01
1079	1096	.015649	7.87E+03	69.88	70.36	1.40104E+02	0.	0.	7.87E+03	-1.30E+02	8.49E-09	-5.57E+01
1079	1097	.000272	7.87E+03	83.81	78.04	1.23841E+02	0.	0.	7.87E+03	-1.30E+02	8.49E-09	-5.57E+01
1079	1098	.000272	7.87E+03	83.81	78.04	1.23841E+02	0.	0.	7.87E+03	-1.30E+02	8.49E-09	-5.57E+01
1079	1095	.001426	7.87E+03	78.52	78.79	2.42110E+02	0.	0.	7.87E+03	-1.30E+02	8.49E-09	-5.57E+01
1079	1096	.001426	7.87E+03	78.52	78.79	2.42110E+02	0.	0.	7.87E+03	-1.30E+02	8.49E-09	-5.57E+01
1079	1097	.000211	7.87E+03	86.72	83.68	2.33176E+02	0.	0.	7.87E+03	-1.30E+02	8.49E-09	-5.57E+01
1079	1098	.000211	7.87E+03	86.72	83.68	2.33176E+02	0.	0.	7.87E+03	-1.30E+02	8.49E-09	-5.57E+01
1083	1130	.000068	6.84E+02	80.41	25.89	2.43130E+02	0.	0.	6.84E+02	-2.44E+02	7.58E+01	1.40E+01
1084	1130	.000159	6.84E+02	80.51	27.04	2.45466E+02	0.	0.	6.84E+02	-2.44E+02	-7.58E+01	1.40E+01
1085	1096	.063758	5.17E+03	18.39	18.39	1.31300E+02	6.93E-08	-4.90E+03	1.63E+03	-2.44E+02	6.57E+01	-7.50E+00
1085	1097	.015749	5.17E+03	79.61	76.84	7.97649E+01	6.93E-08	-4.90E+03	1.63E+03	-2.44E+02	6.57E+01	-7.50E+00
1085	1098	.055707	5.17E+03	35.66	24.69	1.17440E+02	6.93E-08	-4.90E+03	1.63E+03	-2.44E+02	6.57E+01	-7.50E+00

MODEL = CONTAM STEP = 1
PROCESSSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
1085	1099	.068759	5.17E+03	54.68	53.71	9.14442E+01	6.93E-08	-4.90E+03	1.63E+03	-2.44E+02	6.57E+01	-7.50E+00
1085	1096	.032522	5.17E+03	44.23	44.23	1.73384E+02	6.93E-08	-4.90E+03	1.63E+03	-2.44E+02	6.57E+01	-7.50E+00
1085	1097	.001545	5.17E+03	86.59	85.70	1.20736E+02	6.93E-08	-4.90E+03	1.63E+03	-2.44E+02	6.57E+01	-7.50E+00
1085	1098	.022966	5.17E+03	54.34	49.31	1.63671E+02	6.93E-08	-4.90E+03	1.63E+03	-2.44E+02	6.57E+01	-7.50E+00
1085	1099	.027828	5.17E+03	70.76	69.88	1.40104E+02	6.93E-08	-4.90E+03	1.63E+03	-2.44E+02	6.57E+01	-7.50E+00
1085	1137	.000106	5.17E+03	71.38	29.52	2.44767E+02	6.93E-08	-4.90E+03	1.63E+03	-2.44E+02	6.57E+01	-7.50E+00
1086	1087	.058797	5.17E+03	35.66	24.69	1.17440E+02	-3.35E-08	4.90E+03	1.63E+03	-2.44E+02	-6.56E+01	-7.50E+00
1086	1088	.015740	5.17E+03	79.61	76.84	3.97649E+01	-3.35E-08	4.90E+03	1.63E+03	-2.44E+02	-6.56E+01	-7.50E+00
1086	1089	.068759	5.17E+03	54.68	53.71	8.14442E+01	-3.35E-08	4.90E+03	1.63E+03	-2.44E+02	-6.56E+01	-7.50E+00
1086	1096	.032522	5.17E+03	44.23	44.23	1.73384E+02	-3.35E-08	4.90E+03	1.63E+03	-2.44E+02	-6.56E+01	-7.50E+00
1086	1097	.022966	5.17E+03	54.34	49.31	1.63671E+02	-3.35E-08	4.90E+03	1.63E+03	-2.44E+02	-6.56E+01	-7.50E+00
1086	1098	.001545	5.17E+03	86.59	85.70	1.20736E+02	-3.35E-08	4.90E+03	1.63E+03	-2.44E+02	-6.56E+01	-7.50E+00
1086	1099	.027828	5.17E+03	70.76	69.88	1.40104E+02	-3.35E-08	4.90E+03	1.63E+03	-2.44E+02	-6.56E+01	-7.50E+00
1086	1137	.000106	5.17E+03	69.72	29.41	2.46863E+02	-3.35E-08	4.90E+03	1.63E+03	-2.44E+02	-6.56E+01	-7.50E+00
1087	1088	.061900	4.99E+03	41.95	41.95	9.30010E+01	4.31E-08	-3.04E+03	2.74E+03	-2.44E+02	4.65E+01	-4.24E+01
1087	1089	.097268	4.99E+03	57.97	73.98	4.83794E+01	4.31E-08	-3.04E+03	2.74E+03	-2.44E+02	4.65E+01	-4.24E+01
1087	1095	.001950	4.99E+03	85.70	86.59	1.20736E+02	4.31E-08	-3.04E+03	2.74E+03	-2.44E+02	4.65E+01	-4.24E+01
1087	1096	.022988	4.99E+03	49.31	54.34	1.63671E+02	4.31E-08	-3.04E+03	2.74E+03	-2.44E+02	4.65E+01	-4.24E+01
1087	1098	.019607	4.99E+03	61.96	61.96	1.47122E+02	4.31E-08	-3.04E+03	2.74E+03	-2.44E+02	4.65E+01	-4.24E+01
1087	1099	.010172	4.99E+03	78.04	83.81	1.23841E+02	4.31E-08	-3.04E+03	2.74E+03	-2.44E+02	4.65E+01	-4.24E+01
1087	1137	.000110	4.99E+03	67.50	33.83	2.51390E+02	4.31E-08	-3.04E+03	2.74E+03	-2.44E+02	4.65E+01	-4.24E+01
1088	1089	.097268	4.99E+03	57.97	73.98	4.83794E+01	-4.31E-08	3.04E+03	2.74E+03	-2.44E+02	-4.65E+01	-4.24E+01
1088	1095	.001950	4.99E+03	85.70	86.59	1.20736E+02	-4.31E-08	3.04E+03	2.74E+03	-2.44E+02	-4.65E+01	-4.24E+01
1088	1096	.022988	4.99E+03	49.31	54.34	1.63671E+02	-4.31E-08	3.04E+03	2.74E+03	-2.44E+02	-4.65E+01	-4.24E+01
1088	1097	.019607	4.99E+03	61.96	61.96	1.47122E+02	-4.31E-08	3.04E+03	2.74E+03	-2.44E+02	-4.65E+01	-4.24E+01
1088	1099	.010172	4.99E+03	78.04	83.81	1.23841E+02	-4.31E-08	3.04E+03	2.74E+03	-2.44E+02	-4.65E+01	-4.24E+01
1088	1137	.000109	4.99E+03	66.28	34.72	2.53335E+02	-4.31E-08	3.04E+03	2.74E+03	-2.44E+02	-4.65E+01	-4.24E+01
1089	1095	.015640	7.87E+03	69.88	70.36	1.40104E+02	0.	0.	7.87E+03	-2.44E+02	9.38E-09	-5.57E+01
1089	1096	.015649	7.87E+03	69.88	70.76	1.40104E+02	0.	0.	7.87E+03	-2.44E+02	9.38E-09	-5.57E+01
1089	1097	.005272	7.87E+03	83.81	78.04	1.23841E+02	0.	0.	7.87E+03	-2.44E+02	9.38E-09	-5.57E+01
1089	1098	.005272	7.87E+03	83.81	78.04	1.23841E+02	0.	0.	7.87E+03	-2.44E+02	9.38E-09	-5.57E+01
1089	1137	.000117	7.87E+03	64.27	35.35	2.53402E+02	0.	0.	7.87E+03	-2.44E+02	9.38E-09	-5.57E+01
1093	1136	.000026	6.84E+02	83.40	20.05	3.52392E+02	0.	0.	6.84E+02	-3.58E+02	7.58E+01	1.40E+01
1094	1137	.000020	6.84E+02	83.43	20.78	3.54077E+02	0.	0.	6.84E+02	-3.58E+02	-7.58E+01	1.40E+01
1095	1096	.059758	5.17E+03	18.79	18.79	1.31300E+02	6.93E-08	-4.90E+03	1.63E+03	-3.58E+02	6.57E+01	-7.50E+00
1095	1097	.015740	5.17E+03	79.61	76.84	3.97649E+01	6.93E-08	-4.90E+03	1.63E+03	-3.58E+02	6.57E+01	-7.50E+00

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB2 (RECIEVING SHUTTLE))

PROCESSING OPERATION DATA

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
1095	1098	.055797	5.17E+03	35.66	24.69	1.17440E+02	6.93E-08	-4.90E+03	1.63E+03	-3.58E+02	6.57E+01	-7.50E+00
1095	1099	.088759	5.17E+03	54.68	53.71	3.14442E+01	6.93E-08	-4.90E+03	1.63E+03	-3.58E+02	6.57E+01	-7.50E+00
1095	1130	.000037	5.17E+03	77.23	22.17	3.53592E+02	6.93E-08	-4.90E+03	1.63E+03	-3.58E+02	6.57E+01	-7.50E+00
1096	1097	.055797	5.17E+03	35.66	24.69	1.17440E+02	-3.35E-08	4.90E+03	1.63E+03	-3.58E+02	-6.56E+01	-7.50E+00
1096	1098	.010740	5.17E+03	79.61	76.84	3.97649E+01	-3.35E-08	4.90E+03	1.63E+03	-3.58E+02	-6.56E+01	-7.50E+00
1096	1099	.088759	5.17E+03	54.68	53.71	3.14442E+01	-3.35E-08	4.90E+03	1.63E+03	-3.58E+02	-6.56E+01	-7.50E+00
1096	1130	.000036	5.17E+03	76.05	22.74	3.55047E+02	-3.35E-08	4.90E+03	1.63E+03	-3.58E+02	-6.56E+01	-7.50E+00
1097	1098	.061001	4.09E+03	41.95	41.95	9.30110E+01	4.31E-08	-3.04E+03	2.74E+03	-3.58E+02	4.65E+01	-4.24E+01
1097	1099	.093268	4.09E+03	57.97	73.98	4.83784E+01	4.31E-08	-3.04E+03	2.74E+03	-3.58E+02	4.65E+01	-4.24E+01
1097	1130	.000042	4.09E+03	74.40	26.27	3.58560E+02	4.31E-08	-3.04E+03	2.74E+03	-3.58E+02	4.65E+01	-4.24E+01
1098	1099	.093268	4.09E+03	57.97	73.98	4.83784E+01	-4.31E-08	3.04E+03	2.74E+03	-3.58E+02	-4.65E+01	-4.24E+01
1098	1130	.000041	4.09E+03	73.48	26.55	3.59577E+02	-4.31E-08	3.04E+03	2.74E+03	-3.58E+02	-4.65E+01	-4.24E+01
1099	1130	.000045	7.87E+03	72.17	27.44	3.59306E+02	0.	0.	7.87E+03	-3.58E+02	1.03E-08	-5.57E+01

3.5.3 Spacelab-3/Orbiter Data Matrices - Figure 7 depicts the computer drawing of the modeled Spacelab-3 configuration indicating the nodal numbering assignments assigned to the primary Spacelab surfaces. (The Orbiter nodal assignments are depicted in Figure 4.) This is followed by a summary listing and description of the Spacelab-3/Orbiter nodal surfaces. The ensuing computer printouts contain the Input Data, Viewfactor Data, and Geometric Relationship Data matrices for theSpacelab-3/Orbiter configuration.

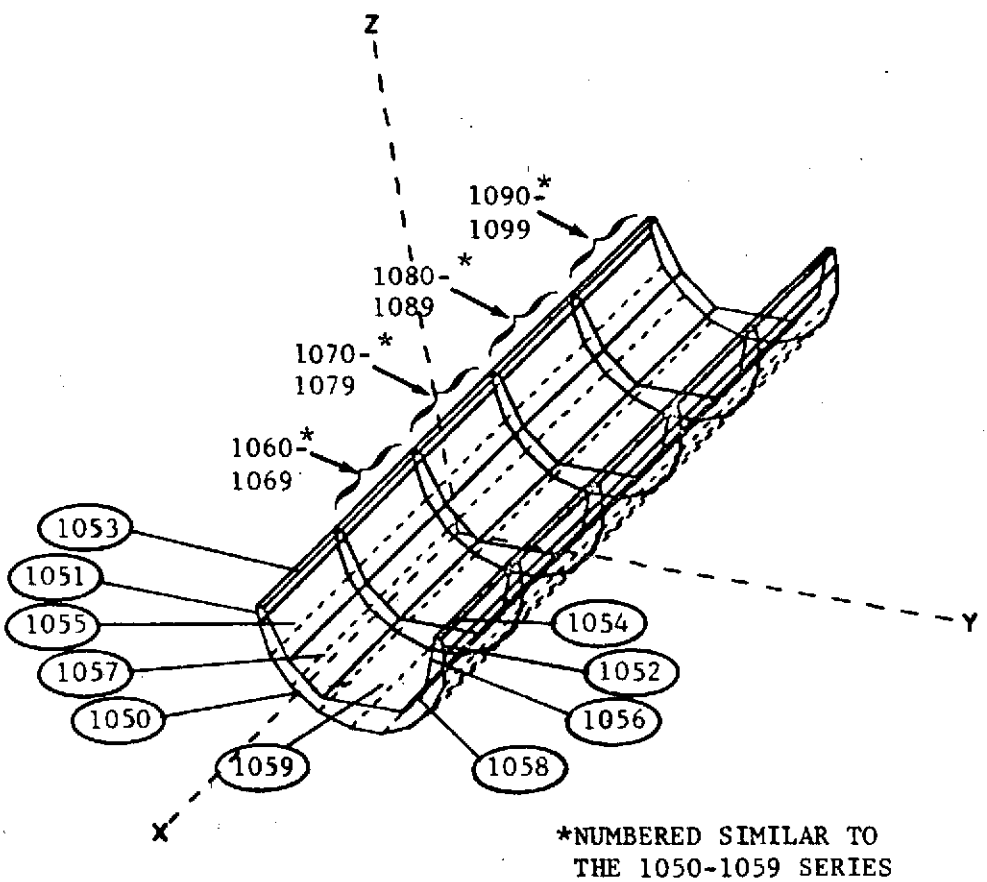

Figure 7. Primary Spacelab-3 Nodal Surface Number Assignments

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
PROCESSING OPERATION DATA

NODE	RCS	AREA	ALPH	EMISS	SURF. TYPE	ACTIVE	--------COMMENTS----------
145	BODY	2.687E+03	0.	0.	TRAPEZOID	TOP	+Y REAR SIDE TAPER
146	BODY	2.687E+03	0.	0.	TRAPEZOID	BOTTOM	- Y. REAR SIDE TAPER...
707	BODY	2.827E+01	0.	0.	DISC	BOTTOM	......JULY 8 EVAP..3 IN. RAD.
708	BODY	2.827E+01	0.	0.	DISC	TOP	......JULY 8 EVAP..3 IN. RAD.
147	BODY	1.858E+04	0.	0.	PARABOLOID	OUTSID	TOP ENGIN
148	BODY	1.858E+04	0.	0.	PARABOLOID	OUTSID	+ Y ENGIN
149	BODY	1.858E+04	0.	0.	PARABOLOID	OUTSID	-Y ENGIN...
21	BODY	3.711E+03	0.	0.	DISC	TOP	...-Y OMS SEALER ...
21	BODY	3.711E+03	0.	0.	DISC	TOP	..+Y OMS SEALER ...
722	BODY	2.573E+04	0.	0.	RECTANGLE	BOTTOM	BACK RECT 7.350FG
23	BODY	1.674E+04	0.	0.	DISC	TOP	REAR END HALF DISK
407	BODY	2.827E+01	0.	0.	DISC	TOP	BACK SIDE EVAPORAT, UPDATED
15	BODY	2.827E+01	0.	0.	DISC	TOP	REAR END EVAPORATOR
13	BODY	1.887E+04	0.	0.	TRAPEZOID	BOTTOM	....LEFT FRONT WING A ...
11	BODY	4.045E+04	0.	0.	TRAPEZOID	TOP	......LEFT MIDDLE WING BACK.B
141	BODY	2.589E+04	0.	0.	RECTANGLE	TOP	BS INNER WING
12	BODY	4.462E+04	0.	0.	RECTANGLE	TOP	..... LEFT BACK RECT. WING C
142	BODY	1.474E+04	0.	0.	RECTANGLE	TOP	INNER WING C
17	BODY	1.012E+04	0.	0.	TRAPEZOID	TOP	..... LEFT WING TAIL EDGE
1	BODY	1.878E+04	0.	0.	TRAPEZOID	TOP	...FRONT WING TRIANGLE PT.A.58
2	BODY	4.045E+04	0.	0.	TRAPEZOID	BOTTOM	.....MIDDLE WING TRAP, PT B ..
143	BODY	2.589E+04	0.	0.	RECTANGLE	BOTTOM	B +Y RECTANGLE WING
3	BODY	4.462E+04	0.	0.	RECTANGLE	BOTTOM	.... BACK WING RECT. PTC .129
144	BODY	1.474E+04	0.	0.	RECTANGLE	BOTTOM	INNER WING C RECT
4	BODY	1.012E+04	0.	0.	TRAPEZOID	BOTTOM	...WING TAIL FLAP PT 1453,1507
150	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
151	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
152	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
153	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
154	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
155	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
156	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
157	BODY	2.804E+04	-0.	-0.	CYLINDER	INSIDE	BAY AREA CYLINDER
140	BODY	3.269E+04	-0.	-0.	DISC	TOP	END BAY AREA DISK
139	BODY	3.269E+04	-0.	-0.	DISC	TOP	FRONT BAY AREA DISK
122	BODY	1.527E+04	-0.	-0.	PARABOLOID	OUTSID	VERY NOSE CONE
123	BODY	1.527E+04	-0.	-0.	PARABOLOID	OUTSID	VERY NOSE CONE
124	BODY	1.527E+04	-0.	-0.	PARABOLOID	OUTSID	VERY NOSE CONE
125	BODY	1.527E+04	-0.	-0.	PARABOLOID	OUTSID	VERY NOSE CONE
720	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
721	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
722	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
723	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
724	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
725	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
726	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
PROCESSING OPERATION DATA

MODE	BCS	AREA	ALPH	EMISS	SURF. TYPE	ACTIVE	--------COMMENTS----------
327	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
328	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
329	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
330	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
331	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
332	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
333	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
334	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
335	BODY	4.673E+03	-0.	-0.	CYLINDER	OUTSID	NOSE CYLINDER
340	BODY	3.838E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK
341	BODY	4.022E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK
342	BODY	4.197E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK
343	BODY	4.366E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK
344	BODY	3.838E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK
345	BODY	4.022E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK
346	BODY	4.197E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK
347	BODY	4.366E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK
348	BODY	3.838E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK
349	BODY	4.022E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK
350	BODY	4.197E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK
351	BODY	4.366E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK
352	BODY	3.838E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK
353	BODY	4.022E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK
354	BODY	4.197E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK
355	BODY	4.366E+03	-0.	-0.	PARABOLOID	OUTSID	HOOD PARTIAL BACK
360	BODY	1.593E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW
361	BODY	1.825E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW
362	BODY	2.031E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW
363	BODY	2.218E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW
364	BODY	1.593E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW
365	BODY	1.825E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW
366	BODY	2.031E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW
367	BODY	2.218E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW
368	BODY	1.593E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW
369	BODY	1.825E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW
370	BODY	2.031E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW
371	BODY	2.218E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW
372	BODY	1.593E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW
373	BODY	1.825E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW
374	BODY	2.031E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW
375	BODY	2.218E+03	-0.	-0.	PARABOLOID	OUTSID	WINDOW
401	BODY	4.611E+04	.900	.900	RECTANGLE	BOTTOM	BODY BOTTOM (FRT) 4 1
402	BODY	1.439E+05	.900	.900	RECTANGLE	BOTTOM	BODY BOTTOM (REAR) 402
182	BODY	3.971E+04	-0.	-0.	CYLINDER	OUTSID	OMSPODC1
172	BODY	3.913E+04	-0.	-0.	CYLINDER	OUTSID	OMSPODC2
781	BODY	2.470E+04	0.	0.	CYLINDER	INSIDE	.....Y SIDE DOOR.....

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
PROCESSSING OPERATION DATA

NODE	RCS	AREA	ALPH	EMISS	SURF. TYPE	ACTIVE	--------COMMENTS----------
782	BODY	2.470E+04	0.	0.	CYLINDER	OUTSID	.....+Y SIDE DOOR.....
783	BODY	2.470E+04	0.	0.	CYLINDER	INSIDE	.....+Y SIDE DOOR.....
784	BODY	2.470E+04	0.	0.	CYLINDER	OUTSID	.....+Y SIDE DOOR.....
785	BODY	2.470E+04	0.	0.	CYLINDER	INSIDE	.....+Y SIDE DOOR.....
786	BODY	2.470E+04	0.	0.	CYLINDER	OUTSID	.....+Y SIDE DOOR.....
787	BODY	2.470E+04	0.	0.	CYLINDER	INSIDE	.....+Y SIDE DOOR.....
788	BODY	2.470E+04	0.	0.	CYLINDER	OUTSID	.....+Y SIDE DOOR.....
791	BODY	2.413E+04	0.	0.	CYLINDER	INSIDE	... -Y SIDE DOOR....
792	BODY	2.413E+04	0.	0.	CYLINDER	OUTSID	... -Y SIDE DOOR....
793	BODY	2.413E+04	0.	0.	CYLINDER	INSIDE	... -Y SIDE DOOR....
794	BODY	2.413E+04	0.	0.	CYLINDER	OUTSID	... -Y SIDE DOOR....
795	BODY	2.413E+04	0.	0.	CYLINDER	INSIDE	... -Y SIDE DOOR....
796	BODY	2.413E+04	0.	0.	CYLINDER	OUTSID	... -Y SIDE DOOR....
797	BODY	2.413E+04	0.	0.	CYLINDER	INSIDE	... -Y SIDE DOOR....
798	BODY	2.413E+04	0.	0.	CYLINDER	OUTSID	... -Y SIDE DOOR....
301	BODY	2.994E+04	0.	0.	TRAPEZOID	TOP	+Y SIDE FRONT TRAPOZOID
305	BODY	4.997E+04	.900	.900	RECTANGLE	TOP	BODY SIDE (MIDDLE-PORT) 305
306	BODY	5.155E+04	.900	.900	RECTANGLE	TOP	BODY SIDE (BACK-PORT) 306
311	BODY	2.994E+04	0.	0.	TRAPEZOID	BOTTOM	-Y SIDE FRONT TRAPOZOID
315	BODY	3.678E+04	.900	.900	RECTANGLE	TOP	BODY SIDE (MIDDLE-STBD) 315
316	BODY	3.795E+04	.900	.900	RECTANGLE	TOP	BODY SIDE (BACK-STBD) 316
202	BODY	3.685E+04	.900	.900	CYLINDER	OUTSID	BODY TOP (STBD-REAR) 202
212	BODY	3.685E+04	.900	.900	CYLINDER	OUTSID	BODY TOP (PORT-REAR) 212
380	BODY	2.805E+04	.900	.900	TRAPEZOID	TOP	VERTICAL FIN (PORT) 20
385	BODY	2.054E+04	.900	.900	TRAPEZOID	TOP	VERTICAL FIN (PORT-AFT) 20
390	BODY	2.305E+04	.900	.900	TRAPEZOID	BOTTOM	VERTICAL FIN (STBD) 20
395	BODY	2.054E+04	.900	.900	TRAPEZOID	BOTTOM	VERTICAL FIN (STBD-AFT) 20
705	BODY	2.827E+01	0.	0.	DISC	TOP	..MOST FORWARD EVAPORATOR.....
700	BODY	1.590E+03	0.	0.	DISC	BOTTOM	.....SUPER ENGINS (OMS LOCAT
701	BODY	1.590E+03	0.	0.	DISC	TOP	.....SUPER ENGINS (OMS LOCAT
702	BODY	1.590E+03	0.	0.	DISC	BOTTOM	.....SUPER ENGINS (OMS LOCAT
703	BODY	1.590E+03	0.	0.	DISC	TOP	.....SUPER ENGINS (OMS LOCAT
24	BODY	2.832E+01	0.	0.	DISC	BOTTOM	...BACK RCS ...LOOKING +/- Y.(
25	BODY	2.832E+01	0.	0.	DISC	TOP	...BACK RCS ...LOOKING +/- Y.(
18	BODY	2.826E+01	0.	0.	DISC	BOTTOM	...FRONT RCS..LOOKING +/-Y AT
19	BODY	2.826E+01	0.	0.	DISC	TOP	...FRONT RCS..LOOKING +/-Y AT
26	BODY	2.832E+01	0.	0.	DISC	BOTTOM	...BACK RCS LOOKING +/- Z...7/
27	BODY	2.832E+01	0.	0.	DISC	TOP	...BACK RCS LOOKING +/- Z...7/
16	BODY	2.827E+01	0.	0.	DISC	BOTTOM	...MIDDLE EVAP. LOOKING +/- Y.
17	BODY	2.827E+01	0.	0.	DISC	TOP	...MIDDLE EVAP. LOOKING +/- Y.
399	BODY	4.152E+03	.900	.900	RECTANGLE	TOP	VERT. FIN LDG. EDGE 2
1050	SPLAB	2.822E+04	0.	0.	CYLINDER	OUTSID	PALLET1 BOTTOM CYLINDER X= 64
1051	SPLAB	1.596E+03	0.	0.	RECTANGLE	TOP	-Y PALLET1 OUTSIDE STRIP SL3
1052	SPLAB	1.596E+03	0.	0.	RECTANGLE	TOP	+Y PALLET1 OUTSIDE STRIP SL3
1053	SPLAB	6.940E+02	0.	0.	RECTANGLE	TOP	-Y PALLET1 TOP STRIP X=645.2 T
1054	SPLAB	6.940E+02	0.	0.	RECTANGLE	TOP	+Y PALLET1 TOP STRIP ,X= 645.

MODEL = CONTAM STEP = 1
PROCESSSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

NODE	BOS	AREA	ALPH	EMISS	SURF. TYPE	ACTIVE	--------COMMENTS----------
1055	SPLAB	5.166E+03	0.	0.	RECTANGLE	TOP	-Y INSIDE TOP PANNEL1 ,X=645.
1056	SPLAB	5.166E+03	0.	0.	RECTANGLE	TOP	+Y INSIDE TOP PANNEL1,X=645.2
1057	SPLAB	4.093E+03	0.	0.	RECTANGLE	TOP	-Y INSIDE BOTTOM PANNEL1, X=6
1058	SPLAB	4.093E+03	0.	0.	RECTANGLE	TOP	+Y INSIDE BOTTOM PANNEL1,X 64
1059	SPLAB	7.866E+03	0.	0.	RECTANGLE	TOP	BOTTOM PANNEL 1 X=645.2 TO759
1060	SPLAB	2.922E+04	0.	0.	CYLINDER	OUTSID	PALLET2 BOTTOM CYLINDER X= 75
1061	SPLAB	1.596E+03	0.	0.	RECTANGLE	TOP	-Y PALLET2 OUTSIDE STRIP SL3
1062	SPLAB	1.596E+03	0.	0.	RECTANGLE	TOP	+Y PALLET2 OUTSIDE STRIP SL3
1063	SPLAB	6.840E+02	0.	0.	RECTANGLE	TOP	-Y PALLET2 TOP STRIP X=759.2 T
1064	SPLAB	6.840E+02	0.	0.	RECTANGLE	TOP	+Y PALLET2 TOP STRIP ,X= 759.
1065	SPLAB	5.166E+03	0.	0.	RECTANGLE	TOP	-Y INSIDE TOP PANNEL2,X=759.2
1066	SPLAB	5.166E+03	0.	0.	RECTANGLE	TOP	+Y INSIDE TOP PANNEL2,X=759.2
1067	SPLAB	4.093E+03	0.	0.	RECTANGLE	TOP	-Y INSIDE BOTTOM PANNEL2, X=7
1068	SPLAB	4.093E+03	0.	0.	RECTANGLE	TOP	+Y INSIDE BOTTOM PANNEL2,X 75
1069	SPLAB	7.866E+03	0.	0.	RECTANGLE	TOP	PALLET2 BOTTOM,X= 759.2 TO 87
1070	SPLAB	2.922E+04	0.	0.	CYLINDER	OUTSID	PALLET3 BOTTOM CYLINDER X= 87
1071	SPLAB	1.596E+03	0.	0.	RECTANGLE	TOP	-Y PALLET1 OUTSIDE STRIP SL2
1072	SPLAB	1.596E+03	0.	0.	RECTANGLE	TOP	+Y PALLET1 OUTSIDE STRIP SL2
1073	SPLAB	6.840E+02	0.	0.	RECTANGLE	TOP	-Y PALLET3 TOP STRIP X=873.2 T
1074	SPLAB	6.840E+02	0.	0.	RECTANGLE	TOP	+Y PALLET3 TOP STRIP ,X= 873.
1075	SPLAB	5.166E+03	0.	0.	RECTANGLE	TOP	-Y INSIDE TOP PANNEL3 ,X=873.
1076	SPLAB	5.166E+03	0.	0.	RECTANGLE	TOP	+Y INSIDE TOP PANNEL3,X=873.2
1077	SPLAB	4.093E+03	0.	0.	RECTANGLE	TOP	-Y INSIDE BOTTOM PANNEL3, X=8
1078	SPLAB	4.093E+03	0.	0.	RECTANGLE	TOP	+Y INSIDE BOTTOM PANNEL3,X 87
1079	SPLAB	7.866E+03	0.	0.	RECTANGLE	TOP	...BOTTOM PANNEL3 ,X=873.2 TO
1080	SPLAB	2.922E+04	0.	0.	CYLINDER	OUTSID	PALLET4 BOTTOM CYLINDER X= 98
1081	SPLAB	1.596E+03	0.	0.	RECTANGLE	TOP	-Y PALLET4 OUTSIDE STRIP SL3
1082	SPLAB	1.596E+03	0.	0.	RECTANGLE	TOP	+Y PALLET4 OUTSIDE STRIP SL3
1083	SPLAB	6.840E+02	0.	0.	RECTANGLE	TOP	-Y PALLET4 TOP STRIP X=987.2 T
1084	SPLAB	6.840E+02	0.	0.	RECTANGLE	TOP	+Y PALLET4 TOP STRIP ,X= 987.
1085	SPLAB	5.166E+03	0.	0.	RECTANGLE	TOP	-Y INSIDE TOP PANNEL4,X=987.2
1086	SPLAB	5.166E+03	0.	0.	RECTANGLE	TOP	+Y INSIDE TOP PANNEL4,X=987.2
1087	SPLAB	4.093E+03	0.	0.	RECTANGLE	TOP	-Y INSIDE BOTTOM PANNEL4, X=9
1088	SPLAB	4.093E+03	0.	0.	RECTANGLE	TOP	+Y INSIDE BOTTOM PANNEL4,X 98
1089	SPLAB	7.866E+03	0.	0.	RECTANGLE	TOP	PALLET4 BOTTOM,X= 987.2 TO 11
1090	SPLAB	2.922E+04	0.	0.	CYLINDER	OUTSID	PALLET5 BOTTOM CYLINDER X= 11
1091	SPLAB	1.596E+03	0.	0.	RECTANGLE	TOP	-Y PALLET5 OUTSIDE STRIP
1092	SPLAB	1.596E+03	0.	0.	RECTANGLE	TOP	+Y PALLET5 OUTSIDE STRIP
1093	SPLAB	6.840E+02	0.	0.	RECTANGLE	TOP	-Y PALLET5 TOP STRIP X=1101.2
1094	SPLAB	6.840E+02	0.	0.	RECTANGLE	TOP	+Y PALLET5 TOP STRIP ,X= 1101
1095	SPLAB	5.166E+03	0.	0.	RECTANGLE	TOP	-Y INSIDE TOP PANNEL5,X=1101.
1096	SPLAB	5.166E+03	0.	0.	RECTANGLE	TOP	+Y INSIDE TOP PANNEL5,X=1101.
1097	SPLAB	4.093E+03	0.	0.	RECTANGLE	TOP	-Y INSIDE BOTTOM PANNEL5, X=1
1098	SPLAB	4.093E+03	0.	0.	RECTANGLE	TOP	+Y INSIDE BOTTOM PANNEL5,X 11
1099	SPLAB	7.866E+03	0.	0.	RECTANGLE	TOP	PALLET 5 BOTTOM,X=1011.2 TO 12

SPACELAB-3 INPUT DATA MATRIX

The following pages contain the input data computer printouts for the Spacelab-3/Orbiter configuration.

MODEL = CONTAM
SUBFACE DATA INPUT BLOCK

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

```
INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  HEADER      SURFACE DATA                                                                    72                AA
                  T       ICSN=50                                                                             73                AA
                        TX=0., TY=0., TZ=0.                                                                   74                AA
                        ROTX=0., ROTY=0., ROTZ=0.                                                             75                AA
                  I       ICSN    =          1                                                                76                AA
                          TX=810.,TY=0.,TZ=0.                                                                  77                AA
                          ROTZ=-180.,ROTY=0.,ROTX=0.                                                           78                AA
                  I       ICSN    =          2                                                                79                AA
                          TX      =   -5.0000000000E+02                                                       80                AA
                          TY      =    0.                                                                     81                AA
                          TZ      =    0.                                                                     82                AA
                          ROTZ    = -180.0000                                                                 83                AA
                          ROTY    =   -0.                                                                     84                AA
                          ROTX    =    0.                                                                     85                AA
                  I       ICSN    =          3                                                                86                AA
                          TX      =    8.0000000000E+02                                                       87                AA
                          TY      =    0.                                                                     88                AA
                          TZ      =    0.                                                                     89                AA
                          ROTZ    =  -90.0000                                                                 90                AA
                          ROTY    =   -0.                                                                     91                AA
                          ROTX    =   90.0000                                                                 92                AA
                  I       ICSN    =          4                                                                93                AA
                          TX      =    4.3000000000E+02                                                       94                AA
                          TY      =    6.2900000000E+01                                                       95                AA
                          TZ      =    2.4000000000E+01                                                       96                AA
                          ROTZ    =   79.7000                                                                 97                AA
                          ROTY    =   41.0300                                                                 98                AA
                          ROTX    =    0.                                                                     99                AA
                  I       ICSN    =          5                                                               100                AA
                          TX      =    4.3000000000E+02                                                      101                AA
                          TY      =   -6.2900000000E+01                                                      102                AA
                          TZ      =    2.4000000000E+01                                                      103                AA
                          ROTZ    =  100.3000                                                                104                AA
                          ROTY    =  -41.0300                                                                105                AA
                          ROTX    =    0.                                                                    106                AA
                  I     ICSN=   6                                                                           107                AA
                        TX=-195.                                                                            108                AA
                        TY=0.                                                                               109                AA
                        TZ=14.                                                                              110                AA
                           ROTX=0.,ROTY=90.,ROTZ=0.                                                         111                AA
                  I        ICSN=7                                                                           112                AA
                           TX=-116.,TY=0.,TZ=14.                                                            113                AA
                           ROTX=0.,ROTY=90.,ROTZ=0.                                                         114                AA
                  I     ICSN=8                                                                              115                AA
                        TX=-116.,TY=0.,TZ=14.                                                               116                AA
                           ROTX=0.,ROTY=90.,ROTZ=0.                                                         117                AA
                  I     ICSN=9                                                                              118                AA
                        TX=156.,TY=0.,TZ=14.                                                                119                AA
                           ROTX=0.,ROTY=-90., ROTZ=0.                                                       120                AA
                  I     ICSN=10                                                                             121                AA
                        TX=120.,TY=0.,TZ=14.                                                                122                AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                    ROTX=0.,ROTY=90.,ROTZ=0.                                                                          123          AA
                I   ICSN = 11                                                                                         124          AA
                    TX=-470.,TY=-78.14,TZ=65.56                                                                       125          AA
                    ROTX=0.,ROTY=90.,ROTZ=0.                                                                          126          AA
                I   ICSN=12                                                                                           127          AA
                    TX=-470.,TY=+78.14,TZ=65.56                                                                       128          AA
                    ROTX=0., ROTY=90.0,ROTZ=0.                                                                        129          AA
                I   ICSN=13                                                                                           130          AA
                    TX =-700.,TY=00.,TZ=50.                                                                           131          AA
                    ROTX=0.0,ROTY=-80.,ROTZ=0.                                                                        132          AA
                I   ICSN=14                                                                                           133          AA
                    TX=-717.,TY=0.0,TZ=-50.                                                                           134          AA
                    ROTX=0.0,ROTY=-80.,ROTZ=0.                                                                        135          AA
                I     ICSN=15                                                                                         136          AA
                      TX=-711.,TY=0.0,TZ=0.0                                                                          137          AA
                      ROTX=0.0,  ROTY=-97.35,  ROTZ=0.0                                                               138          AA
                I     ICSN=16                                                                                         139          AA
                      TX=-705.,TY=88.,TZ=70.5                                                                         140          AA
                      ROTX=0.,ROTY=-74.183,ROTZ=12.241                                                                141          AA
                I     ICSN=17                                                                                         142          AA
                      TX=-705.,TY=-88.,TZ=70.5                                                                        143          AA
                      ROTX=0.,ROTY=-74.183,ROTZ=12.241                                                                144          AA
                I     ICSN=20                                                                                         145          AA
                      TX=0.,TY=102.,TZ=0.                                                                             146          AA
                      ROTX=-5.,ROTY=0.,ROTZ=0.                                                                        147          AA
                I     ICSN=21                                                                                         148          AA
                      TX=0.,TY=-102.,TZ=0.                                                                            149          AA
                      ROTX=5.,ROTY=0.,ROTZ=0.                                                                         150          AA
                BOS       BODY                                                                                        151          AA
                S   SURF=145,TYPE=TRAP,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                              152          AA
                    P1=-698.,102.,0.                                                                                  153          AA
                    P2=-698.,102.,-125.                                                                               154          AA
                    P3=-728.,102.,-125.                                                                               155          AA
                    P4=-711.,102.,0.                                                                                  156          AA
                    PROP=0.,0.                                                                                        157          AA
                    COM=* +Y REAR SIDE TAPER*                                                                         158          AA
                S   SURF=146,TYPE=TRAP,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                                           159          AA
                    P1=-698.,-102.,0.                                                                                 160          AA
                    P2=-698.,-102.,-125.                                                                              161          AA
                    P3=-728.,-102.,-125.                                                                              162          AA
                    P4=-711.,-102.,0.                                                                                 163          AA
                    PROP=0.,0.                                                                                        164          AA
                    COM= * - Y. REAR SIDE TAPER...*                                                                   165          AA
                S     SURFN=707,TYPE=DISC,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                                          166          AA
                      P1=218.,104.,-47.                                                                               167          AA
                      P2=218.,104.,-50.                                                                               168          AA
                      P3=215.,104.,-47.                                                                               169          AA
                      P4=215.,104.,-47.                                                                               170          AA
                      PROP=0.,0.                                                                                      171          AA
                      COM=*.....JULY 8 EVAP..3 IN. RAD. UP FRONT CLOSE UNDER WING*                                    172          AA
                S   SURF=147,TYPE=PARAB,ACTIVE=OUT,SHADE=BOTH,BSHADE=BOTH                                             173          AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO. LABEL
                  DIMENSIONS=4.4,0.0,100.,0.,360.                                                  174                  AA
                  ICSN=13                                                                          175                  AA
                  PROP=0.,0.                                                                       176                  AA
                  COM=* TOP  ENGIN *                                                               177                  AA
              S   SURF=146,TYPE=PARAB,ACTIVE= OUT,SHADE=BOTH,BSHADE=BOTH                           178                  AA
                  DIMENSIONS=4.4,0.0,100.,0.,360.                                                  179                  AA
                  ICSN=14,TY=+50.                                                                  180                  AA
                     PROP=0.,0.                                                                    181                  AA
                  COM = * + Y ENGIN *                                                              182                  AA
              S   SURF=149,TYPE=PARAB,ACTIVE=OUT,SHADE=BOTH,BSHADE=BOTH                           183                  AA
                  DIMENSIONS=4.4,0.0,100.,0.,360.                                                  184                  AA
                  ICSN = 14, TY =-50.                                                              185                  AA
                     PROP=0.,0.                                                                    186                  AA
                  COM = * -Y ENGIN...*                                                             187                  AA
              S   SURF=20,TYPE=DISC,ACTIVE=OUT,SHADE=BOTH,BSHADE=BOTH                            188                  AA
                     DIMENSIONS=0.0,0.0,45.,125.,335.                                              189                  AA
                  PROP=0.,0.                                                                       190                  AA
                  ICSN=11                                                                          191                  AA
                  COM = * ...-Y OMS SEALER ...*                                                    192                  AA
              S   SURF=21,TYPE=DISC,ACTIVE=OUT,SHADE=BOTH,BSHADE=BOTH                            193                  AA
                     DIMENSIONS=0.0,0.0,45.,25.,235.                                               194                  AA
                  PROP=0.,0.                                                                       195                  AA
                  ICSN=12                                                                          196                  AA
                  COM= * ..+Y OMS SEALER ...*                                                      197                  AA
              S      SURF=222,TYPE=RECT,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                       198                  AA
                     P1=-723.,-102.,-125.                                                          199                  AA
                     P2=-723.,102.,-125.                                                           200                  AA
                      P3=-711.,102.,0.0                                                            201                  AA
                      PROP=0.,0.                                                                   202                  AA
                      COM=*  BACK RECT   7.350EG*                                                  203                  AA
              S       SURF=23,TYPE=DISC,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                          204                  AA
                     DIMENSIONS=0.0,0.0,102.,90.,270.                                              205                  AA
                     PROP=0.,0.                                                                    206                  AA
                     ICSN=15                                                                       207                  AA
                     COM=* REAR END HALF DISK*                                                     208                  AA
              S      SURF=407,TYPE=DISC,ACTIVE=TOP,SHADE=BOTH,BSHADE= BOTH                         209                  AA
                     P1=-592.0,113.,-77.                                                           210                  AA
                     P2=-592.0,113.,-80.                                                           211                  AA
                     P3=-595.0,113.,-77.                                                           212                  AA
                     P4=-595.0,113.,-77.                                                           213                  AA
                     PROP=0.,0.                                                                    214                  AA
                     COM=*  BACK SIDE EVAPORAT, UPDATED JULY 18, 6 IN DIA.*                        215                  AA
              S      SURF=15,TYPE=DISC,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                           216                  AA
                     P1=-719.,126.,-95.                                                            217                  AA
                     P2=-719.,126.,-98.                                                            218                  AA
                     P3=-722.,126.,-95.                                                            219                  AA
                     P4=-722.,126.,-95.                                                            220                  AA
                     PROP=0.,0.                                                                    221                  AA
                     COM=* REAR END EVAPORATOR*                                                    222                  AA
              S      SURF=10,TYPE=POLY,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                        223                  AA
                     P1=230.,0.,-102.                                                              224                  AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  P2=-192.,-89.,-60.                                                                                    225                AA
                  P3=-192.,0.,-60.                                                                                      226                AA
                  TCSN=21                                                                                               227                AA
                  PROP=0.,0.                                                                                            228                AA
                  COM=*....LEFT FRONT WING  A ...*                                                                      229                AA
          S       SURF=11,TYPE=POLY,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                                   230                AA
                  P1=-192.,-89.,-60.                                                                                    231                AA
                  P2=-483.,-89.,-85.                                                                                    232                AA
                  P3=-483.,-366.,-85.                                                                                   233                AA
                  ICSN=21                                                                                               234                AA
                  PROP=0.,0.                                                                                            235                AA
                  COM=*......LEFT MIDDLE WING BACK.B ... *                                                              236                AA
          S       SURF=141,TYPE=RECT,ACTIVE=TOP,BSHADE=BOTH,SHADE=BOTH                                                  237                AA
                   P1=-192.,0.,-60.                                                                                     238                AA
                  P2=-483.,0.,-85.                                                                                      239                AA
                  P3=-483.,-89.,-85.                                                                                    240                AA
                   TCSN=21                                                                                              241                AA
                   PROP=0.,0.                                                                                           242                AA
                   COM=*  BS INNER WING         *                                                                       243                AA
          S       SURF=12,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                                   244                AA
                  P1=-644.,-89.,-90.                                                                                    245                AA
                  P2=-644.,-366.,-90.                                                                                   246                AA
                  P3=-483.,-366.,-85.                                                                                   247                AA
                  TCSN=21                                                                                               248                AA
                  PROP=0.,0.                                                                                            249                AA
                  COM=* ..... LEFT BACK RECT. WING C .... *                                                             250                AA
          S        SURF=142,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                                 251                AA
                  P1=-644.,0.,-90.                                                                                      252                AA
                  P2=-644.,-89.,-90.                                                                                    253                AA
                  P3=-483.,-89.,-85.                                                                                    254                AA
                  ICSN=21                                                                                               255                AA
                  PROP=0.,0.                                                                                            256                AA
                  COM=*  INNER WING C*                                                                                  257                AA
          S       SURF=13,TYPE=POLY,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                                   258                AA
                  P1=-693.,0.,-102.                                                                                     259                AA
                  P2=-644.,-366.,-90.                                                                                   260                AA
                  P3=-644.,0.,-90.                                                                                      261                AA
                  PROP=0.,0.                                                                                            262                AA
                  ICSN=21                                                                                               263                AA
                  COM=* ..... LEFT WING TAIL  EDGE  ..D . *                                                             264                AA
          S       SURF=1,TYPE=POLY,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                                    265                AA
                  P1=230.,0.,-70.                                                                                       266                AA
                  P2=-192.,89.,-60.                                                                                     267                AA
                  P3=-192.,0.,-60.                                                                                      268                AA
                  PROP= 0.,0.                                                                                           269                AA
                  TCSN=20                                                                                               270                AA
                  COM=*...FRONT WING TRIANGLE RT.A.582.1024*                                                            271                AA
          S       SURF=2,TYPE=POLY,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                                                 272                AA
                  PROP=0.,0.                                                                                            273                AA
                  P1=-192.,89.,-60.                                                                                     274                AA
                  P2=-483.,89.,-85.                                                                                     275                AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO. LABEL
                  P3=-483.,366.,-85.                                                                  276              AA
                  COM=*.....MIDDLE WING TRAP, RT 8 ..1024,1292*                                       277              AA
                  TCSN=20                                                                             278              AA
              S    SURF=143,TYPE=RECT,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                            279              AA
                  P1=-192.,0.,-60.                                                                    280              AA
                  P2=-483.,0.,-85.                                                                    281              AA
                  P3=-483.,89.,-85.                                                                   282              AA
                  PROP=0.,0.                                                                          283              AA
                  ICSN=20                                                                             284              AA
                  COM=*8  +Y RECTANGLE WING*                                                          285              AA
              S   SURF=3,TYPE=RECT,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                              286              AA
                  P1=-644.,89.,-90.                                                                   287              AA
                  P2=-644.,366.,-90.                                                                  288              AA
                  P3=-483.,366.,-85.                                                                  289              AA
                  PROP=0.,0.                                                                          290              AA
                  TCSN=20                                                                             291              AA
                  COM=*.... BACK WING RECT.  RTC .1292,1453*                                          292              AA
              S    SURF=144,TYPE=RECT,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                            293              AA
                  P1=-644.,0.,-90.                                                                    294              AA
                  P2=-644.,89.,-90.                                                                   295              AA
                  P3=-483.,89.,-85.                                                                   296              AA
                  PROP=0.,0.                                                                          297              AA
                  TCSN=20                                                                             298              AA
                  COM=*   INNER WING C RECT*                                                          299              AA
              S   SURF=4,TYPE=POLY,ACTIVE=BOTTOM,SHADE=BOTH,BSHADE=BOTH                              300              AA
                  P1=-638.,0.,-102.                                                                   301              AA
                  P2=-644.,366.,-90.                                                                  302              AA
                  P3=-644.,0.,-90.                                                                    303              AA
                  PROP=0.,0.                                                                          304              AA
                  ICSN=20                                                                             305              AA
                  COM=*...WING TAIL FLAP RT 1453,1507*                                                306              AA
              S   SURFN=  150,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                        307              AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BAY AREA CYLINDER                          *      308              AA
                  TYPE=CYLINDER  ,ACTIVE=INSIDE ,ALPH= 1.02000E+02                                    309              AA
                  BMIN= 0.          ,BMAX= 7.00000E+02,GMIN= 0.                                       310              AA
                  GMAX= 1.80000E+02,NNX=    2,NNY=    4,ICSN=   -0                                  311              AA
                  POSITION=-4.70000E+02, 0.          , 0.                                             312              AA
                  ROTZ    =   -0.     , ROTY    =   90.0000, ROTX    =    0.                        313              AA
              S   SURFN=  140,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                        314              AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*  END  BAY AREA DISK                       *      315              AA
                  TYPE=DISC       ,ACTIVE=TOP    ,ALPH= 0.                                         316              AA
                  BMIN= 0.          ,BMAX= 1.02000E+02,GMIN= 0.                                       317              AA
                  GMAX= 3.60000E+02,NNX=    1,NNY=    1,ICSN=   -0                                  318              AA
                  POSITION=-4.70000E+02, 0.          , 0.                                             319              AA
                  ROTZ    =   -0.     , ROTY    =   90.0000, ROTX    =    0.                        320              AA
              S   SURFN=  135,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                        321              AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=* FRONT BAY AREA DISK                       *      322              AA
                  TYPE=DISC       ,ACTIVE=TOP    ,ALPH= 0.                                         323              AA
                  BMIN= 0.          ,BMAX= 1.02000E+02,GMIN= 0.                                       324              AA
                  GMAX= 3.60000E+02,NNX=    1,NNY=    1,ICSN=   -0                                  325              AA
                  POSITION= 2.30000E+02, 0.          , 0.                                             326              AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL

                ROTZ    =   -0.     , ROTY    =  -90.0000, ROTX    =    0.                    327                  AA
          S     SURFN=  122,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                    328                  AA
                TRANS=-0.    ,TRANI=-0.    ,COM=* VERY NOSE CONE                    *        329                  AA
                TYPE=PARABOLOID,ACTIVE=OUTSIDE,ALPH= 6.13000E+00                            330                  AA
                BMIN= 0.          ,BMAX= 2.00000E+02,GMIN= 0.                               331                  AA
                GMAX= 3.60000E+02,NNX=     4,NNY=     1,ICSN=     1                        332                  AA
                POSITION= 2.00000E+02, 0.          ,-3.00000E+01                            333                  AA
                ROTZ    = -180.0000, ROTY    =  -90.0000, ROTX    =    0.                    334                  AA
          S     SURFN= 320,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                    335                  AA
                TRANS=-0.    ,TRANI=-0.    ,COM=*   NOSE CYLINDER                   *        336                  AA
                TYPE=CYLINDER  ,ACTIVE=OUTSIDE,ALPH= 7.00000E+01                            337                  AA
                BMIN= 0.          ,BMAX= 1.70000E+02,GMIN= 0.                               338                  AA
                GMAX= 3.60000E+02,NNX=     4,NNY=     1,ICSN=     1                        339                  AA
                POSITION= 4.00000E+02, 0.          ,-3.00000E+01                            340                  AA
                ROTZ    = -180.0000, ROTY    =  -90.0000, ROTX    =    0.                    341                  AA
          S     SURFN= 340,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                    342                  AA
                TRANS=-0.    ,TRANI=-0.    ,COM=*   HOOD PARTIAL BACK               *        343                  AA
                TYPE=PARABOLOID,ACTIVE=OUTSIDE,ALPH= 7.03000E+00                            344                  AA
                BMIN= 2.60000E+02,BMAX= 3.70000E+02,GMIN= 0.                                345                  AA
                GMAX= 3.60000E+02,NNX=     4,NNY=     4,ICSN=     1                        346                  AA
                POSITION= 2.00000E+02, 0.          , 0.                                     347                  AA
                ROTZ    = -180.0000, ROTY    =  -90.0000, ROTX    =    0.                    348                  AA
          S     SURFN= 360,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                    349                  AA
                TRANS=-0.    ,TRANI=-0.    ,COM=* WINDOW                            *        350                  AA
                TYPE=PARABOLOID,ACTIVE=OUTSIDE,ALPH= 2.38000E+01                            351                  AA
                BMIN= 1.68000E+01,BMAX= 7.68000E+01,GMIN= 0.                                352                  AA
                GMAX= 3.60000E+02,NNX=     4,NNY=     4,ICSN=     1                        353                  AA
                POSITION= 3.83200E+02, 0.          , 0.                                     354                  AA
                ROTZ    = -180.0000, ROTY    =  -90.0000, ROTX    =    0.                    355                  AA
          S     SURFN=  401,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900               356                  AA
                TRANS=-0.    ,TRANI=-0.    ,COM=*BODY BOTTOM (FRT)        4 1      *        357                  AA
                TYPE=RECTANGLE ,ACTIVE=BOTTOM ,ALPH= 0.                                     358                  AA
                BMIN=-1.02000E+02,BMAX= 1.02000E+02,GMIN= 0.                                359                  AA
                GMAX= 2.26000E+02,NNX=     1,NNY=     1,ICSN=     1                        360                  AA
                POSITION= 5.70000E+02, 0.          ,-1.02000E+02                            361                  AA
                ROTZ    =   -0.     , ROTY    =    5.3870, ROTX    =    0.                    362                  AA
          S     SURFN=  402,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900               363                  AA
                TRANS=-0.    ,TRANI=-0.    ,COM=*BODY BOTTOM (REAR)       402      *        364                  AA
                TYPE=RECTANGLE ,ACTIVE=BOTTOM ,ALPH=-1.25000E+02                            365                  AA
                BMIN=-1.02000E+02,BMAX= 1.02000E+02,GMIN= 2.25000E+02                       366                  AA
                GMAX= 9.30000E+02,NNX=     1,NNY=     1,ICSN=     1                        367                  AA
                POSITION= 5.70000E+02, 0.          , 0.                                     368                  AA
                ROTZ    =   -0.     , ROTY    =   -0.     , ROTX    =    0.                    369                  AA
          S     SURFN=  182,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                    370                  AA
                TRANS=-0.    ,TRANI=-0.    ,COM=* OMSPOD1                           *        371                  AA
                TYPE=CYLINDER  ,ACTIVE=OUTSIDE,ALPH= 4.50000E+01                            372                  AA
                BMIN= 0.          ,BMAX= 2.35000E+02,GMIN= 3.50000E+01                      373                  AA
                GMAX= 2.48000E+02,NNX=     1,NNY=     1,ICSN=    -0                        374                  AA
                POSITION=-4.70000E+02,-7.81400E+01, 6.55600E+01                             375                  AA
                ROTZ    =   -0.     , ROTY    =  -90.0000, ROTX    =    0.                    376                  AA
          S     SURFN=  172,SHADE=BOTH,BSHADE=BOTH,ALPHA=-0.    ,EMISS=-0.                    377                  AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  TRANS=-0.    ,TRANI=-0.    ,COM=* OMSPODC2                                *          378                AA
                  TYPE=CYLINDER  ,ACTIVE=OUTSIDE,ALPH= 4.50000E+01                                    379                AA
                  GMAX= 1.46000E+02,NNX=     1,NNY=     1,ICSN=    -0                                 380                AA
                  BMIN= 0.          ,BMAX= 2.35000E+02,GMIN=-6.60000E+01                            381                AA
                  POSITION=-4.70000E+02, 7.81400E+01, 6.55600E+01                                   382                AA
                  ROTZ     =    -0.     , ROTY     =   -90.0000, ROTX     =     0.                 383                AA
              S   SURFN=  781,TYPE=CYL,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                           384                AA
                  P1=230.,201.34,37.98                                                              385                AA
                  P2=230.,103.,19.                                                                  386                AA
                  P3=230.,201.34,-64.02                                                             387                AA
                  P4=-470.,201.34,-64.02                                                            388                AA
                  PROP=0.,0.                                                                        389                AA
                  NNX=2,NNY=2                                                                       390                AA
                  COM=*.....+Y SIDE DOOR.....*                                                      391                AA
              S   SURFN=  781,TYPE=CYL,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                           392                AA
                  P1=230.,-201.34,37.98                                                             393                AA
                  P2=230.,-201.34,-64.02                                                            394                AA
                  P3=230.,-103.,19.                                                                 395                AA
                  P4=-470.,-103.,19.                                                                396                AA
                  PROP=0.0,0.                                                                       397                AA
                  NNX=2,NNY=2                                                                       398                AA
                  COM=*... -Y SIDE DOOR....*                                                        399                AA
              S   SURFN=  301,TYPE=TRAP,BSHADE=BOTH,SHADE=BOTH,ACTIVE=TOP                          400                AA
                  P1=230.,102.,-102.                                                                401                AA
                  P2=4.,102.,-125.                                                                  402                AA
                  P3=4.,102.,19.                                                                    403                AA
                  P4=230.,102.,19.                                                                  404                AA
                  COM=* +Y SIDE FRONT TRAPOZOID*                                                    405                AA
                  PROP=0.,0.                                                                        406                AA
              S   SURFN=  305,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                      407                AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY SIDE (MIDDLE-PORT)   305 *                 408                AA
                  TYPE=RECTANGLE ,ACTIVE=TOP     ,ALPH= 1.02000E+02                                 409                AA
                  BMIN=-1.25000E+02,BMAX= 19.         ,GMIN= 2.25000E+02                            410                AA
                  GMAX= 5.72000E+02,NNX=     1,NNY=     1,ICSN=     1                              411                AA
                  POSITION= 5.70000E+02, 0.          , 0.                                           412                AA
                  ROTZ     =    -0.     , ROTY     =   -0.     , ROTX     =    90.0000            413                AA
              S   SURFN=  306,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                      414                AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY SIDE (BACK-PORT)     306 *                 415                AA
                  TYPE=RECTANGLE ,ACTIVE=TOP     ,ALPH= 1.02000E+02                                 416                AA
                  BMIN=-1.25000E+02,BMAX= 19.         ,GMIN= 5.72000E+02                            417                AA
                  GMAX= 9.30000E+02,NNX=     1,NNY=     1,ICSN=     1                              418                AA
                  POSITION= 5.70000E+02, 0.          , 0.                                           419                AA
                  ROTZ     =    -0.     , ROTY     =   -0.     , ROTX     =    90.0000            420                AA
              S   SURFN=  311,TYPE=TRAP,BSHADE=BOTH,SHADE=BOTH,ACTIVE=BOTTOM                        421                AA
                  P1=230.,102.,-102.                                                                422                AA
                  P2=4.,102.,-125.                                                                  423                AA
                  P3=4.,102.,19.                                                                    424                AA
                  P4=230.,102.,19.                                                                  425                AA
                  COM=* -Y SIDE FRONT TRAPOZOID*                                                    426                AA
                  PROP=0.,0.                                                                        427                AA
              S   SURFN=  315,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                      428                AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL

                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY SIDE (MIDDLE-STBD)    315 *              429                  AA
                  TYPE=RECTANGLE ,ACTIVE=TOP     ,ALPH= 1.02000E+02                                 430                  AA
                  BMIN= 19.          ,BMAX= 1.25000E+02,GMIN= 2.25000E+02                           431                  AA
                  GMAX= 5.72000E+02,NNX=     1,NNY=     1,ICSN=     1                               432                  AA
                  POSITION= 5.70000E+02, 0.          , 0.                                           433                  AA
                  ROTZ     =    -0.     , ROTY     =    -0.     , ROTX     =  -90.0000            434                  AA
              S   SURFN=  316,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                      435                  AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY SIDE (BACK-STBD)      316 *              436                  AA
                  TYPE=RECTANGLE ,ACTIVE=TOP     ,ALPH= 1.02000E+02                                 437                  AA
                  BMIN= 19.          ,BMAX= 1.25000E+02,GMIN= 5.72000E+02                           438                  AA
                  GMAX= 9.30000E+02,NNX=     1,NNY=     1,ICSN=     1                               439                  AA
                  POSITION= 5.70000E+02, 0.          , 0.                                           440                  AA
                  ROTZ     =    -0.     , ROTY     =    -0.     , ROTX     =  -90.0000            441                  AA
              S   SURFN=  202,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                      442                  AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY TOP (STBD-REAR)  202     *              443                  AA
                  TYPE=CYLINDER  ,ACTIVE=OUTSIDE,ALPH= 1.02000E+02                                 444                  AA
                  BMIN= 7.00000E+02,BMAX= 9.30000E+02,GMIN= 2.70000E+02                            445                  AA
                  GMAX= 3.60000E+02,NNX=     1,NNY=     1,ICSN=     1                               446                  AA
                  POSITION= 5.70000E+02, 0.          , 0.                                           447                  AA
                  ROTZ     =    -0.     , ROTY     =    90.0000, ROTX     =    0.                448                  AA
              S   SURFN=  212,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                      449                  AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*BODY TOP (PORT-REAR)  212     *              450                  AA
                  TYPE=CYLINDER  ,ACTIVE=OUTSIDE,ALPH= 1.02000E+02                                 451                  AA
                  BMIN= 7.00000E+02,BMAX= 9.30000E+02,GMIN= 1.80000E+02                            452                  AA
                  GMAX= 2.70000E+02,NNX=     1,NNY=     1,ICSN=     1                               453                  AA
                  POSITION= 5.70000E+02, 0.          , 0.                                           454                  AA
                  ROTZ     =    -0.     , ROTY     =    90.0000, ROTX     =    0.                455                  AA
              S   SURFN=  380 ,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                      456                  AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*VERTICAL FIN (PORT)      20    *              457                  AA
                  TYPE=TRAPEZOID ,ACTIVE=TOP     ,ALPH= 0.                                          458                  AA
                  BMIN= 1.48400E+02,BMAX= 3.93400E+02,GMIN= 3.00000E+01                            459                  AA
                  GMAX= 4.50000E+01,NNX=     1,NNY=     1,ICSN=     1                               460                  AA
                  POSITION= 1.65840E+03, 0.          , 4.95400E+02                                  461                  AA
                  ROTZ     =    -0.     , ROTY     = -180.0000, ROTX     =   90.0000            462                  AA
              S   SURFN=  385,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                      463                  AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*VERTICAL FIN (PORT-AFT) 20    *              464                  AA
                  TYPE=TRAPEZOID ,ACTIVE=TOP     ,ALPH= 0.                                          465                  AA
                  BMIN= 1.48400E+02,BMAX= 3.93400E+02,GMIN= 1.50000E+01                            466                  AA
                  GMAX= 3.00000E+01,NNX=     1,NNY=     1,ICSN=     1                               467                  AA
                  POSITION= 1.65840E+03, 0.          , 4.95400E+02                                  468                  AA
                  ROTZ     =    -0.     , ROTY     = -180.0000, ROTX     =   90.0000            469                  AA
              S   SURFN=  390,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                      470                  AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*VERTICAL FIN (STBD)      20    *              471                  AA
                  TYPE=TRAPEZOID ,ACTIVE=BOTTOM ,ALPH= 0.                                          472                  AA
                  BMIN= 1.48400E+02,BMAX= 3.93400E+02,GMIN= 3.00000E+01                            473                  AA
                  GMAX= 4.50000E+01,NNX=     1,NNY=     1,ICSN=     1                               474                  AA
                  POSITION= 1.65840E+03, 1.00000E-01, 4.95400E+02                                  475                  AA
                  ROTZ     =    -0.     , ROTY     = -180.0000, ROTX     =   90.0000            476                  AA
              S   SURFN=  395,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                      477                  AA
                  TRANS=-0.    ,TRANI=-0.    ,COM=*VERTICAL FIN (STBD-AFT) 20    *              478                  AA
                  TYPE=TRAPEZOID ,ACTIVE=BOTTOM ,ALPH= 0.                                          479                  AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO. LABEL
                  RMIN= 1.48400E+02,RMAX= 3.93400E+02,GMIN= 1.50000E+01                                480                AA
                  GMAX= 3.00000E+01,NNX=     1,NNY=     1,ICSN=     1                                    481                AA
                  POSITION= 1.65940E+03, 1.00000E-01, 4.95400E+02                                      482                AA
                  ROTZ    =    -0.    , ROTY    = -180.0000, ROTX    =   90.0000                      483                AA
            S      SURF=705,TYPE=DISC,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                484                AA
                   P1=327.,85.,-72.                                                                    485                AA
                   P2=327.,85.,-75.                                                                    486                AA
                   P3=324.,85.,-72.                                                                    487                AA
                   P4=324.,85.,-72.                                                                    488                AA
                   PROP=0.,0.                                                                          489                AA
                   COM=*..MOST FORWARD EVAPORATOR.....LOOKING +Y,6 IN DIA.*                             490                AA
            S      SURFN=700,TYPE=DISC,ACTIVE=BOTH,BSHADE=BOTH,SHADE=BOTH                              491                AA
                   DIMENSIONS=70.,0.,22.5,0.,360.                                                      492                AA
                   ICSN=16,PROP=0.,0.                                                                  493                AA
                   COM=*.......SUPER ENGINS (OMS LOCATION)..+Y..*                                      494                AA
            S      SURFN=702,TYPE=DISC,ACTIVE=BOTH,BSHADE=BOTH,SHADE=BOTH                              495                AA
                   DIMENSIONS=70.,0.,22.5,0.,360.                                                      496                AA
                   ICSN=17,PROP=0.,0.                                                                  497                AA
                   COM=*.......SUPER ENGINS (OMS LOCATION)..-Y..*                                      498                AA
            S      SURFN=24,TYPE=DISC,ACTIVE=BOTH,SHADE=NO,BSHADE=BOTH                                 499                AA
                   P1=-765.,134.,59.                                                                   500                AA
                   P2=-765.,134.,62.                                                                   501                AA
                   P3=-767.82,132.97,59.                                                               502                AA
                   P4=-767.82,132.97,59.                                                               503                AA
                   PROP=0.,0.                                                                          504                AA
                   COM=*...BACK RCS ...LOOKING +/- Y.(10 DEG CANT) .*                                  505                AA
            S      SURFN=18,TYPE=DISC,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                               506                AA
                   P1=467.5,50.,-48.9                                                                  507                AA
                   P2=470.5,50.,-48.9                                                                  508                AA
                   P3=467.5,52.457,-47.18                                                              509                AA
                   P4=467.5,52.457,-47.18                                                              510                AA
                   PROP=0.,0.                                                                          511                AA
                   COM=*...FRONT RCS..LOOKING +/-Y AT 35 DEG. 7/23/74...*                              512                AA
            S      SURFN=26,TYPE=DISC,ACTIVE=BOTH,SHADE=NO,BSHADE=BOTH                                 513                AA
                   P1=-765.,118.,57.                                                                   514                AA
                   P2=-765.,115.,57.                                                                   515                AA
                   P3=-767.82,118.,58.03                                                               516                AA
                   P4=-767.82,118.,58.03                                                               517                AA
                   PROP=0.,0.                                                                          518                AA
                   COM=*...BACK RCS LOOKING +/- Z...7/23/74.(10 DEGG CANT)..*                          519                AA
            S      SURFN=16,TYPE=DISC,ACTIVE=BOTH,SHADE=BOTH,BSHADE=BOTH                               520                AA
                   P1=-247.,105.,-21.                                                                  521                AA
                   P2=-247.,105.,-24.                                                                  522                AA
                   P3=-250.,105.,-21.                                                                  523                AA
                   P4=-250.,105.,-21.                                                                  524                AA
                   PROP=0.,0.                                                                          525                AA
                   COM=*...MIDDLE EVAP. LOOKING +/- Y.........*                                        526                AA
            S      SURFN= 399,SHADE=BOTH,BSHADE=BOTH,ALPHA=  .900,EMISS=  .900                         527                AA
                   TRANS=-1.   ,TRANT=-0.   ,COM=*VERT. FIN LOG. EDGE      2    *                     528                AA
                   TYPE=RECTANGLE ,ACTIVE=TOP    ,ALPH= 0.                                             529                AA
                   RMIN=-6.00000E+00,RMAX= 6.00000E+03,GMIN=-5.56000E+02                               530                AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO. LABEL
                  GMAX=-2.10000E+02,NNX=     1,NNY=     1,ICSN=     1                                  531              AA
                  POSITION= 1.65840E+03, 0.          , 4.95400E+02                                      532              AA
                  ROTZ    =   -0.     , ROTY    =  -45.0000, ROTX    =     0.                         533              AA
            BCS   SPLAB                                                                                534              AA
            S     SURF=1050,TYPE=CYL,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                             535              AA
                     ICSN=50                                                                           536              AA
                  P1=645.2,0.,400.                                                                     537              AA
                  P2=645.2,78.8,400.                                                                   538              AA
                  P3=645.2,-78.8,400.                                                                  539              AA
                  P4=759.2,-78.8,400.                                                                  540              AA
                  PROP=1.,0.                                                                           541              AA
                  COM = * PALLET1 BOTTOM CYLINDER X= 645.2 TO 759.2 SL3  *                             542              AA
            S     SURF=1051,TYPE=RECT,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                            543              AA
                     ICSN=50                                                                           544              AA
                  P1=645.2,-78.8,400.                                                                  545              AA
                  P2=759.2,-78.8,400.                                                                  546              AA
                  P3=759.2,-78.8,414.                                                                  547              AA
                  PROP= 1.,0.                                                                          548              AA
                  COM=  * -Y PALLET1 OUTSIDE STRIP SL3  *                                              549              AA
            S     SURF=1052,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                550              AA
                     ICSN=50                                                                           551              AA
                  P1=645.2,78.8,414.                                                                   552              AA
                  P2=759.2,78.8,414.                                                                   553              AA
                  P3=759.2,78.8,400.                                                                   554              AA
                  PROP= 0.,0.                                                                          555              AA
                  COM=*  +Y PALLET1 OUTSIDE STRIP SL3   *                                              556              AA
            S     SURF=1053,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                557              AA
                     ICSN=50                                                                           558              AA
                  P1=645.2,-78.8,414.                                                                  559              AA
                  P2=759.2,-78.8,414.                                                                  560              AA
                  P3=759.2,-72.8,414.                                                                  561              AA
                  PROP=0.,0.                                                                           562              AA
                  COM=*-Y PALLET1 TOP STRIP X=645.2 TO 759.2 SL3 *                                     563              AA
            S     SURF=1054,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                564              AA
                     ICSN=50                                                                           565              AA
                  P1=645.2,72.8,414.                                                                   566              AA
                  P2=759.2,72.8, 414.                                                                  567              AA
                  P3=759.2,78.8,414.                                                                   568              AA
                  PROP=0.,0.                                                                           569              AA
                  COM= * +Y PALLET1 TOP STRIP ,X= 645.2 TO 759.2 SL3  *                                570              AA
            S     SURF=1055,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                571              AA
                     ICSN=50                                                                           572              AA
                  P1=645.2,-72.8,414.                                                                  573              AA
                  P2=759.2,-72.8,414.                                                                  574              AA
                  P3=759.2,-58.5,371.                                                                  575              AA
                  PROP=0.,0.                                                                           576              AA
                  COM = * -Y INSIDE TOP PANNEL1 ,X=645.2 TO 759.2SL3 *                                 577              AA
            S     SURF=1056,TYPE = RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                              578              AA
                     ICSN=50                                                                           579              AA
                  P1=759.2,58.5,371.                                                                   580              AA
                  P2=759.2,72.5,414.                                                                   581              AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL

      P3=645.2,72.8,414.                                                                582                AA
      PROP=0.,0.                                                                        583                AA
      COM= * +Y INSIDE TOP PANNEL1,X=645.2 TO 759.2 SL3  *                              584                AA
S     SURF=1057, TYPE= RECT, ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                          585                AA
        TCSN=50                                                                         586                AA
      P1=645.2,-58.5,371.                                                               587                AA
      P2=759.2,-58.5,371.0                                                              588                AA
      P3=759.2,-34.5,344.3                                                              589                AA
      PROP=0.,0.                                                                        590                AA
      COM=* -Y INSIDE BOTTOM PANNEL1, X=645.2 TO 759.2SL3  *                            591                AA
S     SURF=1058,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                             592                AA
        TCSN=50                                                                         593                AA
      P1=645.2,34.5,344.3                                                               594                AA
      P2=759.2,34.5,344.3                                                               595                AA
      P3=759.2,58.5,371.                                                                596                AA
      PROP=0.,0.                                                                        597                AA
      COM=* +Y INSIDE BOTTOM PANNEL1,X 645.2 TO 759.2 SL3  *                            598                AA
S     SURF=1059 , TYPE= RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                          599                AA
        TCSN=50                                                                         600                AA
      P1=645.2,-34.5,344.3                                                              601                AA
      P2=759.2,-34.5,344.3                                                              602                AA
      P3=759.2,34.5,344.3                                                               603                AA
      PROP= 0.,0.                                                                       604                AA
      COM=* BOTTOM PANNEL 1 X=645.2 TO759.2,  SL3*                                      605                AA
S     SURF=1060,TYPE=CYL,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                          606                AA
        TCSN=50                                                                         607                AA
      P1=759.2,0.,400.                                                                  608                AA
      P2=759.2,78.8,400.                                                                609                AA
      P3=759.2,-78.8,400.                                                               610                AA
      P4=873.2,-78.8,400.                                                               611                AA
      PROP=0.,0.                                                                        612                AA
      COM = * PALLET2 BOTTOM CYLINDER X= 759.2 TO 873.2 SL2*                            613                AA
S     SURF=1061,TYPE=RECT,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                         614                AA
        TCSN=50                                                                         615                AA
      P1=759.2,-78.8,400.                                                               616                AA
      P2=873.2,-78.8,400.                                                               617                AA
      P3=873.2,-78.8,414.                                                               618                AA
      PROP= 0.,0.                                                                       619                AA
      COM=  * -Y PALLET2 OUTSIDE STRIP SL3  *                                           620                AA
S     SURF=1062,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                             621                AA
        TCSN=50                                                                         622                AA
      P1=873.2,78.8,414.                                                                623                AA
      P2=873.2,78.8,400.                                                                624                AA
      P3=759.2,78.8,400.                                                                625                AA
      PROP= 0.,0.                                                                       626                AA
      COM=*  +Y PALLET2 OUTSIDE STRIP SL3  *                                            627                AA
S     SURF=1063,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                             628                AA
        TCSN=50                                                                         629                AA
      P1=759.2,-78.8,414.                                                               630                AA
      P2=873.2,-78.8,414.                                                               631                AA
      P3=873.2,-72.8,414.                                                               632                AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  PROP=0.,0.                                                                                  633              AA
                  COM=*-Y PALLET2 TOP STRIP X=759.2 TO 873.2 SL3   *                                          634              AA
              S   SURF=1064,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                       635              AA
                    TCSN=50                                                                                   636              AA
                  P1=759.2,72.8,414.                                                                          637              AA
                  P2=873.2,72.8, 414.                                                                         638              AA
                  P3=873.2,78.8,414.                                                                          639              AA
                  PROP=0.,0.                                                                                  640              AA
                  COM= * +Y PALLET2 TOP STRIP ,X= 759.2 TO 873.2SL3  *                                        641              AA
              S   SURF=1065,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                       642              AA
                    TCSN=50                                                                                   643              AA
                  P1=759.2,-72.8,414.                                                                         644              AA
                  P2=873.2,-72.8,414.                                                                         645              AA
                  P3=873.2,-58.5,371.                                                                         646              AA
                  PROP=0.,0.                                                                                  647              AA
                  COM = * -Y INSIDE TOP PANNEL2,X=759.2 TO 873.2 *                                            648              AA
              S   SURF=1066,TYPE = RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                     649              AA
                    TCSN=50                                                                                   650              AA
                  P1=873.2,58.5,371.                                                                          651              AA
                  P2=873.2,72.8,414.                                                                          652              AA
                  P3=759.2,72.8,414.                                                                          653              AA
                  PROP=0.,0.                                                                                  654              AA
                  COM= * +Y INSIDE TOP PANNEL2,X=759.2 TO 873.2 SL3   *                                       655              AA
              S   SURF=1067, TYPE= RECT, ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                    656              AA
                    TCSN=50                                                                                   657              AA
                  P1=759.2,-58.5,371.                                                                         658              AA
                  P2=873.2,-58.5,371.0                                                                        659              AA
                  P3=873.2,-34.5,344.3                                                                        660              AA
                  PROP=0.,0.                                                                                  661              AA
                  COM=* -Y INSIDE BOTTOM PANNEL2, X=759.2 TO 873.2 SL3 *                                      662              AA
              S   SURF=1068,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                       663              AA
                    TCSN=50                                                                                   664              AA
                  P1=759.2,34.5,344.3                                                                         665              AA
                  P2=873.2,34.5,344.3                                                                         666              AA
                  P3=873.2,58.5,371.                                                                          667              AA
                  PROP=0.,0.                                                                                  668              AA
                  COM=* +Y INSIDE BOTTOM PANNEL2,X 759.2 TO 873.2  SL3*                                       669              AA
              S   SURF=1069 , TYPE= RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                    670              AA
                    TCSN=50                                                                                   671              AA
                  P1=759.2,-34.5,344.3                                                                        672              AA
                  P2=873.2,-34.5,344.3                                                                        673              AA
                  P3=873.2,34.5,344.3                                                                         674              AA
                  PROP= 0.,0.                                                                                 675              AA
                  COM = * PALLET2 BOTTOM,X= 759.2 TO 873.2 SL3 *                                              676              AA
              S   SURF=1070,TYPE=CYL,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                                    677              AA
                    TCSN=50                                                                                   678              AA
                  P1=873.2,0.,400.                                                                            679              AA
                  P2=873.2,78.8,400.                                                                          680              AA
                  P3=873.2,-78.8,400.                                                                         681              AA
                  P4=987.2,-78.8,400.                                                                         682              AA
                  PROP=0.,0.                                                                                  683              AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO. LABEL
      COM = * PALLET3 BOTTOM CYLINDER X= 873.2 TO 987.2 SL3  *                    684                AA
S     SURF=1071,TYPE=RECT,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                   685                AA
        TCSN=50                                                                   686                AA
      P1=873.2,-78.8,400.                                                         687                AA
      P2=987.2,-78.8,400.                                                         688                AA
      P3=987.2,-78.8,414.                                                         689                AA
      PROP= 0.,0.                                                                 690                AA
      COM=  * -Y PALLET1 OUTSIDE STRIP SL2  *                                     691                AA
S     SURF=1072,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                       692                AA
        TCSN=50                                                                   693                AA
      P1=987.2,78.8,414.                                                          694                AA
      P2=987.2,78.8,400.                                                          695                AA
      P3=873.2,78.8,400.                                                          696                AA
      PROP= 0.,0.                                                                 697                AA
      COM=*  +Y PALLET1 OUTSIDE STRIP SL2   *                                     698                AA
S     SURF=1073,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                       699                AA
        TCSN=50                                                                   700                AA
      P1=873.2,-78.8,414.                                                         701                AA
      P2=987.2,-78.8,414.                                                         702                AA
      P3=987.2,-72.8,414.                                                         703                AA
      PROP=0.,0.                                                                  704                AA
      COM=*-Y PALLET3 TOP STRIP X=873.2 TO 987.2 SL2 *                            705                AA
S     SURF=1074,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                       706                AA
        TCSN=50                                                                   707                AA
      P1=873.2,72.8,414.                                                          708                AA
      P2=987.2,72.8, 414.                                                         709                AA
      P3=987.2,78.8,414.                                                          710                AA
      PROP=0.,0.                                                                  711                AA
      COM= * +Y PALLET3 TOP STRIP ,X= 873.2 TO 987.2 SL3  *                       712                AA
S     SURF=1075,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                       713                AA
        TCSN=50                                                                   714                AA
      P1=873.2,-72.8,414.                                                         715                AA
      P2=987.2,-72.8,414.                                                         716                AA
      P3=987.2,-58.5,371.                                                         717                AA
      PROP=0.,0.                                                                  718                AA
      COM = * -Y INSIDE TOP PANNEL3 ,X=873.2 TO 987.2SL3 *                        719                AA
S     SURF=1076,TYPE = RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                     720                AA
        TCSN=50                                                                   721                AA
      P1=987.2,58.5,371.                                                          722                AA
      P2=987.2,72.8,414.                                                          723                AA
      P3=873.2,72.8,414.                                                          724                AA
      PROP=0.,0.                                                                  725                AA
      COM= * +Y INSIDE TOP PANNEL3,X=873.2 TO 987.2 SL3  *                        726                AA
S     SURF=1077, TYPE= RECT, ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                    727                AA
        TCSN=50                                                                   728                AA
      P1=873.2,-58.5,371.                                                         729                AA
      P2=987.2,-58.5,371.0                                                        730                AA
      P3=987.2,-34.5,344.3                                                        731                AA
      PROP=0.,0.                                                                  732                AA
      COM=* -Y INSIDE BOTTOM PANNEL3, X=873.2 TO 987.2SL3  *                      733                AA
S     SURF=1078,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                       734                AA
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INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                     ICSN=50                                                                                          735          AA
                  P1=873.2,34.5,344.3                                                                                 736          AA
                  P2=937.2,34.5,344.3                                                                                 737          AA
                  P3=987.2,58.5,371.                                                                                  738          AA
                  PROP=0.,0.                                                                                          739          AA
                  COM=* +Y INSIDE BOTTOM PANNEL3,X 873.2 TO 987.2 SL3  *                                              740          AA
              S   SURF=1079 , TYPE= RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                            741          AA
                     ICSN=50                                                                                          742          AA
                  P1=873.2,-34.5,344.3                                                                                743          AA
                  P2=987.2,-34.5,344.3                                                                                744          AA
                  P3=987.2,34.5,344.3                                                                                 745          AA
                  PROP= 0.,0.                                                                                         746          AA
                  COM=*...BOTTOM PANNEL3 ,X=873.2 TO 937.2, SL3*                                                      747          AA
              S   SURF=1080,TYPE=CYL,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                                            748          AA
                     ICSN=50                                                                                          749          AA
                  P1=987.2,0.,400.                                                                                    750          AA
                  P2=987.2,78.8,400.                                                                                  751          AA
                  P3=987.2,-78.8,400.                                                                                 752          AA
                  P4=1101.2,-78.8,400.                                                                                753          AA
                  PROP=0.,0.                                                                                          754          AA
                  COM = * PALLET4 BOTTOM CYLINDER X= 987.2 TO 1101.2 SL3*                                             755          AA
              S   SURF=1081,TYPE=RECT,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                                          756          AA
                     ICSN=50                                                                                          757          AA
                  P1=987.2,-78.8,400.                                                                                 758          AA
                  P2=1101.2,-78.8,400.                                                                                759          AA
                  P3=1101.2,-78.8,414.                                                                                760          AA
                  PROP= 0.,0.                                                                                         761          AA
                  COM=  * -Y PALLET4 OUTSIDE STRIP SL3  *                                                             762          AA
              S   SURF=1082,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                              763          AA
                     ICSN=50                                                                                          764          AA
                  P1=1101.2,78.8,414.                                                                                 765          AA
                  P2=1101.2,78.8,400.                                                                                 766          AA
                  P3=987.2,78.8,400.                                                                                  767          AA
                  PROP= 0.,0.                                                                                         768          AA
                  COM=*  +Y PALLET4 OUTSIDE STRIP SL3   *                                                             769          AA
              S   SURF=1083,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                              770          AA
                     ICSN=50                                                                                          771          AA
                  P1=987.2,-78.8,414.                                                                                 772          AA
                  P2=1101.2,-78.8,414.                                                                                773          AA
                  P3=1101.2,-72.8,414.                                                                                774          AA
                  PROP=0.,0.                                                                                          775          AA
                  COM=*-Y PALLET4 TOP STRIP X=987.2 TO 1101.2 *                                                       776          AA
              S   SURF=1084,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                              777          AA
                     ICSN=50                                                                                          778          AA
                  P1=987.2,72.8,414.                                                                                  779          AA
                  P2=1101.2,72.8, 414.                                                                                780          AA
                  P3=1101.2,78.8,414.                                                                                 781          AA
                  PROP=0.,0.                                                                                          782          AA
                  COM= * +Y PALLET4 TOP STRIP ,X= 987.2 TO 1101.2SL3  *                                               783          AA
              S   SURF=1085,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                                              784          AA
                     ICSN=50                                                                                          785          AA
```

```
INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO.  LABEL
                  P1=987.2,-72.8,414.                                                                  786                AA
                  P2=1101.2,-72.8,414.                                                                 787                AA
                  P3=1101.2,-58.5,371.                                                                 788                AA
                  PROP=0.,0.                                                                           789                AA
                  COM = * -Y INSIDE TOP PANNEL4,X=987.2 TO 1101.2 *                                    790                AA
              S   SURF=1086,TYPE = RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                              791                AA
                     TCSN=50                                                                           792                AA
                  P1=1101.2,58.5,371.                                                                  793                AA
                  P2=1101.2,72.8,414.                                                                  794                AA
                  P3=987.2,72.8,414.                                                                   795                AA
                  PROP=0.,0.                                                                           796                AA
                  COM= * +Y INSIDE TOP PANNEL4,X=987.2 TO 1101.2 SL2   *                               797                AA
              S   SURF=1087, TYPE= RECT, ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                             798                AA
                     TCSN=50                                                                           799                AA
                  P1=987.2,-58.5,371.                                                                  800                AA
                  P2=1101.2,-58.5,371.0                                                                801                AA
                  P3=1101.2,-34.5,344.3                                                                802                AA
                  PROP=0.,0.                                                                           803                AA
                  COM=* -Y INSIDE BOTTOM PANNEL4, X=987.2 TO 1101.2 SL3 *                              804                AA
              S   SURF=1088,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                               805                AA
                     TCSN=50                                                                           806                AA
                  P1=987.2,34.5,344.3                                                                  807                AA
                  P2=1101.2,34.5,344.3                                                                 808                AA
                  P3=1101.2,58.5,371.                                                                  809                AA
                  PROP=0.,0.                                                                           810                AA
                  COM=* +Y INSIDE BOTTOM PANNEL4,X 987.2 TO 1101.2  SL3*                               811                AA
              S   SURF=1089 , TYPE= RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                            812                AA
                     TCSN=50                                                                           813                AA
                  P1=987.2,-34.5,344.3                                                                 814                AA
                  P2=1101.2,-34.5,344.3                                                                815                AA
                  P3=1101.2,34.5,344.3                                                                 816                AA
                  PROP= 0.,0.                                                                          817                AA
                  COM = * PALLET4 BOTTOM,X= 987.2 TO 1101.2 SL3 *                                      818                AA
              S   SURF=1090,TYPE=CYL,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                            819                AA
                     TCSN=50                                                                           820                AA
                  P1=1101.2,0.,400.                                                                    821                AA
                  P2=1101.2,78.8,400.                                                                  822                AA
                  P3=1101.2,-78.8,400.                                                                 823                AA
                  P4=1215.2,-78.8,400.                                                                 824                AA
                  PROP=0.,0.                                                                           825                AA
                  COM = * PALLET5 BOTTOM CYLINDER X= 1101.2 TO 1215.2 *                                826                AA
              S   SURF=1091,TYPE=RECT,ACTIVE=OUTSIDE,SHADE=BOTH,BSHADE=BOTH                           827                AA
                     TCSN=50                                                                           828                AA
                  P1=1101.2,-78.8,400.                                                                 829                AA
                  P2=1215.2,-78.8,400.                                                                 830                AA
                  P3=1215.2,-78.8,414.                                                                 831                AA
                  PROP= 0.,0.                                                                          832                AA
                  COM=  * -Y PALLET5 OUTSIDE STRIP *                                                   833                AA
              S   SURF=1092,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                              834                AA
                     TCSN=50                                                                           835                AA
                  P1=1215.2,78.8,414.                                                                  836                AA
```

INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO. LABEL

```
      P2=1215.2,78.8,400.                                                    837          AA
      P3=1101.2,78.8,400.                                                    838          AA
      PROP= 0.,0.                                                            839          AA
      COM=*  +Y PALLETS OUTSIDE STRIP *                                      840          AA
S     SURF=1093,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                  841          AA
        TCSN=50                                                              842          AA
      P1=1101.2,-78.8,414.                                                   843          AA
      P2=1215.2,-78.8,414.                                                   844          AA
      P3=1215.2,-72.8,414.                                                   845          AA
      PROP=0.,0.                                                             846          AA
      COM=*-Y PALLETS TOP STRIP X=1101.2 TO 1215.2 *                         847          AA
S     SURF=1094,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                  848          AA
        TCSN=50                                                              849          AA
      P1=1101.2,72.8,414.                                                    850          AA
      P2=1215.2,72.8, 414.                                                   851          AA
      P3=1215.2,78.8,414.                                                    852          AA
      PROP=0.,0.                                                             853          AA
      COM= * +Y PALLETS TOP STRIP ,X= 1101.2 TO 1215.2 *                     854          AA
S     SURF=1095,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                  855          AA
        TCSN=50                                                              856          AA
      P1=1101.2,-72.8,414.                                                   857          AA
      P2=1215.2,-72.8,414.                                                   858          AA
      P3=1215.2,-58.5,371.                                                   859          AA
      PROP=0.,0.                                                             860          AA
      COM = * -Y INSIDE TOP PANNELS,X=1101.2 TO 1215.2 *                     861          AA
S     SURF=1096,TYPE = RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                862          AA
        TCSN=50                                                              863          AA
      P1=1215.2,58.5,371.                                                    864          AA
      P2=1215.2,72.8,414.                                                    865          AA
      P3=1101.2,72.8,414.                                                    866          AA
      PROP=0.,0.                                                             867          AA
      COM= * +Y INSIDE TOP PANNELS,X=1101.2 TO 1215.2 *                      868          AA
S     SURF=1097, TYPE= RECT, ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH               869          AA
        TCSN=50                                                              870          AA
      P1=1101.2,-58.5,371.                                                   871          AA
      P2=1215.2,-58.5,371.0                                                  872          AA
      P3=1215.2,-34.5,344.3                                                  873          AA
      PROP=0.,0.                                                             874          AA
      COM=* -Y INSIDE BOTTOM PANNELS, X=1101.2 TO 1215.2 *                   875          AA
S     SURF=1098,TYPE=RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH                  876          AA
        TCSN=50                                                              877          AA
      P1=1101.2,34.5,344.3                                                   878          AA
      P2=1215.2,34.5,344.3                                                   879          AA
      P3=1215.2,58.5,371.                                                    880          AA
      PROP=0.,0.                                                             881          AA
      COM=* +Y INSIDE BOTTOM PANNELS,X 1101.2 TO 1215.2 *                    882          AA
S     SURF=1099 , TYPE= RECT,ACTIVE=TOP,SHADE=BOTH,BSHADE=BOTH               883          AA
        TCSN=50                                                              884          AA
      P1=1101.2,-34.5,344.3                                                  885          AA
      P2=1215.2,-34.5,344.3                                                  886          AA
      P3=1215.2,34.5,344.3                                                   887          AA
```

MODEL = CONTAM
SURFACE DATA INPUT BLOCK

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

INPUT CARD COL. = 12345678 1 2345678 2 2345678 3 2345678 4 2345678 5 2345678 6 2345678 7 2345678 8 EDIT NO. OLD EDIT NO. LABEL

```
PROP= 0.,0.                                                          888          AA
COM=*PALLET 5 BOTTOM,X=1011.2 TO 1215.2 SL2*                         889          AA
```

SPACELAB-3 VIEWFACTOR DATA MATRIX

The following pages contain the viewfactor data computer printouts for the Spacelab-3/Orbiter configuration.

145 FF SUM = 0. ROW CP TIME = 2.809 + TRAP +Y REAR SIDE TAPER

146 FF SUM = 0. ROW CP TIME = 2.790 - TRAP - Y. REAR SIDE TAPER...

707 FF SUM = 0. ROW CP TIME = 6.081 - DISC ......JULY 8 EVAP..3 IN. RAD.

708 FF SUM = 0. ROW CP TIME = 2.405 + DISC ......JULY 8 EVAP..3 IN. RAD.

147 FF SUM = 0. ROW CP TIME = 14.369 + PARAB TOP ENGIN

148 FF SUM = 0. ROW CP TIME = 6.310 + PARAB + Y ENGIN

149 FF SUM = 0. ROW CP TIME = 6.286 + PARAB -Y ENGIN...

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)!
20	1052	CAL.	.000041	.000095	.000041	.000041	1.000000	1.000000	.898
20	1053	CAL.	.000062	.000335	.000062	.000062	1.000000	1.000000	2.643
20	1054	CAL.	.000072	.000393	.000072	.000072	1.000000	1.000000	4.127
20	1055	CAL.	.001312	.000942	.001312	.001312	1.000000	1.000000	4.897
20	1056	CAL.	.000078	.000056	.000078	.000078	1.000000	1.000000	5.280
20	1057	CAL.	.001069	.000969	.001069	.001069	1.000000	1.000000	6.067
20	1058	CAL.	.000275	.000249	.000275	.000301	.913009	.913009	6.748
20	1059	CAL.	.001554	.000733	.001554	.001554	1.000000	1.000000	7.336
20	1062	CAL.	.000080	.000185	.000080	.000080	1.000000	1.000000	8.162
20	1063	CAL.	.000110	.000599	.000110	.000110	1.000000	1.000000	9.850
20	1064	CAL.	.000141	.000764	.000141	.000141	1.000000	1.000000	11.313
20	1065	CAL.	.002336	.001678	.002336	.002336	1.000000	1.000000	12.074
20	1066	CAL.	.000164	.000118	.000164	.000164	1.000000	1.000000	12.549
20	1067	CAL.	.001897	.001720	.001897	.001897	1.000000	1.000000	13.320
20	1068	CAL.	.000511	.000468	.000511	.000560	.911353	.911353	14.013
20	1069	CAL.	.002812	.001326	.002812	.002912	1.000000	1.000000	14.603
20	1072	CAL.	.000187	.000439	.000187	.000187	1.000000	1.000000	15.355

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)!
20	1073	CAL.	.006217	.001177	.006217	.006217	1.000000	1.000000	16.856
20	1074	CAL.	.000329	.001786	.000329	.000329	1.000000	1.000000	18.179
20	1075	CAL.	.004577	.003288	.004577	.004577	1.000000	1.000000	18.848
20	1076	CAL.	.000369	.000265	.000369	.000369	1.000000	1.000000	19.279
20	1077	CAL.	.003688	.003344	.003688	.003688	1.000000	1.000000	19.962
20	1078	CAL.	.001086	.000985	.001086	.001196	.907878	.907878	20.579
20	1079	CAL.	.005682	.002681	.005682	.005682	1.000000	1.000000	21.120
20	1082	CAL.	.000611	.001421	.000611	.000611	1.000000	1.000000	21.609
20	1083	CAL.	.000457	.002479	.000457	.000457	1.000000	1.000000	23.112
20	1084	CAL.	.001058	.005742	.001058	.001058	1.000000	1.000000	24.267
20	1085	CAL.	.009572	.005876	.009572	.009572	1.000000	1.000000	24.862
20	1086	CAL.	.001060	.000762	.001060	.001060	1.000000	1.000000	25.248
20	1087	CAL.	.007595	.006887	.007595	.007595	1.000000	1.000000	25.867
20	1088	CAL.	.002719	.002466	.002719	.003025	.898935	.898935	26.438
20	1089	CAL.	.012723	.006002	.012723	.012723	1.000000	1.000000	26.909
20	1092	CAL.	.003709	.003625	.003709	.003709	1.000000	1.000000	27.536
20	1093	CAL.	.000747	.004052	.000747	.000747	1.000000	1.000000	28.635
20	1094	CAL.	.005846	.031716	.005846	.005846	1.000000	1.000000	29.638
20	1095	CAL.	.015514	.011144	.015514	.015514	1.000000	1.000000	30.128
20	1096	CAL.	.003710	.002665	.003710	.003710	1.000000	1.000000	30.476
20	1097	CAL.	.011959	.010843	.011959	.011959	1.000000	1.000000	30.993
20	1098	CAL.	.006441	.005840	.006441	.007381	.872652	.872652	31.474
20	1099	CAL.	.023784	.011221	.023784	.023784	1.000000	1.000000	31.874
20	FE SUM =	.1362	ROW CP TIME =	31.880		+ DISC		...-Y OWS SEALER ...	
21	1051	CAL.	.000041	.000095	.000041	.000041	1.000000	1.000000	.846
21	1053	CAL.	.000072	.000393	.000072	.000072	1.000000	1.000000	2.380
21	1054	CAL.	.000062	.000335	.000062	.000062	1.000000	1.000000	4.128
21	1055	CAL.	.000086	.000062	.000086	.000086	1.000000	1.000000	4.597
21	1056	CAL.	.001297	.000933	.001297	.001297	1.000000	1.000000	5.369
21	1057	CAL.	.000275	.000249	.000275	.000301	.913009	.913009	6.053
21	1058	CAL.	.001069	.000969	.001069	.001069	1.000000	1.000000	6.847
21	1059	CAL.	.001554	.000733	.001554	.001554	1.000000	1.000000	7.438
21	1061	CAL.	.000080	.000185	.000080	.000080	1.000000	1.000000	8.225
21	1063	CAL.	.000141	.000764	.000141	.000141	1.000000	1.000000	9.732
21	1064	CAL.	.000110	.000599	.000110	.000110	1.000000	1.000000	11.419
21	1065	CAL.	.000164	.000118	.000164	.000164	1.000000	1.000000	11.892
21	1066	CAL.	.002336	.001678	.002336	.002336	1.000000	1.000000	12.656
21	1067	CAL.	.000511	.000463	.000511	.000560	.911353	.911353	13.352
21	1068	CAL.	.001897	.001729	.001897	.001897	1.000000	1.000000	14.129
21	1069	CAL.	.002812	.001326	.002812	.002812	1.000000	1.000000	14.720
21	1071	CAL.	.000187	.000435	.000187	.000187	1.000000	1.000000	15.441
21	1073	CAL.	.000329	.001786	.000329	.000329	1.000000	1.000000	16.804
21	1074	CAL.	.000217	.001177	.000217	.000217	1.000000	1.000000	18.302

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)!
21	1075	CAL.	.000369	.000265	.000369	.000369	1.000000	1.000000	18.726
21	1076	CAL.	.004577	.003289	.004577	.004577	1.000000	1.000000	19.419
21	1077	CAL.	.001086	.000985	.001086	.001196	.907878	.907878	20.041
21	1078	CAL.	.003688	.003344	.003688	.003688	1.000000	1.000000	20.726
21	1079	CAL.	.005682	.002681	.005682	.005682	1.000000	1.000000	21.264
21	1081	CAL.	.000611	.001421	.000611	.000611	1.000000	1.000000	21.924
21	1083	CAL.	.001058	.005742	.001058	.001058	1.000000	1.000000	23.141
21	1084	CAL.	.000457	.002479	.000457	.000457	1.000000	1.000000	24.424
21	1085	CAL.	.001060	.000762	.001060	.001060	1.000000	1.000000	24.812
21	1086	CAL.	.009572	.006876	.009572	.009572	1.000000	1.000000	25.396
21	1087	CAL.	.002719	.002466	.002719	.003025	.898935	.898935	25.975
21	1088	CAL.	.007595	.005887	.007595	.007595	1.000000	1.000000	26.587
21	1089	CAL.	.012723	.006002	.012723	.012723	1.000000	1.000000	27.057
21	1091	CAL.	.003709	.008625	.003709	.003709	1.000000	1.000000	27.636
21	1093	CAL.	.005846	.031715	.005846	.005846	1.000000	1.000000	28.683
21	1094	CAL.	.000747	.004052	.000747	.000747	1.000000	1.000000	29.779
21	1095	CAL.	.003710	.002665	.003710	.003710	1.000000	1.000000	30.124
21	1096	CAL.	.015514	.011144	.015514	.015514	1.000000	1.000000	30.613
21	1097	CAL.	.006441	.005840	.006441	.007381	.872652	.872652	31.093
21	1098	CAL.	.011959	.010643	.011959	.011959	1.000000	1.000000	31.600
21	1099	CAL.	.023784	.011221	.023784	.023784	1.000000	1.000000	31.997
21	FF SUM =	.1361	ROW CP TIME =	32.004	+ DISC	..+Y OWS SEALER ...			
222	FF SUM =	0.	ROW CP TIME =	1.837	- RECT	BACK RECT 7.350EG			
23	FF SUM =	0.	ROW CP TIME =	2.124	+ DISC	REAR END HALF DISK			
407	FF SUM =	0.	ROW CP TIME =	2.421	+ DISC	BACK SIDE EVAPORAT, UPDATED			
15	FF SUM =	0.	ROW CP TIME =	2.438	+ DISC	REAR END EVAPORATOR			
10	FF SUM =	0.	ROW CP TIME =	19.572	- TRAP	....LEFT FRONT WING A ...			

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)!	
11	FF SUM = 0.	ROW CP TIME =	6.438		+ TRAP					.....LEFT MIDDLE WING BACK.B
141	FF SUM = 0.	ROW CP TIME =	12.742		+ RECT					BS INNER WING
12	FF SUM = 0.	ROW CP TIME =	4.730		+ RECT					..... LEFT BACK RECT. WING C
142	FF SUM = 0.	ROW CP TIME =	4.608		+ RECT					INNER WING C
13	FF SUM = 0.	ROW CP TIME =	3.564		+ TRAP					..... LEFT WING TAIL EDGE
1	FF SUM = 0.	ROW CP TIME =	32.843		+ TRAP					...FRONT WING TRIANGLE RT.A.58
2	FF SUM = 0.	ROW CP TIME =	6.456		- TRAP					.....MIDDLE WING TRAP, RT B ..
143	FF SUM = 0.	ROW CP TIME =	12.983		- RECT					B +Y RECTANGLE WING
3	FF SUM = 0.	ROW CP TIME =	4.781		- RECT					.... BACK WING RECT. RTC .129
144	FF SUM = 0.	ROW CP TIME =	4.707		- RECT					INNER WING C RECT
4	FF SUM = 0.	ROW CP TIME =	3.601		- TRAP					...WING TAIL FLAP RT 1453,1507
150	1950	CAL.	.000032	.000032	.000032	.000032	1.000000	1.000000	.412	
150	1952	CAL.	.000003	.000046	.000003	.000003	1.000000	1.000000	.936	
150	1960	CAL.	.000100	.001099	.000100	.000100	1.000000	1.000000	2.789	
150	1962	CAL.	.000008	.000147	.000008	.000008	1.000000	1.000000	3.311	
150	1970	CAL.	.000026	.000495	.000026	.000026	1.000000	1.000000	5.161	

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION CTNK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)	
150	1072	CAL.	.000046	.000800	.000046	.000046	1.000000	1.000000	5.636	
150	1080	CAL.	.044185	.043898	.044185	.044185	1.000000	1.000000	17.204	*
150	1082	CAL.	.001819	.031953	.001819	.001819	1.000000	1.000000	19.038	*
150	1090	CAL.	.430157	.427370	.430157	.430157	1.000000	1.000000	72.227	*
150	1092	CAL.	.016158	.283866	.016158	.016158	1.000000	1.000000	76.858	
150	1095	CAL.	.005355	.029064	.005355	.036435	.146972	.146972	82.231	
150	1097	CAL.	.002933	.020097	.002933	.026519	.110619	.110619	85.321	
150	FF SUM =	.5013	ROW CP TIME =		85.693		- CYLN	BAY AREA CYLINDER		
151	1050	CAL.	.000217	.000215	.000217	.000217	1.000000	1.000000	.369	
151	1052	CAL.	.000019	.000330	.000019	.000019	1.000000	1.000000	.815	
151	1060	CAL.	.001746	.001735	.001746	.001746	1.000000	1.000000	2.283	
151	1062	CAL.	.000180	.003158	.000180	.000180	1.000000	1.000000	2.729	
151	1070	CAL.	.264467	.262753	.264467	.264467	1.000000	1.000000	30.372	*
151	1072	CAL.	.010037	.176340	.010037	.010037	1.000000	1.000000	36.433	*
151	1080	CAL.	.406454	.403821	.406454	.406454	1.000000	1.000000	94.987	*
151	1082	CAL.	.015083	.264986	.015083	.015083	1.000000	1.000000	99.747	
151	1090	CAL.	.018229	.018111	.018229	.018229	1.000000	1.000000	113.386	*
151	1092	CAL.	.000955	.016783	.000955	.000955	1.000000	1.000000	114.501	*
151	FF SUM =	.7174	ROW CP TIME =		117.554		- CYLN	BAY AREA CYLINDER		
152	1050	CAL.	.070508	.070051	.070508	.070508	1.000000	1.000000	13.483	*
152	1052	CAL.	.002707	.047565	.002707	.002707	1.000000	1.000000	16.081	*
152	1060	CAL.	.439739	.436890	.439739	.439739	1.000000	1.000000	63.244	*
152	1062	CAL.	.016381	.287782	.016381	.016381	1.000000	1.000000	67.284	
152	1070	CAL.	.185869	.184665	.185869	.185869	1.000000	1.000000	94.214	*
152	1072	CAL.	.007101	.124743	.007101	.007101	1.000000	1.000000	99.296	*
152	1080	CAL.	.001095	.001088	.001095	.001095	1.000000	1.000000	103.144	
152	1082	CAL.	.000107	.001887	.000107	.000107	1.000000	1.000000	103.594	
152	1090	CAL.	.000164	.000163	.000164	.000164	1.000000	1.000000	105.074	
152	1092	CAL.	.000014	.000247	.000014	.000014	1.000000	1.000000	105.552	
152	FF SUM =	.7237	ROW CP TIME =		106.784		- CYLN	BAY AREA CYLINDER		
153	1050	CAL.	.390456	.387926	.390456	.390456	1.000000	1.000000	19.302	*
153	1052	CAL.	.014222	.249860	.014222	.014222	1.000000	1.000000	25.749	*
153	1055	CAL.	.007301	.039625	.007301	.034330	.212659	.212659	28.647	
153	1057	CAL.	.003183	.021809	.003183	.024728	.128738	.128738	30.121	
153	1059	CAL.	.000722	.002574	.000722	.013087	.055186	.055186	30.396	
153	1060	CAL.	.011641	.011566	.011641	.011641	1.000000	1.000000	36.528	*
153	1062	CAL.	.000663	.011647	.000663	.000663	1.000000	1.000000	37.562	*

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)	
153	1070	CAL.	.000354	.000352	.000354	.000354	1.000000	1.000000	39.958	
153	1072	CAL.	.000032	.000555	.000032	.000032	1.000000	1.000000	40.382	
153	1080	CAL.	.000079	.000079	.000079	.000079	1.000000	1.000000	41.642	
153	1082	CAL.	.000007	.000116	.000007	.000007	1.000000	1.000000	42.104	
153	1090	CAL.	.000027	.000027	.000027	.000027	1.000000	1.000000	43.479	
153	1092	CAL.	.000002	.000039	.000002	.000002	1.000000	1.000000	43.971	
153	FF SUM =	.4287	ROW CP TIME =	45.078		- CYLN	BAY AREA CYLINDER			
154	1050	CAL.	.000032	.000032	.000032	.000032	1.000000	1.000000	.417	
154	1051	CAL.	.000003	.000046	.000003	.000003	1.000000	1.000000	.905	
154	1060	CAL.	.000100	.000099	.000100	.000100	1.000000	1.000000	2.816	
154	1061	CAL.	.000008	.000147	.000008	.000008	1.000000	1.000000	3.309	
154	1070	CAL.	.000498	.000495	.000498	.000498	1.000000	1.000000	5.211	
154	1071	CAL.	.000046	.000000	.000046	.000046	1.000000	1.000000	5.646	
154	1080	CAL.	.044185	.047898	.044185	.044185	1.000000	1.000000	17.337	*
154	1081	CAL.	.001819	.031953	.001819	.001819	1.000000	1.000000	19.148	*
154	1090	CAL.	.430157	.427370	.430157	.430157	1.000000	1.000000	71.981	*
154	1091	CAL.	.016158	.287666	.016158	.016158	1.000000	1.000000	76.673	
154	1096	CAL.	.005355	.029064	.005355	.036435	.146972	.146972	82.113	
154	1098	CAL.	.002933	.020097	.002933	.026519	.110619	.110619	85.179	
154	FF SUM =	.5013	ROW CP TIME =	85.500		- CYLN	BAY AREA CYLINDER			
155	1050	CAL.	.000217	.000215	.000217	.000217	1.000000	1.000000	.373	
155	1051	CAL.	.000019	.000370	.000019	.000019	1.000000	1.000000	.794	
155	1060	CAL.	.001746	.001735	.001746	.001746	1.000000	1.000000	2.314	
155	1061	CAL.	.000180	.003168	.000180	.000180	1.000000	1.000000	2.724	
155	1070	CAL.	.264467	.262753	.264467	.264467	1.000000	1.000000	30.433	*
155	1071	CAL.	.010037	.176340	.010037	.010037	1.000000	1.000000	36.483	*
155	1080	CAL.	.406454	.403821	.406454	.406454	1.000000	1.000000	95.828	*
155	1081	CAL.	.015083	.264986	.015083	.015083	1.000000	1.000000	100.619	
155	1090	CAL.	.018229	.018111	.018229	.018229	1.000000	1.000000	114.260	*
155	1091	CAL.	.000955	.016783	.000955	.000955	1.000000	1.000000	115.326	*
155	FF SUM =	.7174	ROW CP TIME =	118.426		- CYLN	BAY AREA CYLINDER			
156	1050	CAL.	.070508	.070051	.070508	.070508	1.000000	1.000000	13.492	*
156	1051	CAL.	.002707	.047565	.002707	.002707	1.000000	1.000000	16.032	*
156	1060	CAL.	.439739	.436890	.439739	.439739	1.000000	1.000000	63.143	*
156	1061	CAL.	.016381	.287782	.016381	.016381	1.000000	1.000000	67.069	
156	1070	CAL.	.185869	.184665	.185869	.185869	1.000000	1.000000	93.831	*
156	1071	CAL.	.007101	.124743	.007101	.007101	1.000000	1.000000	96.749	*

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)	
156	1080	CAL.	.001095	.001088	.001095	.001095	1.000000	1.000000	102.629	
156	1081	CAL.	.000107	.001887	.000107	.000107	1.000000	1.000000	103.055	
156	1090	CAL.	.000164	.000163	.000164	.000164	1.000000	1.000000	104.564	
156	1091	CAL.	.000014	.000247	.000014	.000014	1.000000	1.000000	104.998	
156	FF SUM =	.7237	ROW CP TIME =		106.281		- CYLN	BAY AREA CYLINDER		
157	1050	CAL.	.390456	.387926	.390456	.390456	1.000000	1.000000	19.571	*
157	1051	CAL.	.014222	.249860	.014222	.014222	1.000000	1.000000	25.926	*
157	1056	CAL.	.007335	.039892	.007335	.034492	.212643	.212643	29.088	
157	1058	CAL.	.003183	.021809	.003183	.024728	.128738	.128738	30.572	
157	1059	CAL.	.000722	.002574	.000722	.013087	.055186	.055186	30.795	
157	1060	CAL.	.011641	.011566	.011641	.011641	1.000000	1.000000	36.932	*
157	1061	CAL.	.000663	.011647	.000663	.000663	1.000000	1.000000	37.917	*
157	1070	CAL.	.000354	.000352	.000354	.000354	1.000000	1.000000	40.368	
157	1071	CAL.	.000032	.000555	.000032	.000032	1.000000	1.000000	40.732	
157	1080	CAL.	.000079	.000079	.000079	.000079	1.000000	1.000000	42.041	
157	1081	CAL.	.000007	.000116	.000007	.000007	1.000000	1.000000	42.461	
157	1090	CAL.	.000027	.000027	.000027	.000027	1.000000	1.000000	43.873	
157	1091	CAL.	.000002	.000039	.000002	.000002	1.000000	1.000000	44.321	
157	FF SUM =	.4287	ROW CP TIME =		45.471		- CYLN	BAY AREA CYLINDER		
140	1053	CAL.	.000012	.000570	.000012	.000012	1.000000	1.000000	.702	
140	1054	CAL.	.000011	.000544	.000011	.000011	1.000000	1.000000	1.157	
140	1055	CAL.	.000557	.003526	.000557	.000557	1.000000	1.000000	1.647	
140	1056	CAL.	.000544	.003450	.000544	.000544	1.000000	1.000000	2.142	
140	1057	CAL.	.000436	.003437	.000430	.000430	1.000000	1.000000	2.654	
140	1058	CAL.	.000430	.003438	.000430	.000430	1.000000	1.000000	3.168	
140	1059	CAL.	.000734	.003052	.000734	.000734	1.000000	1.000000	3.568	
140	1063	CAL.	.000023	.001116	.000023	.000023	1.000000	1.000000	4.224	
140	1064	CAL.	.000022	.001034	.000022	.000022	1.000000	1.000000	4.670	
140	1065	CAL.	.001067	.006748	.001067	.001067	1.000000	1.000000	5.157	
140	1066	CAL.	.001065	.006741	.001065	.001065	1.000000	1.000000	5.654	
140	1067	CAL.	.000824	.006593	.000824	.000824	1.000000	1.000000	6.162	
140	1068	CAL.	.000825	.006587	.000825	.000825	1.000000	1.000000	6.671	
140	1069	CAL.	.001409	.005355	.001409	.001409	1.000000	1.000000	7.072	
140	1073	CAL.	.000655	.002647	.000655	.000655	1.000000	1.000000	7.683	
140	1074	CAL.	.000048	.002311	.000048	.000048	1.000000	1.000000	8.088	
140	1075	CAL.	.002416	.015289	.002416	.002416	1.000000	1.000000	8.529	
140	1076	CAL.	.002408	.015238	.002408	.002408	1.000000	1.000000	8.973	
140	1077	CAL.	.001869	.014927	.001869	.001869	1.000000	1.000000	9.437	
140	1078	CAL.	.001873	.014960	.001873	.001873	1.000000	1.000000	9.898	
140	1079	CAL.	.003207	.013327	.003207	.003207	1.000000	1.000000	10.271	

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)	
140	1083	CAL.	.000185	.008852	.000185	.000185	1.000000	1.000000	10.840	
140	1084	CAL.	.000137	.006527	.000137	.000137	1.000000	1.000000	11.230	
140	1085	CAL.	.007173	.045384	.007173	.007173	1.000000	1.000000	11.639	
140	1086	CAL.	.007065	.044699	.007065	.007065	1.000000	1.000000	12.047	
140	1087	CAL.	.005550	.044321	.005550	.005550	1.000000	1.000000	12.546	
140	1088	CAL.	.005610	.044801	.005610	.005610	1.000000	1.000000	13.045	
140	1089	CAL.	.009626	.039999	.009626	.009626	1.000000	1.000000	13.740	
140	1093	CAL.	.001177	.056251	.001177	.001177	1.000000	1.000000	15.139	*
140	1094	CAL.	.001174	.056120	.001174	.001174	1.000000	1.000000	16.243	*
140	1095	CAL.	.024380	.154256	.024380	.024380	1.000000	1.000000	18.980	
140	1096	CAL.	.023765	.150359	.023765	.023931	.993048	.993048	21.704	
140	1097	CAL.	.018469	.147659	.018469	.019727	.937253	.937253	24.773	
140	1098	CAL.	.018214	.145456	.018214	.018434	.988027	.988027	27.623	
140	1099	CAL.	.035641	.148095	.035641	.035945	.991541	.991541	31.308	
140	FF SUM =	.1780	ROW CP TIME =		31.313		+ DISC		END	BAY AREA DISK
135	1053	CAL.	.000809	.038656	.000809	.000809	1.000000	1.000000	.495	
135	1054	CAL.	.000366	.017498	.000366	.000366	1.000000	1.000000	.751	
135	1055	CAL.	.018763	.118714	.018763	.018763	1.000000	1.000000	1.905	
135	1056	CAL.	.018825	.119350	.018825	.018825	1.000000	1.000000	3.235	
135	1057	CAL.	.015342	.122521	.015342	.015342	1.000000	1.000000	4.629	
135	1058	CAL.	.015342	.122521	.015342	.015342	1.000000	1.000000	5.993	
135	1059	CAL.	.024868	.103334	.024868	.024927	.997646	.997646	7.554	
135	1063	CAL.	.000144	.005972	.000144	.000144	1.000000	1.000000	8.033	
135	1064	CAL.	.000111	.005314	.000111	.000111	1.000000	1.000000	8.319	
135	1065	CAL.	.005750	.036378	.005750	.005750	1.000000	1.000000	8.635	
135	1066	CAL.	.005686	.035973	.005686	.005686	1.000000	1.000000	8.953	
135	1067	CAL.	.004439	.035449	.004439	.004439	1.000000	1.000000	9.292	
135	1068	CAL.	.004473	.035723	.004473	.004473	1.000000	1.000000	9.633	
135	1069	CAL.	.007683	.031926	.007683	.007683	1.000000	1.000000	9.918	
135	1073	CAL.	.000047	.002224	.000047	.000047	1.000000	1.000000	10.443	
135	1074	CAL.	.000041	.001972	.000041	.000041	1.000000	1.000000	10.771	
135	1075	CAL.	.002054	.012997	.002054	.002054	1.000000	1.000000	11.137	
135	1076	CAL.	.002049	.012962	.002049	.002049	1.000000	1.000000	11.504	
135	1077	CAL.	.001589	.012687	.001589	.001589	1.000000	1.000000	11.896	
135	1078	CAL.	.001591	.012710	.001591	.001591	1.000000	1.000000	12.284	
135	1079	CAL.	.002723	.011317	.002723	.002723	1.000000	1.000000	12.613	
135	1083	CAL.	.000020	.000978	.000020	.000020	1.000000	1.000000	13.198	
135	1084	CAL.	.000019	.000913	.000019	.000019	1.000000	1.000000	13.578	
135	1085	CAL.	.000940	.005946	.000940	.000940	1.000000	1.000000	14.001	
135	1086	CAL.	.000939	.005941	.000939	.000939	1.000000	1.000000	14.427	
135	1087	CAL.	.000726	.005799	.000726	.000726	1.000000	1.000000	14.867	
135	1088	CAL.	.000727	.005803	.000727	.000727	1.000000	1.000000	15.310	
135	1089	CAL.	.001241	.005156	.001241	.001241	1.000000	1.000000	15.669	

FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)*

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)*	
135	1093	CAL.	.000011	.000513	.000011	.000011	1.000000	1.000000	16.276	
135	1094	CAL.	.000010	.000491	.000010	.000010	1.000000	1.000000	16.697	
135	1095	CAL.	.000503	.003181	.000503	.000503	1.000000	1.000000	17.156	
135	1096	CAL.	.000503	.003180	.000503	.000503	1.000000	1.000000	17.615	
135	1097	CAL.	.000388	.003100	.000388	.000388	1.000000	1.000000	18.089	
135	1098	CAL.	.000388	.003101	.000388	.000388	1.000000	1.000000	18.553	
135	1099	CAL.	.000662	.002752	.000662	.000662	1.000000	1.000000	18.932	
135	FF SUM =	.1398	ROW CP TIME =		18.938		+ DISC		FRONT BAY AREA DISK	
122	FF SUM =	0.	ROW CP TIME =		3.065		+ PARAB		VERY NOSE CONE	
123	FF SUM =	0.	ROW CP TIME =		3.070		+ PARAB		VERY NOSE CONE	
124	FF SUM =	0.	ROW CP TIME =		3.050		+ PARAB		VERY NOSE CONE	
125	FF SUM =	0.	ROW CP TIME =		3.037		+ PARAB		VERY NOSE CONE	
320	FF SUM =	0.	ROW CP TIME =		1.773		+ CYLN		NOSE CYLINDER	
321	FF SUM =	0.	ROW CP TIME =		1.767		+ CYLN		NOSE CYLINDER	
322	FF SUM =	0.	ROW CP TIME =		1.777		+ CYLN		NOSE CYLINDER	
323	FF SUM =	0.	ROW CP TIME =		1.772		+ CYLN		NOSE CYLINDER	

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)	
324	FF SUM = 0.	ROW CP TIME =			1.799		+ CYLN			NOSE CYLINDER
325	FF SUM = 0.	ROW CP TIME =			1.775		+ CYLN			NOSE CYLINDER
326	FF SUM = 0.	ROW CP TIME =			1.772		+ CYLN			NOSE CYLINDER
327	FF SUM = 0.	ROW CP TIME =			1.762		+ CYLN			NOSE CYLINDER
328	FF SUM = 0.	ROW CP TIME =			2.355		+ CYLN			NOSE CYLINDER
329	FF SUM = 0.	ROW CP TIME =			2.343		+ CYLN			NOSE CYLINDER
330	FF SUM = 0.	ROW CP TIME =			2.344		+ CYLN			NOSE CYLINDER
331	FF SUM = 0.	ROW CP TIME =			2.341		+ CYLN			NOSE CYLINDER
332	FF SUM = 0.	ROW CP TIME =			2.339		+ CYLN			NOSE CYLINDER
333	FF SUM = 0.	ROW CP TIME =			2.331		+ CYLN			NOSE CYLINDER
334	FF SUM = 0.	ROW CP TIME =			2.315		+ CYLN			NOSE CYLINDER
335	FF SUM = 0.	ROW CP TIME =			2.317		+ CYLN			NOSE CYLINDER

MODEL = CONTAM STEP = 1
FORM FACTOR CALCULATION LINK.

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)
340	FF SUM = 0.	ROW CP TIME =			3.052		+ PARAB		HOOD PARTIAL BACK
341	FF SUM = 0.	ROW CP TIME =			3.023		+ PARAB		HOOD PARTIAL BACK
342	FF SUM = 0.	ROW CP TIME =			3.033		+ PARAB		HOOD PARTIAL BACK
343	FF SUM = 0.	ROW CP TIME =			3.035		+ PARAB		HOOD PARTIAL BACK
344	FF SUM = 0.	ROW CP TIME =			3.030		+ PARAB		HOOD PARTIAL BACK
345	FF SUM = 0.	ROW CP TIME =			3.029		+ PARAB		HOOD PARTIAL BACK
346	FF SUM = 0.	ROW CP TIME =			3.024		+ PARAB		HOOD PARTIAL BACK
347	FF SUM = 0.	ROW CP TIME =			3.020		+ PARAB		HOOD PARTIAL BACK
348	FF SUM = 0.	ROW CP TIME =			3.032		+ PARAB		HOOD PARTIAL BACK
349	FF SUM = 0.	ROW CP TIME =			3.031		+ PARAB		HOOD PARTIAL BACK
350	FF SUM = 0.	ROW CP TIME =			3.021		+ PARAB		HOOD PARTIAL BACK
351	FF SUM = 0.	ROW CP TIME =			3.023		+ PARAB		HOOD PARTIAL BACK

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED):

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC):
352	FF SUM = 0.	ROW CP TIME =			3.023		+ PARAB	HOOD PARTIAL BACK	
353	FF SUM = 0.	ROW CP TIME =			3.009		+ PARAB	HOOD PARTIAL BACK	
354	FF SUM = 0.	ROW CP TIME =			3.026		+ PARAB	HOOD PARTIAL BACK	
355	FF SUM = 0.	ROW CP TIME =			3.029		+ PARAB	HOOD PARTIAL BACK	
360	FF SUM = 0.	ROW CP TIME =			3.045		+ PARAB	WINDOW	
361	FF SUM = 0.	ROW CP TIME =			3.032		+ PARAB	WINDOW	
362	FF SUM = 0.	ROW CP TIME =			3.032		+ PARAB	WINDOW	
363	FF SUM = 0.	ROW CP TIME =			3.029		+ PARAB	WINDOW	
364	FF SUM = 0.	ROW CP TIME =			3.032		+ PARAB	WINDOW	
365	FF SUM = 0.	ROW CP TIME =			3.038		+ PARAB	WINDOW	
366	FF SUM = 0.	ROW CP TIME =			3.029		+ PARAB	WINDOW	
367	FF SUM = 0.	ROW CP TIME =			3.034		+ PARAB	WINDOW	

MODEL = CONTAM STEP = 1
FORM FACTOR CALCULATION LINK.

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED):

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC):	
368	FF SUM =	0.	ROW CP TIME =		3.039		+ PARAB	WINDOW		
369	FF SUM =	0.	ROW CP TIME =		3.036		+ PARAB	WINDOW		
370	FF SUM =	0.	ROW CP TIME =		3.032		+ PARAB	WINDOW		
371	FF SUM =	0.	ROW CP TIME =		3.035		+ PARAB	WINDOW		
372	FF SUM =	0.	ROW CP TIME =		3.010		+ PARAB	WINDOW		
373	FF SUM =	0.	ROW CP TIME =		3.019		+ PARAB	WINDOW		
374	FF SUM =	0.	ROW CP TIME =		3.004		+ PARAB	WINDOW		
375	FF SUM =	0.	ROW CP TIME =		3.014		+ PARAB	WINDOW		
401	FF SUM =	0.	ROW CP TIME =		1.912		- RECT	BODY BOTTOM (FRT)	4	1
402	FF SUM =	0.	ROW CP TIME =		1.629		- RECT	BODY BOTTOM (REAR)	402	
182	FF SUM =	0.	ROW CP TIME =		2.074		+ CYLN	OMSPODC1		
172	FF SUM =	0.	ROW CP TIME =		2.039		+ CYLN	OMSPODC2		

MODEL = CONTAM STEP = 1
FORM FACTOR CALCULATION LINK.

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)!
781	FF SUM = 0.	ROW CP TIME =			2.438		- CYLN		.....+Y SIDE DOOR.....
782	FF SUM = 0.	ROW CP TIME =			64.045		+ CYLN		.....+Y SIDE DOOR.....
783	FF SUM = 0.	ROW CP TIME =			2.420		- CYLN		.....+Y SIDE DOOR.....
784	FF SUM = 0.	ROW CP TIME =			51.647		+ CYLN		.....+Y SIDE DOOR.....
785	FF SUM = 0.	ROW CP TIME =			5.690		- CYLN		.....+Y SIDE DOOR.....
786	FF SUM = 0.	ROW CP TIME =			14.995		+ CYLN		.....+Y SIDE DOOR.....
787	FF SUM = 0.	ROW CP TIME =			5.030		- CYLN		.....+Y SIDE DOOR.....
788	FF SUM = 0.	ROW CP TIME =			13.741		+ CYLN		.....+Y SIDE DOOR.....
791	FF SUM = 0.	ROW CP TIME =			5.871		- CYLN		... -Y SIDE DOOR...
792	FF SUM = 0.	ROW CP TIME =			13.043		+ CYLN		... -Y SIDE DOOR....
793	FF SUM = 0.	ROW CP TIME =			4.988		- CYLN		... -Y SIDE DOOR....
794	FF SUM = 0.	ROW CP TIME =			13.679		+ CYLN		... -Y SIDE DOOR....

MODEL = CONTAM STEP = 1
FORM FACTOR CALCULATION LINK.

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)!	
306	FF SUM = 0.		ROW CP TIME =		1.546		+ RECT		BODY SIDE (BACK-PORT)	306
311	1050	CAL.	.003488	.003701	.003488	.230564	.015129	.015129	6.421	*
311	1051	CAL.	.004828	.003589	.004828	.037826	.127643	.127643	17.159	*
311	1060	CAL.	.007401	.007853	.007401	.085035	.087034	.087034	32.171	*
311	1061	CAL.	.000411	.007712	.000411	.012334	.031778	.031778	49.411	*
311	FF SUM = .0161		ROW CP TIME =		54.520		- TRAP		-Y SIDE FRONT TRAPOZOID	
315	FF SUM = 0.		ROW CP TIME =		1.735		+ RECT		BODY SIDE (MIDDLE-STBD)	315
316	FF SUM = 0.		ROW CP TIME =		1.721		+ RECT		BODY SIDE (BACK-STBD)	316
202	FF SUM = 0.		ROW CP TIME =		2.076		+ CYLN		BODY TOP (STBD-REAR)	202
212	FF SUM = 0.		ROW CP TIME =		2.086		+ CYLN		BODY TOP (PORT-REAR)	212
380	1053	CAL.	.000009	.000364	.000009	.000109	.977657	.977657	1.268	
380	1055	CAL.	.000037	.000209	.000037	.000041	.894928	.894928	1.806	
380	1057	CAL.	.000024	.000167	.000024	.000034	.725053	.725053	2.306	
380	1063	CAL.	.000017	.000696	.000017	.000017	1.000000	1.000000	3.826	
380	1065	CAL.	.000077	.000420	.000077	.000077	1.000000	1.000000	4.388	
380	1067	CAL.	.000056	.000381	.000056	.000062	.899137	.899137	4.913	
380	1073	CAL.	.000036	.001460	.000036	.000036	1.000000	1.000000	6.314	
380	1075	CAL.	.000162	.000882	.000162	.000162	1.000000	1.000000	6.828	
380	1077	CAL.	.000055	.000376	.000055	.000126	.435784	.435784	7.264	
380	1083	CAL.	.000056	.012290	.000056	.000088	.638174	.638174	8.449	
380	1085	CAL.	.000140	.000763	.000140	.000398	.353125	.353125	8.850	
380	1087	CAL.	.000077	.000529	.000077	.000292	.264340	.264340	9.229	
380	1093	CAL.	.000035	.001433	.000035	.000269	.129759	.129759	10.085	
380	1095	CAL.	.000079	.000426	.000079	.001193	.065839	.065839	10.386	
380	FF SUM = .0009		ROW CP TIME =		10.872		+ TRAP		VERTICAL FIN (PORT)	20
385	1053	CAL.	.000006	.000168	.000006	.000006	1.000000	1.000000	1.261	
385	1055	CAL.	.000014	.000154	.000014	.000125	.950708	.950708	1.752	
[illegible]										

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)*

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)*
385	1063	CAL.	.000007	.000213	.000007	.000010	.735406	.735406	3.585
385	1065	CAL.	.000023	.000091	.000023	.000043	.533652	.533652	4.081
385	1067	CAL.	.000019	.000098	.000019	.000035	.555614	.555614	4.568
385	1073	CAL.	.000011	.000323	.000011	.000018	.596608	.596608	5.774
385	1075	CAL.	.000041	.000162	.000041	.000080	.509510	.509510	6.224
385	1077	CAL.	.000026	.000128	.000026	.000064	.396536	.396536	6.651
385	1083	CAL.	.000019	.000565	.000019	.000038	.501948	.501948	7.746
385	1085	CAL.	.000057	.000228	.000057	.000167	.343543	.343543	8.140
385	1087	CAL.	.000014	.000068	.000014	.000130	.104605	.104605	8.474
385	1093	CAL.	.000003	.000090	.000003	.000091	.032936	.032936	9.261
385	FF SUM =	.0003	ROW CP TIME =	10.055		+ TRAP	VERTICAL FIN (PORT-AFT) 20		
390	1054	CAL.	.000009	.000363	.000009	.000009	.977658	.977658	1.303
390	1056	CAL.	.000036	.000195	.000036	.000040	.894869	.894869	1.828
390	1058	CAL.	.000024	.000167	.000024	.000034	.725030	.725030	2.328
390	1064	CAL.	.000017	.000696	.000017	.000017	1.000000	1.000000	3.705
390	1066	CAL.	.000077	.000419	.000077	.000077	1.000000	1.000000	4.255
390	1068	CAL.	.000056	.000380	.000056	.000062	.899127	.899127	4.780
390	1074	CAL.	.000036	.001458	.000036	.000036	1.000000	1.000000	6.039
390	1076	CAL.	.000162	.000880	.000162	.000162	1.000000	1.000000	6.539
390	1078	CAL.	.000055	.000375	.000055	.000126	.435813	.435813	6.973
390	1084	CAL.	.000056	.002288	.000056	.000087	.638150	.638150	8.031
390	1086	CAL.	.000140	.000761	.000140	.000397	.353151	.353151	8.425
390	1088	CAL.	.000077	.000528	.000077	.000291	.264355	.264355	8.816
390	1094	CAL.	.000035	.001431	.000035	.000269	.129735	.129735	9.573
390	1096	CAL.	.000078	.000426	.000078	.001191	.065837	.065837	9.859
390	FF SUM =	.0009	ROW CP TIME =	10.239		- TRAP	VERTICAL FIN. (STBD)	20	
395	1054	CAL.	.000006	.000167	.000006	.000006	1.000000	1.000000	1.325
395	1055	CAL.	.000013	.000053	.000013	.000024	.550966	.550966	1.813
395	1058	CAL.	.000012	.000059	.000012	.000021	.573383	.573383	2.316
395	1064	CAL.	.000007	.000212	.000007	.000010	.735403	.735403	3.537
395	1066	CAL.	.000023	.000091	.000023	.000043	.533701	.533701	4.007
395	1068	CAL.	.000019	.000098	.000019	.000035	.555649	.555649	4.497
395	1074	CAL.	.000011	.000322	.000011	.000018	.596603	.596603	5.587
395	1076	CAL.	.000041	.000162	.000041	.000080	.509557	.509557	6.021
395	1078	CAL.	.000025	.000128	.000025	.000064	.396564	.396564	6.447
395	1084	CAL.	.000019	.000565	.000019	.000037	.501939	.501939	7.453
395	1086	CAL.	.000057	.000227	.000057	.000166	.343577	.343577	7.832
395	1089	CAL.	.000014	.000068	.000014	.000130	.104615	.104615	8.166
395	1094	CAL.	.000003	.000089	.000003	.000090	.032933	.032933	8.856

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)!	
395	FF SUM =	.0002	ROW CP TIME =		9.540		- TRAP			VERTICAL FIN (STBD-AFT) 20
705	FF SUM =	0.	ROW CP TIME =		2.362		+ DISC			..MOST FORWARD EVAPORATOR.....
700	FF SUM =	0.	ROW CP TIME =		10.770		- DISC			.......SUPER ENGINS (OMS LOCAT
701	FF SUM =	0.	ROW CP TIME =		2.304		+ DISC			.......SUPER ENGINS (OMS LOCAT
702	FF SUM =	0.	ROW CP TIME =		10.342		- DISC			.......SUPER ENGINS (OMS LOCAT
703	FF SUM =	0.	ROW CP TIME =		2.285		+ DISC			.......SUPER ENGINS (OMS LOCAT
24	FF SUM =	0.	ROW CP TIME =		2.364		- DISC			...BACK RCS ...LOOKING +/- Y.(
25	FF SUM =	.0000	ROW CP TIME =		9.813		+ DISC			...BACK RCS ...LOOKING +/- Y.(
18	FF SUM =	0.	ROW CP TIME =		2.338		- DISC			...FRONT RCS..LOOKING +/-Y AT
19	FF SUM =	0.	ROW CP TIME =		5.582		+ DISC			...FRONT RCS..LOOKING +/-Y AT
26	FF SUM =	0.	ROW CP TIME =		9.766		- DISC			...BACK RCS LOOKING +/- Z...7/
27	FF SUM =	0.	ROW CP TIME =		2.368		+ DISC			...BACK RCS LOOKING +/- Z...7/

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)!	
16	FF SUM =	0.	ROW CP TIME =		8.125		- DISC		...MIDDLE EVAP. LOOKING +/- Y.	
17	FF SUM =	0.	ROW CP TIME =		2.370		+ DISC		...MIDDLE EVAP. LOOKING +/- Y.	
399	1053	CAL.	.000056	.000337	.000056	.000056	1.000000	1.000000	2.938	
399	1054	CAL.	.000056	.000337	.000056	.000056	1.000000	1.000000	5.831	
399	1055	CAL.	.000274	.000220	.000274	.000274	1.000000	1.000000	7.064	
399	1056	CAL.	.000268	.000215	.000268	.000268	1.000000	1.000000	8.371	
399	1057	CAL.	.000289	.000294	.000289	.000289	1.000000	1.000000	9.650	
399	1058	CAL.	.000289	.000294	.000289	.000289	1.000000	1.000000	11.019	
399	1059	CAL.	.000684	.000361	.000684	.000684	1.000000	1.000000	11.978	
399	1063	CAL.	.000083	.000503	.000083	.000083	1.000000	1.000000	14.787	
399	1064	CAL.	.000083	.000503	.000083	.000083	1.000000	1.000000	17.564	
399	1065	CAL.	.000406	.000327	.000406	.000406	1.000000	1.000000	18.759	
399	1066	CAL.	.000406	.000327	.000406	.000406	1.000000	1.000000	20.062	
399	1067	CAL.	.000406	.000411	.000406	.000406	1.000000	1.000000	21.276	
399	1068	CAL.	.000406	.000411	.000406	.000406	1.000000	1.000000	22.551	
399	1069	CAL.	.000938	.000495	.000938	.000938	1.000000	1.000000	23.464	
399	1073	CAL.	.000127	.000773	.000127	.000127	1.000000	1.000000	25.947	
399	1074	CAL.	.000027	.000163	.000027	.000127	.210764	.210764	27.531	
399	1075	CAL.	.000612	.000492	.000612	.000612	1.000000	1.000000	28.580	
399	1076	CAL.	.000177	.000142	.000177	.000612	.289577	.289577	29.339	
399	1077	CAL.	.000548	.000556	.000548	.000548	1.000000	1.000000	30.381	
399	1078	CAL.	.000351	.000356	.000351	.000548	.640349	.640349	31.309	
399	1079	CAL.	.001212	.000640	.001212	.001212	1.000000	1.000000	32.108	
399	1082	CAL.	.000185	.001122	.000185	.000185	1.000000	1.000000	34.315	
399	1085	CAL.	.000813	.000653	.000813	.000813	1.000000	1.000000	36.505	
399	1087	CAL.	.000526	.000533	.000526	.000526	1.000000	1.000000	38.026	
399	1089	CAL.	.000999	.000528	.000999	.000999	1.000000	1.000000	39.313	
399	1093	CAL.	.000091	.000553	.000091	.000091	1.000000	1.000000	40.529	
399	1095	CAL.	.000202	.000163	.000202	.000202	1.000000	1.000000	41.652	
399	1097	CAL.	.000092	.000092	.000092	.000092	1.000000	1.000000	42.233	
399	FF SUM =	.0105	ROW CP TIME =		42.534		+ RECT		VERT. FIN LDG. EDGE 2	
1050	FF SUM =	.9430	ROW CP TIME =		2.340		+ CYLN		PALLET1 BOTTOM CYLINDER X= 64	
1051	FF SUM =	.3885	ROW CP TIME =		1.380		+ RECT		-Y PALLET1 OUTSIDE STRIP SL3	

MODEL = CONTAM STEP = 1
FORM FACTOR CALCULATION LINK.

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)!	
1052	FF SUM =	.7780	ROW CP TIME =		1.352		+ RECT		+Y PALLET1 OUTSIDE STRIP SL3	
1053	FF SUM =	.0408	ROW CP TIME =		1.695		+ RECT		-Y PALLET1 TOP STRIP X=645.2 T	
1054	FF SUM =	.0196	ROW CP TIME =		1.649		+ RECT		+Y PALLET1 TOP STRIP ,X= 645.	
1055	1056	CAL.	.069755	.069900	.069755	.069755	1.000000	1.000000	.967	
1055	1057	CAL.	.015740	.019867	.015740	.015740	1.000000	1.000000	1.190	
1055	1058	CAL.	.055797	.070429	.055797	.055797	1.000000	1.000000	1.573	
1055	1059	CAL.	.088759	.058292	.088759	.088759	1.000000	1.000000	2.394	
1055	1065	CAL.	.032622	.032622	.032622	.032622	1.000000	1.000000	2.856	
1055	1067	CAL.	.001545	.001950	.001545	.001545	1.000000	1.000000	3.111	
1055	1068	CAL.	.022966	.028986	.022966	.022966	1.000000	1.000000	3.385	
1055	1069	CAL.	.023828	.015649	.023828	.023828	1.000000	1.000000	3.605	
1055	1076	CAL.	.006480	.006480	.006480	.006480	1.000000	1.000000	4.105	
1055	1077	CAL.	.000043	.000054	.000043	.000043	1.000000	1.000000	4.410	
1055	1078	CAL.	.003832	.004837	.003832	.003832	1.000000	1.000000	4.713	
1055	1079	CAL.	.002172	.001426	.002172	.002172	1.000000	1.000000	4.973	
1055	1086	CAL.	.001604	.001604	.001604	.001604	1.000000	1.000000	5.513	
1055	1087	CAL.	.000007	.000009	.000007	.000007	1.000000	1.000000	5.854	
1055	1088	CAL.	.000885	.001118	.000885	.000885	1.000000	1.000000	6.204	
1055	1089	CAL.	.000427	.000281	.000427	.000427	1.000000	1.000000	6.491	
1055	1096	CAL.	.000545	.000545	.000545	.000545	1.000000	1.000000	7.067	
1055	1097	CAL.	.000002	.000003	.000002	.000002	1.000000	1.000000	7.423	
1055	1098	CAL.	.000293	.000370	.000293	.000293	1.000000	1.000000	7.801	
1055	1099	CAL.	.000134	.000088	.000134	.000134	1.000000	1.000000	8.099	
1055	FF SUM =	.5017	ROW CP TIME =		8.104		+ RECT		-Y INSIDE TOP PANNEL1 ,X=645.	
1056	1057	CAL.	.055800	.070286	.055800	.055800	1.000000	1.000000	.624	
1056	1058	CAL.	.016279	.020505	.016279	.016279	1.000000	1.000000	.848	
1056	1059	CAL.	.089597	.058721	.089597	.089597	1.000000	1.000000	1.675	
1056	1065	CAL.	.032639	.032571	.032639	.032639	1.000000	1.000000	2.110	
1056	1067	CAL.	.023023	.029000	.023023	.023023	1.000000	1.000000	2.407	
1056	1068	CAL.	.001564	.001969	.001564	.001564	1.000000	1.000000	2.662	
1056	1069	CAL.	.023944	.015692	.023944	.023944	1.000000	1.000000	2.884	
1056	1076	CAL.	.006465	.006452	.006465	.006465	1.000000	1.000000	3.358	
1056	1077	CAL.	.003827	.004821	.003827	.003827	1.000000	1.000000	3.690	
1056	1078	CAL.	.000042	.000052	.000042	.000042	1.000000	1.000000	3.985	
1056	1079	CAL.	.002166	.001420	.002166	.002166	1.000000	1.000000	4.248	
1056	1086	CAL.	.001597	.001988	.001597	.001597	1.000000	1.000000	4.771	
[illegible]										

MODEL = CONTA4 STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED):

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC):	
1056	1088	CAL.	.000007	.000008	.000007	.000007	1.000000	1.000000	5.494	
1056	1089	CAL.	.000423	.000277	.000423	.000423	1.000000	1.000000	5.803	
1056	1095	CAL.	.000541	.000540	.000541	.000541	1.000000	1.000000	6.357	
1056	1097	CAL.	.000291	.000365	.000291	.000291	1.000000	1.000000	6.774	
1056	1098	CAL.	.000002	.000002	.000002	.000002	1.000000	1.000000	7.126	
1056	1099	CAL.	.000132	.000086	.000132	.000132	1.000000	1.000000	7.429	
1056	FF SUM =	.4933	ROW CP TIME =	7.435		+ RECT		+Y INSIDE TOP PANNEL1,X=645.2		
1057	1058	CAL.	.061000	.061000	.061000	.061000	1.000000	1.000000	.338	
1057	1059	CAL.	.093268	.048528	.093268	.093268	1.000000	1.000000	1.308	
1057	1065	CAL.	.001950	.001545	.001950	.001950	1.000000	1.000000	1.770	
1057	1066	CAL.	.028988	.022966	.028988	.028988	1.000000	1.000000	2.039	
1057	1068	CAL.	.019607	.019607	.019607	.019607	1.000000	1.000000	2.356	
1057	1069	CAL.	.010132	.005272	.010132	.010132	1.000000	1.000000	8.545	*
1057	1075	CAL.	.000054	.000043	.000054	.000054	1.000000	1.000000	9.048	
1057	1076	CAL.	.004837	.003832	.004837	.004837	1.000000	1.000000	9.350	
1057	1078	CAL.	.002231	.002231	.002231	.002231	1.000000	1.000000	9.688	
1057	1079	CAL.	.000405	.000211	.000405	.000405	1.000000	1.000000	9.965	
1057	1085	CAL.	.000009	.000007	.000009	.000009	1.000000	1.000000	10.500	
1057	1086	CAL.	.001118	.000885	.001118	.001118	1.000000	1.000000	10.852	
1057	1088	CAL.	.000457	.000457	.000457	.000457	1.000000	1.000000	11.251	
1057	1089	CAL.	.000070	.000036	.000070	.000070	1.000000	1.000000	11.565	
1057	1095	CAL.	.000003	.000002	.000003	.000003	1.000000	1.000000	12.124	
1057	1096	CAL.	.000370	.000293	.000370	.000370	1.000000	1.000000	12.506	
1057	1098	CAL.	.000145	.000145	.000145	.000145	1.000000	1.000000	12.931	
1057	1099	CAL.	.000021	.000011	.000021	.000021	1.000000	1.000000	13.255	
1057	FF SUM =	.4759	ROW CP TIME =	13.261		+ RECT		-Y INSIDE BOTTOM PANNEL1, X=6		
1058	1059	CAL.	.093268	.048528	.093268	.093268	1.000000	1.000000	.991	
1058	1065	CAL.	.028988	.022966	.028988	.028988	1.000000	1.000000	1.469	
1058	1066	CAL.	.001950	.001545	.001950	.001950	1.000000	1.000000	1.721	
1058	1067	CAL.	.019607	.019607	.019607	.019607	1.000000	1.000000	2.006	
1058	1069	CAL.	.010132	.005272	.010132	.010132	1.000000	1.000000	8.280	*
1058	1075	CAL.	.004837	.003832	.004837	.004837	1.000000	1.000000	8.790	
1058	1076	CAL.	.000054	.000043	.000054	.000054	1.000000	1.000000	9.084	
1058	1077	CAL.	.002231	.002231	.002231	.002231	1.000000	1.000000	9.393	
1058	1079	CAL.	.000405	.000211	.000405	.000405	1.000000	1.000000	9.709	
1058	1085	CAL.	.001118	.000885	.001118	.001118	1.000000	1.000000	10.271	
1058	1086	CAL.	.000009	.000007	.000009	.000009	1.000000	1.000000	10.603	
1058	1087	CAL.	.000457	.000457	.000457	.000457	1.000000	1.000000	10.974	
1058	1089	CAL.	.000070	.000036	.000070	.000070	1.000000	1.000000	11.334	
1058	1095	CAL.	.000370	.000293	.000370	.000370	1.000000	1.000000	11.929	

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)	
1058	1096	CAL.	.000003	.000002	.000003	.000103	1.000000	1.000000	12.282	
1058	1097	CAL.	.000145	.000145	.000145	.000145	1.000000	1.000000	12.703	
1058	1099	CAL.	.000021	.000011	.000021	.000021	1.000000	1.000000	13.067	
1058	FF SUM =	.4651	ROW CP TIME =	13.072		+ RECT	+Y INSIDE BOTTOM PANNEL1,X 64			
1059	1065	CAL.	.015649	.023828	.015649	.015649	1.000000	1.000000	.449	
1059	1066	CAL.	.015649	.023828	.015649	.015649	1.000000	1.000000	.673	
1059	1067	CAL.	.005272	.010132	.005272	.005272	1.000000	1.000000	6.798	*
1059	1068	CAL.	.005272	.010132	.005272	.005272	1.000000	1.000000	12.919	*
1059	1075	CAL.	.001426	.002172	.001426	.001426	1.000000	1.000000	13.407	
1059	1076	CAL.	.001426	.002172	.001426	.001426	1.000000	1.000000	13.656	
1059	1077	CAL.	.000211	.000405	.000211	.000211	1.000000	1.000000	13.911	
1059	1078	CAL.	.000211	.000405	.000211	.000211	1.000000	1.000000	14.167	
1059	1085	CAL.	.000281	.000427	.000281	.000281	1.000000	1.000000	14.686	
1059	1086	CAL.	.000281	.000427	.000281	.000281	1.000000	1.000000	14.964	
1059	1087	CAL.	.000036	.000070	.000036	.000036	1.000000	1.000000	15.262	
1059	1088	CAL.	.000036	.000070	.000036	.000036	1.000000	1.000000	15.559	
1059	1095	CAL.	.000088	.000134	.000088	.000088	1.000000	1.000000	16.098	
1059	1096	CAL.	.000088	.000134	.000088	.000088	1.000000	1.000000	16.392	
1059	1097	CAL.	.000011	.000021	.000011	.000011	1.000000	1.000000	16.706	
1059	1099	CAL.	.000011	.000021	.000011	.000011	1.000000	1.000000	17.019	
1059	FF SUM =	.7734	ROW CP TIME =	17.058		+ RECT	BOTTOM PANNEL 1 X=645.2 TO759			
1060	FF SUM =	.9294	ROW CP TIME =	1.876		+ CYLN	PALLET2 BOTTOM CYLINDER X= 75			
1061	FF SUM =	.3106	ROW CP TIME =	1.150		+ RECT	-Y PALLET2 OUTSIDE STRIP SL3			
1062	FF SUM =	.7957	ROW CP TIME =	1.083		+ RECT	+Y PALLET2 OUTSIDE STRIP SL3			
1063	FF SUM =	.0108	ROW CP TIME =	1.340		+ RECT	-Y PALLET2 TOP STRIP X=759.2 T			

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FF(I,J) W/SHAD	FF(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)	
1064	FF SUM = .0091	ROW CP TIME = 1.317				+ RECT		+Y PALLET2 TOP STRIP ,X= 759.		
1065	1066	CAL.	.069758	.069758	.069758	.069758	1.000000	1.000000	1.317	
1065	1067	CAL.	.015740	.019867	.015740	.015740	1.000000	1.000000	1.575	
1065	1068	CAL.	.055797	.070429	.055797	.055797	1.000000	1.000000	2.038	
1065	1069	CAL.	.088759	.058292	.088759	.088759	1.000000	1.000000	3.115	
1065	1076	CAL.	.032622	.032622	.032622	.032622	1.000000	1.000000	3.600	
1065	1077	CAL.	.001545	.001950	.001545	.001545	1.000000	1.000000	3.000	
1065	1078	CAL.	.022966	.028988	.022966	.022966	1.000000	1.000000	4.193	
1065	1079	CAL.	.023828	.015649	.023828	.023828	1.000000	1.000000	4.435	
1065	1086	CAL.	.006480	.006480	.006480	.006480	1.000000	1.000000	4.953	
1065	1087	CAL.	.000043	.000054	.000043	.000043	1.000000	1.000000	5.280	
1065	1088	CAL.	.003832	.004837	.003832	.003832	1.000000	1.000000	5.620	
1065	1089	CAL.	.002172	.001426	.002172	.002172	1.000000	1.000000	5.903	
1065	1096	CAL.	.001604	.001604	.001604	.001604	1.000000	1.000000	6.453	
1065	1097	CAL.	.000107	.000009	.000007	.000007	1.000000	1.000000	6.803	
1065	1098	CAL.	.000885	.001118	.000885	.000885	1.000000	1.000000	7.159	
1065	1099	CAL.	.000427	.000281	.000427	.000427	1.000000	1.000000	7.454	
1065	FF SUM = .4545	ROW CP TIME = 7.459				+ RECT		-Y INSIDE TOP PANNEL2,X=759.2		
1066	1067	CAL.	.055797	.070429	.055797	.055797	1.000000	1.000000	.481	
1066	1068	CAL.	.015740	.019867	.015740	.015740	1.000000	1.000000	.741	
1066	1069	CAL.	.088759	.058292	.088759	.088759	1.000000	1.000000	1.840	
1066	1076	CAL.	.032622	.032622	.032622	.032622	1.000000	1.000000	2.305	
1066	1077	CAL.	.022966	.028988	.022966	.022966	1.000000	1.000000	2.631	
1066	1078	CAL.	.001545	.001950	.001545	.001545	1.000000	1.000000	2.918	
1066	1079	CAL.	.023828	.015649	.023828	.023828	1.000000	1.000000	3.162	
1066	1086	CAL.	.006480	.006480	.006480	.006480	1.000000	1.000000	3.665	
1066	1087	CAL.	.003832	.004837	.003832	.003832	1.000000	1.000000	4.037	
1066	1088	CAL.	.000043	.000054	.000043	.000043	1.000000	1.000000	4.360	
1066	1089	CAL.	.002172	.001426	.002172	.002172	1.000000	1.000000	4.645	
1066	1096	CAL.	.001604	.001604	.001604	.001604	1.000000	1.000000	5.177	
1066	1097	CAL.	.000885	.001118	.000885	.000885	1.000000	1.000000	5.574	
1066	1098	CAL.	.000007	.000009	.000007	.000007	1.000000	1.000000	5.920	
1066	1099	CAL.	.000427	.000281	.000427	.000427	1.000000	1.000000	6.221	
1066	FF SUM = .4528	ROW CP TIME = 6.227				+ RECT		+Y INSIDE TOP PANNEL2,X=759.2		
1067	1068	CAL.	.061000	.061000	.061000	.061000	1.000000	1.000000	.401	
1067	1069	CAL.	.093268	.048528	.093268	.093268	1.000000	1.000000	1.689	
1067	1075	CAL.	.001950	.001545	.001950	.001950	1.000000	1.000000	2.193	
1067	1076	CAL.	.028988	.022966	.028988	.028988	1.000000	1.000000	2.490	
1067	1078	CAL.	.019607	.015537	.019607	.019607	1.000000	1.000000	2.832	

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)	
1067	1085	CAL.	.000054	.000043	.000054	.000054	1.000000	1.000000	10.005	
1067	1086	CAL.	.004837	.003832	.004837	.004837	1.000000	1.000000	10.361	
1067	1088	CAL.	.002231	.002231	.002231	.002231	1.000000	1.000000	10.740	
1067	1089	CAL.	.000405	.000211	.000405	.000405	1.000000	1.000000	11.042	
1067	1095	CAL.	.000009	.000007	.000009	.000009	1.000000	1.000000	11.605	
1067	1096	CAL.	.001118	.000885	.001118	.001118	1.000000	1.000000	11.979	
1067	1098	CAL.	.000457	.000457	.000457	.000457	1.000000	1.000000	12.387	
1067	1099	CAL.	.000070	.000036	.000070	.000070	1.000000	1.000000	12.698	
1067	FF SUM =	.4206	ROW CP TIME =	12.704		+ RECT		-Y INSIDE BOTTOM PANNEL2, X=7		
1068	1069	CAL.	.093268	.048528	.093268	.093268	1.000000	1.000000	1.304	
1068	1075	CAL.	.028988	.022966	.028988	.028988	1.000000	1.000000	1.812	
1068	1076	CAL.	.001950	.001545	.001950	.001950	1.000000	1.000000	2.102	
1068	1077	CAL.	.019607	.019607	.019607	.019607	1.000000	1.000000	2.414	
1068	1079	CAL.	.010132	.005272	.010132	.010132	1.000000	1.000000	9.090	*
1068	1085	CAL.	.004837	.003832	.004837	.004837	1.000000	1.000000	9.634	
1068	1086	CAL.	.000054	.000043	.000054	.000054	1.000000	1.000000	9.960	
1068	1087	CAL.	.002231	.002231	.002231	.002231	1.000000	1.000000	10.310	
1068	1089	CAL.	.000405	.000211	.000405	.000405	1.000000	1.000000	10.654	
1068	1095	CAL.	.001118	.000885	.001118	.001118	1.000000	1.000000	11.242	
1068	1096	CAL.	.000009	.000007	.000009	.000009	1.000000	1.000000	11.595	
1068	1097	CAL.	.000457	.000457	.000457	.000457	1.000000	1.000000	11.977	
1068	1099	CAL.	.000070	.000036	.000070	.000070	1.000000	1.000000	12.328	
1068	FF SUM =	.4265	ROW CP TIME =	12.334		+ RECT		+Y INSIDE BOTTOM PANNEL2,X 75		
1069	1075	CAL.	.015649	.023828	.015649	.015649	1.000000	1.000000	.467	
1069	1076	CAL.	.015649	.023828	.015649	.015649	1.000000	1.000000	.709	
1069	1077	CAL.	.005272	.010132	.005272	.005272	1.000000	1.000000	7.216	*
1069	1078	CAL.	.005272	.010132	.005272	.005272	1.000000	1.000000	13.699	*
1069	1085	CAL.	.001426	.002172	.001426	.001426	1.000000	1.000000	14.220	
1069	1086	CAL.	.001426	.002172	.001426	.001426	1.000000	1.000000	14.497	
1069	1087	CAL.	.000211	.000405	.000211	.000211	1.000000	1.000000	14.796	
1069	1088	CAL.	.000211	.000405	.000211	.000211	1.000000	1.000000	15.104	
1069	1095	CAL.	.000281	.000427	.000281	.000281	1.000000	1.000000	15.643	
1069	1096	CAL.	.000281	.000427	.000281	.000281	1.000000	1.000000	15.934	
1069	1097	CAL.	.000036	.000070	.000036	.000036	1.000000	1.000000	16.256	
1069	1098	CAL.	.000036	.000070	.000036	.000036	1.000000	1.000000	16.573	
1069	FF SUM =	.3422	ROW CP TIME =	16.611		+ RECT		PALLET2 BOTTOM,X= 759.2 TO 87		

MODEL = CONTAM STEP = 1
FORM FACTOR CALCULATION LINK.

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) NO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)!	
1070	FF SUM =	.9133	ROW CP TIME =		1.410		+ CYLN			PALLET3 BOTTOM CYLINDER X= 87
1071	FF SUM =	.3029	ROW CP TIME =		.809		+ RECT			-Y PALLET1 OUTSIDE STRIP SL2.
1072	FF SUM =	.7435	ROW CP TIME =		.787		+ RECT			+Y PALLET1 OUTSIDE STRIP SL2
1073	FF SUM =	.0104	ROW CP TIME =		.976		+ RECT			-Y PALLET3 TOP STRIP X=873.2 T
1074	FF SUM =	.0092	ROW CP TIME =		.931		+ RECT			+Y PALLET3 TOP STRIP ,X= 873.
1075	1076	CAL.	.069758	.069758	.069758	.069758	1.000000	1.000000	1.345	
1075	1077	CAL.	.015740	.019867	.015740	.015740	1.000000	1.000000	1.598	
1075	1078	CAL.	.055797	.070429	.055797	.055797	1.000000	1.000000	2.066	
1075	1079	CAL.	.088759	.058292	.088759	.088759	1.000000	1.000000	3.188	
1075	1085	CAL.	.032622	.032622	.032622	.032622	1.000000	1.000000	3.690	
1075	1087	CAL.	.001545	.001950	.001545	.001545	1.000000	1.000000	3.988	
1075	1088	CAL.	.022966	.028988	.022966	.022966	1.000000	1.000000	4.293	
1075	1089	CAL.	.023828	.015649	.023828	.023328	1.000000	1.000000	4.548	
1075	1095	CAL.	.006480	.006480	.006480	.006480	1.000000	1.000000	5.069	
1075	1097	CAL.	.000043	.000054	.000043	.000043	1.000000	1.000000	5.383	
1075	1098	CAL.	.003832	.004837	.003832	.003832	1.000000	1.000000	5.713	
1075	1099	CAL.	.002172	.001426	.002172	.002172	1.000000	1.000000	5.987	
1075	FF SUM =	.4504	ROW CP TIME =		5.992		+ RECT			-Y INSIDE TOP PANNEL3 ,X=873.
1076	1077	CAL.	.055797	.070429	.055797	.055797	1.000000	1.000000	.488	
1076	1079	CAL.	.015740	.019867	.015740	.015740	1.000000	1.000000	.744	
1076	1079	CAL.	.088759	.058292	.088759	.088759	1.000000	1.000000	1.877	
1076	1085	CAL.	.032622	.032622	.032622	.032622	1.000000	1.000000	2.348	
1076	1087	CAL.	.022966	.028988	.022966	.022966	1.000000	1.000000	2.690	
1076	1088	CAL.	.001545	.001950	.001545	.001545	1.000000	1.000000	2.983	
1076	1089	CAL.	.023328	.015649	.023828	.023328	1.000000	1.000000	3.239	
1076	1095	CAL.	.006481	.006480	.006480	.006480	1.000000	1.000000	3.736	
1076	1097	CAL.	.003832	.004837	.003832	.003832	1.000000	1.000000	4.096	
1076	1098	CAL.	.000043	.000054	.000043	.000043	1.000000	1.000000	4.402	
1076	1099	CAL.	.002172	.001426	.002172	.002172	1.000000	1.000000	4.676	

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)!	
1076	FF SUM = .4500	ROW CP TIME = 4.701				+ RECT	+Y INSIDE TOP PANNEL3,X=873.2			
1077	1078	CAL.	.061000	.061000	.061000	.061000	1.000000	1.000000	.425	
1077	1079	CAL.	.093268	.048528	.093268	.093268	1.000000	1.000000	1.855	
1077	1085	CAL.	.001950	.001545	.001950	.001950	1.000000	1.000000	2.351	
1077	1086	CAL.	.028988	.022966	.028988	.028988	1.000000	1.000000	2.656	
1077	1088	CAL.	.019607	.019607	.019607	.019607	1.000000	1.000000	3.009	
1077	1089	CAL.	.010132	.005272	.010132	.010132	1.000000	1.000000	9.806	*
1077	1095	CAL.	.000054	.000043	.000054	.000054	1.000000	1.000000	10.327	
1077	1096	CAL.	.004837	.003832	.004837	.004837	1.000000	1.000000	10.656	
1077	1098	CAL.	.002231	.002231	.002231	.002231	1.000000	1.000000	11.020	
1077	1099	CAL.	.000405	.000211	.000405	.000405	1.000000	1.000000	11.298	
1077	FF SUM = .4140	ROW CP TIME = 11.305				+ RECT	-Y INSIDE BOTTOM PANNEL3, X=8			
1078	1079	CAL.	.093268	.048528	.093268	.093268	1.000000	1.000000	1.431	
1078	1085	CAL.	.028988	.022966	.028988	.028988	1.000000	1.000000	1.950	
1078	1086	CAL.	.001950	.001545	.001950	.001950	1.000000	1.000000	2.239	
1078	1087	CAL.	.019607	.019607	.019607	.019607	1.000000	1.000000	2.570	
1078	1089	CAL.	.010132	.005272	.010132	.010132	1.000000	1.000000	9.365	*
1078	1095	CAL.	.004837	.003832	.004837	.004837	1.000000	1.000000	9.931	
1078	1096	CAL.	.000054	.000043	.000054	.000054	1.000000	1.000000	10.238	
1078	1097	CAL.	.002231	.002231	.002231	.002231	1.000000	1.000000	10.572	
1078	1099	CAL.	.000405	.000211	.000405	.000405	1.000000	1.000000	10.889	
1078	FF SUM = .4138	ROW CP TIME = 10.895				+ RECT	+Y INSIDE BOTTOM PANNEL3,X 87			
1079	1085	CAL.	.015649	.023828	.015649	.015649	1.000000	1.000000	.475	
1079	1086	CAL.	.015649	.023828	.015649	.015649	1.000000	1.000000	.726	
1079	1087	CAL.	.005272	.010132	.005272	.005272	1.000000	1.000000	7.561	*
1079	1088	CAL.	.005272	.010132	.005272	.005272	1.000000	1.000000	14.271	*
1079	1095	CAL.	.001426	.002172	.001426	.001426	1.000000	1.000000	14.791	
1079	1096	CAL.	.001426	.002172	.001426	.001426	1.000000	1.000000	15.064	
1079	1097	CAL.	.000211	.000405	.000211	.000211	1.000000	1.000000	15.354	
1079	1099	CAL.	.000211	.000405	.000211	.000211	1.000000	1.000000	15.638	
1079	FF SUM = .7345	ROW CP TIME = 15.678				+ RECT	...BOTTOM PANNEL3 ,X=873.2 TO			
1080	FF SUM = .9210	ROW CP TIME = .916				+ CYLN	PALLET4 BOTTOM CYLINDER X= 98			

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTER	SHAD. A FACTOR	CP TIME (SEC)!	
1081	FF SUM =	.3004	ROW CP TIME =		.548		+ RECT		-Y PALLET4 OUTSIDE STRIP SL3	
1082	FF SUM =	.7774	ROW CP TIME =		.502		+ RECT		+Y PALLET4 OUTSIDE STRIP SL3	
1083	FF SUM =	.0220	ROW CP TIME =		.606		+ RECT		-Y PALLET4 TOP STRIP X=987.2 T	
1084	FF SUM =	.0165	ROW CP TIME =		.563		+ RECT		+Y PALLET4 TOP STRIP ,X= 987.	
1085	1086	CAL.	.069758	.069758	.069758	.069758	1.000000	1.000000	1.415	
1085	1087	CAL.	.015740	.019867	.015740	.015740	1.000000	1.000000	1.683	
1085	1088	CAL.	.055797	.070429	.055797	.055797	1.000000	1.000000	2.178	
1085	1089	CAL.	.088759	.058292	.088759	.088759	1.000000	1.000000	3.395	
1085	1095	CAL.	.032622	.032622	.032622	.032622	1.000000	1.000000	3.896	
1085	1097	CAL.	.001545	.001950	.001545	.001545	1.000000	1.000000	4.190	
1085	1098	CAL.	.022966	.028988	.022966	.022966	1.000000	1.000000	4.484	
1085	1099	CAL.	.023828	.015649	.023828	.023828	1.000000	1.000000	4.727	
1085	FF SUM =	.4680	ROW CP TIME =		4.731		+ RECT		-Y INSIDE TOP PANNEL4,X=987.2	
1086	1087	CAL.	.055797	.070429	.055797	.055797	1.000000	1.000000	.512	
1086	1088	CAL.	.015740	.019867	.015740	.015740	1.000000	1.000000	.777	
1086	1089	CAL.	.088759	.058292	.088759	.088759	1.000000	1.000000	1.976	
1086	1095	CAL.	.032622	.032622	.032622	.032622	1.000000	1.000000	2.449	
1086	1097	CAL.	.022966	.028988	.022966	.022966	1.000000	1.000000	2.772	
1086	1098	CAL.	.001545	.001950	.001545	.001545	1.000000	1.000000	3.059	
1086	1099	CAL.	.023828	.015649	.023828	.023828	1.000000	1.000000	3.299	
1086	FF SUM =	.4667	ROW CP TIME =		3.306		+ RECT		+Y INSIDE TOP PANNEL4,X=987.2	
1087	1088	CAL.	.061000	.061000	.061000	.061000	1.000000	1.000000	.426	
1087	1089	CAL.	.093268	.048528	.093268	.093268	1.000000	1.000000	1.876	
1087	1095	CAL.	.001950	.001545	.001950	.001950	1.000000	1.000000	2.363	
1087	1096	CAL.	.028988	.022966	.028988	.028988	1.000000	1.000000	2.688	
1087	1098	CAL.	.019607	.019607	.019607	.019607	1.000000	1.000000	3.038	
1087	1099	CAL.	.010132	.005272	.010132	.010132	1.000000	1.000000	9.694	*
			CP TIME =		.200		+ RECT		-Y INSIDE BOTTOM PANNEL4, X=9	

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)!		
1088	1089	CAL.	.093268	.048528	.093268	.093268	1.000000	1.000000	1.432		
1088	1095	CAL.	.028938	.022966	.028988	.028988	1.000000	1.000000	1.976		
1088	1096	CAL.	.001950	.001545	.001950	.001950	1.000000	1.000000	2.254		
1088	1097	CAL.	.019607	.019607	.019607	.019607	1.000000	1.000000	2.568		
1088	1099	CAL.	.010132	.005272	.010132	.010132	1.000000	1.000000	9.303	*	
1088	FF SUM =	.4357	ROW CP TIME =	9.309		+ RECT		+Y INSIDE BOTTOM PANNEL4,X 98			
1089	1095	CAL.	.015649	.023828	.015649	.015649	1.000000	1.000000	.464		
1089	1096	CAL.	.015649	.023828	.015649	.015649	1.000000	1.000000	.701		
1089	1097	CAL.	.005272	.010132	.005272	.005272	1.000000	1.000000	7.490	*	
1089	1098	CAL.	.005272	.010132	.005272	.005272	1.000000	1.000000	14.259	*	
1089	FF SUM =	.3589	ROW CP TIME =	14.299		+ RECT		PALLET4 BOTTOM,X= 987.2 TO 11			
1090	FF SUM =	.0116	ROW CP TIME =	.437		+ CYLN		PALLET5 BOTTOM CYLINDER X= 11			
1091	FF SUM =	.3096	ROW CP TIME =	.244		+ RECT		-Y PALLET5 OUTSIDE STRIP			
1092	FF SUM =	.8012	ROW CP TIME =	.227		+ RECT		+Y PALLET5 OUTSIDE STRIP			
1093	FF SUM =	.0946	ROW CP TIME =	.236		+ RECT		-Y PALLET5 TOP STRIP X=1101.2			
1094	FF SUM =	.0939	ROW CP TIME =	.199		+ RECT		+Y PALLET5 TOP STRIP ,X= 1101			
1095	1096	CAL.	.069758	.069758	.069758	.069758	1.000000	1.000000	1.177		
1095	1097	CAL.	.015740	.019867	.015740	.015740	1.000000	1.000000	1.433		
1095	1098	CAL.	.055797	.070429	.055797	.055797	1.000000	1.000000	1.884		
1095	1099	CAL.	.088759	.058292	.088759	.088759	1.000000	1.000000	2.923		
1095	FF SUM =	.5397	ROW CP TIME =	2.929		+ RECT		-Y INSIDE TOP PANNEL5,X=1101.			
1096	1097	CAL.	.055797	.070429	.055797	.055797	1.000000	1.000000	.467		

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
FORM FACTOR CALCULATION LINK.

(* INDICATES NODE PAIR HAS BEEN SUBDIVIDED)!

NODE I	NODE J	COMPUTATION	FE(I,J) W/SHAD	FE(J,I) W/SHAD	FA(I,J) W/SHAD	F (I,J) WO/SHAD	SHAD. E FACTOR	SHAD. A FACTOR	CP TIME (SEC)!	
1096	1098	CAL.	.015740	.013867	.015740	.015740	1.000000	1.000000	.721	
1096	1099	CAL.	.088759	.058292	.088759	.088759	1.000000	1.000000	1.778	
1096	FF SUM =	.5243	ROW CP TIME =		1.765		+ RECT		+Y INSIDE TOP PANNEL5,X=1101.	
1097	1098	CAL.	.061000	.061000	.061000	.061000	1.000000	1.000000	.397	
1097	1099	CAL.	.093268	.048528	.093268	.093268	1.000000	1.000000	1.656	
1097	FF SUM =	.5124	ROW CP TIME =		1.670		+ RECT		-Y INSIDE BOTTOM PANNEL5, X=1	
1098	1099	CAL.	.093268	.048528	.093268	.093268	1.000000	1.000000	1.266	
1098	FF SUM =	.5003	ROW CP TIME =		1.272		+ RECT		+Y INSIDE BOTTOM PANNEL5,X 11	
1099	FF SUM =	.4329	ROW CP TIME =		.021		+ RECT		PALLET 5 BOTTOM,X=1011.2 TO 12	

TOTAL CP TIME (SEC) FOR PROBLEM = 1964.574

SPACELAB-3 GEOMETRIC RELATIONSHIP DATA MATRIX

The following pages contain the geometric relationship data computer printouts for the Spacelab-3/Orbiter configuration.

MODEL = CONTAM STEP = 1
PROCESSSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
20	1052	.000041	3.71E+03	7.51	88.34	5.72716E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1053	.000062	3.71E+03	17.91	83.65	5.96705E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1054	.000072	3.71E+03	6.92	83.37	5.71961E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1055	.001312	3.71E+03	17.89	72.40	5.96646E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1056	.000079	3.71E+03	9.25	90.26	5.75293E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1057	.001059	3.71E+03	18.26	71.74	5.97914E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1058	.000275	3.71E+03	13.07	85.53	5.82390E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1059	.001554	3.71E+03	16.29	76.74	5.91535E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1062	.000080	3.71E+03	9.37	87.93	4.59936E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1063	.000110	3.71E+03	22.01	82.25	4.89484E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1064	.000141	3.71E+03	8.63	81.73	4.58395E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1065	.002336	3.71E+03	21.99	68.37	4.89412E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1066	.000164	3.71E+03	11.51	90.07	4.67118E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1067	.001897	3.71E+03	22.43	67.57	4.90957E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1068	.000511	3.71E+03	16.19	84.48	4.72545E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1069	.002812	3.71E+03	21.08	73.69	4.83168E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1072	.000187	3.71E+03	12.43	87.27	3.47353E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1073	.000217	3.71E+03	28.37	80.16	3.86166E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1074	.000329	3.71E+03	11.46	79.02	3.46703E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1075	.004577	3.71E+03	28.74	62.14	3.86175E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1076	.001369	3.71E+03	15.22	90.10	3.52148E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1077	.003688	3.71E+03	28.87	61.13	3.88131E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1078	.001086	3.71E+03	21.20	82.84	3.64456E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1079	.005682	3.71E+03	26.02	68.97	3.78129E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1082	.000611	3.71E+03	18.35	86.00	2.37992E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1083	.000457	3.71E+03	39.09	76.88	2.90340E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1084	.001058	3.71E+03	16.96	73.76	2.36067E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1085	.009572	3.71E+03	39.07	51.66	2.90318E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1086	.001060	3.71E+03	22.26	90.14	2.43987E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1087	.007595	3.71E+03	39.58	50.33	2.93410E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1088	.002719	3.71E+03	30.27	79.99	2.61438E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1089	.012723	3.71E+03	36.70	61.03	2.80184E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1092	.003709	3.71E+03	33.81	82.92	1.34560E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1093	.000747	3.71E+03	58.64	72.10	2.14344E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1094	.005846	3.71E+03	31.63	59.81	1.31307E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1095	.015514	3.71E+03	58.62	32.82	2.14683E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01

MODEL = CONTAM STEP = 1
PROCESSSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
20	1095	.003710	3.71E+03	39.58	90.23	1.45052E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1097	.011959	3.71E+03	59.17	30.85	2.18181E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1098	.006441	3.71E+03	49.69	74.75	1.72310E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
20	1099	.023784	3.71E+03	56.02	47.28	2.00341E+02	3.71E+03	0.	1.44E-08	-4.70E+02	-9.54E+01	8.00E+01
21	1051	.000041	3.71E+03	7.51	88.34	5.72716E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1052	.000072	3.71E+03	6.92	83.37	5.71961E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1054	.000062	3.71E+03	17.91	83.65	5.96705E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1055	.000086	3.71E+03	9.25	90.06	5.75274E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1056	.001297	3.71E+03	17.89	72.56	5.96664E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1057	.000275	3.71E+03	13.07	85.53	5.82390E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1058	.001469	3.71E+03	18.26	71.74	5.97914E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1059	.001554	3.71E+03	16.29	70.74	5.91535E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1061	.000080	3.71E+03	9.37	87.93	4.59336E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1063	.000141	3.71E+03	8.63	81.73	4.56995E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1064	.000110	3.71E+03	22.01	82.25	4.89484E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1065	.000164	3.71E+03	11.51	90.07	4.63118E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1066	.002336	3.71E+03	21.99	68.37	4.89412E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1067	.000511	3.71E+03	15.19	84.48	4.72545E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1068	.001997	3.71E+03	22.43	67.57	4.90957E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1069	.002812	3.71E+03	20.08	73.69	4.83168E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1071	.000187	3.71E+03	12.43	87.27	3.47953E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1073	.000329	3.71E+03	11.46	79.02	3.46708E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1074	.000217	3.71E+03	28.37	80.16	3.86166E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1075	.000359	3.71E+03	15.22	90.10	3.52148E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1076	.004577	3.71E+03	28.34	62.14	3.86175E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1077	.001086	3.71E+03	21.20	82.84	3.64456E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1078	.003688	3.71E+03	28.37	61.13	3.88031E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1079	.005682	3.71E+03	26.02	68.97	3.78129E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1081	.000611	3.71E+03	18.35	86.00	2.37892E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1083	.001058	3.71E+03	16.96	73.76	2.36067E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1084	.000487	3.71E+03	39.09	76.88	2.90940E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1085	.001760	3.71E+03	22.26	90.14	2.43947E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1086	.009572	3.71E+03	39.97	51.66	2.90818E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1087	.002719	3.71E+03	30.27	79.99	2.61438E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1088	.007595	3.71E+03	39.68	50.33	2.93410E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1089	.012723	3.71E+03	36.30	61.03	2.80184E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1091	.003709	3.71E+03	33.81	82.92	1.34560E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1092	.005846	3.71E+03	31.63	59.81	1.31307E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1094	.000747	3.71E+03	58.64	72.10	2.14848E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1095	.003710	3.71E+03	33.58	90.23	1.45162E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1096	.015514	3.71E+03	58.62	32.82	2.14693E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1097	.006441	3.71E+03	49.69	74.75	1.72310E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1098	.011959	3.71E+03	59.17	30.85	2.18181E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01
21	1099	.023784	3.71E+03	56.02	47.28	2.00341E+02	3.71E+03	0.	1.44E-08	-4.70E+02	9.54E+01	8.00E+01

MODEL = CONTAM STEP = 1
PROCESSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

150	1058	.000032	2.80E+04	84.53	90.79	4.85731E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1062	.000003	2.80E+04	83.96	90.79	4.86820E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1060	.000100	2.80E+04	82.88	91.02	3.73393E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1062	.000008	2.80E+04	82.14	91.02	3.74308E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1070	.000498	2.80E+04	79.85	91.46	2.62492E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1072	.000046	2.80E+04	78.83	91.45	2.64501E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1080	.044185	2.80E+04	72.76	92.46	1.56120E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1082	.001819	2.80E+04	71.26	92.40	1.59475E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1090	.430157	2.80E+04	52.72	95.01	7.64106E+01	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1092	.016158	2.80E+04	51.91	94.61	8.30409E+01	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1095	.005355	2.80E+04	21.77	44.27	1.54106E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
150	1097	.002933	2.80E+04	32.70	56.78	1.24695E+02	-7.72E-08	1.98E+04	1.98E+04	-3.82E+02	-7.21E+01	-7.21E+01
151	1050	.000217	2.80E+04	81.52	91.22	3.13775E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1052	.000019	2.80E+04	80.65	91.21	3.15457E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1060	.001746	2.80E+04	76.92	91.87	2.04554E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1062	.000150	2.80E+04	75.68	91.85	2.07126E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1070	.264467	2.80E+04	64.10	93.61	1.05933E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1072	.010037	2.80E+04	62.47	93.45	1.10918E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1080	.406454	2.80E+04	55.25	94.72	8.12100E+01	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1082	.015083	2.80E+04	54.15	94.38	8.74768E+01	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1090	.018229	2.80E+04	73.93	92.29	1.67204E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
151	1092	.000955	2.80E+04	72.50	92.25	1.70340E+02	-7.72E-08	1.98E+04	1.98E+04	-2.07E+02	-7.21E+01	-7.21E+01
152	1050	.000508	2.80E+04	71.91	92.57	1.49179E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1052	.000707	2.80E+04	70.38	92.51	1.52599E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1060	.439739	2.80E+04	51.44	95.16	7.42445E+01	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1062	.015341	2.80E+04	50.80	94.72	8.10617E+01	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1070	.185869	2.80E+04	67.63	93.15	1.21622E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1072	.007101	2.80E+04	65.99	93.04	1.25099E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01

MODEL = CONTAM STEP = 1
PROCESSSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
152	1080	.001095	2.80E+04	79.06	91.71	2.23749E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1082	.000107	2.80E+04	76.90	91.69	2.26102E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1090	.000164	2.80E+04	82.03	91.15	3.33657E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
152	1092	.000014	2.80E+04	81.21	91.14	3.35240E+02	-7.72E-08	1.98E+04	1.98E+04	-3.25E+01	-7.21E+01	-7.21E+01
153	1050	.390456	2.80E+04	57.06	94.50	8.51155E+01	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1052	.014222	2.80E+04	55.79	94.20	9.11230E+01	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1055	.007301	2.80E+04	25.53	45.92	1.58606E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1057	.003183	2.80E+04	35.31	58.36	1.30217E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1059	.000722	2.80E+04	43.58	100.96	8.64284E+01	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1060	.011641	2.80E+04	74.62	92.19	1.74448E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1062	.000633	2.80E+04	73.22	92.16	1.77457E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1070	.000354	2.80E+04	80.56	91.36	2.82156E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1072	.000032	2.80E+04	79.61	91.35	2.84126E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1080	.000079	2.80E+04	83.24	90.97	3.93425E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1082	.000007	2.80E+04	82.54	90.97	3.94769E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1090	.000027	2.80E+04	84.75	90.76	5.05912E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
153	1092	.000002	2.80E+04	84.20	90.75	5.06957E+02	-7.72E-08	1.98E+04	1.98E+04	1.43E+02	-7.21E+01	-7.21E+01
154	1050	.000032	2.80E+04	84.53	90.79	4.85731E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1051	.000003	2.80E+04	83.96	90.79	4.86820E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1060	.000100	2.80E+04	82.89	91.02	3.73393E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1061	.000008	2.80E+04	82.14	91.02	3.74306E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1070	.000498	2.80E+04	79.85	91.46	2.62492E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1071	.000046	2.80E+04	78.83	91.45	2.64501E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1080	.044185	2.80E+04	72.76	92.45	1.56120E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1081	.001819	2.80E+04	71.26	92.40	1.59475E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1090	.430157	2.80E+04	52.72	95.01	7.64106E+01	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1091	.016158	2.80E+04	51.91	94.61	8.30409E+01	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1096	.005365	2.80E+04	21.77	44.27	1.54106E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
154	1098	.002973	2.80E+04	32.70	56.78	1.24695E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.82E+02	7.21E+01	-7.21E+01
155	1050	.000217	2.80E+04	81.52	91.22	3.13775E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1051	.000019	2.80E+04	80.65	91.21	3.15457E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1060	.001746	2.80E+04	76.92	91.87	2.04554E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1061	.000180	2.80E+04	75.68	91.85	2.07126E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1070	.264467	2.80E+04	64.10	93.61	1.05933E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1071	.019037	2.80E+04	62.47	93.45	1.10318E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1080	.406454	2.80E+04	55.25	94.72	8.12000E+01	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1081	.315083	2.80E+04	54.15	94.39	8.74768E+01	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1090	.018229	2.80E+04	73.93	92.29	1.67204E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
155	1091	.000955	2.80E+04	72.50	92.25	1.70340E+02	-7.72E-08	-1.98E+04	1.98E+04	-2.07E+02	7.21E+01	-7.21E+01
156	1050	.870508	2.80E+04	71.91	92.57	1.49079E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1051	.002707	2.80E+04	70.38	92.51	1.52589E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1060	.439739	2.80E+04	51.44	95.16	7.42445E+01	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01

MODEL = CONTAM STEP = 1
PROCESSSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
156	1061	.015381	2.80E+04	50.80	94.72	8.10617E+01	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1070	.185d69	2.80E+04	67.63	93.15	1.21622E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1071	.007101	2.80E+04	65.99	93.04	1.25899E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1080	.001095	2.80E+04	78.06	91.71	2.23749E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1081	.J09107	2.80E+04	75.90	91.69	2.26102E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1090	.000164	2.80E+04	82.03	91.15	3.37657E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
156	1091	.000014	2.80E+04	81.21	91.14	3.35240E+02	-7.72E-08	-1.98E+04	1.98E+04	-3.25E+01	7.21E+01	-7.21E+01
157	1050	.390456	2.80E+04	57.06	94.50	8.51155E+01	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1051	.014222	2.80E+04	55.79	94.20	9.11230E+01	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1056	.007335	2.80E+04	25.53	45.53	1.58602E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1058	.003153	2.80E+04	36.31	58.36	1.30217E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1059	.000722	2.80E+04	43.58	100.96	9.64284E+01	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1060	.011641	2.80E+04	74.62	92.19	1.74448E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1061	.000663	2.80E+04	73.22	92.16	1.77457E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1070	.000354	2.80E+04	80.56	91.36	2.82156E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1071	.000032	2.80E+04	79.61	91.35	2.84026E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1080	.000079	2.80E+04	83.24	90.97	3.93425E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1081	.000007	2.80E+04	82.54	90.97	3.94769E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1090	.000027	2.80E+04	84.75	90.76	5.05312E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
157	1091	.000002	2.80E+04	84.20	90.75	5.06357E+02	-7.72E-08	-1.98E+04	1.98E+04	1.43E+02	7.21E+01	-7.21E+01
140	1053	.000012	3.27E+04	12.66	91.38	5.81355E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1054	.000011	3.27E+04	2.87	91.41	5.68514E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1055	.000557	3.27E+04	11.63	78.75	5.79707E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1056	.000544	3.27E+04	1.66	88.50	5.68057E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1057	.000434	3.27E+04	10.60	79.95	5.77565E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1058	.000430	3.27E+04	4.29	87.49	5.69395E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1059	.000734	3.27E+04	7.58	84.42	5.72800E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1063	.000023	3.27E+04	15.70	91.70	4.71390E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1064	.000022	3.27E+04	3.59	91.76	4.54693E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1065	.001067	3.27E+04	14.44	76.04	4.68613E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1066	.001065	3.27E+04	2.08	87.95	4.54038E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1067	.000824	3.27E+04	13.18	77.51	4.66384E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1068	.000825	3.27E+04	5.36	86.86	4.55794E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1069	.001409	3.27E+04	9.45	83.05	4.60041E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1073	.000055	3.27E+04	20.58	92.21	3.62958E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1074	.000048	3.27E+04	4.79	92.35	3.40391E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1075	.002416	3.27E+04	18.98	71.66	3.59343E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1076	.002408	3.27E+04	2.77	87.26	3.40198E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1077	.001969	3.27E+04	17.77	73.55	3.56039E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1078	.001873	3.27E+04	7.14	85.82	3.42458E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1079	.003207	3.27E+04	12.53	80.79	3.48191E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1083	.000185	3.27E+04	29.47	93.09	2.59345E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1084	.000137	3.27E+04	7.19	93.53	2.27589E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1085	.007173	3.27E+04	27.37	83.60	2.54262E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10

MODEL = CONTAM STEP = 1
PROCESSSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I		POSITION VECTOR I		
140	1086	.007065	3.27E+04	4.17	85.88	2.26399E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1087	.005550	3.27E+04	25.21	66.17	2.49570E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1088	.005610	3.27E+04	10.68	83.76	2.29781E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1089	.009626	3.27E+04	18.49	76.47	2.38095E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1093	.001177	3.27E+04	48.77	94.73	1.69627E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1094	.001174	3.27E+04	14.29	96.97	1.15370E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1095	.024380	3.27E+04	46.28	45.66	1.61749E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1096	.023765	3.27E+04	8.37	81.72	1.13305E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1097	.013489	3.27E+04	43.56	49.19	1.54269E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1098	.018214	3.27E+04	20.65	77.96	1.19637E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
140	1099	.035641	3.27E+04	34.04	65.62	1.34917E+02	3.27E+04	0.	1.27E-07	-4.70E+02	-5.10E+01	-3.99E-10
135	1053	.000809	3.27E+04	43.93	94.37	1.83715E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1054	.001366	3.27E+04	12.16	95.94	1.35233E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1055	.019763	3.27E+04	41.48	50.16	1.76466E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1056	.018825	3.27E+04	7.10	82.85	1.33202E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1057	.015342	3.27E+04	38.80	53.53	1.69637E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1058	.015342	3.27E+04	17.86	79.65	1.38891E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1059	.024868	3.27E+04	29.74	68.54	1.52251E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1063	.000144	3.27E+04	27.39	92.89	2.77288E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1064	.000111	3.27E+04	6.60	93.24	2.47842E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1065	.005750	3.27E+04	25.40	65.49	2.72540E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1066	.005686	3.27E+04	3.82	86.22	2.46749E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1067	.004439	3.27E+04	23.35	67.92	2.68168E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1068	.004473	3.27E+04	9.81	84.27	2.49856E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1069	.007683	3.27E+04	17.05	77.51	2.57523E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1073	.000047	3.27E+04	19.50	92.10	3.82123E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1074	.000041	3.27E+04	4.52	92.22	3.61324E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1075	.002054	3.27E+04	17.98	72.63	3.78692E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1076	.002049	3.27E+04	2.62	87.41	3.60376E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1077	.001569	3.27E+04	16.44	74.43	3.75558E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1078	.001591	3.27E+04	6.74	86.05	3.62709E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1079	.002727	3.27E+04	11.84	81.30	3.68932E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1083	.000023	3.27E+04	15.06	91.63	4.91060E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1084	.000019	3.27E+04	3.44	91.69	4.75054E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1085	.000940	3.27E+04	13.85	76.62	4.88394E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1086	.000939	3.27E+04	1.99	88.04	4.74486E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1087	.000726	3.27E+04	12.63	78.03	4.85969E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1088	.000727	3.27E+04	5.13	86.99	4.76109E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1089	.001241	3.27E+04	9.05	83.34	4.80176E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1093	.000011	3.27E+04	12.24	91.33	6.01375E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1094	.000010	3.27E+04	2.77	91.36	5.88889E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1095	.000503	3.27E+04	11.24	79.13	5.99702E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1096	.000503	3.27E+04	1.60	88.42	5.88430E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1097	.000369	3.27E+04	10.24	80.29	5.97728E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
135	1098	.000388	3.27E+04	4.14	87.57	5.89740E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10

MODEL = CONTAM STEP = 1
PROCESSSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
135	1099	.000662	2.27E+04	7.32	84.61	5.93028E+02	-3.27E+04	0.	1.27E-07	2.30E+02	-5.10E+01	3.99E-10
796	1052	.000017	2.41E+04	86.94	84.72	3.94990E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1062	.000168	2.41E+04	85.71	82.59	2.81877E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1070	.008443	2.41E+04	51.18	108.10	2.11528E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1072	.016698	2.41E+04	82.88	77.64	1.69954E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1080	.027129	2.41E+04	29.98	117.57	1.42006E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1092	.031458	2.41E+04	71.28	56.34	6.56206E+01	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1090	.023699	2.41E+04	25.50	116.58	1.46399E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1092	.032511	2.41E+04	73.83	61.26	7.56285E+01	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1095	.002496	2.41E+04	37.15	27.60	1.91627E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
796	1097	.001680	2.41E+04	28.96	37.42	1.76037E+02	-3.40E-07	2.08E+04	-1.23E+04	-2.95E+02	-1.15E+02	-1.31E+01
798	1050	.026692	2.41E+04	17.91	110.15	1.39344E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1052	.031744	2.41E+04	69.32	52.43	5.96428E+01	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1055	.002335	2.41E+04	34.75	24.00	1.85900E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1057	.001964	2.41E+04	24.88	34.57	1.69784E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1060	.024538	2.41E+04	28.25	115.90	1.50514E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1062	.032429	2.41E+04	75.19	63.82	8.24310E+01	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1065	.002294	2.41E+04	38.22	29.13	1.94413E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1067	.001668	2.41E+04	30.67	38.67	1.79065E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1070	.011161	2.41E+04	54.40	106.77	2.27781E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
798	1072	.012452	2.41E+04	83.63	78.95	1.89801E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1082	.000096	2.41E+04	86.00	83.08	3.02370E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
798	1092	.000013	2.41E+04	87.09	84.98	4.15283E+02	-3.40E-07	2.08E+04	-1.23E+04	5.50E+01	-1.15E+02	-1.31E+01
311	1050	.003486	2.99E+04	19.98	106.99	1.08530E+02	6.57E-07	-2.99E+04	-7.98E-18	1.17E+02	1.02E+02	-4.71E+01
311	1051	.004828	2.99E+04	67.99	67.99	6.18988E+01	6.57E-07	-2.99E+04	-7.98E-18	1.17E+02	1.02E+02	-4.71E+01
311	1060	.007401	2.99E+04	53.32	100.71	1.70741E+02	6.57E-07	-2.99E+04	-7.98E-18	1.17E+02	1.02E+02	-4.71E+01
311	1061	.000411	2.99E+04	80.83	80.83	1.45620E+02	6.57E-07	-2.99E+04	-7.98E-18	1.17E+02	1.02E+02	-4.71E+01
380	1053	.001009	2.81E+04	84.43	74.37	7.81060E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1055	.000037	2.81E+04	85.21	80.08	7.86215E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1057	.000024	2.81E+04	86.65	74.48	7.95846E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1063	.000017	2.81E+04	93.53	71.76	6.72531E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1065	.000077	2.81E+04	84.45	78.48	6.78609E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1067	.000056	2.81E+04	85.13	72.01	6.89744E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1073	.000036	2.81E+04	87.31	68.18	5.66392E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1075	.000162	2.81E+04	83.43	76.33	5.73479E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1077	.000055	2.81E+04	85.45	68.71	5.86514E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1083	.000056	2.81E+04	89.59	63.01	4.63354E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1085	.000140	2.81E+04	82.01	73.33	4.72482E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1087	.000077	2.81E+04	84.54	64.14	4.88340E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1093	.000035	2.81E+04	78.12	55.12	3.68121E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
380	1095	.000079	2.81E+04	80.02	69.05	3.78935E+02	-2.18E-07	2.81E+04	-1.09E-07	-6.51E+02	-1.23E-08	2.25E+02
385	1053	.000006	2.05E+04	85.02	76.05	8.73140E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1055	.000014	2.05E+04	85.71	81.12	8.77754E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1057	.000012	2.05E+04	86.99	76.10	8.86391E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1063	.000007	2.05E+04	84.30	74.00	7.63305E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1065	.000023	2.05E+04	85.10	79.85	7.68777E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1067	.000019	2.05E+04	86.58	74.13	7.78624E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1073	.000011	2.05E+04	83.36	71.26	6.55362E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1075	.000041	2.05E+04	84.31	78.18	6.61496E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1077	.000026	2.05E+04	86.84	71.55	6.72315E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1083	.000019	2.05E+04	82.07	67.48	5.49590E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1085	.000057	2.05E+04	83.23	75.92	5.56891E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1087	.000014	2.05E+04	85.32	68.08	5.70407E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
385	1093	.000003	2.05E+04	80.26	61.97	4.47375E+02	-1.60E-07	2.05E+04	-7.99E-08	-7.46E+02	-1.31E-08	2.25E+02
390	1054	.000009	2.81E+04	84.44	74.36	7.81051E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02

MODEL = CONTAM STEP = 1
PROCESSING OPERATION DATA

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
390	1056	.000036	2.81E+04	85.22	80.31	7.86224E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1058	.000024	2.81E+04	86.66	74.49	7.95940E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1064	.000017	2.81E+04	83.54	71.76	6.72619E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1066	.000077	2.81E+04	84.46	78.49	6.78599E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1068	.000056	2.81E+04	86.14	72.02	6.89738E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1074	.001036	2.81E+04	82.32	68.18	5.66379E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1076	.000162	2.81E+04	83.44	76.34	5.73468E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1078	.000055	2.81E+04	85.46	68.72	5.86606E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1084	.000056	2.81E+04	80.61	63.01	4.63338E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1086	.000140	2.81E+04	82.03	73.35	4.72468E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1088	.000077	2.81E+04	84.55	64.15	4.88331E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1094	.000035	2.81E+04	78.13	55.12	3.68101E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
390	1096	.000078	2.81E+04	80.04	69.06	3.78917E+02	2.18E-07	-2.81E+04	1.09E-07	-6.51E+02	-1.00E-01	2.25E+02
395	1054	.000006	2.05E+04	85.03	76.05	8.73132E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1056	.000013	2.05E+04	85.72	81.35	8.77754E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1058	.000012	2.05E+04	87.00	76.10	8.86396E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1064	.000007	2.05E+04	84.31	74.00	7.63496E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1066	.000023	2.05E+04	85.11	79.85	7.68769E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1068	.000019	2.05E+04	86.58	74.13	7.78618E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1074	.000011	2.05E+04	83.37	71.26	6.55350E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1076	.000041	2.05E+04	84.31	78.19	6.61486E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1078	.000025	2.05E+04	86.05	71.56	6.72908E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1084	.000019	2.05E+04	82.06	67.48	5.49576E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1086	.000057	2.05E+04	83.24	75.93	5.56379E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1088	.000014	2.05E+04	85.33	68.08	5.70399E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
395	1094	.000003	2.05E+04	80.27	61.96	4.47358E+02	1.60E-07	-2.05E+04	7.99E-08	-7.46E+02	-1.00E-01	2.25E+02
399	1053	.000056	4.15E+03	62.25	73.02	7.20994E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1054	.000056	4.15E+03	62.25	73.02	7.20994E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1055	.000274	4.15E+03	63.82	79.25	7.26576E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1056	.000258	4.15E+03	63.82	79.49	7.26594E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1057	.000289	4.15E+03	66.33	73.20	7.36491E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02

MODEL = CONTAM STEP = 1
PROCESSSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
399	1058	.000289	4.15E+03	66.33	73.20	7.36991E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1059	.000684	4.15E+03	67.24	67.76	7.40472E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1063	.000083	4.15E+03	65.43	69.93	6.13646E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1064	.000083	4.15E+03	65.43	69.93	6.13646E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1065	.000406	4.15E+03	67.24	77.38	6.20196E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1066	.000406	4.15E+03	67.24	77.38	6.20196E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1067	.000406	4.15E+03	70.10	70.31	6.32365E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1068	.000406	4.15E+03	70.10	70.31	6.32365E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1069	.000938	4.15E+03	71.13	63.87	6.36419E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1073	.000127	4.15E+03	69.96	65.57	5.09199E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1074	.000027	4.15E+03	69.96	65.57	5.09199E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1075	.000612	4.15E+03	72.06	74.80	5.17073E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1076	.000177	4.15E+03	72.06	74.80	5.17073E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1077	.000548	4.15E+03	75.33	66.38	5.31608E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1078	.000351	4.15E+03	75.33	66.38	5.31608E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1079	.001712	4.15E+03	76.50	58.50	5.36424E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1083	.000185	4.15E+03	75.76	59.09	4.09875E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1085	.000813	4.15E+03	79.19	71.16	4.19617E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1087	.000526	4.15E+03	82.90	60.85	4.37403E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1089	.000999	4.15E+03	84.22	50.78	4.43243E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1093	.000091	4.15E+03	87.62	48.92	3.20473E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1095	.000202	4.15E+03	90.33	65.97	3.32843E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02
399	1097	.000002	4.15E+03	94.29	53.13	3.55303E+02	2.94E+03	2.29E-08	2.94E+03	-5.88E+02	-1.08E-08	2.25E+02

1055	1056	.069755	5.17E+03	18.39	18.03	1.31300E+02	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00
1055	1057	.015740	5.17E+03	79.61	76.84	3.97649E+01	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00
1055	1058	.055797	5.17E+03	35.66	24.69	1.17440E+02	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00
1055	1059	.088759	5.17E+03	54.68	53.71	8.14442E+01	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00
1055	1066	.032622	5.17E+03	44.23	44.23	1.73384E+02	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00
1055	1067	.001545	5.17E+03	86.59	85.70	1.20736E+02	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00
1055	1068	.022966	5.17E+03	54.34	49.31	1.63671E+02	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00
1055	1069	.023828	5.17E+03	79.36	69.88	1.40104E+02	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00
1055	1076	.006480	5.17E+03	61.74	61.74	2.63104E+02	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00
1055	1077	.000043	5.17E+03	88.22	87.76	2.31442E+02	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00
1055	1078	.003832	5.17E+03	68.16	65.41	2.56469E+02	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00
1055	1079	.002172	5.17E+03	78.79	78.52	2.42110E+02	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00
1055	1086	.001604	5.17E+03	70.12	70.12	3.66338E+02	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00
1055	1087	.000007	5.17E+03	88.81	88.49	3.44304E+02	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00
1055	1088	.000845	5.17E+03	74.79	72.84	3.61602E+02	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00
1055	1089	.000427	5.17E+03	82.30	82.12	3.51564E+02	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00
1055	1096	.000545	5.17E+03	74.78	74.78	4.74527E+02	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00

MODEL = CONTAM STEP = 1 SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))
PROCESSING OPERATION DATA

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
1055	1097	.000002	5.17E+03	89.10	88.87	4.57731E+02	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00
1055	1098	.000293	5.17E+03	78.31	76.90	4.70880E+02	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00
1055	1099	.000134	5.17E+03	84.17	84.03	4.63216E+02	6.93E-08	-4.90E+03	1.63E+03	9.78E+01	6.57E+01	-7.50E+00
1056	1057	.000900	5.16E+03	35.30	24.69	1.17440E+02	1.29E+01	4.90E+03	1.60E+03	9.78E+01	-6.57E+01	-7.50E+00
1056	1058	.016279	5.16E+03	79.25	76.84	3.97649E+01	1.29E+01	4.90E+03	1.60E+03	9.78E+01	-6.57E+01	-7.50E+00
1056	1059	.000907	5.16E+03	54.32	53.71	8.14443E+01	1.29E+01	4.90E+03	1.60E+03	9.78E+01	-6.57E+01	-7.50E+00
1056	1065	.032630	5.16E+03	44.25	44.24	1.73396E+02	1.29E+01	4.90E+03	1.60E+03	9.78E+01	-6.57E+01	-7.50E+00
1056	1067	.023023	5.16E+03	54.28	49.32	1.63684E+02	1.29E+01	4.90E+03	1.60E+03	9.78E+01	-6.57E+01	-7.50E+00
1056	1068	.001564	5.16E+03	86.61	85.70	1.20754E+02	1.29E+01	4.90E+03	1.60E+03	9.78E+01	-6.57E+01	-7.50E+00
1056	1069	.027944	5.16E+03	70.31	69.68	1.40119E+02	1.29E+01	4.90E+03	1.60E+03	9.78E+01	-6.57E+01	-7.50E+00
1056	1075	.006465	5.16E+03	61.81	61.74	2.63120E+02	1.29E+01	4.90E+03	1.60E+03	9.78E+01	-6.57E+01	-7.50E+00
1056	1077	.003827	5.16E+03	68.19	65.42	2.56485E+02	1.29E+01	4.90E+03	1.60E+03	9.78E+01	-6.57E+01	-7.50E+00
1056	1078	.000042	5.16E+03	88.39	87.76	2.31460E+02	1.29E+01	4.90E+03	1.60E+03	9.78E+01	-6.57E+01	-7.50E+00
1056	1079	.002166	5.16E+03	78.82	78.52	2.42127E+02	1.29E+01	4.90E+03	1.60E+03	9.78E+01	-6.57E+01	-7.50E+00
1056	1085	.001597	5.16E+03	70.22	70.12	3.66355E+02	1.29E+01	4.90E+03	1.60E+03	9.78E+01	-6.57E+01	-7.50E+00
1056	1087	.000881	5.16E+03	74.77	72.84	3.61520E+02	1.29E+01	4.90E+03	1.60E+03	9.78E+01	-6.57E+01	-7.50E+00
1056	1088	.001007	5.16E+03	93.91	88.48	3.44322E+02	1.29E+01	4.90E+03	1.60E+03	9.78E+01	-6.57E+01	-7.50E+00
1056	1089	.000423	5.16E+03	82.38	82.12	3.51532E+02	1.29E+01	4.90E+03	1.60E+03	9.78E+01	-6.57E+01	-7.50E+00
1056	1095	.000941	5.16E+03	74.89	74.78	4.74545E+02	1.29E+01	4.90E+03	1.60E+03	9.78E+01	-6.57E+01	-7.50E+00
1056	1097	.001291	5.16E+03	78.48	76.90	4.70996E+02	1.29E+01	4.90E+03	1.60E+03	9.78E+01	-6.57E+01	-7.50E+00
1056	1098	.000002	5.16E+03	89.21	88.87	4.57769E+02	1.29E+01	4.90E+03	1.60E+03	9.78E+01	-6.57E+01	-7.50E+00
1056	1099	.000192	5.16E+03	84.26	84.03	4.63234E+02	1.29E+01	4.90E+03	1.60E+03	9.78E+01	-6.57E+01	-7.50E+00
1057	1058	.061003	5.09E+03	41.95	41.95	9.30300E+01	4.31E-08	-3.04E+03	2.74E+03	9.78E+01	4.65E+01	-4.24E+01
1057	1059	.003268	5.09E+03	57.97	73.98	8.83794E+01	4.31E-08	-3.04E+03	2.74E+03	9.78E+01	4.65E+01	-4.24E+01
1057	1065	.001950	5.09E+03	85.70	86.59	1.20736E+02	4.31E-08	-3.04E+03	2.74E+03	9.78E+01	4.65E+01	-4.24E+01
1057	1066	.028988	5.09E+03	49.31	54.34	1.63571E+02	4.31E-08	-3.04E+03	2.74E+03	9.78E+01	4.65E+01	-4.24E+01
1057	1068	.019607	5.09E+03	61.96	61.96	1.47122E+02	4.31E-08	-3.04E+03	2.74E+03	9.78E+01	4.65E+01	-4.24E+01
1057	1069	.016132	5.09E+03	78.04	83.81	1.23041E+02	4.31E-08	-3.04E+03	2.74E+03	9.78E+01	4.65E+01	-4.24E+01
1057	1075	.000054	5.09E+03	87.76	88.22	2.31462E+02	4.31E-08	-3.04E+03	2.74E+03	9.78E+01	4.65E+01	-4.24E+01
1057	1076	.004837	5.09E+03	65.41	68.16	2.56469E+02	4.31E-08	-3.04E+03	2.74E+03	9.78E+01	4.65E+01	-4.24E+01
1057	1078	.002231	5.09E+03	73.69	73.89	2.46238E+02	4.31E-08	-3.04E+03	2.74E+03	9.78E+01	4.65E+01	-4.24E+01
1057	1079	.000405	5.09E+03	83.68	86.72	2.33076E+02	4.31E-08	-3.04E+03	2.74E+03	9.78E+01	4.65E+01	-4.24E+01
1057	1085	.000009	5.09E+03	89.49	88.81	3.46394E+02	4.31E-08	-3.04E+03	2.74E+03	9.78E+01	4.65E+01	-4.24E+01
1057	1086	.001118	5.09E+03	72.84	74.74	3.61502E+02	4.31E-08	-3.04E+03	2.74E+03	9.78E+01	4.65E+01	-4.24E+01
1057	1088	.000457	5.09E+03	78.75	78.75	3.54419E+02	4.31E-08	-3.04E+03	2.74E+03	9.78E+01	4.65E+01	-4.24E+01
1057	1089	.000870	5.09E+03	85.74	87.78	3.45405E+02	4.31E-08	-3.04E+03	2.74E+03	9.78E+01	4.65E+01	-4.24E+01
1057	1095	.000003	5.09E+03	98.87	89.10	4.57731E+02	4.31E-08	-3.04E+03	2.74E+03	9.78E+01	4.65E+01	-4.24E+01
1057	1096	.000370	5.09E+03	76.90	78.31	4.70880E+02	4.31E-08	-3.04E+03	2.74E+03	9.78E+01	4.65E+01	-4.24E+01
1057	1098	.001145	5.09E+03	81.45	81.45	4.65387E+02	4.31E-08	-3.04E+03	2.74E+03	9.78E+01	4.65E+01	-4.24E+01
1057	1099	.000021	5.09E+03	85.79	88.33	4.58559E+02	4.31E-08	-3.04E+03	2.74E+03	9.78E+01	4.65E+01	-4.24E+01
1059	1059	.093268	5.09E+03	57.97	73.98	8.83794E+01	-4.31E-08	3.04E+03	2.74E+03	9.78E+01	-4.65E+01	-4.24E+01
1059	1065	.028988	5.09E+03	49.31	54.34	1.63571E+02	-4.31E-08	3.04E+03	2.74E+03	9.78E+01	-4.65E+01	-4.24E+01
1059	1066	.001950	5.09E+03	85.70	86.59	1.20736E+02	-4.31E-08	3.04E+03	2.74E+03	9.78E+01	-4.65E+01	-4.24E+01

MODEL = CONTAM STEP = 1
PROCESSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
1058	1057	.019607	4.09E+03	61.96	61.96	1.47122E+02	-4.31E-08	3.04E+03	2.74E+03	9.78E+01	-4.65E+01	-4.24E+01
1058	1069	.010132	4.09E+03	78.04	83.81	1.23841E+02	-4.31E-08	3.04E+03	2.74E+03	9.78E+01	-4.65E+01	-4.24E+01
1058	1075	.004837	4.09E+03	65.41	68.16	2.56469E+02	-4.31E-08	3.04E+03	2.74E+03	9.78E+01	-4.65E+01	-4.24E+01
1058	1076	.009054	4.09E+03	87.76	88.22	2.31442E+02	-4.31E-08	3.04E+03	2.74E+03	9.78E+01	-4.65E+01	-4.24E+01
1058	1077	.002231	4.09E+03	73.69	73.69	2.46238E+02	-4.31E-08	3.04E+03	2.74E+03	9.78E+01	-4.65E+01	-4.24E+01
1058	1079	.000405	4.09E+03	83.68	86.72	2.33376E+02	-4.31E-08	3.04E+03	2.74E+03	9.78E+01	-4.65E+01	-4.24E+01
1058	1085	.001116	4.09E+03	72.84	74.70	3.61602E+02	-4.31E-08	3.04E+03	2.74E+03	9.78E+01	-4.65E+01	-4.24E+01
1058	1086	.000309	4.09E+03	88.49	88.81	3.44304E+02	-4.31E-08	3.04E+03	2.74E+03	9.78E+01	-4.65E+01	-4.24E+01
1058	1087	.000457	4.09E+03	78.75	78.75	3.54419E+02	-4.31E-08	3.04E+03	2.74E+03	9.78E+01	-4.65E+01	-4.24E+01
1058	1089	.000070	4.09E+03	85.74	87.78	3.45405E+02	-4.31E-08	3.04E+03	2.74E+03	9.78E+01	-4.65E+01	-4.24E+01
1058	1095	.000370	4.09E+03	76.90	78.31	4.70880E+02	-4.31E-08	3.04E+03	2.74E+03	9.78E+01	-4.65E+01	-4.24E+01
1058	1096	.000003	4.09E+03	88.87	89.10	4.57731E+02	-4.31E-08	3.04E+03	2.74E+03	9.78E+01	-4.65E+01	-4.24E+01
1058	1097	.000145	4.09E+03	81.45	81.45	4.65387E+02	-4.31E-08	3.04E+03	2.74E+03	9.78E+01	-4.65E+01	-4.24E+01
1058	1099	.000021	4.09E+03	86.79	88.33	4.58559E+02	-4.31E-08	3.04E+03	2.74E+03	9.78E+01	-4.65E+01	-4.24E+01
1059	1065	.015649	7.87E+03	69.88	70.36	1.40104E+02	0.	0.	7.87E+03	9.78E+01	6.72E-09	-5.57E+01
1059	1066	.015649	7.87E+03	69.88	70.36	1.40104E+02	0.	0.	7.87E+03	9.78E+01	6.72E-09	-5.57E+01
1059	1057	.005272	7.87E+03	83.81	78.04	1.23841E+02	0.	0.	7.87E+03	9.78E+01	6.72E-09	-5.57E+01
1059	1068	.005272	7.87E+03	83.81	78.04	1.23841E+02	0.	0.	7.87E+03	9.78E+01	6.72E-09	-5.57E+01
1059	1075	.001426	7.87E+03	78.52	78.79	2.42110E+02	0.	0.	7.87E+03	9.78E+01	6.72E-09	-5.57E+01
1059	1076	.001426	7.87E+03	78.52	78.79	2.42110E+02	0.	0.	7.87E+03	9.78E+01	6.72E-09	-5.57E+01
1059	1077	.000211	7.87E+03	86.72	83.68	2.33076E+02	0.	0.	7.87E+03	9.78E+01	6.72E-09	-5.57E+01
1059	1078	.000211	7.87E+03	86.72	83.68	2.33076E+02	0.	0.	7.87E+03	9.78E+01	6.72E-09	-5.57E+01
1059	1085	.000281	7.87E+03	82.12	82.30	3.51564E+02	0.	0.	7.87E+03	9.78E+01	6.72E-09	-5.57E+01
1059	1086	.000281	7.87E+03	82.12	82.30	3.51564E+02	0.	0.	7.87E+03	9.78E+01	6.72E-09	-5.57E+01
1059	1087	.000036	7.87E+03	87.78	85.74	3.45405E+02	0.	0.	7.87E+03	9.78E+01	6.72E-09	-5.57E+01
1059	1088	.000036	7.87E+03	87.78	85.74	3.45405E+02	0.	0.	7.87E+03	9.78E+01	6.72E-09	-5.57E+01
1059	1095	.000088	7.87E+03	84.03	84.17	4.63216E+02	0.	0.	7.87E+03	9.78E+01	6.72E-09	-5.57E+01
1059	1096	.000088	7.87E+03	84.03	84.17	4.63216E+02	0.	0.	7.87E+03	9.78E+01	6.72E-09	-5.57E+01
1059	1097	.000011	7.87E+03	88.33	86.79	4.58559E+02	0.	0.	7.87E+03	9.78E+01	6.72E-09	-5.57E+01
1059	1098	.000011	7.87E+03	88.33	86.79	4.58559E+02	0.	0.	7.87E+03	9.78E+01	6.72E-09	-5.57E+01
1065	1066	.069758	5.17E+03	18.39	18.39	1.31300E+02	6.93E-08	-4.90E+03	1.63E+03	-1.62E+01	6.57E+01	-7.50E+00
1065	1057	.015740	5.17E+03	79.61	76.84	3.97649E+01	6.93E-08	-4.90E+03	1.63E+03	-1.62E+01	6.57E+01	-7.50E+00
1065	1068	.055797	5.17E+03	35.66	24.69	1.17440E+02	6.93E-08	-4.90E+03	1.63E+03	-1.62E+01	6.57E+01	-7.50E+00
1065	1069	.088759	5.17E+03	54.68	53.71	8.14442E+01	6.93E-08	-4.90E+03	1.63E+03	-1.62E+01	6.57E+01	-7.50E+00
1065	1076	.032622	5.17E+03	44.23	44.23	1.73384E+02	6.93E-08	-4.90E+03	1.63E+03	-1.62E+01	6.57E+01	-7.50E+00
1065	1077	.001545	5.17E+03	86.59	85.79	1.20736E+02	6.93E-08	-4.90E+03	1.63E+03	-1.62E+01	6.57E+01	-7.50E+00
1065	1078	.022966	5.17E+03	54.34	49.31	1.63671E+02	6.93E-08	-4.90E+03	1.63E+03	-1.62E+01	6.57E+01	-7.50E+00
1065	1079	.023828	5.17E+03	70.36	69.88	1.40104E+02	6.93E-08	-4.90E+03	1.63E+03	-1.62E+01	6.57E+01	-7.50E+00
1065	1086	.006480	5.17E+03	61.74	61.74	2.63104E+02	6.93E-08	-4.90E+03	1.63E+03	-1.62E+01	6.57E+01	-7.50E+00

MODEL = CONTAM STEP = 1
PROCESSSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
1065	1087	.000043	5.17E+03	88.22	87.76	2.31442E+02	6.93E-08	-4.90E+03	1.63E+03	-1.62E+01	6.57E+01	-7.50E+00
1065	1088	.003832	5.17E+03	68.16	65.41	2.56469E+02	6.93E-08	-4.90E+03	1.63E+03	-1.62E+01	6.57E+01	-7.50E+00
1065	1089	.002172	5.17E+03	78.79	78.52	2.42110E+02	6.93E-08	-4.90E+03	1.63E+03	-1.62E+01	6.57E+01	-7.50E+00
1065	1096	.001604	5.17E+03	70.12	70.12	3.66338E+02	6.93E-08	-4.90E+03	1.63E+03	-1.62E+01	6.57E+01	-7.50E+00
1065	1097	.000007	5.17E+03	88.81	88.49	3.44304E+02	6.93E-08	-4.90E+03	1.63E+03	-1.62E+01	6.57E+01	-7.50E+00
1065	1098	.000885	5.17E+03	74.70	72.84	3.61602E+02	6.93E-08	-4.90E+03	1.63E+03	-1.62E+01	6.57E+01	-7.50E+00
1065	1099	.000427	5.17E+03	82.30	82.12	3.51564E+02	6.93E-08	-4.90E+03	1.63E+03	-1.62E+01	6.57E+01	-7.50E+00
1066	1067	.055797	5.17E+03	35.66	24.69	1.17440E+02	-3.35E-08	4.90E+03	1.63E+03	-1.62E+01	-6.56E+01	-7.50E+00
1066	1068	.015740	5.17E+03	79.61	76.84	3.97649E+01	-3.35E-08	4.90E+03	1.63E+03	-1.62E+01	-6.56E+01	-7.50E+00
1066	1069	.088759	5.17E+03	54.68	53.71	8.14442E+01	-3.35E-08	4.90E+03	1.63E+03	-1.62E+01	-6.56E+01	-7.50E+00
1066	1075	.072692	5.17E+03	44.23	44.23	1.73884E+02	-3.35E-08	4.90E+03	1.63E+03	-1.62E+01	-6.56E+01	-7.50E+00
1066	1077	.022966	5.17E+03	54.34	49.31	1.63671E+02	-3.35E-08	4.90E+03	1.63E+03	-1.62E+01	-6.56E+01	-7.50E+00
1066	1078	.001545	5.17E+03	86.59	85.70	1.20736E+02	-3.35E-08	4.90E+03	1.63E+03	-1.62E+01	-6.56E+01	-7.50E+00
1066	1079	.023828	5.17E+03	70.36	69.88	1.40104E+02	-3.35E-08	4.90E+03	1.63E+03	-1.62E+01	-6.56E+01	-7.50E+00
1066	1085	.006480	5.17E+03	61.74	61.74	2.63104E+02	-3.35E-08	4.90E+03	1.63E+03	-1.62E+01	-6.56E+01	-7.50E+00
1066	1087	.003832	5.17E+03	68.16	65.41	2.56469E+02	-3.35E-08	4.90E+03	1.63E+03	-1.62E+01	-6.56E+01	-7.50E+00
1066	1088	.000043	5.17E+03	88.22	87.76	2.31442E+02	-3.35E-08	4.90E+03	1.63E+03	-1.62E+01	-6.56E+01	-7.50E+00
1066	1089	.002172	5.17E+03	78.79	78.52	2.42110E+02	-3.35E-08	4.90E+03	1.63E+03	-1.62E+01	-6.56E+01	-7.50E+00
1066	1095	.001604	5.17E+03	70.12	70.12	3.66338E+02	-3.35E-08	4.90E+03	1.63E+03	-1.62E+01	-6.56E+01	-7.50E+00
1066	1097	.000885	5.17E+03	74.70	72.84	3.61602E+02	-3.35E-08	4.90E+03	1.63E+03	-1.62E+01	-6.56E+01	-7.50E+00
1066	1098	.000007	5.17E+03	88.81	88.49	3.44304E+02	-3.35E-08	4.90E+03	1.63E+03	-1.62E+01	-6.56E+01	-7.50E+00
1066	1099	.000427	5.17E+03	82.30	82.12	3.51564E+02	-3.35E-08	4.90E+03	1.63E+03	-1.62E+01	-6.56E+01	-7.50E+00
1067	1068	.061090	4.09E+03	41.95	41.95	9.30000E+01	4.31E-08	-3.04E+03	2.74E+03	-1.62E+01	4.65E+01	-4.24E+01
1067	1069	.093268	4.09E+03	57.97	73.98	4.83784E+01	4.31E-08	-3.04E+03	2.74E+03	-1.62E+01	4.65E+01	-4.24E+01
1067	1075	.001950	4.09E+03	85.70	86.59	1.20736E+02	4.31E-08	-3.04E+03	2.74E+03	-1.62E+01	4.65E+01	-4.24E+01
1067	1076	.028988	4.09E+03	49.31	54.34	1.63671E+02	4.31E-08	-3.04E+03	2.74E+03	-1.62E+01	4.65E+01	-4.24E+01
1067	1078	.019607	4.09E+03	61.96	61.96	1.47122E+02	4.31E-08	-3.04E+03	2.74E+03	-1.62E+01	4.65E+01	-4.24E+01
1067	1079	.010132	4.09E+03	78.04	83.81	1.23941E+02	4.31E-08	-3.04E+03	2.74E+03	-1.62E+01	4.65E+01	-4.24E+01
1067	1085	.000054	4.09E+03	87.76	88.22	2.31442E+02	4.31E-08	-3.04E+03	2.74E+03	-1.62E+01	4.65E+01	-4.24E+01
1067	1086	.004837	4.09E+03	65.41	68.16	2.56469E+02	4.31E-08	-3.04E+03	2.74E+03	-1.62E+01	4.65E+01	-4.24E+01
1067	1088	.002231	4.09E+03	73.69	73.69	2.46238E+02	4.31E-08	-3.04E+03	2.74E+03	-1.62E+01	4.65E+01	-4.24E+01
1067	1089	.000405	4.09E+03	83.68	86.72	2.33176E+02	4.31E-08	-3.04E+03	2.74E+03	-1.62E+01	4.65E+01	-4.24E+01
1067	1095	.000009	4.09E+03	88.49	88.81	3.44304E+02	4.31E-08	-3.04E+03	2.74E+03	-1.62E+01	4.65E+01	-4.24E+01
1067	1096	.001118	4.09E+03	72.84	74.70	3.61602E+02	4.31E-08	-3.04E+03	2.74E+03	-1.62E+01	4.65E+01	-4.24E+01
1067	1098	.000457	4.09E+03	78.75	78.75	3.54419E+02	4.31E-08	-3.04E+03	2.74E+03	-1.62E+01	4.65E+01	-4.24E+01
1067	1099	.000070	4.09E+03	85.74	87.78	3.45405E+02	4.31E-08	-3.04E+03	2.74E+03	-1.62E+01	4.65E+01	-4.24E+01
1068	1069	.093268	4.09E+03	57.97	73.98	4.83784E+01	-4.31E-08	3.04E+03	2.74E+03	-1.62E+01	-4.65E+01	-4.24E+01
1068	1075	.028988	4.09E+03	49.31	54.34	1.63671E+02	-4.31E-08	3.04E+03	2.74E+03	-1.62E+01	-4.65E+01	-4.24E+01
1068	1076	.001950	4.09E+03	85.70	86.59	1.20736E+02	-4.31E-08	3.04E+03	2.74E+03	-1.62E+01	-4.65E+01	-4.24E+01
1068	1077	.019607	4.09E+03	61.96	61.96	1.47122E+02	-4.31E-08	3.04E+03	2.74E+03	-1.62E+01	-4.65E+01	-4.24E+01
1068	1079	.010132	4.09E+03	78.04	83.81	1.23941E+02	-4.31E-08	3.04E+03	2.74E+03	-1.62E+01	-4.65E+01	-4.24E+01
1068	1085	.004837	4.09E+03	65.41	68.16	2.56469E+02	-4.31E-08	3.04E+03	2.74E+03	-1.62E+01	-4.65E+01	-4.24E+01
1068	1086	.000054	4.09E+03	87.76	88.22	2.31442E+02	-4.31E-08	3.04E+03	2.74E+03	-1.62E+01	-4.65E+01	-4.24E+01

MODEL = CONTAM STEP = 1
PROCESSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
1068	1087	.002231	4.09E+03	73.69	73.69	2.46238E+02	-4.31E-08	3.04E+03	2.74E+03	-1.62E+01	-4.65E+01	-4.24E+01
1068	1089	.000405	4.09E+03	83.68	86.72	2.33076E+02	-4.31E-08	3.04E+03	2.74E+03	-1.62E+01	-4.65E+01	-4.24E+01
1068	1095	.001118	4.09E+03	72.84	74.70	3.61602E+02	-4.31E-08	3.04E+03	2.74E+03	-1.62E+01	-4.65E+01	-4.24E+01
1068	1096	.000009	4.09E+03	88.49	88.81	3.44304E+02	-4.31E-08	3.04E+03	2.74E+03	-1.62E+01	-4.65E+01	-4.24E+01
1068	1097	.000457	4.09E+03	78.75	78.75	3.54419E+02	-4.31E-08	3.04E+03	2.74E+03	-1.62E+01	-4.65E+01	-4.24E+01
1068	1099	.000070	4.09E+03	95.74	87.78	3.45405E+02	-4.31E-08	3.04E+03	2.74E+03	-1.62E+01	-4.65E+01	-4.24E+01
1069	1075	.015649	7.87E+03	69.38	70.36	1.40104E+02	0.	0.	7.87E+03	-1.62E+01	7.60E-09	-5.57E+01
1069	1076	.015649	7.87E+03	69.89	70.36	1.40104E+02	0.	0.	7.87E+03	-1.62E+01	7.60E-09	-5.57E+01
1069	1077	.005272	7.87E+03	83.81	78.04	1.23841E+02	0.	0.	7.87E+03	-1.62E+01	7.60E-09	-5.57E+01
1069	1078	.005272	7.87E+03	83.81	78.04	1.23841E+02	0.	0.	7.87E+03	-1.62E+01	7.60E-09	-5.57E+01
1069	1085	.001426	7.87E+03	78.52	78.79	2.42110E+02	0.	0.	7.87E+03	-1.62E+01	7.60E-09	-5.57E+01
1069	1086	.001426	7.87E+03	78.52	78.79	2.42110E+02	0.	0.	7.87E+03	-1.62E+01	7.60E-09	-5.57E+01
1069	1087	.000211	7.87E+03	86.72	83.68	2.33076E+02	0.	0.	7.87E+03	-1.62E+01	7.60E-09	-5.57E+01
1069	1088	.000211	7.87E+03	86.72	83.68	2.33076E+02	0.	0.	7.87E+03	-1.62E+01	7.60E-09	-5.57E+01
1069	1095	.000281	7.87E+03	82.12	82.30	3.51564E+02	0.	0.	7.87E+03	-1.62E+01	7.60E-09	-5.57E+01
1069	1096	.000281	7.87E+03	82.12	82.30	3.51564E+02	0.	0.	7.87E+03	-1.62E+01	7.60E-09	-5.57E+01
1069	1097	.000036	7.87E+03	87.78	85.74	3.45405E+02	0.	0.	7.87E+03	-1.62E+01	7.60E-09	-5.57E+01
1069	1099	.000036	7.87E+03	87.78	85.74	3.45405E+02	0.	0.	7.87E+03	-1.62E+01	7.60E-09	-5.57E+01
1075	1076	.069758	5.17E+03	18.39	18.39	1.31300E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1077	.015740	5.17E+03	79.61	76.84	3.97649E+01	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1078	.055797	5.17E+03	35.66	24.69	1.17440E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1079	.088759	5.17E+03	54.68	53.71	8.14442E+01	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1086	.032622	5.17E+03	44.23	44.23	1.73384E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1087	.001545	5.17E+03	86.59	85.70	1.20736E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1088	.022966	5.17E+03	54.34	49.31	1.63671E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1089	.023828	5.17E+03	70.36	69.88	1.40104E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1096	.006480	5.17E+03	61.74	61.74	2.63104E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1097	.000043	5.17E+03	88.22	87.76	2.31442E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1098	.003832	5.17E+03	68.16	65.41	2.56469E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1075	1099	.002172	5.17E+03	78.79	78.52	2.42110E+02	6.93E-08	-4.90E+03	1.63E+03	-1.30E+02	6.57E+01	-7.50E+00
1076	1077	.055797	5.17E+03	35.66	24.69	1.17440E+02	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1076	1078	.015740	5.17E+03	79.61	76.84	3.97649E+01	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1076	1079	.088759	5.17E+03	54.68	53.71	8.14442E+01	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1076	1085	.032622	5.17E+03	44.23	44.23	1.73384E+02	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1076	1087	.022966	5.17E+03	54.34	49.31	1.63671E+02	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1076	1088	.001545	5.17E+03	86.59	85.70	1.20736E+02	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1076	1089	.023828	5.17E+03	70.36	69.88	1.40104E+02	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1076	1095	.006480	5.17E+03	61.74	61.74	2.63104E+02	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00

MODEL = CONTAM STEP = 1
PROCESSSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
1076	1097	.003832	5.17E+03	68.16	65.41	2.56469E+02	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1076	1098	.000043	5.17E+03	88.22	87.76	2.31442E+02	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1076	1099	.002172	5.17E+03	78.79	78.52	2.42110E+02	-3.35E-08	4.90E+03	1.63E+03	-1.30E+02	-6.56E+01	-7.50E+00
1077	1078	.061000	4.09E+03	41.95	41.95	9.30300E+01	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1077	1079	.093268	4.09E+03	57.97	73.98	4.83784E+01	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1077	1085	.001950	4.09E+03	85.70	86.59	1.20736E+02	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1077	1086	.028908	4.09E+03	49.31	54.34	1.63671E+02	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1077	1088	.019607	4.09E+03	61.96	61.96	1.47122E+02	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1077	1089	.010132	4.09E+03	78.04	83.81	1.23841E+02	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1077	1095	.000054	4.09E+03	87.76	88.22	2.31442E+02	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1077	1096	.004837	4.09E+03	65.41	68.16	2.56469E+02	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1077	1098	.002271	4.09E+03	73.69	73.69	2.46238E+02	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1077	1099	.000405	4.09E+03	83.68	86.72	2.33076E+02	4.31E-08	-3.04E+03	2.74E+03	-1.30E+02	4.65E+01	-4.24E+01
1078	1079	.093268	4.09E+03	57.97	73.98	4.83784E+01	-4.31E-08	3.04E+03	2.74E+03	-1.30E+02	-4.65E+01	-4.24E+01
1078	1085	.028958	4.09E+03	49.31	54.34	1.63671E+02	-4.31E-08	3.04E+03	2.74E+03	-1.30E+02	-4.65E+01	-4.24E+01
1078	1086	.001950	4.09E+03	85.70	86.59	1.20736E+02	-4.31E-08	3.04E+03	2.74E+03	-1.30E+02	-4.65E+01	-4.24E+01
1078	1087	.019607	4.09E+03	61.96	61.96	1.47122E+02	-4.31E-08	3.04E+03	2.74E+03	-1.30E+02	-4.65E+01	-4.24E+01
1078	1089	.010132	4.09E+03	78.04	83.81	1.23841E+02	-4.31E-08	3.04E+03	2.74E+03	-1.30E+02	-4.65E+01	-4.24E+01
1078	1095	.004837	4.09E+03	65.41	68.16	2.56469E+02	-4.31E-08	3.04E+03	2.74E+03	-1.30E+02	-4.65E+01	-4.24E+01
1078	1096	.000054	4.09E+03	87.76	88.22	2.31442E+02	-4.31E-08	3.04E+03	2.74E+03	-1.30E+02	-4.65E+01	-4.24E+01
1078	1097	.002271	4.09E+03	73.69	73.69	2.46238E+02	-4.31E-08	3.04E+03	2.74E+03	-1.30E+02	-4.65E+01	-4.24E+01
1078	1099	.000405	4.09E+03	83.68	86.72	2.33076E+02	-4.31E-08	3.04E+03	2.74E+03	-1.30E+02	-4.65E+01	-4.24E+01
1079	1085	.015649	7.87E+03	69.88	70.36	1.40104E+02	0.	0.	7.87E+03	-1.30E+02	8.49E-09	-5.57E+01
1079	1086	.015649	7.87E+03	69.88	70.36	1.40104E+02	0.	0.	7.87E+03	-1.30E+02	8.49E-09	-5.57E+01
1079	1087	.005272	7.87E+03	83.81	78.04	1.23841E+02	0.	0.	7.87E+03	-1.30E+02	8.49E-09	-5.57E+01
1079	1088	.005272	7.87E+03	83.81	78.04	1.23841E+02	0.	0.	7.87E+03	-1.30E+02	8.49E-09	-5.57E+01
1079	1095	.001426	7.87E+03	78.52	78.79	2.42110E+02	0.	0.	7.87E+03	-1.30E+02	8.49E-09	-5.57E+01
1079	1096	.001426	7.87E+03	78.52	78.79	2.42110E+02	0.	0.	7.87E+03	-1.30E+02	8.49E-09	-5.57E+01
1079	1097	.000211	7.87E+03	86.72	83.68	2.33076E+02	0.	0.	7.87E+03	-1.30E+02	8.49E-09	-5.57E+01
1079	1098	.000211	7.87E+03	86.72	83.68	2.33076E+02	0.	0.	7.87E+03	-1.30E+02	8.49E-09	-5.57E+01
1085	1086	.069758	5.17E+03	18.39	18.39	1.31300E+02	6.93E-08	-4.90E+03	1.63E+03	-2.44E+02	6.57E+01	-7.50E+00
1085	1087	.015740	5.17E+03	79.61	76.04	3.97649E+01	6.93E-08	-4.90E+03	1.63E+03	-2.44E+02	6.57E+01	-7.50E+00
1085	1088	.055797	5.17E+03	35.66	24.69	1.17440E+02	6.93E-08	-4.90E+03	1.63E+03	-2.44E+02	6.57E+01	-7.50E+00
1085	1089	.003759	5.17E+03	54.68	53.71	8.14642E+01	6.93E-08	-4.90E+03	1.63E+03	-2.44E+02	6.57E+01	-7.50E+00
1085	1096	.072622	5.17E+03	44.23	44.23	1.73384E+02	6.93E-08	-4.90E+03	1.63E+03	-2.44E+02	6.57E+01	-7.50E+00
1085	1097	.001545	5.17E+03	86.59	85.70	1.20736E+02	6.93E-08	-4.90E+03	1.63E+03	-2.44E+02	6.57E+01	-7.50E+00

MODEL = CONTAM STEP = 1
PROCESSSING OPERATION DATA

SHUTTLE CONTAMINATION STUDY (SPACE LAB3 (RECIEVING SHUTTLE))

NODE I	NODE J	F(I,J)	AREA	THETI	THETJ	RADIUS	NORMAL VECTOR I			POSITION VECTOR I		
1085	1099	.023828	5.17E+03	70.36	69.88	1.40104E+02	6.93E-08	-4.90E+03	1.63E+03	-2.44E+02	6.57E+01	-7.50E+00
1086	1087	.055797	5.17E+03	35.66	24.69	1.17440E+02	-3.35E-08	4.90E+03	1.63E+03	-2.44E+02	-6.56E+01	-7.50E+00
1086	1088	.015740	5.17E+03	79.61	76.84	3.97649E+01	-3.35E-08	4.90E+03	1.63E+03	-2.44E+02	-6.56E+01	-7.50E+00
1086	1089	.088759	5.17E+03	54.68	53.71	8.14442E+01	-3.35E-08	4.90E+03	1.63E+03	-2.44E+02	-6.56E+01	-7.50E+00
1086	1095	.032622	5.17E+03	44.23	44.23	1.73384E+02	-3.35E-08	4.90E+03	1.63E+03	-2.44E+02	-6.56E+01	-7.50E+00
1086	1097	.022966	5.17E+03	54.34	49.31	1.63671E+02	-3.35E-08	4.90E+03	1.63E+03	-2.44E+02	-6.56E+01	-7.50E+00
1086	1098	.001545	5.17E+03	86.59	85.70	1.20736E+02	-3.35E-08	4.90E+03	1.63E+03	-2.44E+02	-6.56E+01	-7.50E+00
1086	1099	.023828	5.17E+03	70.36	69.88	1.40104E+02	-3.35E-08	4.90E+03	1.63E+03	-2.44E+02	-6.56E+01	-7.50E+00
1087	1088	.061000	4.09E+03	41.95	41.95	9.30300E+01	4.31E-08	-3.04E+03	2.74E+03	-2.44E+02	4.65E+01	-4.24E+01
1087	1089	.093268	4.09E+03	57.97	73.98	4.83784E+01	4.31E-08	-3.04E+03	2.74E+03	-2.44E+02	4.65E+01	-4.24E+01
1087	1095	.001950	4.09E+03	85.70	86.59	1.20736E+02	4.31E-08	-3.04E+03	2.74E+03	-2.44E+02	4.65E+01	-4.24E+01
1087	1096	.022988	4.09E+03	49.31	54.34	1.63671E+02	4.31E-08	-3.04E+03	2.74E+03	-2.44E+02	4.65E+01	-4.24E+01
1087	1098	.019607	4.09E+03	61.96	61.96	1.47122E+02	4.31E-08	-3.04E+03	2.74E+03	-2.44E+02	4.65E+01	-4.24E+01
1087	1099	.010132	4.09E+03	78.04	83.81	1.23941E+02	4.31E-08	-3.04E+03	2.74E+03	-2.44E+02	4.65E+01	-4.24E+01
1088	1089	.093268	4.09E+03	57.97	73.98	4.83784E+01	-4.31E-08	3.04E+03	2.74E+03	-2.44E+02	-4.65E+01	-4.24E+01
1088	1095	.028988	4.09E+03	49.31	54.34	1.63671E+02	-4.31E-08	3.04E+03	2.74E+03	-2.44E+02	-4.65E+01	-4.24E+01
1088	1096	.001950	4.09E+03	85.70	86.59	1.20736E+02	-4.31E-08	3.04E+03	2.74E+03	-2.44E+02	-4.65E+01	-4.24E+01
1088	1097	.019607	4.09E+03	61.96	61.96	1.47122E+02	-4.31E-08	3.04E+03	2.74E+03	-2.44E+02	-4.65E+01	-4.24E+01
1088	1099	.010132	4.09E+03	78.04	83.81	1.23941E+02	-4.31E-08	3.04E+03	2.74E+03	-2.44E+02	-4.65E+01	-4.24E+01
1089	1095	.015649	7.87E+03	69.88	70.36	1.40104E+02	0.	0.	7.87E+03	-2.44E+02	9.38E-09	-5.57E+01
1089	1096	.015649	7.87E+03	69.88	70.36	1.40104E+02	0.	0.	7.87E+03	-2.44E+02	9.38E-09	-5.57E+01
1089	1097	.005272	7.87E+03	83.81	78.04	1.23941E+02	0.	0.	7.87E+03	-2.44E+02	9.38E-09	-5.57E+01
1089	1098	.005272	7.87E+03	83.81	78.04	1.23941E+02	0.	0.	7.87E+03	-2.44E+02	9.38E-09	-5.57E+01
1095	1096	.069758	5.17E+03	18.39	18.39	1.31300E+02	6.93E-08	-4.90E+03	1.63E+03	-3.58E+02	6.57E+01	-7.50E+00
1095	1097	.015740	5.17E+03	79.61	76.84	3.97649E+01	6.93E-08	-4.90E+03	1.63E+03	-3.58E+02	6.57E+01	-7.50E+00
1095	1098	.055797	5.17E+03	35.66	24.69	1.17440E+02	6.93E-08	-4.90E+03	1.63E+03	-3.58E+02	6.57E+01	-7.50E+00
1095	1099	.088759	5.17E+03	54.68	53.71	8.14442E+01	6.93E-08	-4.90E+03	1.63E+03	-3.58E+02	6.57E+01	-7.50E+00
1096	1097	.055797	5.17E+03	35.66	24.69	1.17440E+02	-3.35E-08	4.90E+03	1.63E+03	-3.58E+02	-6.56E+01	-7.50E+00
1096	1098	.015740	5.17E+03	79.61	76.84	3.97649E+01	-3.35E-08	4.90E+03	1.63E+03	-3.58E+02	-6.56E+01	-7.50E+00
1096	1099	.088759	5.17E+03	54.68	53.71	8.14442E+01	-3.35E-08	4.90E+03	1.63E+03	-3.58E+02	-6.56E+01	-7.50E+00
1097	1098	.061000	4.09E+03	41.95	41.95	9.30300E+01	4.31E-08	-3.04E+03	2.74E+03	-3.58E+02	4.65E+01	-4.24E+01
1097	1099	.093268	4.09E+03	57.97	73.98	4.83784E+01	4.31E-08	-3.04E+03	2.74E+03	-3.58E+02	4.65E+01	-4.24E+01
1098	1099	.093268	4.09E+03	57.97	73.98	4.83784E+01	-4.31E-08	3.04E+03	2.74E+03	-3.58E+02	-4.65E+01	-4.24E+01