

**INSTRUMENTATION
AND DATA ACQUISITION MANUAL**

VOLUME II - SHIP 1 INSTRUMENTATION

(NASA-CR-166348) V/STOL TILT ROTOR RESEARCH
AIRCRAFT. VOLUME 2: SHIP 1 INSTRUMENTATION
(Bell Helicopter) 456 p
AS A20/ME A01 SPD Sponsored by NASA USOL OIC

N82-24195

Unclas
63/05 21547

V/STOL TILT ROTOR RESEARCH AIRCRAFT

301-099-022



Bell Helicopter TEXTRON

Division of Textron Inc

POST OFFICE BOX 482 • FORT WORTH, TEXAS 76101

VOLUME II - SHIP NO. 1 RESEARCH INSTRUMENTATION

This volume contains information covering sensor cables, sensor installation and sensor calibration for XV-15 Aircraft No. 1. The information contained herein is organized into sections according to junction box (J-box) designation. For each J-box designation, there is a section containing a schematic of the J-box disconnect harness, instrumentation worksheets which show sensor installation, and calibration data sheets for each sensor associated with that J-box.

An index of measurement item codes to J-box location is given in Table II-I. A cross-reference of sensor location, J-box designation, disconnect wiring harness diagram, sensor installation worksheet, calibration data sheet, sensor part number and serial number is given in Table II-II.

TABLE II-I. ITEM CODE TO J-BOX INDEX.

MEASUREMENT ITEM CODE	MEASUREMENT DESCRIPTION	ASSOCIATED J-BOX	J-BOX DISCONNECT

Use or disclosure of data on this page is
subject to the restriction on the title page

TABLE II-II. MEASUREMENT CROSS-REFERENCE.

AREA	J-BOX	DESCRIPTION	ITEM CODE	DISCONNECT HARNESS	SENSOR INSTALLATION	CALIBRATION SHEET	SENSOR PART NO.	SENSOR S/N
ORIGINAL PAGE IS OF POOR QUALITY								

Use or disclosure of data on this page is subject to the restriction on the title page

BY A. WHITENER

BELL HELICOPTER COMPANY

MODEL 301 PAGE _____

CHECKED (Signature)

HELI. 1+2 RPT SPASW041-1

MODEL 301 ROTATING SLIP RING HARNESS (J-1) RR-1

NO ITEM CODE NO.

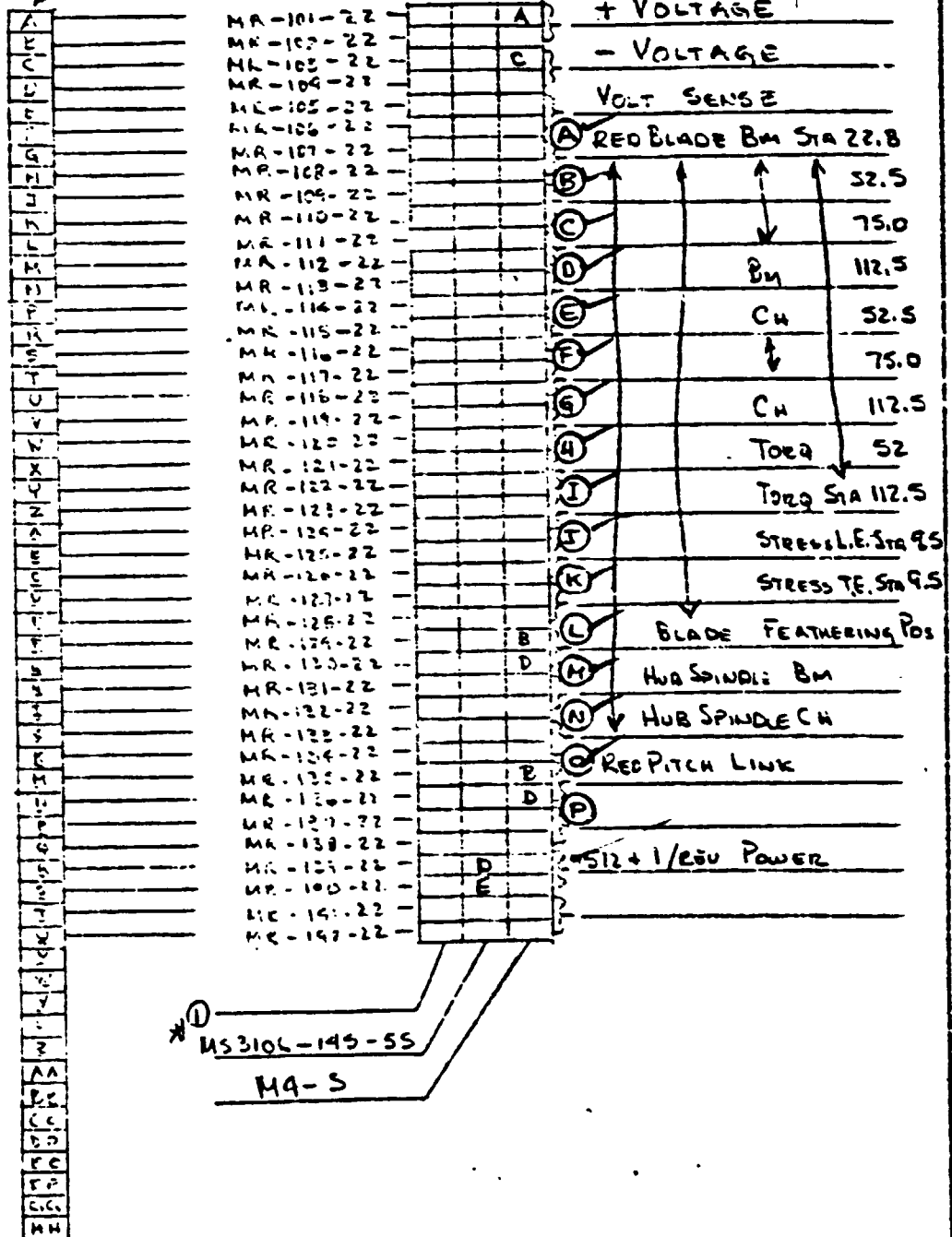
B122	B113
B123	F103
B124	D111
B125	5145
B126	5146
B127	M129
M128	E072
B112	R018
	RC53

ORIGINAL PAGE IS
OF POOR QUALITY

← KPT06-22-55P

947
12-10-76
(Signature)

PLUG
J-1
ON
SLIP
RING



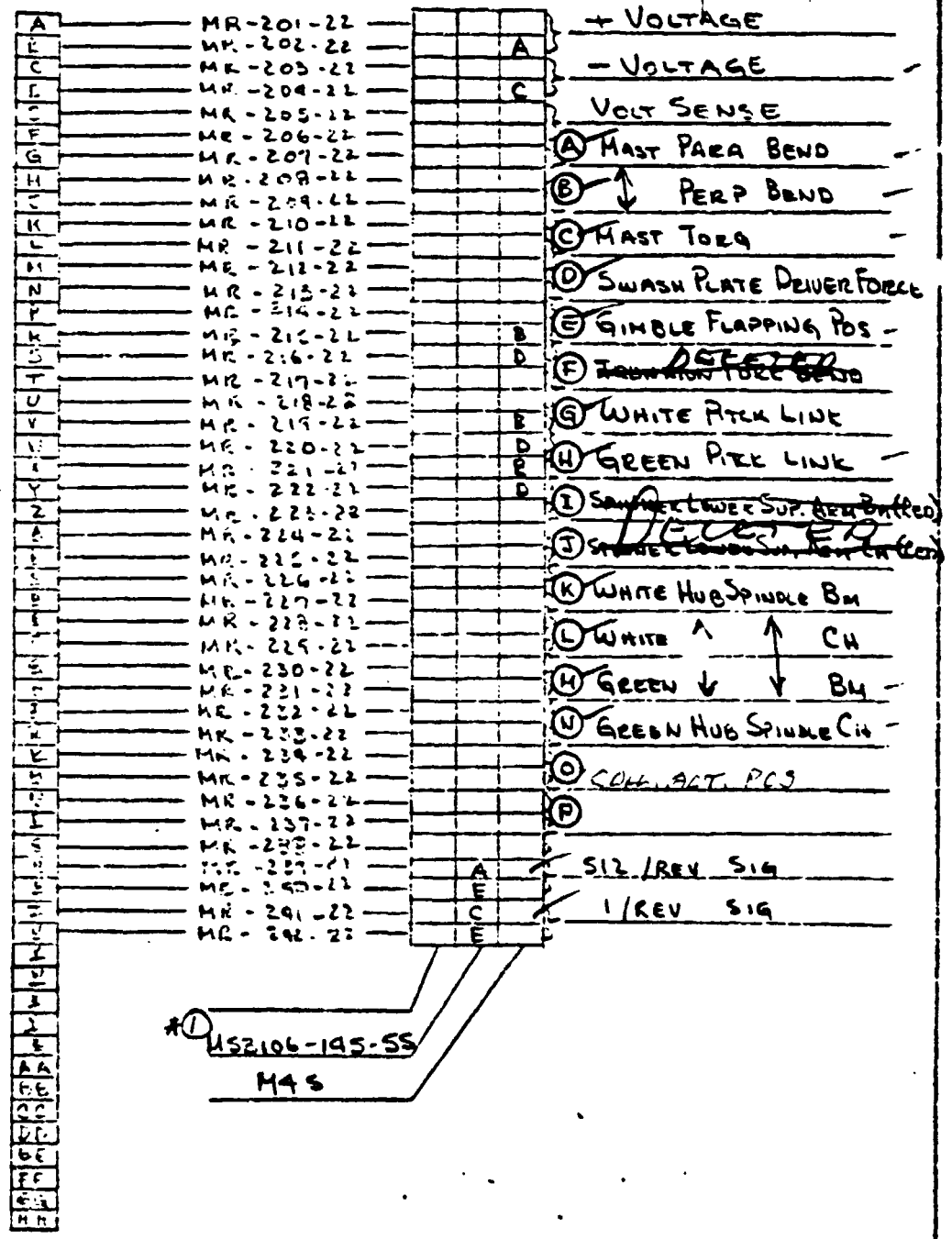
*1 MS3106-145-55
MA-S

MODEL 301
 ROTATING SLIP RING HARNESS (J-2)
RR-2
 KPT06-22-55P

- | | |
|------|------|
| B108 | E078 |
| B109 | F104 |
| M107 | F055 |
| B052 | R018 |
| D110 | R053 |
| B171 | R058 |
| B172 | |
| B173 | |
| B174 | |

ORIGINAL PAGE IS
 OF POOR QUALITY

PLUG
 J-2
 ON
 SLIP
 RING

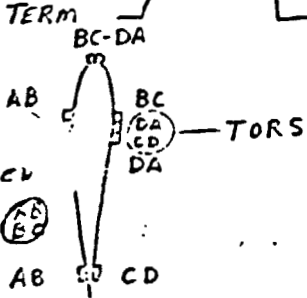
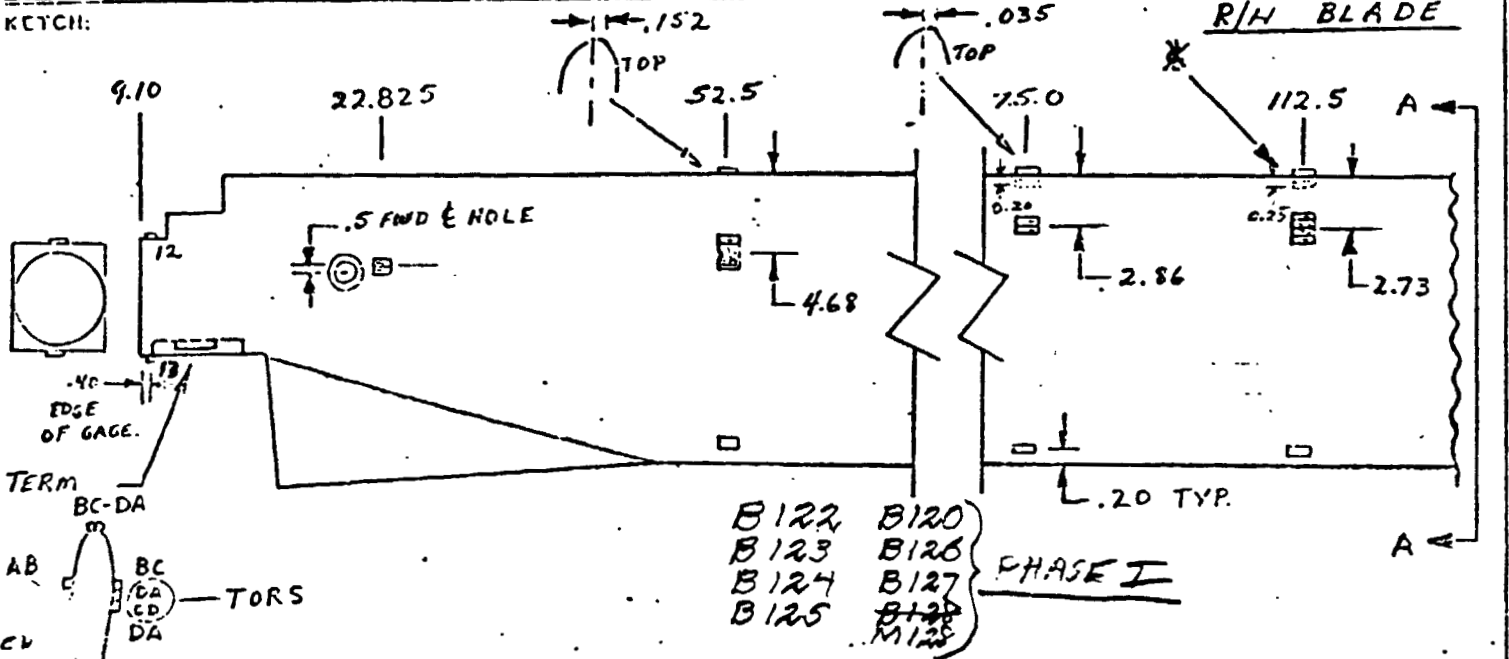


* SEE SHEET #1 FOR REMAINDER OF WIRES

INSTRUMENTATION LABORATORY

GAGE NO. 301	GAGE TYPE FA-06-3500A-350	INSTR. NO. DLN 688512
MA NO. A427-118	RESISTANCE 350 350 350	LAB. NO. 11172A
ORDER A427	GAGE FACTOR 2.12 ± 0.5% 2.08 ± 0.5% 2.045 ± 0.5%	PART NO. 300-010-001-006
REQUESTED BY: A. WHITENER	LOT NO. Q-A21AD202 Q-A35AD16 Q-A35BD01	SERIAL NO.

TITLE OF TEST: **MODEL 301 FLIGHT TEST** **5142 IA**
5146 IA



INSTALL CHORD-BEAM + TORSION BRIDGES AS SHOWN. USE BR-600 CEMENT. COMPLETE BRIDGE IN GAGE AREA USING FLAT TERMINALS. MAIN TERMINAL IS IN AREA SHOWN. COVER WITH SHELL 9309.

ORIGINAL PAGE IS OF POOR QUALITY

Complete
12-10-76

STA 9.10	
STRESS	STEEL
12	13
5.474	5.474
1 Km	1 Km

	02	03	04	05	06	07	08	09	10	11
BRIDGE	Bm 22.825	CH 52.5	Bm 52.5	CH 75.0	Bm 75.0	CH 112.5	Bm 112.5	TORS 52.5	TORS 112.5	
NCL	4.32	4.32	3.96	5.77	4.39	4.24	4.44	4.84	4.51	
TO GROUND	1 Km									1 Km
DATE ASSIGNED	TECHNICIAN DARWIN & HOLLIS					EST. HRS.		APPROVED BY:		
DATE COMPLETED	ENGINEER					ACT. HRS.				

301 RED BLADE FEATHERING POSITION BRACKET

D111
D 066

ORIGINAL PAGE IS
OF POOR QUALITY

Completed
Add
12-14-76

LEFT →
RIGHT
ROTORS

SPECTROL
POT
MOD 708
1KΩ

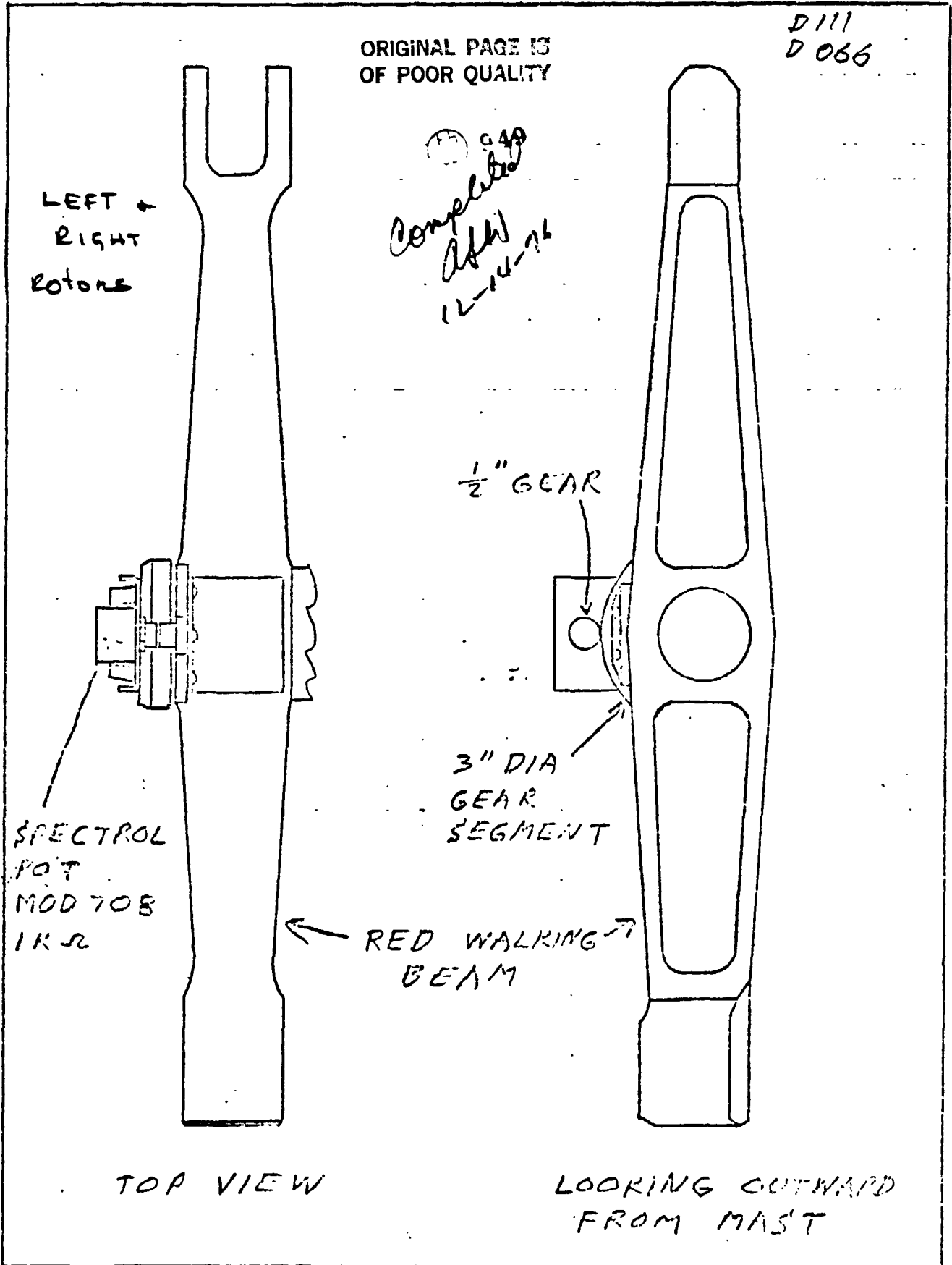
1/2" GEAR

3" DIA
GEAR
SEGMENT

← RED WALKING →
BEAM

TOP VIEW

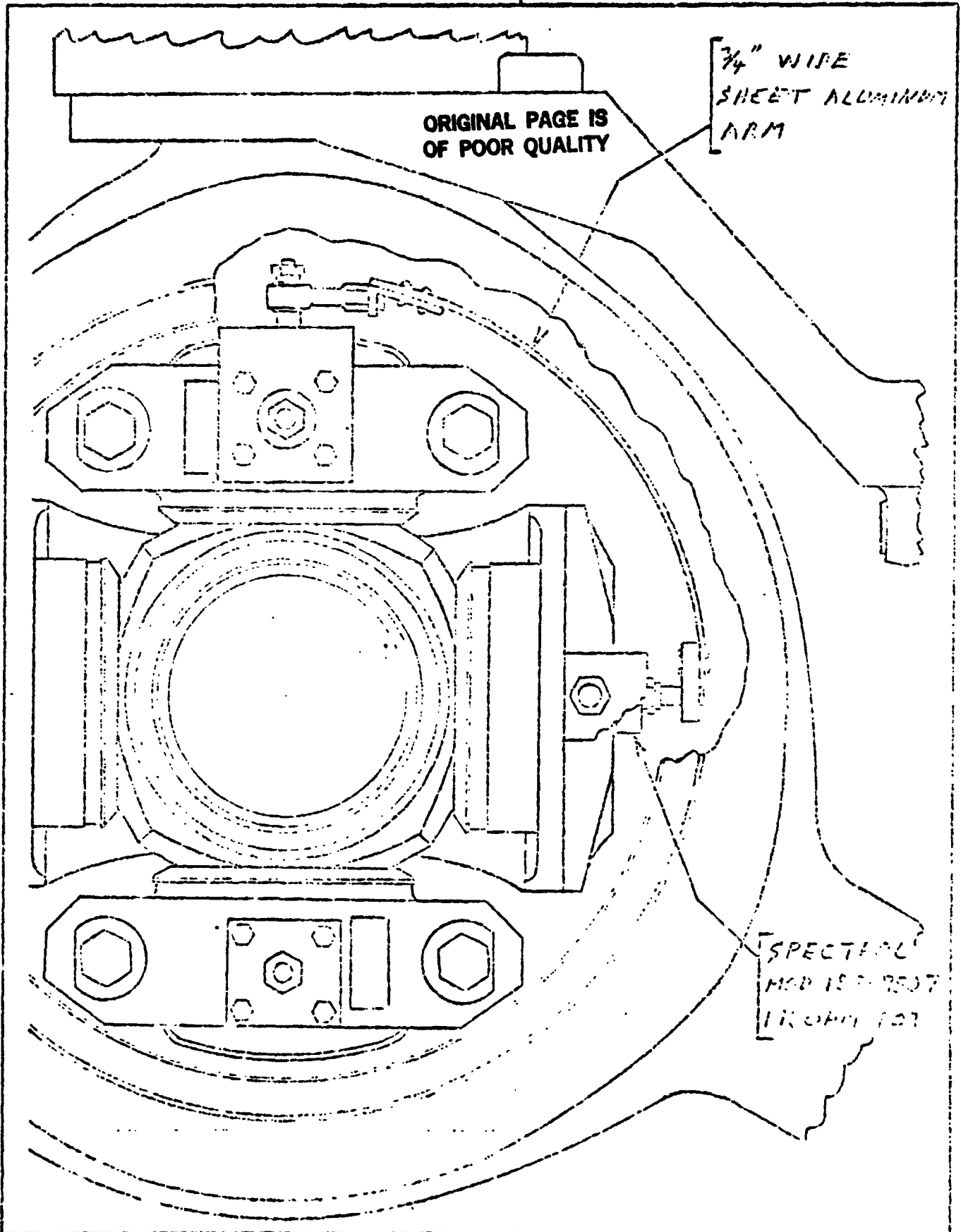
LOOKING OUTWARD
FROM MAST



D110

SKHD121176-2

301 ROTOR GIMBAL TRUNNION FLAPPING POSITION



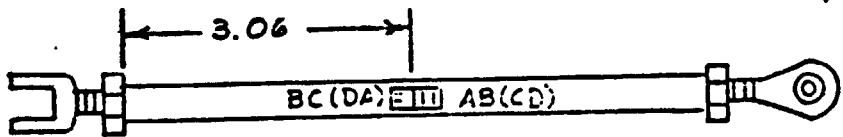
INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-125TB-350W	SHEET NO. DLN 678964
TRA NO. A427-11A	RESISTANCE 350.0 ± 0.4%	LAD. NO. 10988A
ORDER A427	GAGE FACTOR 2.12 ± 1.0%	PART NO. 300-010-411-11
REQUESTED BY: A. WHITENER	LOT NO. Q-A1BAF56	SERIAL NO.

TITLE OF TEST **301 FLIGHT TEST**

SKETCH: **F103**

PITCH LINK
R/H Red



*Completed
12-14-70*

**ORIGINAL PAGE IS
OF POOR QUALITY**

REMARKS:

INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT.
 MAKE BRIDGE AT FLAT TERMINAL AS INDICATED.
 COVER WITH 9309. ATTACH FOUR WIRE SIX
 INCH SUPERFLEX LEADS. ENCASE LEADS IN VINYL
 SLEEVING AND TERMINATE WITH M4P PLUG.

BRIDGE	AXIAL						
WINDING	4.32						
RES. TO GROUND	1K Ω						
DATE ASSIGNED	6-8-76	TECHNICIAN	C.C.W.		EST. HRS.	APPROVED BY:	
DATE COMPLETED	6-8-76	ENGINEER			ACT. HRS.		

BY A. WHITENER

BELL HELICOPTER COMPANY

MODEL 301 PAGE 1 of 4

CHECKED _____

HELI. 1+2 RPT SETPSW 344-2

D110
D144

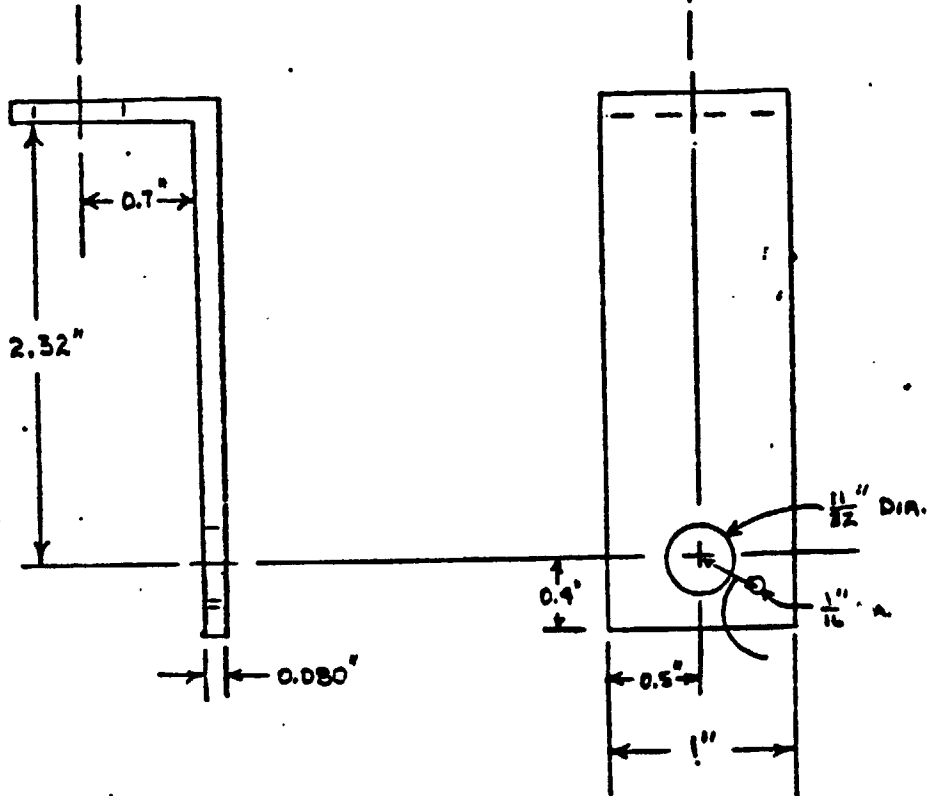
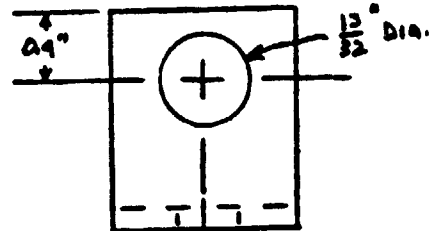
RED BLADE FLAPPING BRACKET

Rt. + Lh. FLAPPING

ORIGINAL PAGE IS
OF POOR QUALITY

(-1)

POTENTIOMETER BRACKET



47
 (52)
 Complete
 B.W.
 12-10-76

BY _____

BELL HELICOPTER COMPANY

MODEL _____

PAGE

2 of 4

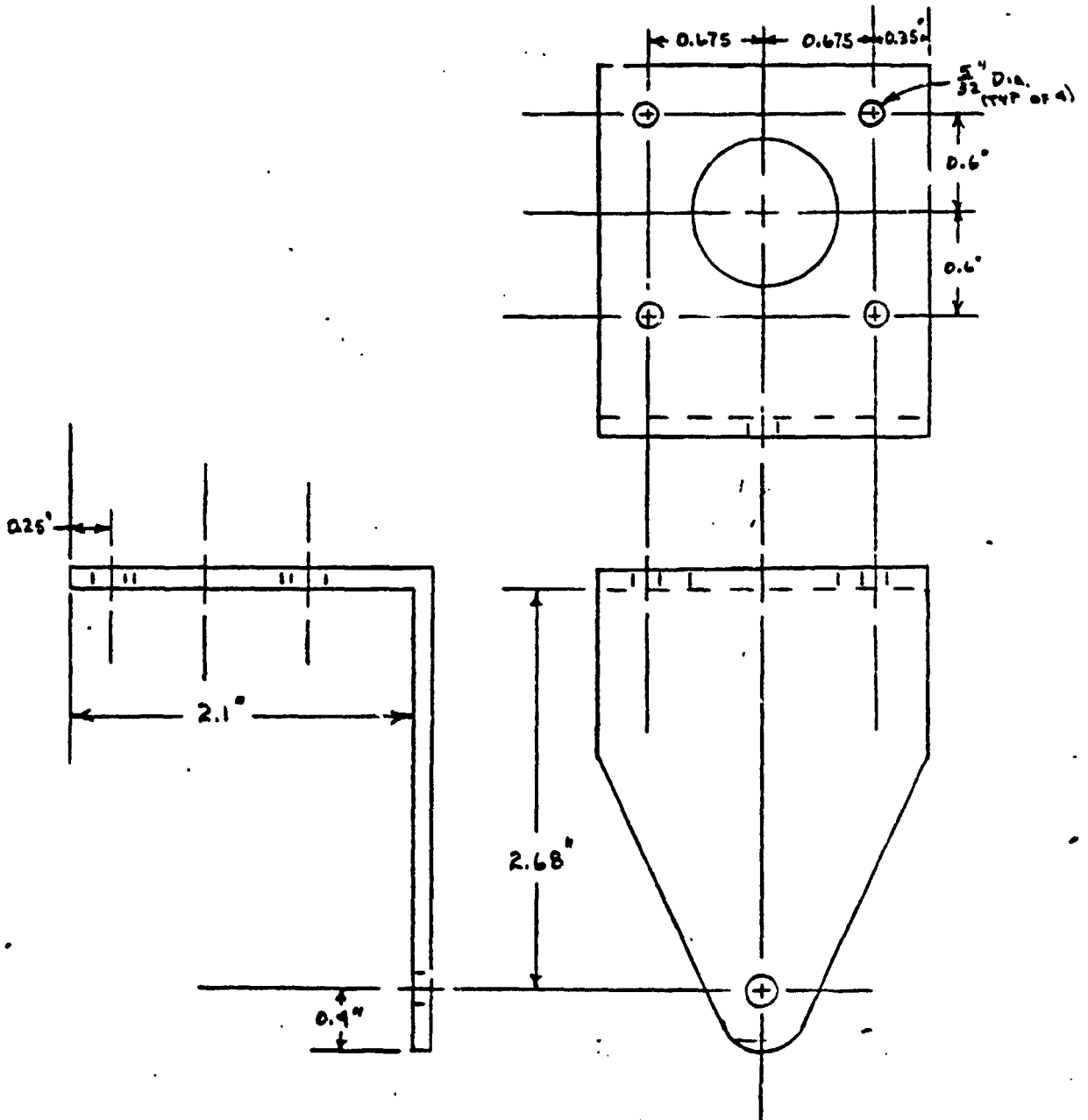
CHECKED _____

HELI. _____

RPT

SKTASW 344-2

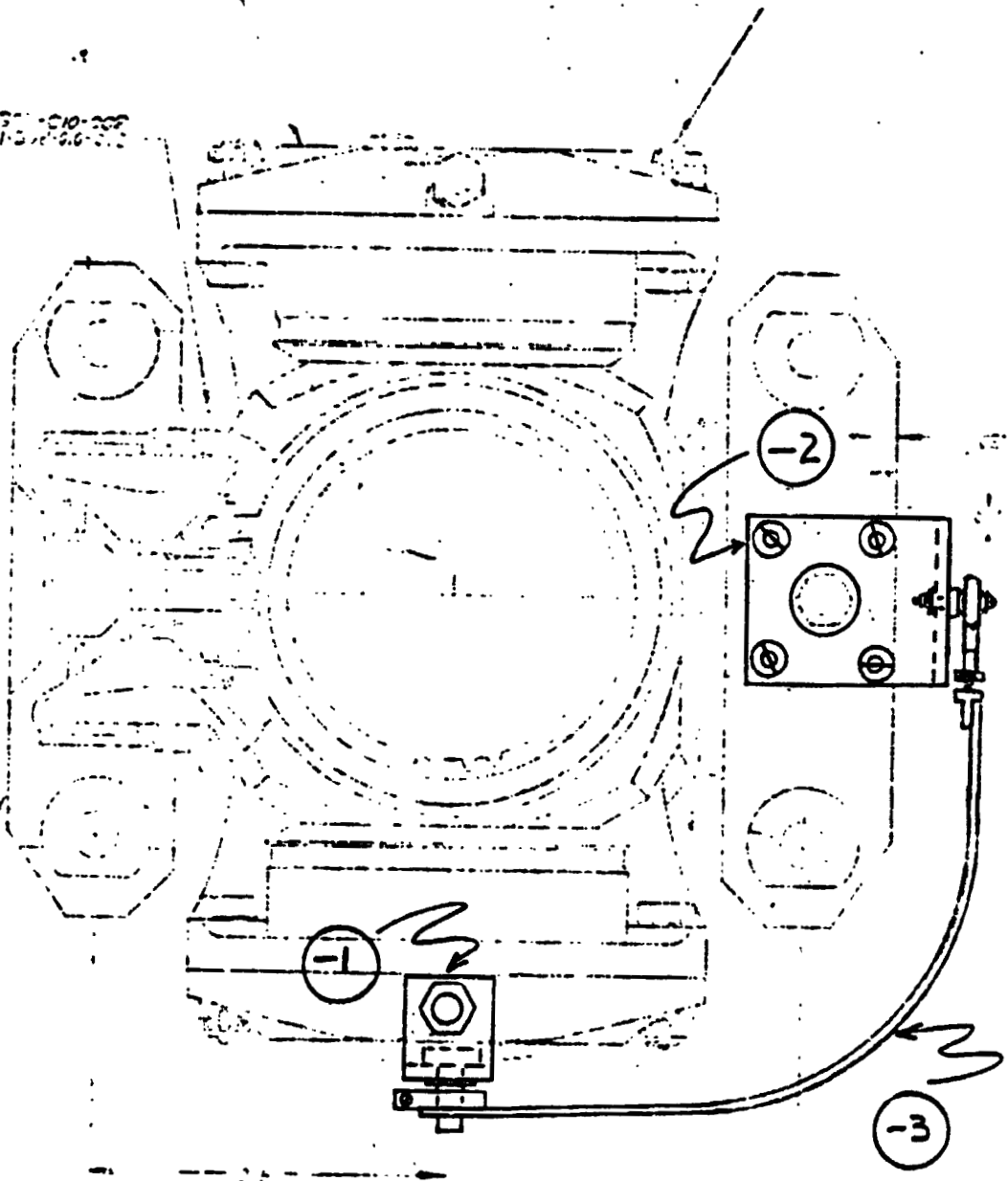
ORIGINAL PAGE IS
OF POOR QUALITY



7042 8888REV 100

ORIGINAL PAGE IS
OF POOR QUALITY

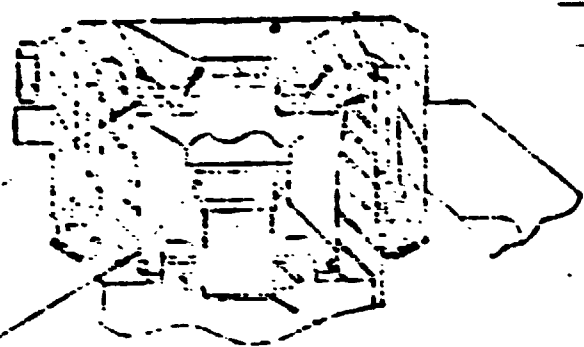
2-10-02
2-10-02



2-10-02
2-10-02

300-00-26-25
4 REF ID: A6631

STAINLESS STEEL TRUSTING, 4 5/8" DIA



300-00-26-25
300-00-26-25
300-00-26-25

300-00-26-25 ADJUSTING SCREW

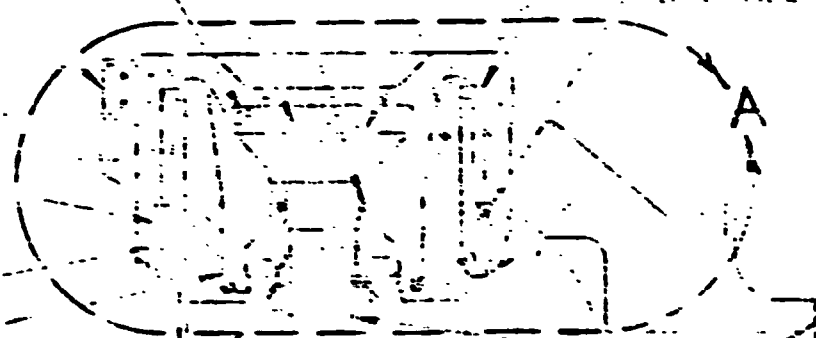
ORIGINAL PAGE IS
OF POOR QUALITY.

DETAIL A (B)
(FOR - F ONLY)

STAINLESS STEEL TRUSTING, 4 5/8" DIA

300-00-26-25

300-00-26-25 TRUSTING
300-00-26-25 TRUSTING



A

(B)

300-00-26-25

300-00-26-25
300-00-26-25

300-00-26-25

300-00-26-25

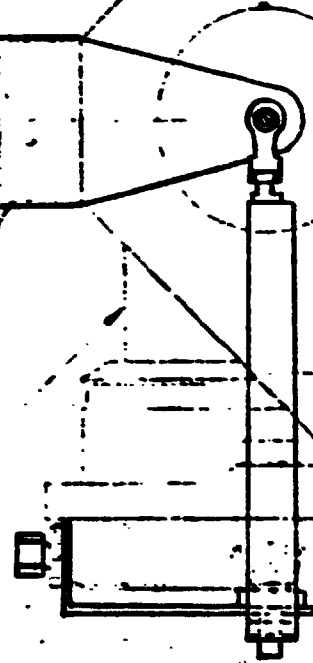
300-00-26-25
300-00-26-25

300-00-26-25 (FOR - F ONLY)

300-00-26-25

300-00-26-25
300-00-26-25

(B)



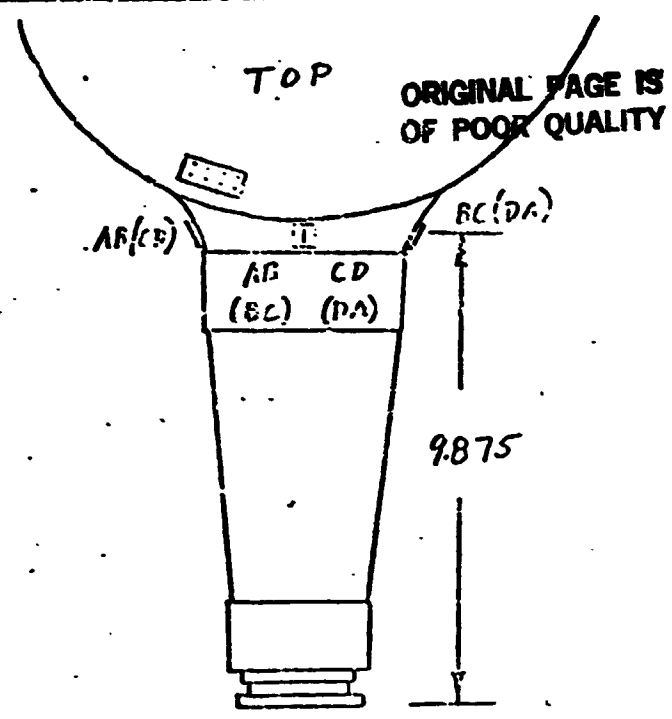
INSTRUMENTATION LABORATORY WORK SHEET (Sheet 1)

MODEL NO. 301	GAGE TYPE EA-06-250MP-350 W	SHEET NO. DLN 678984
EWA NO. A427-11	RESISTANCE 350.0 ± 0.4 %	LAD. NO. 11021A
ORDER A427	GAGE FACTOR 2.08 ± 0.5 %	PART NO. 300-010-101-23
REQUESTED BY: A. WHITENER	LOT NO. Q-A35AD16	SERIAL NO. FM004

TITLE OF TEST: **301 FLIGHT TEST**

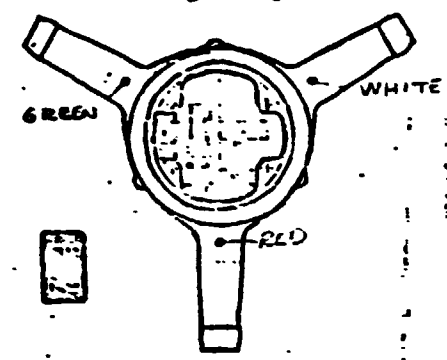
SKETCH:

947
 Complete
 AdW
 12-10-76



R/H

YOKE
 B112 } PHASE I
 B113 }
 B171 }
 B172 } II A
 B173 }
 B174 }



VIEW LOOKING AFT.

REMARKS:

CLEAN GAGE AREA PER TITANIUM INSTRUCTIONS. INSTALL BEAM AND CHORD BRIDGES ON THREE SPINDLES. USE BR-600 CEMENT. COMPLETE BRIDGE AT POST TIME TERMINALS ON TOP SURFACE. COVER WITH SHEL 9309

BRIDGE	01 RED 02		03 WHITE 04		05 GREEN 06	
	CHORD	BEAM	CHORD	BEAM	CHORD	BEAM
ANCE	5.92	5.25	4.04	4.12	5.56	4.60
→ TO GROUP	10Kmm	10Kmm	10Kmm	10Kmm	10Kmm	10Kmm
DATE ASSIGNED	6-22-76		TECHNICIAN CHUCK		EST. HRS.	
DATE COMPLETED	6-24-76		ENGINEER		APPROVED HRS.	

301 COLLECTIVE ACTUATOR POSITION POT

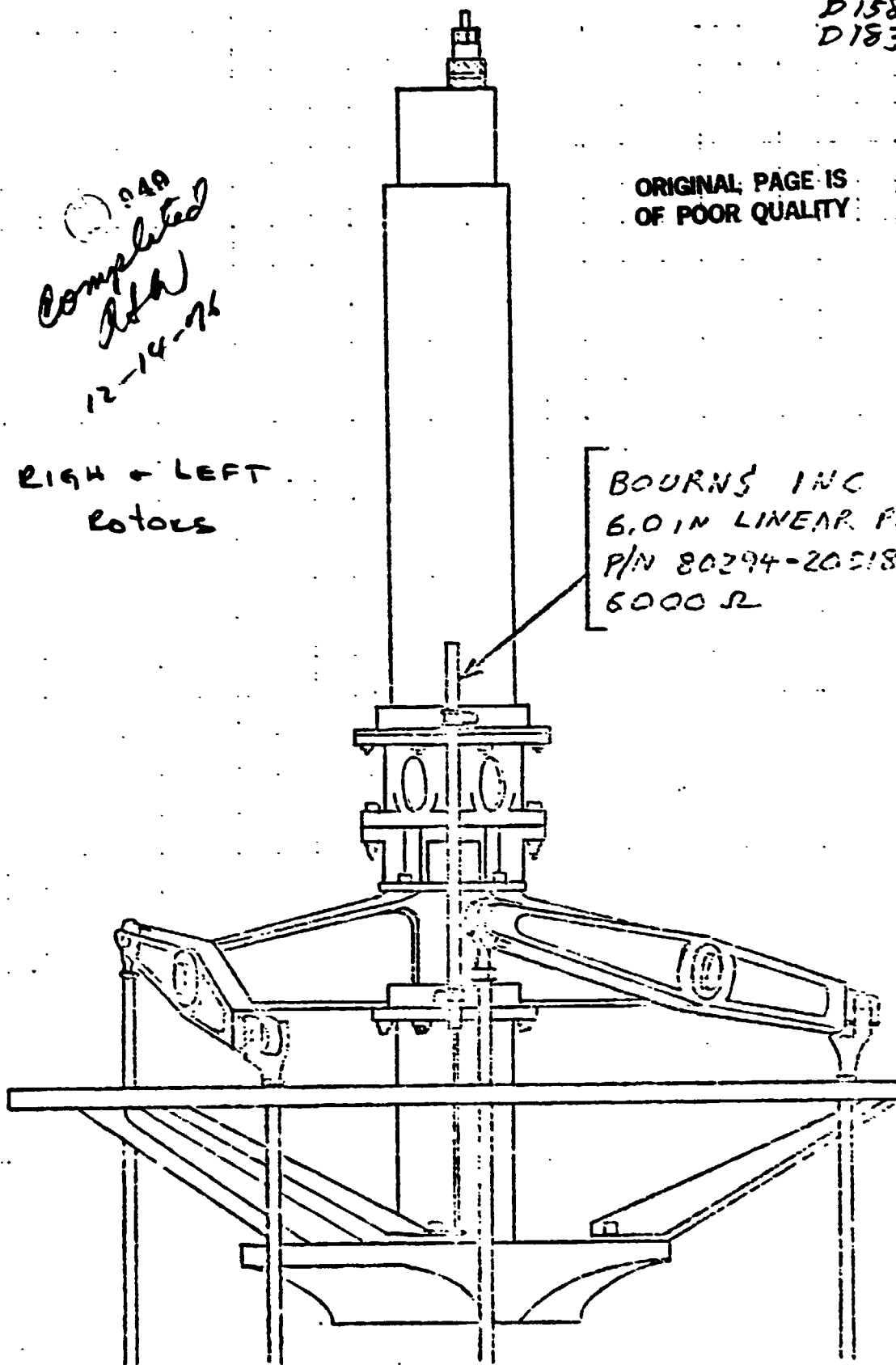
D158
D153

049
Completed
JWW
12-14-76

ORIGINAL PAGE IS
OF POOR QUALITY

RIGHT + LEFT
Rotors

BOURNS INC
6.0 IN LINEAR POT
P/N 80294-205184113
6000 Ω

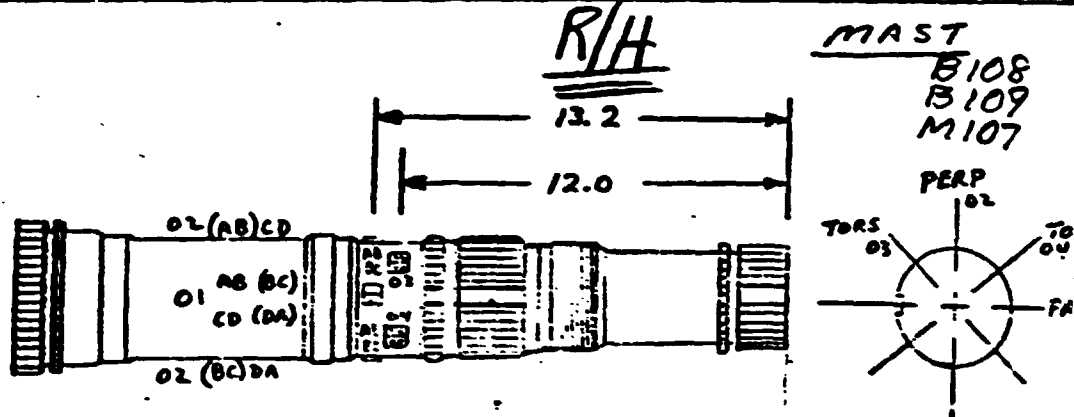


INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-06-250MR-350 EA-06-062VD-350	SHEET NO. 678984
EWA NO. A427-11A	RESISTANCE 350Ω	LAB. NO. 10495 A
WORK ORDER A427	GAGE FACTOR 2.08 ± 0.5% 2.045 ± 0.5%	PART NO. 300-040-180
REQUESTED BY: D. GLASS	LOT NO. Q-A35AD03 Q-A35BD01	SERIAL NO. —
TITLE OF TEST MODEL 301 FLIGHT TEST SHIP # 1		

SKETCH:

Copy to
 Ash
 12-10-76



ORIGINAL PAGE IS
OF POOR QUALITY

REMARKS: **INSTALL BENDING AND TORSION BRIDGES AS SHOWN. USE BR-600 CEMENT. MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER WITH 9309.**

	13.2	13.2	12.0	12.0
BRIDGE	PERP-01	PARA-02	TORS-03	TORS-04
BALANCE	5.19	4.93	4.81	5.25
RES. TO GROUND	10K mΩ	10K mΩ	10K mΩ	10K mΩ
DATE ASSIGNED	TECHNICIAN <i>Mite</i>		EST. HRS.	APPROVED BY:
DATE COMPLETED 12/19/75	ENGINEER		ACT. HRS.	

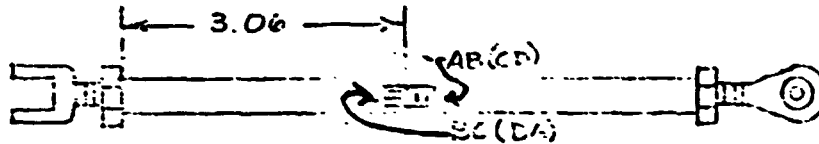
INSTRUMENTATION LABORATORY WORK SHEET FOSS ✓

MODEL NO. 301	GAGE TYPE. EA-13-125TB-350W	SHEET NO. DLN 675924
FWA NO. A427-114	RESISTANCE 350.0 ± 0.490	LAB. NO. 10630A
K ORDER A427	GAGE FACTOR 2.12 ± 1.090	PART NO. 310-010-411-11
REQUESTED BY: A. VENTNER	LOT NO. Q-A18AF48	SERIAL NO.

TITLE OF TEST
301 FLIGHT TEST

SKETCH

PITCH LINK



**ORIGINAL PAGE IS
OF POOR QUALITY.**

REMARKS:

INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT.
 MAKE BRIDGE AT FLAT TERMINAL AS INDICATED.
 COVER WITH 9309. ATTACH FOUR WIRE SIX
 INCH SUPERFLEX LEADS, ENCASE LEADS IN VINYL
 SLEEVING AND TERMINATE WITH M-1P PLUG.

01

BRIDGE	AXIAL						
LANCE	4.10						
RES. TO GROUND	10M						
DATE ASSIGNED	2-12-76	TECHNICIAN	C.C.W. -		EST. HRS.	APPROVED BY:	
DATE COMPLETED	2-16-76	ENGINEER			ACT. HRS.		

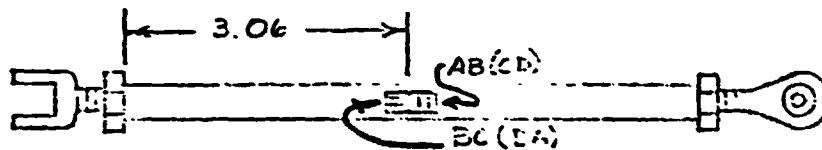
INSTRUMENTATION LABORATORY WORK SHEET F104 ✓

MODEL NO. 301	GAGE TYPE EA-13-125TB-350W	SHEET NO. DLN 67893-
TA NO. A427-11A	RESISTANCE 352.0 ± 0.490	LAB. NO. 10627A
WORK ORDER A427	GAGE FACTOR 2.12 ± 1.090	PART NO. 300-010-411-11
REQUESTED BY: A. WHITEHER	LOT NO. Q-A1BAF 4B	SERIAL NO.

TITLE OF TEST
301 FLIGHT TEST

SKETCH:

PITCH LINK



ORIGINAL PAGE IS
OF POOR QUALITY

REMARKS:

INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT.
MAKE BRIDGE AT FLAT TERMINAL AS INDICATED.
COVER WITH 9309. ATTACH FOUR WIRE SIX
INCH SUPERFLEX LEADS. ENCASE LEADS IN VINYL
SLEEVING AND TERMINATE WITH M4P PLUS.

BRIDGE	AXIAL					
SLANCE	4.17					
RES TO GROUND	15.5ma					
DATE ASSIGNED	TECHNICIAN		EST. HRS.		APPROVED BY:	
2-12-76	C.C.W. -					
DATE COMPLETED	ENGINEER		ACT. HRS.			
3-16-76						

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-250MQ-350	SHEET NO. DLN 678774
EWA NO. A4-27-11A	RESISTANCE 350Ω ± 0.4%	LAB. NO. 10635A
ORDER 1427	GAGE FACTOR 2.11 ± 0.5%	PART NO. 300-010-431-1
REQUESTED BY: A. Y. ...	LOT NO. Q-A18AF56	SERIAL NO.

TITLE OF TEST **301 FLIGHT TEST**

SKETCH: **B052**

DRIVER ASSY.

ORIGINAL PAGE IS
OF POOR QUALITY

0.42
Complete
HW
12-10-76

REMARKS:

INSTALL BEND. BRIDGE AS SHOWN. USE BR-600 CEMENT.
 MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER
 WITH 9309. ATTACH FOUR WIRE SIX INCH SUPERFLEX
 LEADS. ENCASE LEADS IN VINYL SLEEVING AND
 TERMINATE WITH MIP PLUG.

BRIDGE	BEND					
BLANCE	4.52					
TO GROUND	12 KΩ					
DATE ASSIGNED		TECHNICIAN <i>H. H. N.</i>			EST. HRS.	APPROVED BY:
DATE COMPLETED 2-13-76		ENGINEER			ACT. HRS.	

BY A. WHITEHER

BELL HELICOPTER COMPANY

MODEL 301

PAGE 1 OF 2

CHECKED [Signature]

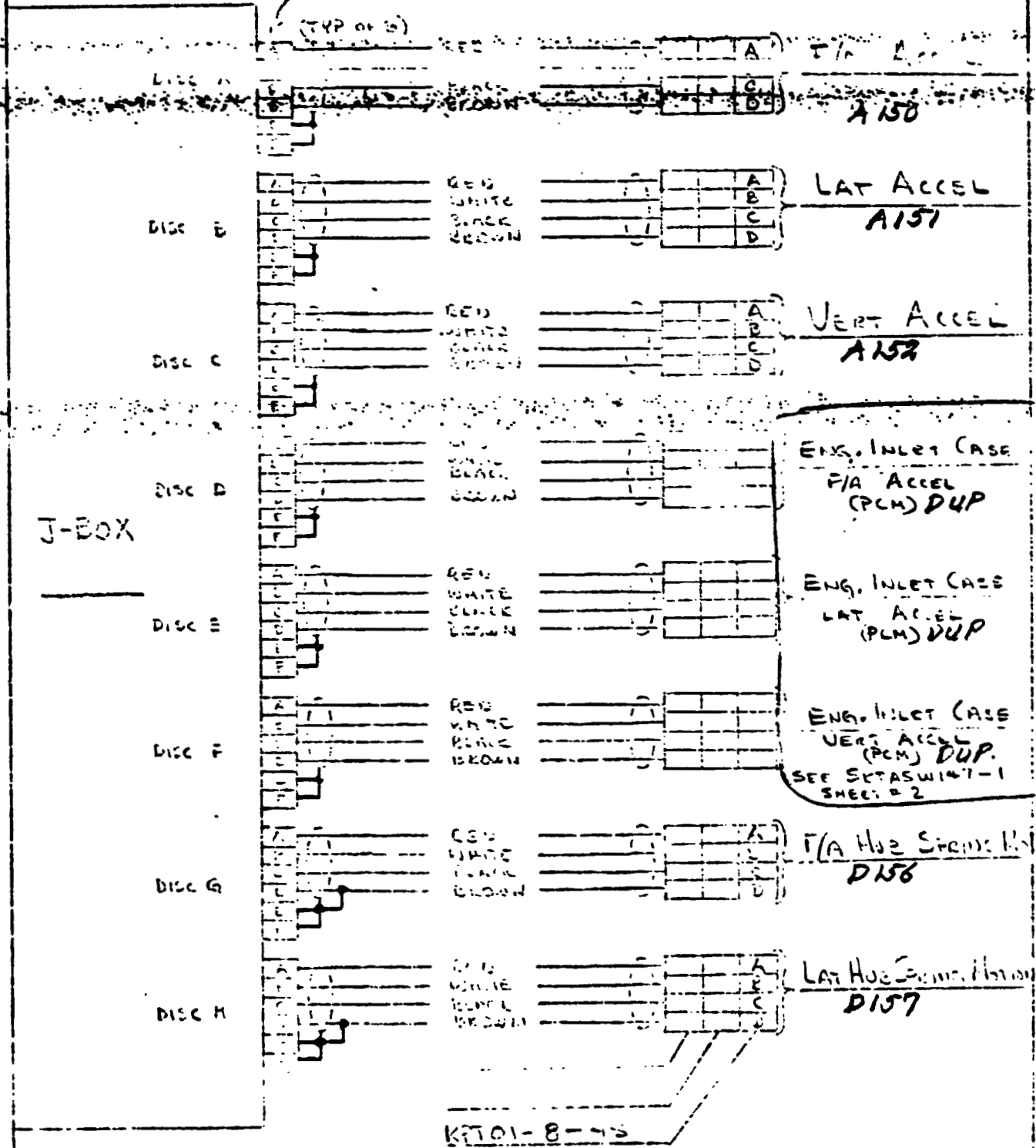
HELI. 142 RPT SKASW04375-1

DISCONNECT HARNESS

ORIGINAL PAGE IS OF POOR QUALITY

J-BOX LOCATION RP-1

KPT06-10-6P



BY A. WHITEHER

BELL HELICOPTER COMPANY

MODEL 301 PAGE 2 OF 2

CHECKED AW

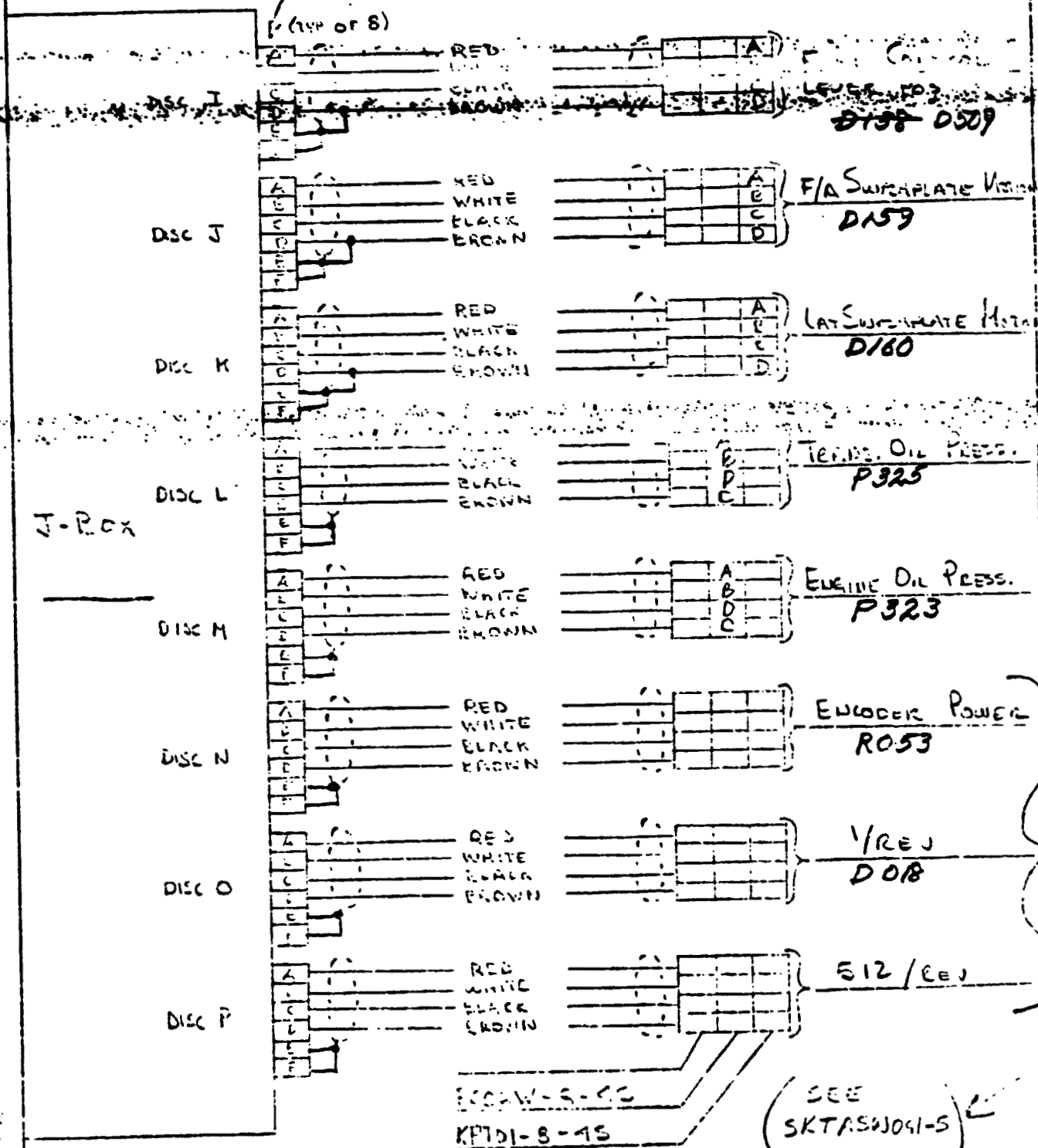
HELI. 1+2 RPT SKASIN04375-1

DISCONNECT HARNESS

ORIGINAL PAGE IS OF POOR QUALITY

J-Box LOCATION RP-1

KPTOG-10-6P



7842 55804 11 107

R018
R053

MODEL 301

SHAFT ENCODER WIRING (NON-ROTATING)

ORIGINAL PAGE IS
OF POOR QUALITY

(TYP OF 2 → RIGHT ← LEFT ROTOR)

J-BOX
INPUTS

RP-1N

(512/REV)



RP-1O

(1/REV)



RP-1P

(ENCODER
POWER)



WIRES ROUTED FROM
BASE OF COLLECTIVE
ACTUATOR

PLUG AT
TOP OF
ROTOR MAST
(MATES WITH
SLIP RING
PLUG)



← KPT06-10-6P

R 058
R 059

MODEL 301

SHAFT ENCODER WIRING (NON-ROTATING)

ORIGINAL PAGE IS
OF POOR QUALITY

(TYPE OF 2 → RIGHT + LEFT ROTOR)

J-BOX
INPUTS

LP-1N

(512/REV) ✓

LP-1O

(1/REV) ✓

LP-1P

(ENCODER
POWER) ✓



WIRES ROUTED FROM
BASE OF COLLECTIVE
ACTUATOR



PLUG AT
TOP OF
ROTOR MAST
(MATES WITH
SLIP RING
PLUG)

← KPT06-10-6P

REV. A 12-8-56
 DOC
~~R018~~
 R018
 R053
 R058
 R059

MODEL 301
 NON-ROTATING SLIP RING HARNESS

ORIGINAL PAGE IS
 OF POOR QUALITY

(TYPE OF 2 → LR-2, PR-2)

WIRES ROUTED FROM
 SLOT AT BASE OF
 COLLECTIVE ACTUATOR

Complete
 AW
 12-21-76
 055

PLUG
 MOUNTED
 ON
 PYLON

A			57
E			38
C			52
D			54
G			47
F			28
H			74
J			56
K			37
L			19
M			81
N			62
P			46
R			27
S			11
T			4
U			3
V			2
W			1
X			10
Y			9
Z			8
AA			7
AB			6
AC			18
AD			17
AE			16
AF			15
AG			14
AH			72
AI			22
AJ			36
AK			64
AL			45
AM			26
AN			54
AO			53
AP			62
AA			20

CONN. J1

PLUG
 LOCATED
 AT
 THE TOP
 OF ROTOR
 MAST
 (MATES WITH
 SLIP RING
 PLUG)

7042 0155REV 100

KPT06-24-61P →

MILM47331-1

BY A. WHITENER

BELL HELICOPTER COMPANY

MODEL 301 PAGE _____

CHECKED _____

HELI. 142 RPT SETAW041-4

REV. A 12-8-76

MODEL 301 'NOU-ROTATING SLIP RING HARNESS

(TYP OF 2 → LR-1, RR-1)

ORIGINAL PAGE IS
OF POOR QUALITY

PLUG
MOUNTED
ON
PYLON

WIRES ROUTED FROM
SLOT AT BASE OF
COLLECTIVE ACTUATOR

A			29
B			48
C			24
D			30
E			39
F			58
G			12
H			30
J			49
K			67
L			5
M			21
N			40
P			59
R			75
S			82
T			83
U			84
V			85
W			76
X			77
Y			78
Z			79
AA			80
BB			65
CC			64
DD			70
EE			71
FF			72
GG			13
HH			31
JJ			50
KK			22
LL			41
MM			60
NN			22
PP			51
			23
			22

COMU JIU

PLUG
LOCATED
AT
THE TOP
OF ROTOR
MAST
(MATES WITH
SLIP RING
PLUG)

KPT06-24-61P →

MIKH97331-1

7842 REV 100

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-06-062TZ-350	SHEET NO. DLN 688512
EWA NO. A427-11B	RESISTANCE 350Ω	LAB. NO. 11367A
WORK ORDER A427	GAGE FACTOR 2.07 \pm 1.07 %	PART NO. 41002590
REQUESTED BY: A. WHITENER	LOT NO. Q-A34 BDOO	SERIAL NO. 001 LH

TITLE OF TEST **301 FLIGHT TEST**

SKETCH:

95%
Complete
2/18/76
12-18-76

ORIGINAL PAGE IS OF POOR QUALITY

F163
R/H LATERAL ACTUATOR

REMARKS: INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT. MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER WITH 9309. ATTACH FOUR TEN INCH SUPERFLEX LEADS. ENCASE LEADS IN VINYL SLEEVING AND TERMINATE WITH KPT-06-8-4P. PLUG.

BRIDGE	AXIAL					
BALANCE	5.28					
RES TO GROUND	10k Ω					
DATE ASSIGNED	12-14-76	TECHNICIAN	C.C.W.		LST. HRS.	APPROVED BY:
DATE COMPLETED	12-14-76	ENGINEER			ACT. HRS.	

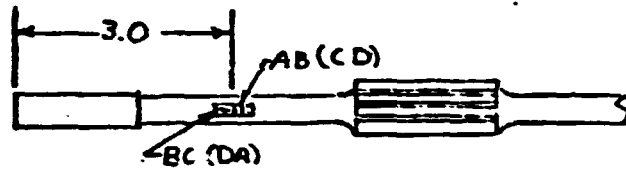
INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA06-125 TB-350	SHEET NO. DLN 678-75-1
EWA NO. A427-11A	RESISTANCE 350 Ω	LAB. NO. 10609A
ORDER A427	GAGE FACTOR 2.13 ± 1.7%	PART NO. 300-010-417-1
REQUESTED BY: A. V. WINTNER	LOT NO. Q-A21AD143	SERIAL NO. 004

TITLE OF TEST **301 FLIGHT TEST**

SKETCH: **F154**
R/H COLLECTIVE TUEE

947
Complete
AW
12-10-76



ORIGINAL PAGE IS
OF POOR QUALITY

REMARKS:
INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT... MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER WITH SHELL 9309.

BRIDGE	01	AXIAL					
LANCE		F.B.E					
RES. TO GROUND		<i>10k</i>					
DATE ASSIGNED	TECHNICIAN C. C. W.			EST. HRS.		APPROVED BY:	
DATE COMPLETED 2-11-76	ENGINEER			ACT. HRS.			

301 FUEL CONTROL LEVER POSITION BRACKET

D509
D576

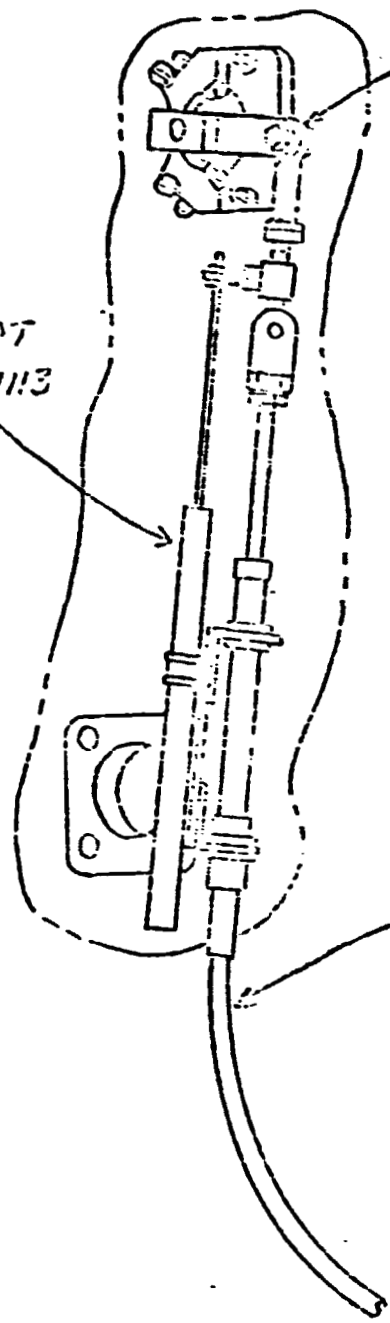
ORIGINAL PAGE IS
OF POOR QUALITY

949

LEFT + RIGHT ENGINES

*Completed
Alan
12-14-76*

FOURNIS INC
6.0 IN LINEAR POT
P/N 80277-801331113
CROSS SHIP



THROTTLE LEVER
ON THE ENGINE

THROTTLE CABLE

HUB SPRING MOTION BRACKET

D 156
D 157
D 181
D 182

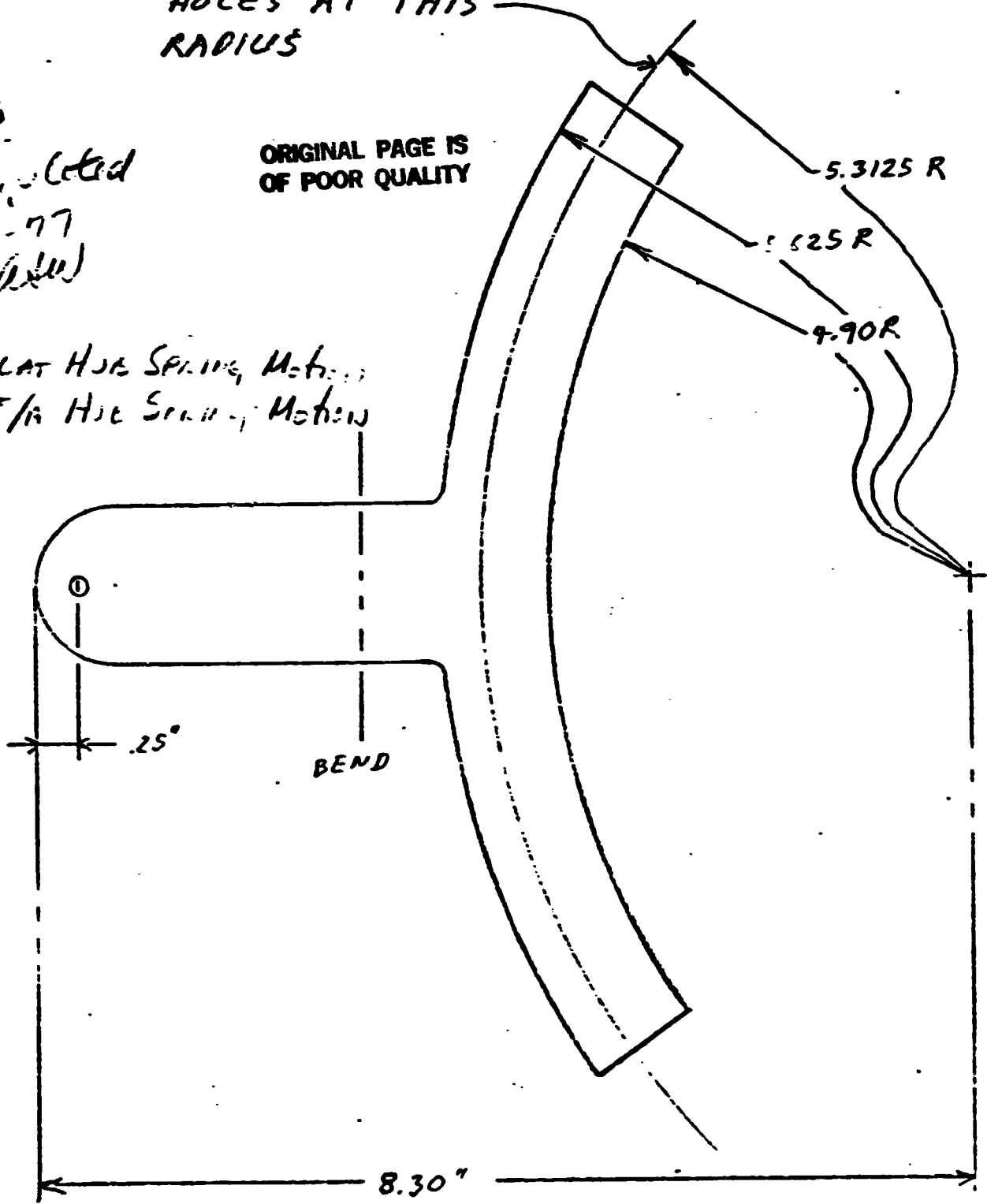
DRILL MOUNTING
HOLES AT THIS
RADIUS

965

Completed
1-11-77
(initials)

ORIGINAL PAGE IS
OF POOR QUALITY

1. L + R CAT HUB SPRING Motion
2. - + R F/R HUB SPRING Motion



INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-125TB-350	SHEET NO. DLN 678494
EWA NO. A427-11A	RESISTANCE 350 Ω ± 0.4%	LAB. NO. 10639A
K ORDER A427	GAGE FACTOR 2.12 ± 1.0%	PART NO. 301-301-552-1
REQUESTED BY: A. WHITENCE	LOT NO. Q-A18AF48	SERIAL NO.

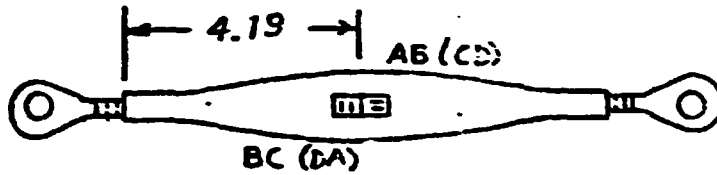
TITLE OF TEST 301 FLIGHT TEST

SKETCH: F162

ORIGINAL PAGE IS
OF POOR QUALITY

TUBE FORM PART CYCLE
R/H

678494
 Complete
 ASW
 12-10-76



REMARKS:
 INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT.
 MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER
 WITH 9309. ATTACH FOUR WIRE SIX INCH SUPERFLEX
 LEADS. ENCASE LEADS IN VINYL SLEEVING AND
 TERMINATE WITH M4P PLUG.

01

BRIDGE	AXIAL						
BALANCE	4.67						
Ω TO GROUND	1059Ω						

DATE ASSIGNED 2-19-76	TECHNICIAN HILLIN	EST. HRS.	APPROVED BY:
DATE COMPLETED 2-19-76	ENGINEER	ACT. HRS.	

BY A. WHITEHER

BELL HELICOPTER COMPANY
POST OFFICE BOX 602 • 100 SOUTH L. VEGAS

MODEL 301 PAGE 1 of 1

RPT. SKASW 348-1

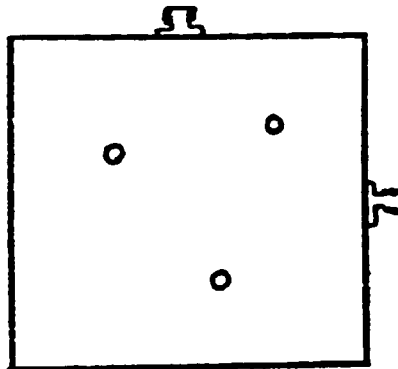
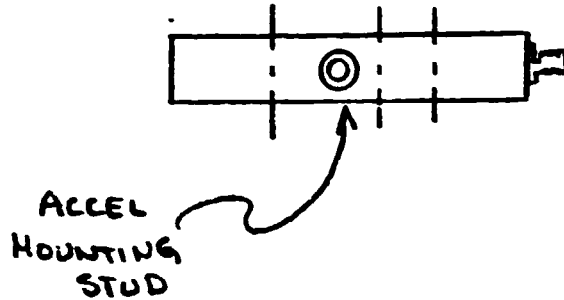
CHECKED _____

FFA/LAT. A500
A501
A507
A508

ENGINE VIBRATION ACCELEROMETER MOUNT POWER TURBINE OIL EXIT TUBE

ORIGINAL PAGE IS
OF POOR QUALITY

#51
Complete
P.W.
12-16-76



DRILL TO MATCH FITTING

NOTE: USE LYCOMING DRAWG 1-000-094-14
FOR THESE LOCATIONS

BY A. WHITENER

BELL HELICOPTER COMPANY

MODEL 301 PAGE _____

CHECKED _____

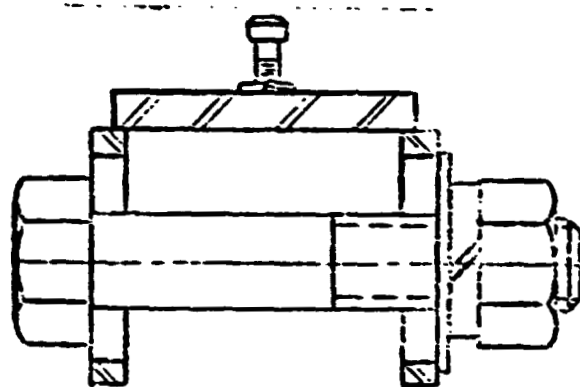
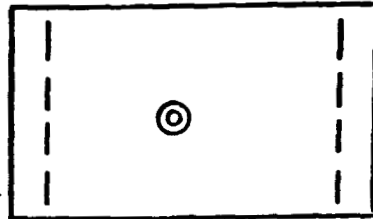
SKASH 348-2

VERT. A502
A574

• ENGINE LIFTING LUG
ACCELEROMETER MOUNT

ORIGINAL PAGE IS
OF POOR QUALITY

*Ampl
A502
12-16-76*



NOTE: USE LYCOMING DRAWG 1-000-044-14
FOR THESE LOCATIONS

ENGINEERING ORDER

CODE IDENT. NO. 97409
 AUTHORITY FOR CHANGE
 F.C.A. NO.
 W.A. NO. A-27-17
 L.E.T.A.R. NO. DN 695029

CHANGE
 RELEASE
 PROCESS

TEST
 HES

SER. NO. 301 HES 60 SHEET 1
 CLASS OF CHANGE: NO RESULT LTR. OF 1
 ENG'G WORK ORDER

REASON: 3 AXIS ACCELEROMETER MOUNT FOR MODEL 301 (XV-15) VIBRATION

DRAWINGS AFFECTED: DRAWING CHANGE LTR.
(DO NOT INCORP.) DO INCORP. DRAWING TITLE

- 1) PLEASE FABRICATE 12 ACCELEROMETER MOUNTS PER ATTACHED SHEET (219 HES 311). A300
A301
A300
A005
~~A300~~
~~A301~~
~~A302~~
- 2) DIMENSIONS ARE STATED AS INCHES. A175
A176
A177
A302
A019
A304
A020
- 3) UPON COMPLETION, PLEASE DELIVER TO:

A.S. WHITENER X 5832
 DEPT 80

PLANT # 6

- 1) MARK EACH PIECE 301 HES 60
- 2) Rt. Pylon (Vert, Lat + F/A) ⁹⁴ ~~94~~ complete AdW 12-10-76
- 3) Lt. Pylon (Vert, Lat, F/A) ⁹⁴ ~~94~~ complete AdW 12-10-76
- 4) Co-Pylon (Vert + Lat) ⁹⁴ ~~94~~ complete AdW 12-21-76
- 5) Pylon (Vert + Lat) ⁹⁴ ~~94~~ complete AdW 12-10-76
- 6) C.G. (Vert, Lat, F/A) ⁹⁴ ~~94~~ complete AdW 12-10-76

STATUS	PART/ASSY NO.	ADD.	REM.	CHC.	ENGINEERING DISPOSITION					
SIGNATURE		DATE		SIGNATURE		DATE		SIGNATURE		DATE
PREPARED BY		STRUCTURES		MET. DES.						
GROUP ENGR		CUSTOMER		WEIGHTS						
CHECKED BY		D.E.R.		PROJ. ENGR						
MANUFACTURING EFFECTIVITY					ENGINEERING EFFECTIVITY					
					ORIGINAL PAGE IS OF POOR QUALITY					
RELEASE IDENTIFICATION		CHANGE		CORRECT		EMPG.		ENGR.		

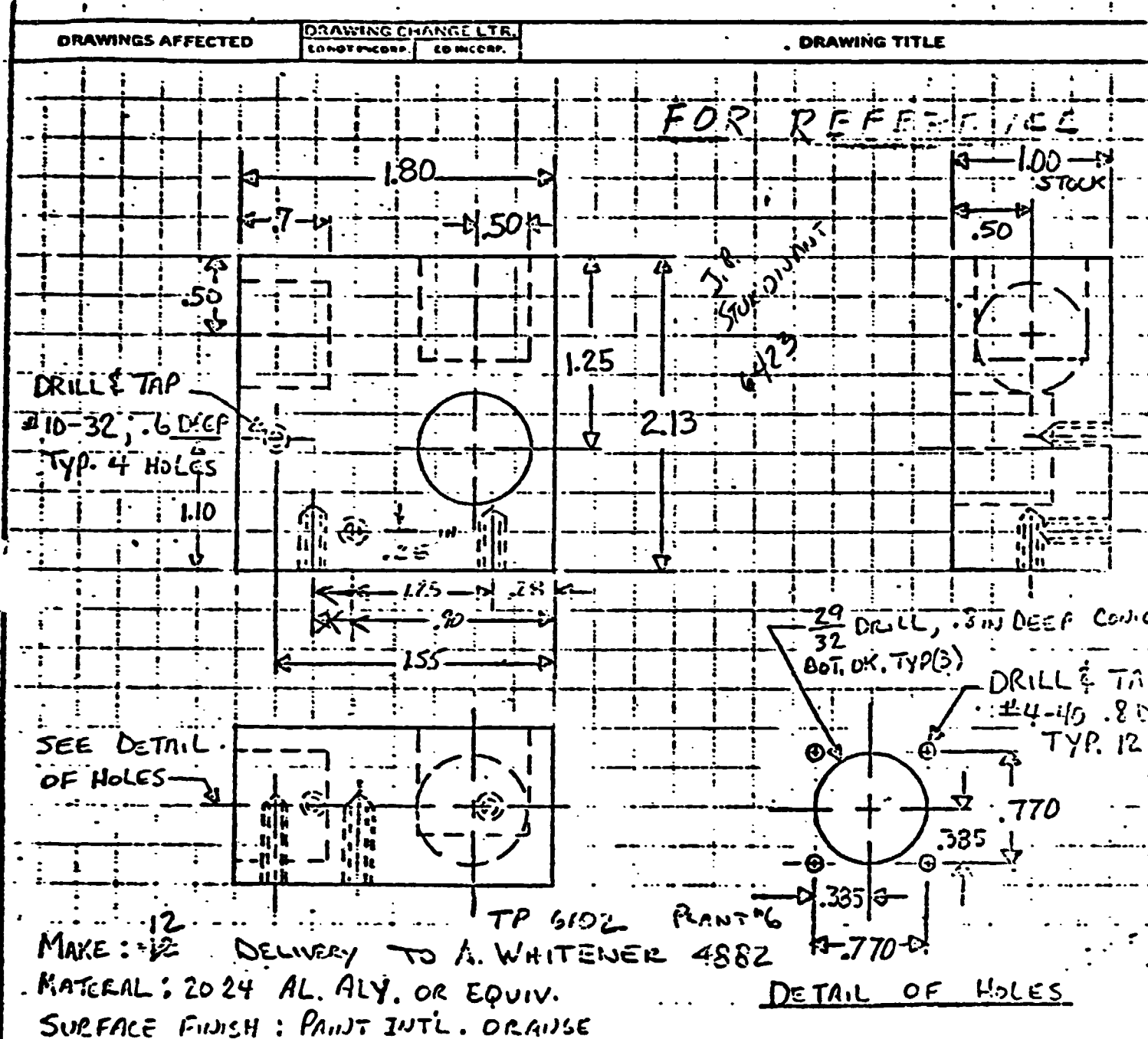
IDENT. NO. 97499
REASON FOR CHANGE

- CHANGE
- RELEASE
- PROCESS.

- TEST
- HES

SER. NO.	1
CLASS OF CHANGE	ED IN ISSUE LTR. OF
ENC'R'G WORK ORDER	

LETTER NO. (1.1)
REASON: **3 AXIS ACCELEROMETER MOUNT FOR VIBRATION SURVEY**



STATUS	PART/ASS'Y NO.	ADD.	REM.	CHG.	ENGINEERING DISPOSITION	
SIGNATURE	DATE	SIGNATURE		DATE	SIGNATURE	DATE
PREPARED BY H. H. HARRIS	7-6-77	STRUCTURES			MET. DES.	
GROUP ENGR.		CUSTOMER			WEIGHTS	
CHECKED BY D. P. S. S.		D.E.R.			PROJ. ENG.	
ACTUING EFFECTIVITY				ENGINEERING EFFECTIVITY		
NONE				NONE		

ORIGINAL PAGE IS OF POOR QUALITY

BY A. WHITENER

BELL HELICOPTER COMPANY

MODEL 301 PAGE _____

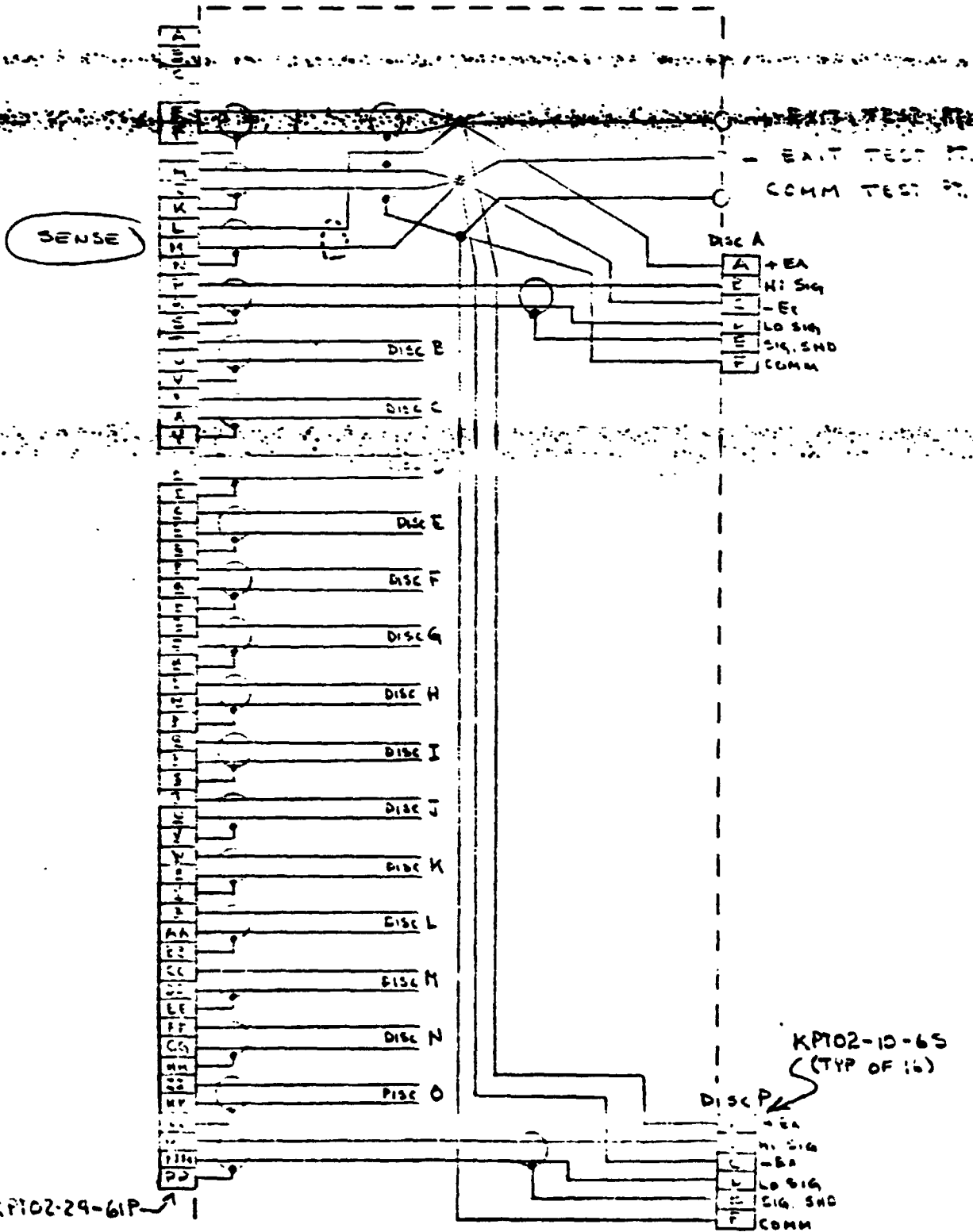
CHECKED _____

HELI. 1+2 RPT SKTASW001-7

ORIGINAL PAGE IS
OF POOR QUALITY

E196, E197, E198, E199

MODEL 301 PYLON J-BOX (TYP OF 4 → LP-1, LP-2, RP-1, RP-2)



KP102-10-65
(TYP OF 16)

KP102-29-61P

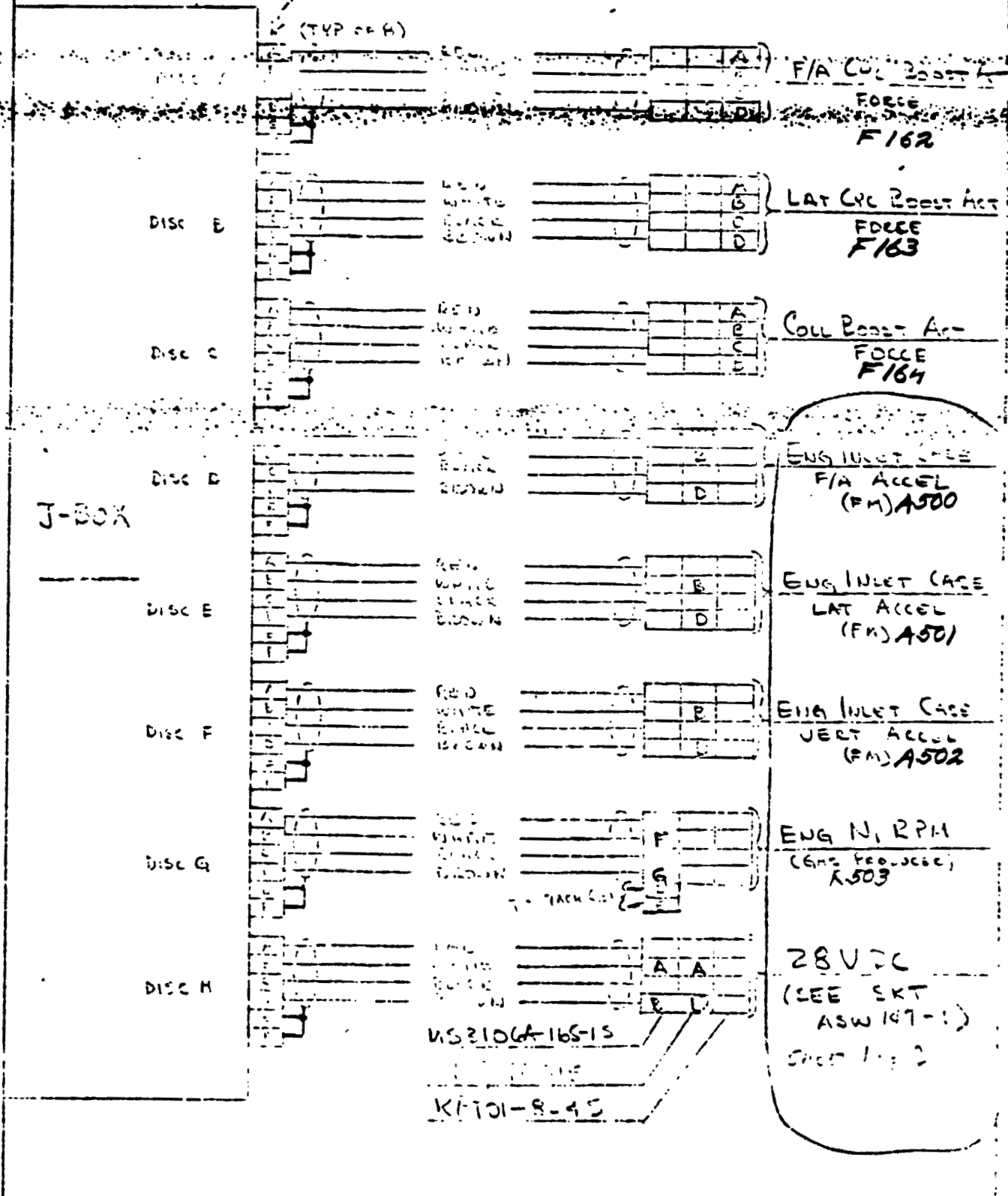
7882 588827 110

ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION RP-2

KPT06-10-6P



BY A. WHITENER

BELL HELICOPTER COMPANY

MODEL 301 PAGE 2 of 2

CHECKED AW

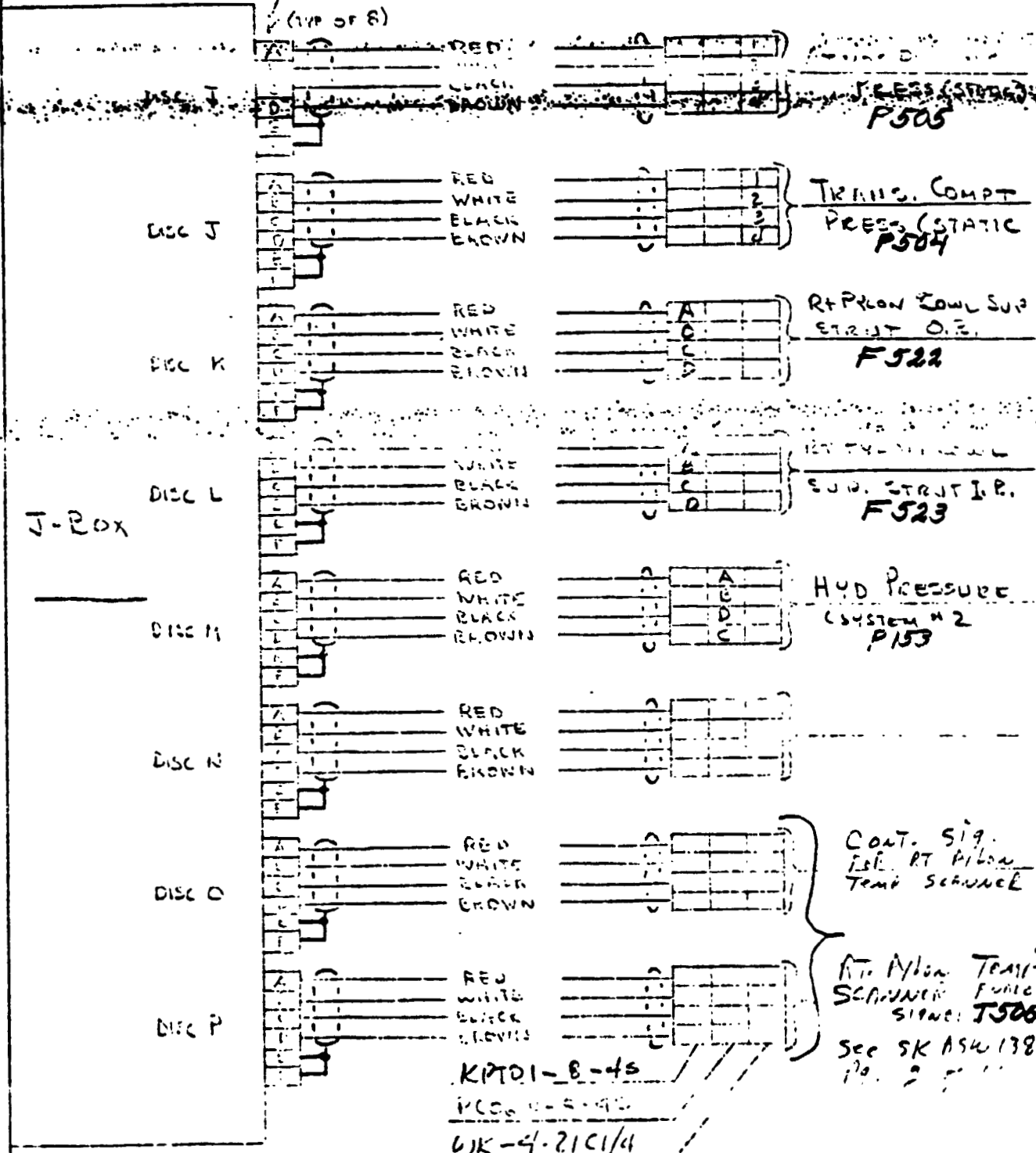
HELI. 1+2 RPT SKACWD4375-1

ORIGINAL PAGE IS OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION RP-2

KPTOG-10-6P



2000 2500000 7 100

ORIGINAL PAGE IS OF POOR QUALITY

ENGINE VIB. AND N₂ TACK GEN.

R303
R515

J-Box RP-2

Complete
AW
12-10-76
947
(67/52)

KPT06-10-6P
TYP OF 5

DISC # D

MARK:
RP-2D



MARK: ENG. VIB - FA-22

RED
WHITE
BLACK
BROWN

VP5/4AG15
TYP OF 3



ENG. VIB.
FA ACCEL

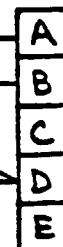
DISC # E

MARK:
RP-2E



MARK: ENG. VIB. - LAT-22

RED
WHITE
BLACK
BROWN



ENG. VIB.
LAT ACCEL

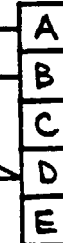
DISC # F

MARK:
RP-2F



MARK: ENG. VIB - VERT-22

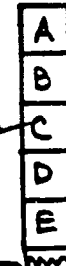
RED
WHITE
BLACK
BROWN



ENG. VIB.
VERT. ACCEL

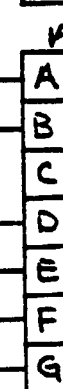
DISC # G

MARK:
RP-2G



MARK: N₂ TACK GEN-22

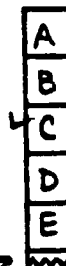
RED
WHITE
BLACK
BROWN



MS3106-16S-15
N₂ TACK GEN
(GAS PRODUCER)
Freq-DC
CONV.
-45615

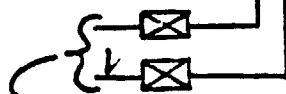
DISC # H

MARK:
RP-2H



MARK:
N₂ TACK - D-22

MARK:
N₂ TACK - E-22



SPLICE INTO EXISTING
N₂ TACK GEN WIRES

NOTE: MAKE TWO (2) OF THESE CABLES (RIGHT + LEFT PYLON)

ORIGINAL PAGE IS OF POOR QUALITY

ENGINE VIB. AND N₂ TACH GEN.

J-Box LP-2

KPT06-10-6P
TYP OF 5

DISC # D

MARK:
LP-2D

DISC # E

MARK:
LP-2E

DISC # F

MARK:
LP-2F

DISC # G

MARK:
LP-2G

DISC # H

MARK:
LP-2H

MARK: ENG. VIB. - PA-22

RED

WHITE

BLACK

BROWN

VP5/4AG15
TYP OF 3

ENG. VIB.
LFA ACCEL

MARK: ENG. VIB. - LAT-22

RED

WHITE

BLACK

BROWN

ENG. VIB.
LAT ACCEL

MARK: ENG. VIB. - VERT-22

RED

WHITE

BLACK

BROWN

ENG. VIB.
VERT. ACCEL

MARK: N₂ TACH GEN-22

RED

WHITE

BLACK

BROWN

MS3106-165-15

N₂ TACH GEN
(GAS PRODUCER)
Freq-DC
CO. VV.
- 45616

MARK:
N₂ TACH - J-22

MARK:
N₂ TACH - E-22

SPlice INTO EXISTING
N₂ TACH GEN WIRES

NOTE: MAKE TWO (2) OF THESE CABLES (RIGHT + LEFT PYLON) (sheet 1 of 2)

*3 copies
12-10-76*

INSTRUMENTATION LABORATORY WORK SHEET F522

MODEL NO. 301	GAGE TYPE EA-15-125TB-350	SHEET NO. DLN 678954
EWA NO. A427-11A	RESISTANCE 350Ω ± 0.4%	LAB. NO. 10660A
WORK ORDER A427	GAGE FACTOR 2.12 ± 1.0%	PART NO. 301-860-934-3
REQUESTED BY: A. WHITENER	LOT NO. Q-A18AF48	SERIAL NO.

TITLE OF TEST: **301 FLIGHT TEST**

SKETCH:

ORIGINAL PAGE IS
OF POOR QUALITY

TUBE ASSY - FRAME



REMARKS:

INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT.

MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER

WITH 9309. ATTACH FOUR WIRE SIX INCH SUPERFLEX

LEADS. ENCASE LEADS IN VINYL SLEEVING AND

TERMINATE WITH M4P PLUG.

01

BRIDGE	AXIAL						
BALANCE	4.38						
RES. TO GROUND	10KMSG						
DATE ASSIGNED	7-17-76	TECHNICIAN	H. J. H. -	EST. HRS.	APPROVED BY:		
DATE COMPLETED	7-20-76	ENGINEER		ACT. HRS.			

INSTRUMENTATION LABORATORY WORK SHEET FS23

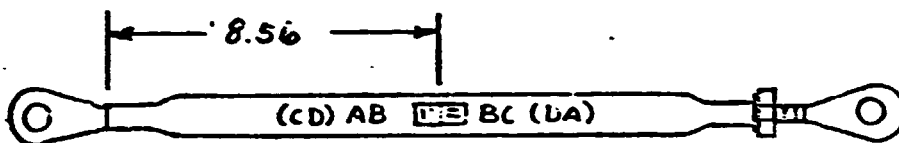
MODEL NO. 30i	GAGE TYPE EA-13-125TB-350	SHEET NO. DLN 67899A
EWA NO. A427-11A	RESISTANCE 350 Ω \pm 0.4%	LAB. NO. 10659A
RK ORDER A427	GAGE FACTOR 2.12 \pm 1.0%	PART NO. 301-860-934-1
REQUESTED BY: A. WHITENER	LOT NO. 0-A18AF48	SERIAL NO.

TITLE OF TEST : **301 FLIGHT TEST**

SKETCH:

ORIGINAL PAGE IS
OF POOR QUALITY

TUBE ASSY - FRAME



REMARKS:

INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT.

MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER

WITH 9309. ATTACH FOUR WIRE SIX INCH SUPERFLEX

LEADS. ENCASE LEADS IN VINYL SLEEVING AND

TERMINATE WITH MAP PLUG.

01

BRIDGE	AXIAL						
BALANCE	4.42						
RES. TO GROUND	10X MS						
DATE ASSIGNED	TECHNICIAN			EST. HRS.	APPROVED BY:		
DATE COMPLETED	ENGINEER			ACT. HRS.			
2-19-76	HILLI						
2-20-76							

BY A. WHITENER

BELL HELICOPTER COMPANY

MODEL 301 PAGE 1 OF 2

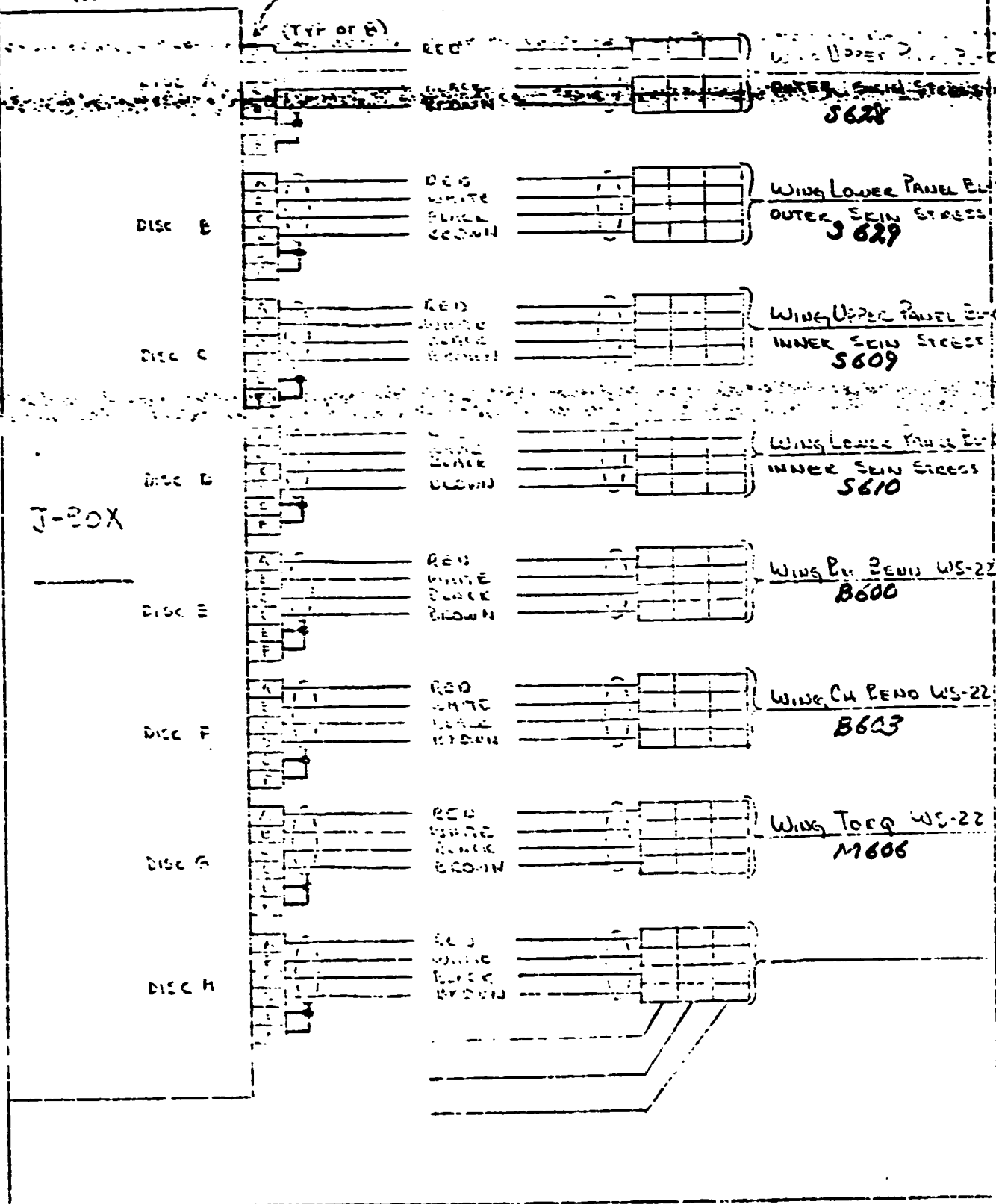
CHECKED [Signature]

HELI. 142 RPT SKA3W04375-1

ORIGINAL PAGE IS
OF POOR QUALITY DISCONNECT HARNESS

J-Box LOCATION RW-1

KPT06-10-6P



BY A. WHITEHER

BELL HELICOPTER COMPANY

MODEL 301

PAGE 205

CHECKED AW

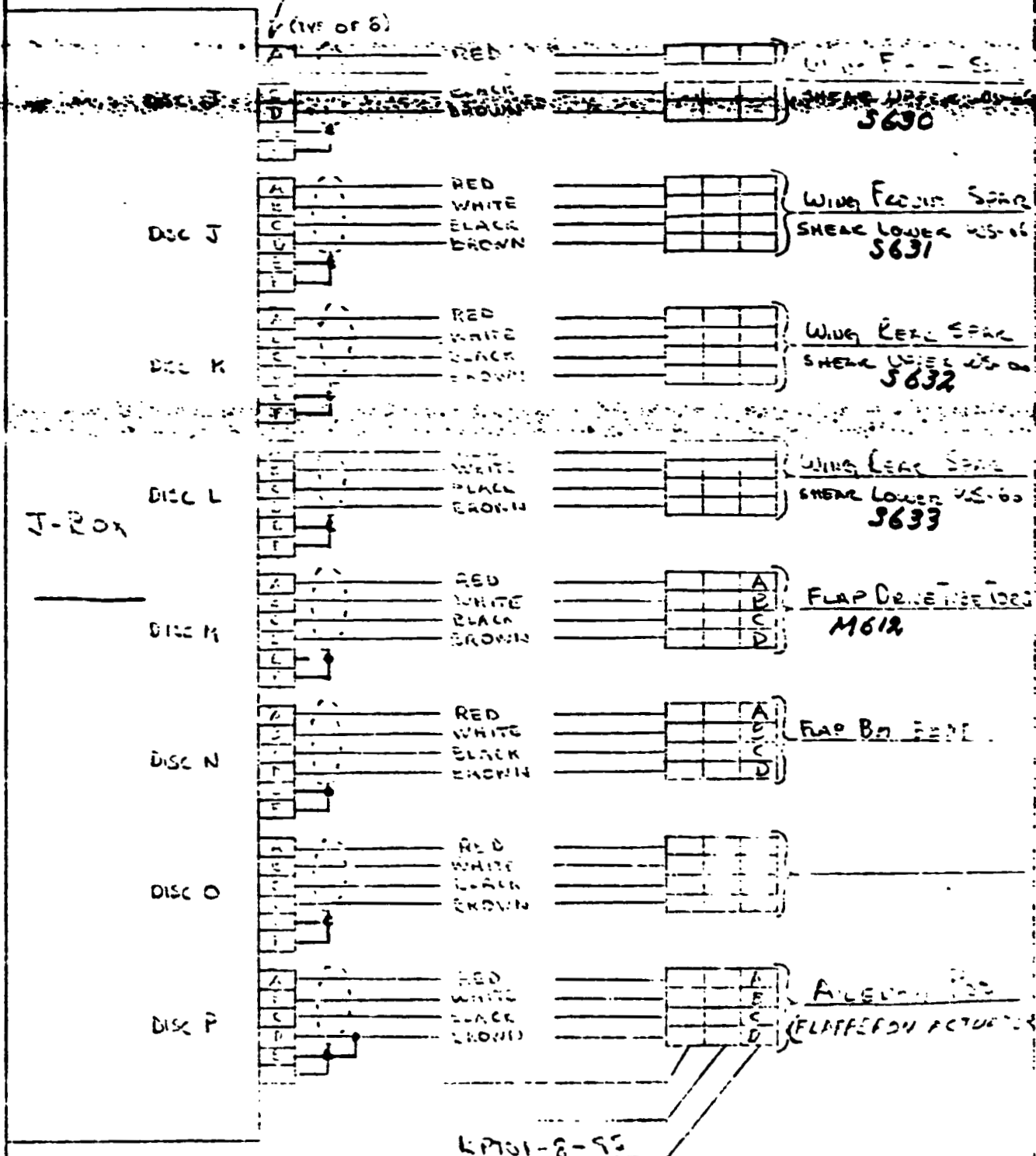
HELI. 142 RPT SKASWCC27-1

ORIGINAL PAGE IS OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION RW-1

KPTOG-10-6P



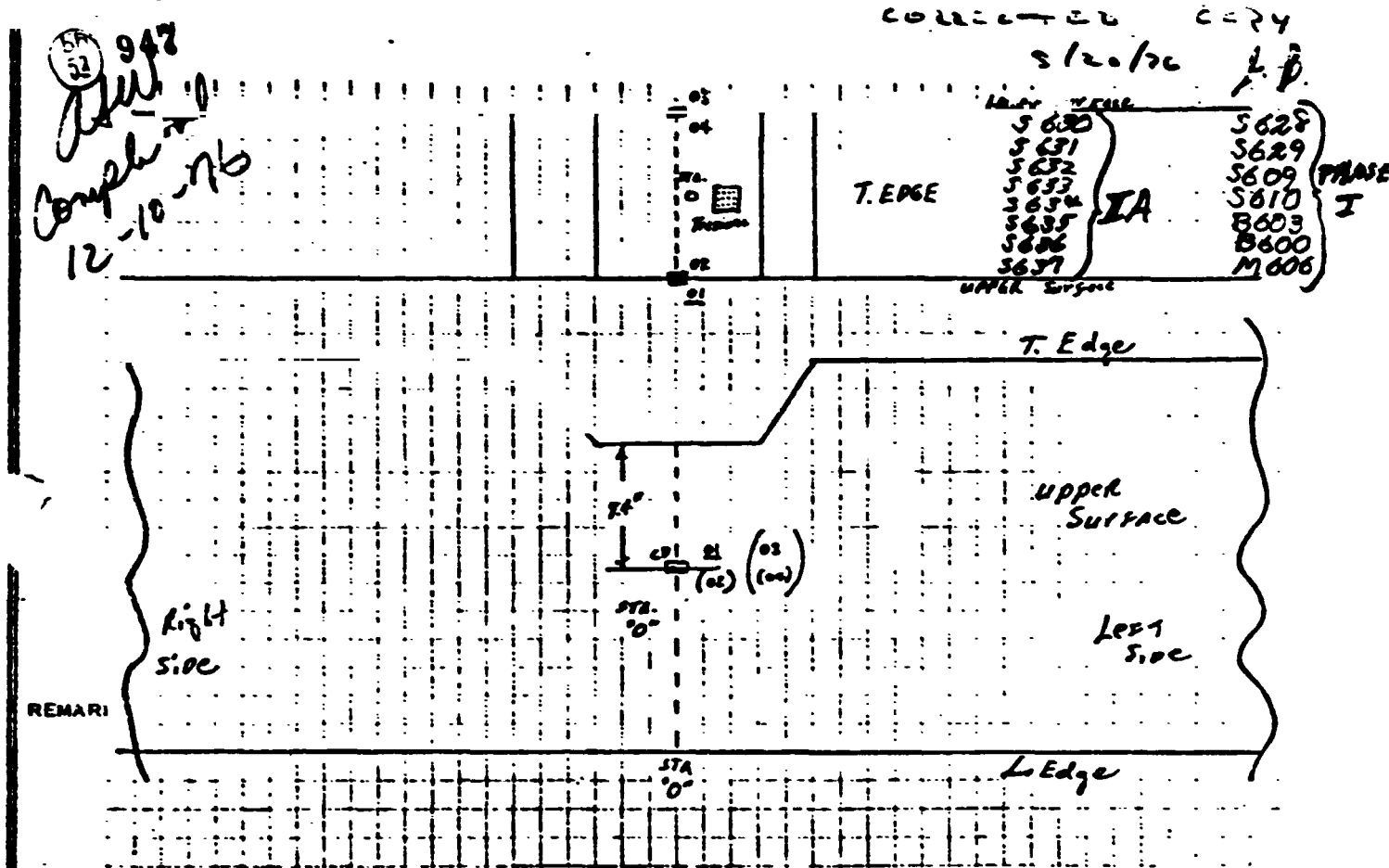
1002 510 070 1/10

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	TYPE EA-13-250BF-350W	SHEET NO. DLN 678984
IA NO. A427-11A	RESISTANCE 350.0 ± 0.3%	LAB. NO. 11092A
TK ORDER A427	GAGE FACTOR 2.13 ± 0.5%	PART NO. 300-028-001-1
REQUESTED BY: A. WHITENER	LOT NO. Q-A32AFO1	SERIAL NO.

TITLE OF TEST
301 FLIGHT TEST

SKETCH:



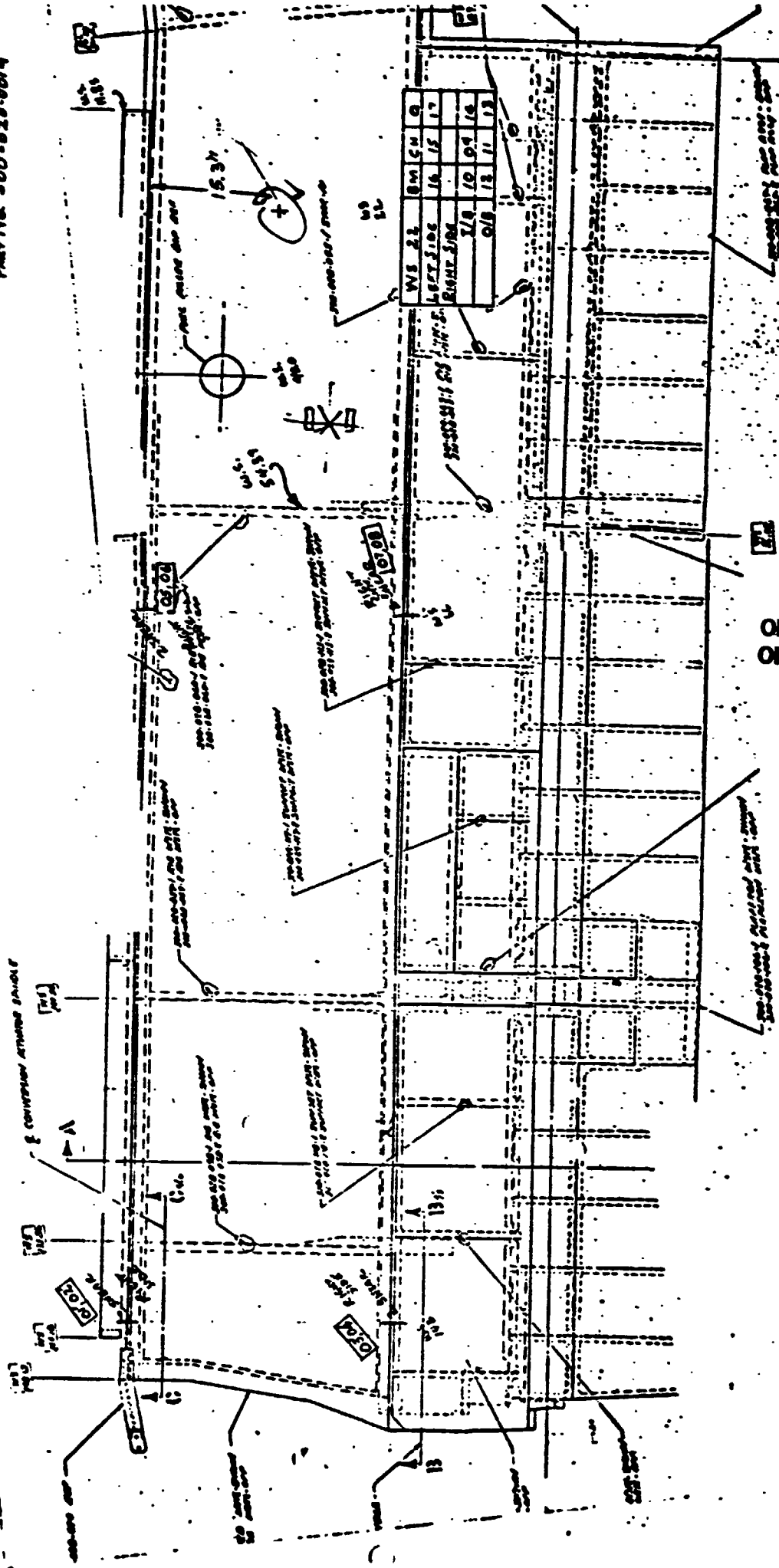
WING

FUSELAGE SECTION

ORIGINAL PAGE IS
OF POOR QUALITY

	✓ 01	✓ 02	✓ 03	✓ 04		
BRIDGE	STRESS	STRESS	STRESS	STRESS		
BALANCE	4.21	3.92	3.73	3.77		
S. TO GROUND	6Kma	6Kma	6Kma	6Kma		
DATE ASSIGNED 2-2-76	TECHNICIAN <i>Hillian - W. Loughby</i>			EST. HRS.	APPROVED BY:	
DATE COMPLETED 2-2-76	ENGINEER			ACT. HRS.		

Part No. 300-828-001-1



ORIGINAL PAGE IS OF POOR QUALITY

301 WING

301 SHIP '1 WING

BDG No					STA or B.L.	BALANCE	RESISTANCE TO GROWD
<u>R/H WING</u>							
101	LEADING EDGE		OUTB'D	SHEAR	142	4.26	10 km/s
102	LEADING EDGE		INB'D	SHEAR	142	3.61	"
103	TRAILING EDGE			SHEAR	142	1.5	"
104	TRAILING EDGE			SHEAR	142		"
105	LEADING EDGE		OUTB'D	SHEAR	66	3.79	"
106	LEADING EDGE		INB'D	SHEAR	66	3.74	"
107	TRAILING EDGE		OUTB'D	SHEAR	66	5.56	"
108	TRAILING EDGE		INB'D	SHEAR	66	3.66	"
109	CH BENDING		INB'D	BEND	22	4.85	"
110	INSIDE BEAM BENDING			BEND	22	6.79	"
111	CHORD BEAM BENDING		OUTB'D	BEND	22	4.46	"
112	OUTSIDE BEAM BENDING			BEND	22	6.75	"
113	TORSION		OUTB'D	TORQUE	22	4.69	"
114	TORSION		INB'D	TORQUE	22	4.70	"
<u>L/H WING</u>							
15	CHORD BEND			BEND	22	5.31	"
16	BEAM BEND			BEND	22	6.64	"
17	TORSION			TORQUE	22	4.79	"
<u>FUSELAGE SECTION</u>							
01	UPPER PANEL - SKIN		OUTB'D	STRESS	0.0	4.21	6 km/s
02	UPPER PANEL - SKIN		INB'D	STRESS	0.0	3.92	"
03	LOWER PANEL - SKIN		OUTB'D	STRESS	0.0	3.73	"
04	LOWER PANEL - SKIN		INB'D	STRESS	0.0	3.77	"
<u>GAGE TYPES</u>							
SHEAR		EA-13-062VD-350W					
		350.0 ± 0.4 %					
		2.075 ± 0.5 %					
		Q-A12BF61					
BEAM & CHORD		EA-13-250-MQ-350W					
		350.0 ± 0.4 %					
		2.11 ± 0.5 %					
		Q-A18AF56					

INSTRUMENTATION LABORATORY WORK SHEET

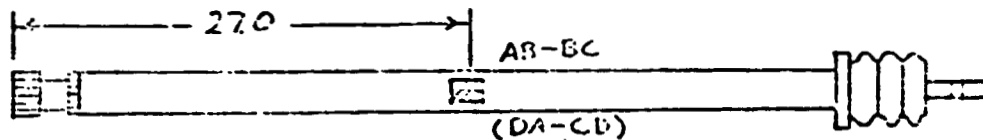
MODEL NO. A427	GAGE TYPE LA-13 - 042VD - 500V	SHEET NO. DLN 67595-F
TWA NO. A-27-11A	RESISTANCE 350.0 ± 0.4%_D	LAB. NO. 10623 A
ORDER A427	GAGE FACTOR 2.025 ± 0.5%	PART NO. BHF 50322
REQUESTED BY: A. WHITENER	LOT NO. CP-AIR BFG 1	SERIAL NO.

TITLE OF TEST
301 FLIGHT TEST

SKETCH:

R/H FLAT DRIVE TUBE

M612



995
Asw
 Complete
 2-24-77

ORIGINAL PAGE IS
OF POOR QUALITY

REMARKS:

INSTALL TORSION BRIDGE AS SHOWN. USE BR-600 CEMENT. MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. ATTACH FOUR 6 FOOT SUPERFLEX WIRES. ENCASE WIRES IN VINYL SLEEVING AND COIL AROUND SHAFT FOR SIX REVOLUTIONS. COVER GAGE AREA WITH 9309.

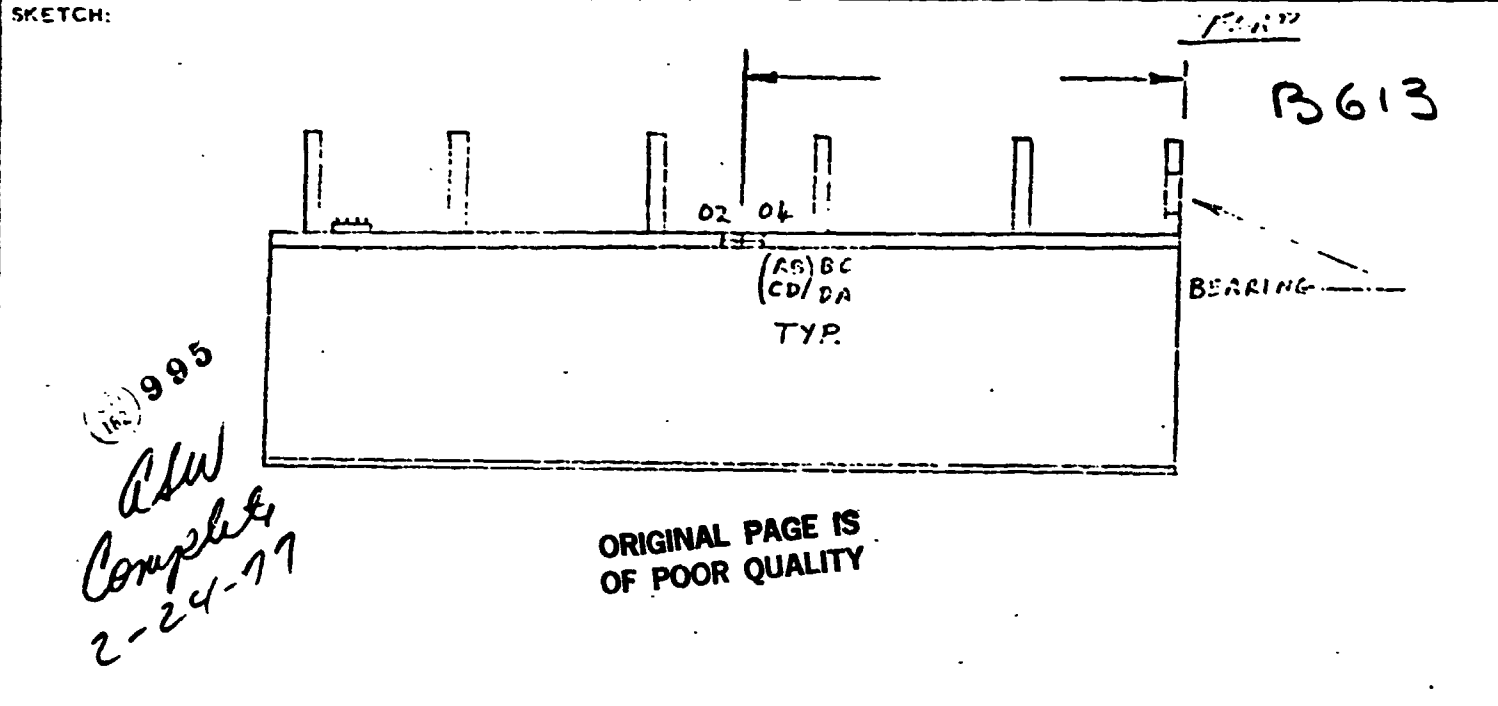
01

BRIDGE	4-10						
PLANCE	4-10						
RES. TO GROUND	10000						
DATE ASSIGNED	TECHNICIAN C.C.W. - [Signature]			EST. HRS	APPROVED BY:		
DATE COMPLETED 2-11-76	ENGINEER			ACT. HRS			

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE 11-17-250 MG-350	SHEET NO. 178984
WAVE NO. A427-11A	RESISTANCE 2.50 --	LAB. NO. 10314A
WORK ORDER A427	GAGE FACTOR 2.11 ± 0.5%	PART NO. 300-028-367-15
REQUESTED BY: L. H. HITCHCOCK	LOT NO. O. AIRAFYS	SERIAL NO. —

TITLE OF TEST
BRIDGE 301 FREIGHT TEST



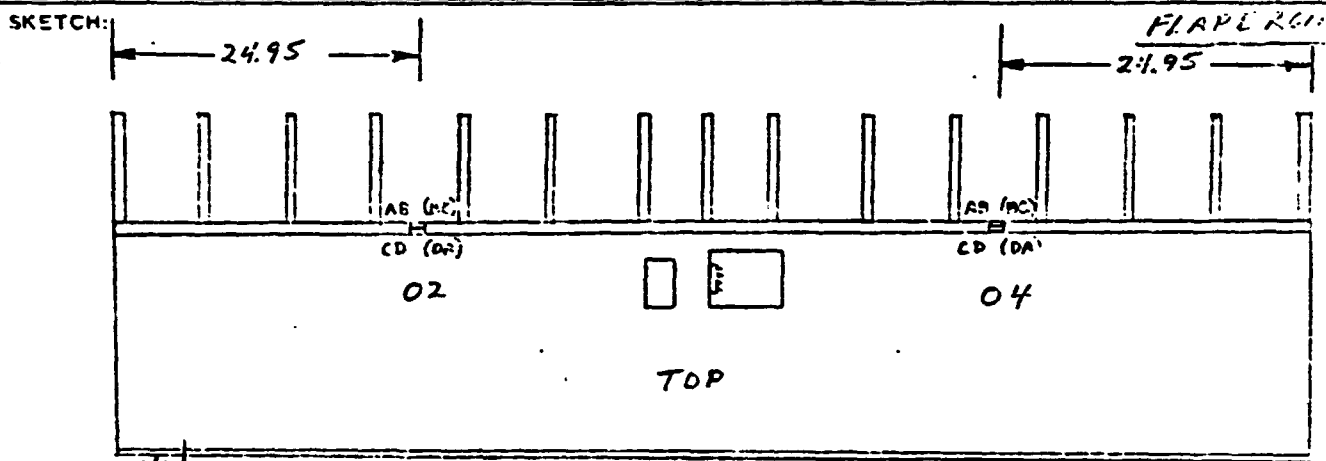
REMARKS: **INSTALL TWO BENDING BRIDGES AS SHOWN, USE 910 CEMENT. RUN WIRES PER INSTRUCTIONS TO POST TYPE TERMINAL IN ACCESS HOLE. COVER WITH 9309.**

BRIDGE	P100-07	P100-07				
BALANCE	4.92	4.76				
RES. TO GROUND	100KΩ	100KΩ				
DATE ASSIGNED	6		TECHNICIAN	EST. HRS.	APPROVED BY:	
DATE COMPLETED	10-1-75		ENGINEER	ACT. HRS.		

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE F.I.E-2-25-35 SIS ERH	SHEET NO. 678984
A NO. A 427-11A	RESISTANCE 350 ~	LAB. NO. 10265A
WORK ORDER A 427	GAGE FACTOR 2.04 ± 1%	PART NO. 300-028-068-
REQUESTED BY: A. WHITNER	LOT NO. A-277	SERIAL NO.

TITLE OF TEST
MODEL 301 FLIGHT TEST



AM
Complete
2-24-77
995

ORIGINAL PAGE IS
OF POOR QUALITY

B615

REMARKS: *INSTALL TWO BENDING BRIDGES AS SHOWN.*
USE 910 CEMENT. RUN WIRES PER INSTRUCTIONS
TO POST TYPE TERMINAL IN ACCESS HOLE.
COVER WITH 9309.

BRIDGE	BND-02	BND-04	
ALANCE	446	3.83	
RES. TO GROUND	16KΩ	10KΩ	
DATE ASSIGNED	TECHNICIAN <i>110615</i>		EST. HRS.
DATE COMPLETED 9-2-75	ENGINEER		APPROVED BY:
			ACT. HRS.

BY A. WHITEHER
CHECKED [Signature]

BELL HELICOPTER COMPANY

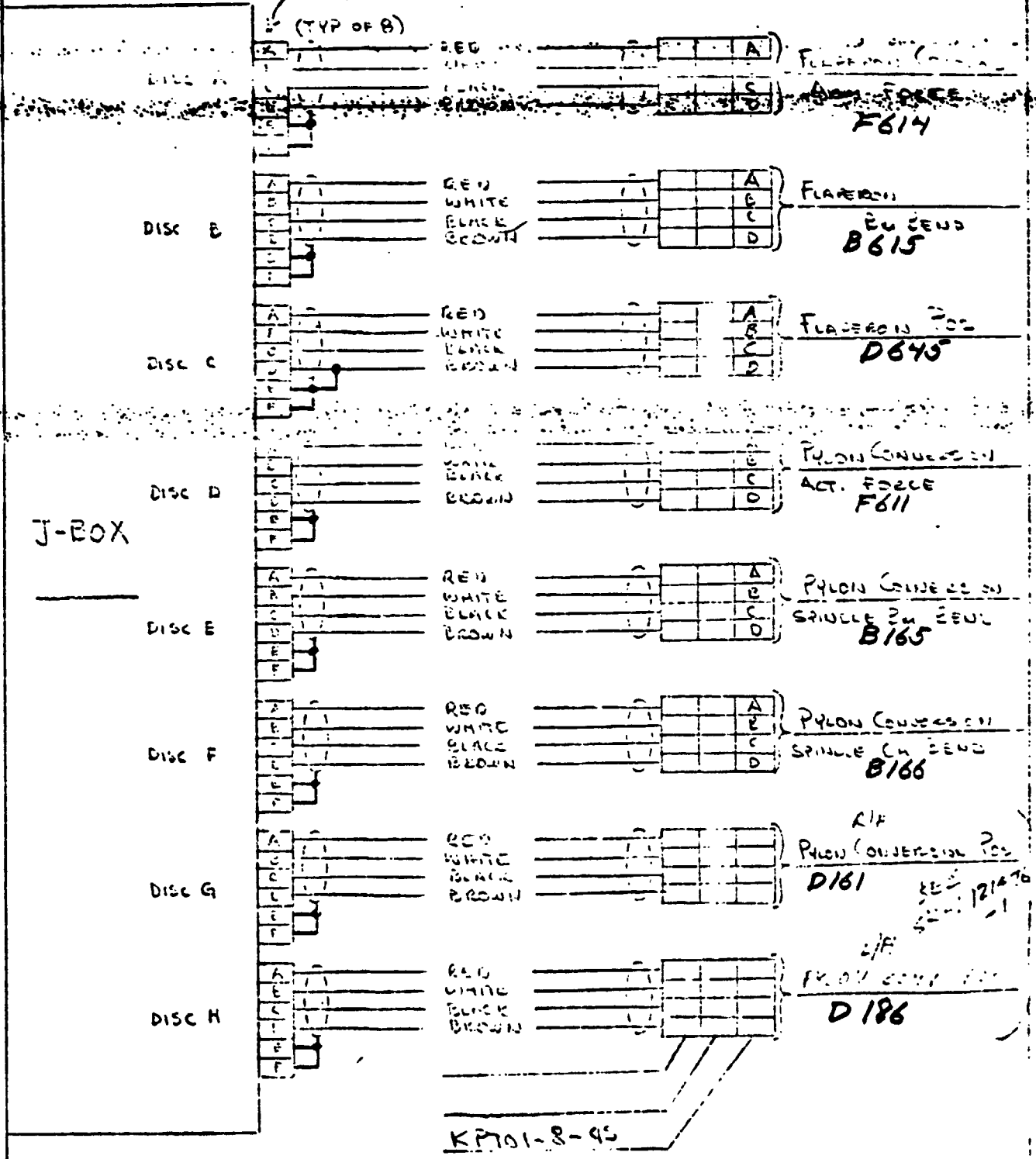
MODEL 301 PAGE 1 of 2
HELI. 1+2 RPT SKASW04375-1

ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION RW-2

KPT06-10-67



442 504820 100

BY A. WHITENER

BELL HELICOPTER COMPANY

MODEL 301

PAGE 2 OF 2

CHECKED AW

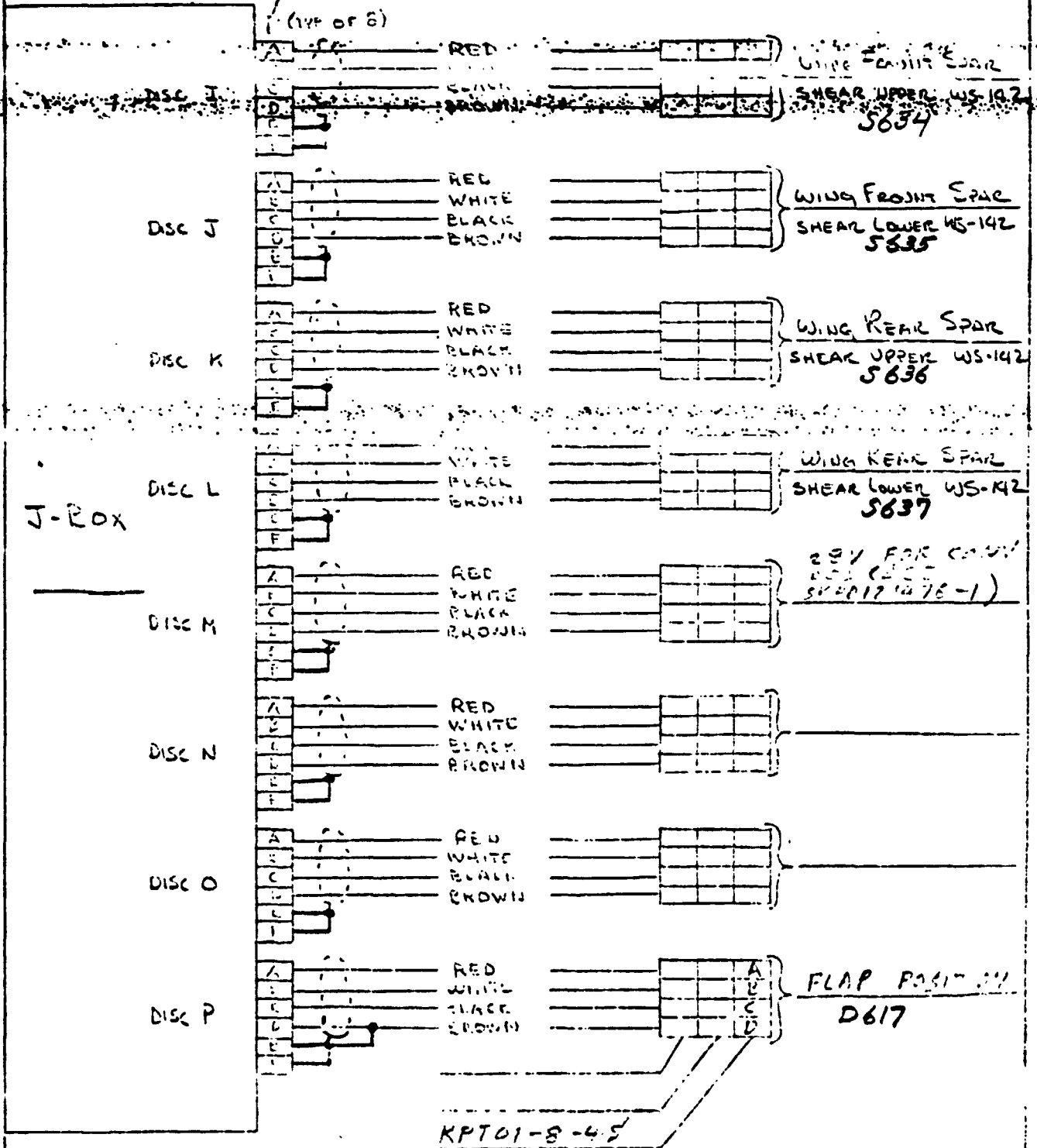
HELI. 1+2 RPT SKASW04375-1

ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION RW-2

KFTOG-10-6P



INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-125TB-350	SHEET NO. DLN 675954
TWA NO. A427-11A	RESISTANCE 350 \pm 0.4%	LAB. NO. 10633A
ORDER A427	GAGE FACTOR 2.12 \pm 1.0%	PART NO. 300-001-615-1
REQUESTED BY: A. WHITENER	LOT NO. Q-A18AF98	SERIAL NO.

TITLE OF TEST **301 FLIGHT TEST**

SKETCH:

ORIGINAL PAGE IS OF POOR QUALITY

TUBE ASSY - CONTINUED
F614

*Asst
Complete
2-24-76
(12) 985*

REMARKS:

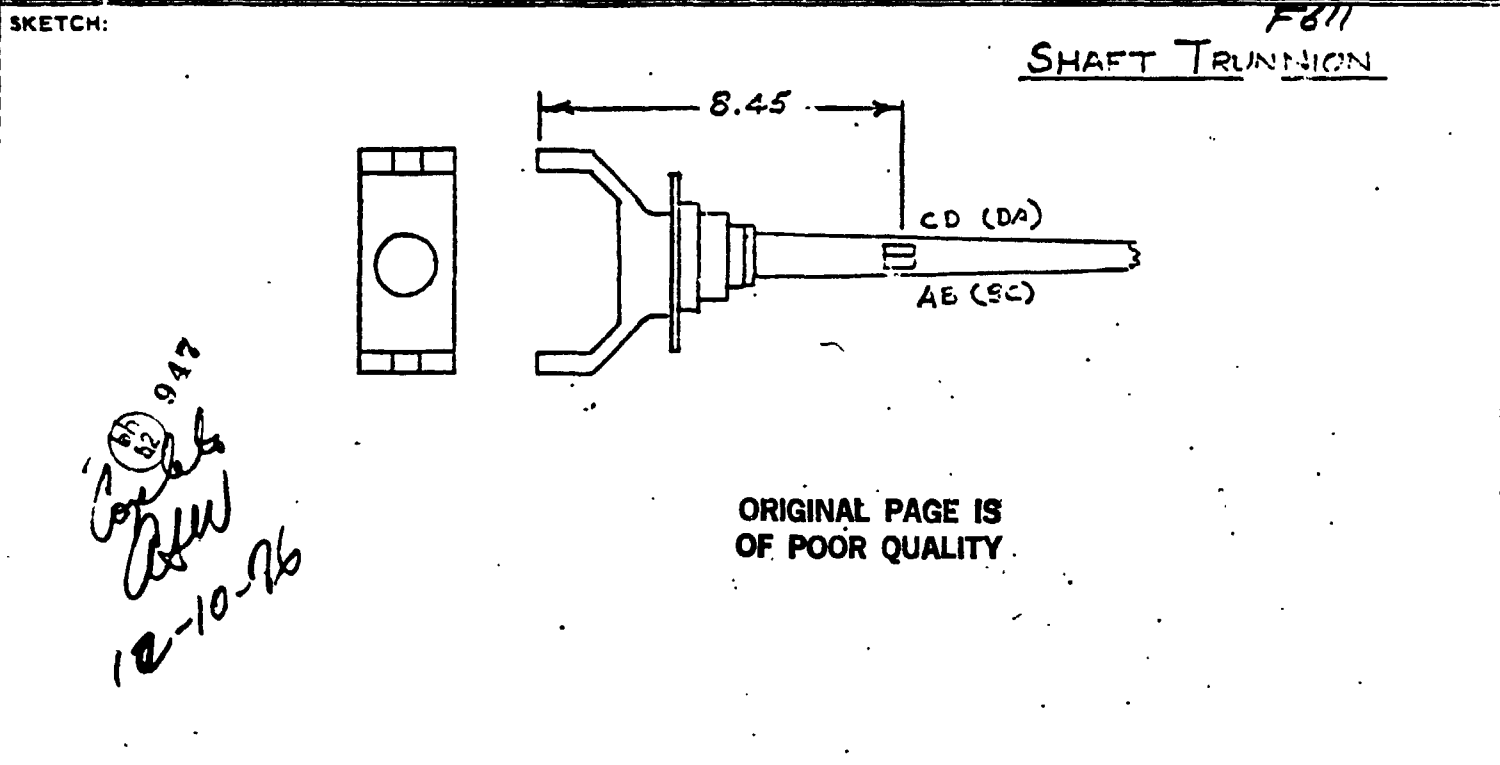
INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT.
MAKE BRIDGE AT FLAT TERMINAL AS INDICATED.
COVER WITH 9309. ATTACH FOUR WIRE SIX
INCH SUPERFLEX LEADS. ENCASE LEADS IN
VINYL SLEEVING AND TERMINATE WITH M4P PLUG.

BRIDGE	01 AXIAL				
LANCE	5.22				
RES. TO GROUND	10 KMPG				
DATE ASSIGNED	2-17-76	TECHNICIAN	Hillid	EST. HRS	APPROVED BY:
DATE COMPLETED	2-18-76	ENGINEER		ACT. HRS.	

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE <i>EP-06-250 M @ = 350</i>	SHEET NO. DLN 6789F4
PWA NO. A427-11A	RESISTANCE 350 Ω	LAB. NO. 10607A
ORDER A427	GAGE FACTOR 2.13 \pm .5%	PART NO. BHV 200575-1
REQUESTED BY: A. WHITENER	LOT NO. Q-A 21AD 195	SERIAL NO. L/H

TITLE OF TEST **301 FLIGHT TEST**



ORIGINAL PAGE IS
OF POOR QUALITY

REMARKS:

INSTALL BENDING BRIDGE AS SHOWN. USE
 BR-600 CEMENT. MAKE BRIDGE AT FLAT.
 TERMINAL AS INDICATED. COVER WITH 9307.
 ATTACH FOUR 6 FOOT SUPERFLEX WIRES
 TO TERMINAL. ENCASE WIRES IN VINYL SLEEVING.

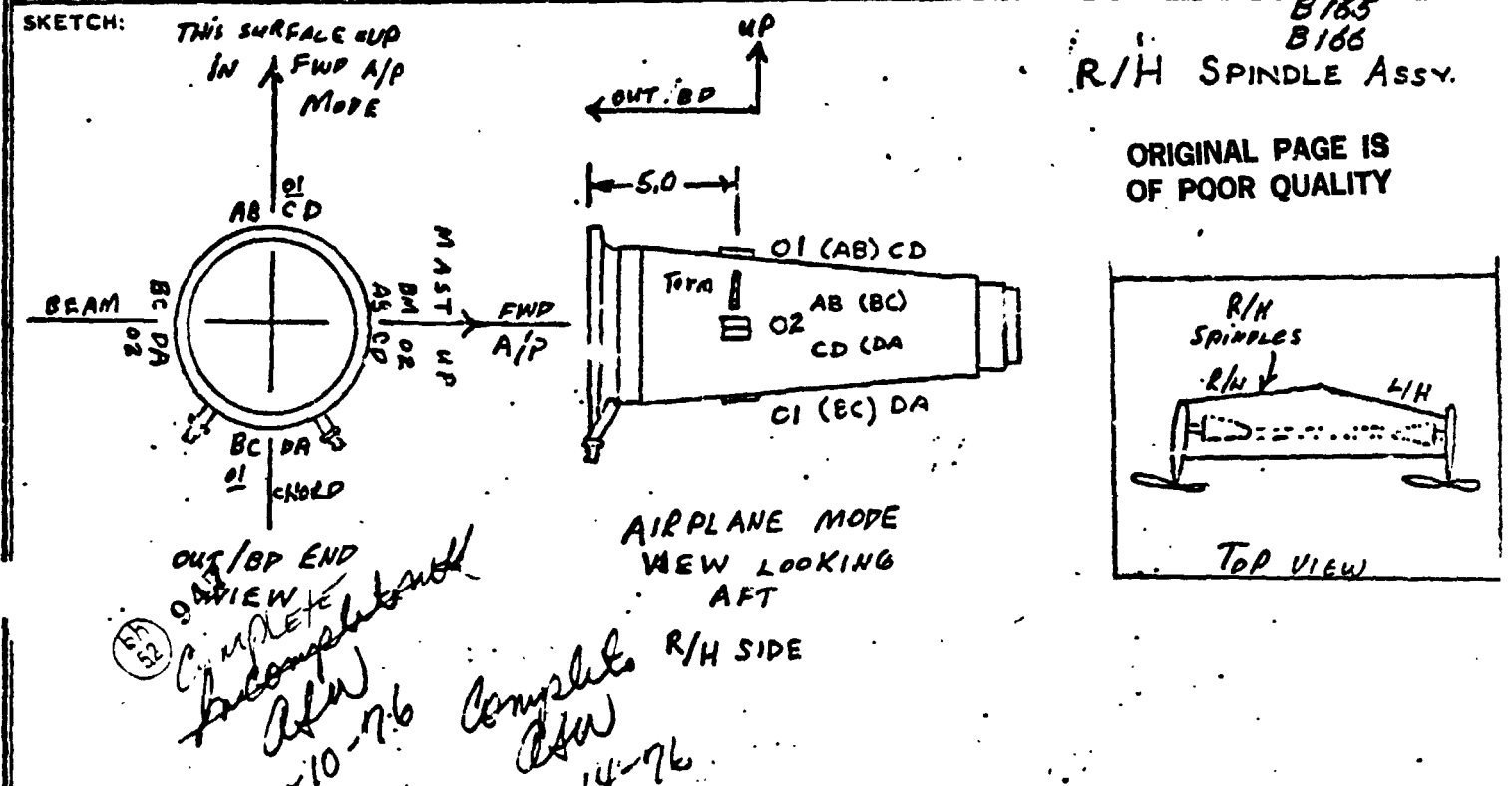
01

BRIDGE	5.10						
ANCE	5.04						
RES. TO GROUND	10/6mm						
DATE ASSIGNED		TECHNICIAN <i>C.C.W. - W.C.N.</i>		EST. HRS.		APPROVED BY:	
DATE COMPLETED 2-11-76		ENGINEER		ACT. HRS.			

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-06-250MQ-350W	SHEET NO. DLN 678984
TWA NO. A427-11	RESISTANCE 350.0 ± 0.470	LAB. NO. 10600A
K ORDER A427	GAGE FACTOR 2.13 ± 0.570	PART NO. 300-040-323-2
REQUESTED BY: A. WHITENER.	LOT NO. Q-A21AD186	SERIAL NO.

TITLE OF TEST
301 FLIGHT TEST



REMARKS:

INSTALL BENDING BRIDGES AS SHOWN.

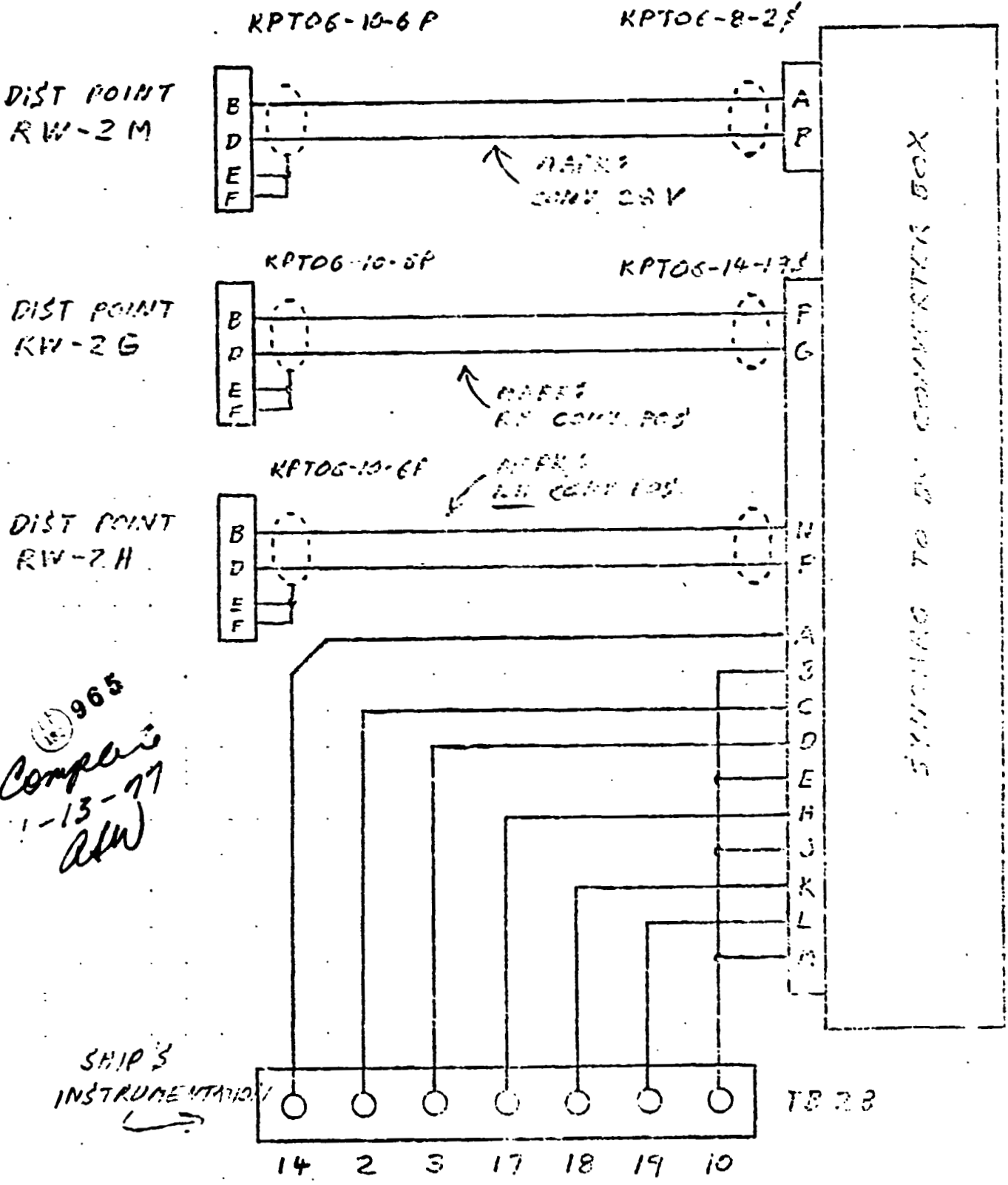
USE BR-600 CEMENT. MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER WITH 9309.

ATTACH FOUR WIRE SIX FOOT SUPERFLYX LEADS TO TERMINAL.

	02	01				
BRIDGE	BEND	BEND				
LANCE	4.34	4.64				
RES. TO GROUND	10kma	10kma				
DATE ASSIGNED 2-4-76	TECHNICIAN C.C.W.		EST. HRS.	APPROVED BY:		
DATE COMPLETED	ENGINEER		ACT. HRS.			

301 CONVERSION POSITION SWERO TO PC CIRCUIT

D161
D186



965
Complete
1-13-77
RW

SHIP'S INSTRUMENTATION

LOCATED UNDER BOTTOM SHELF OF R/JI P/10 RACK

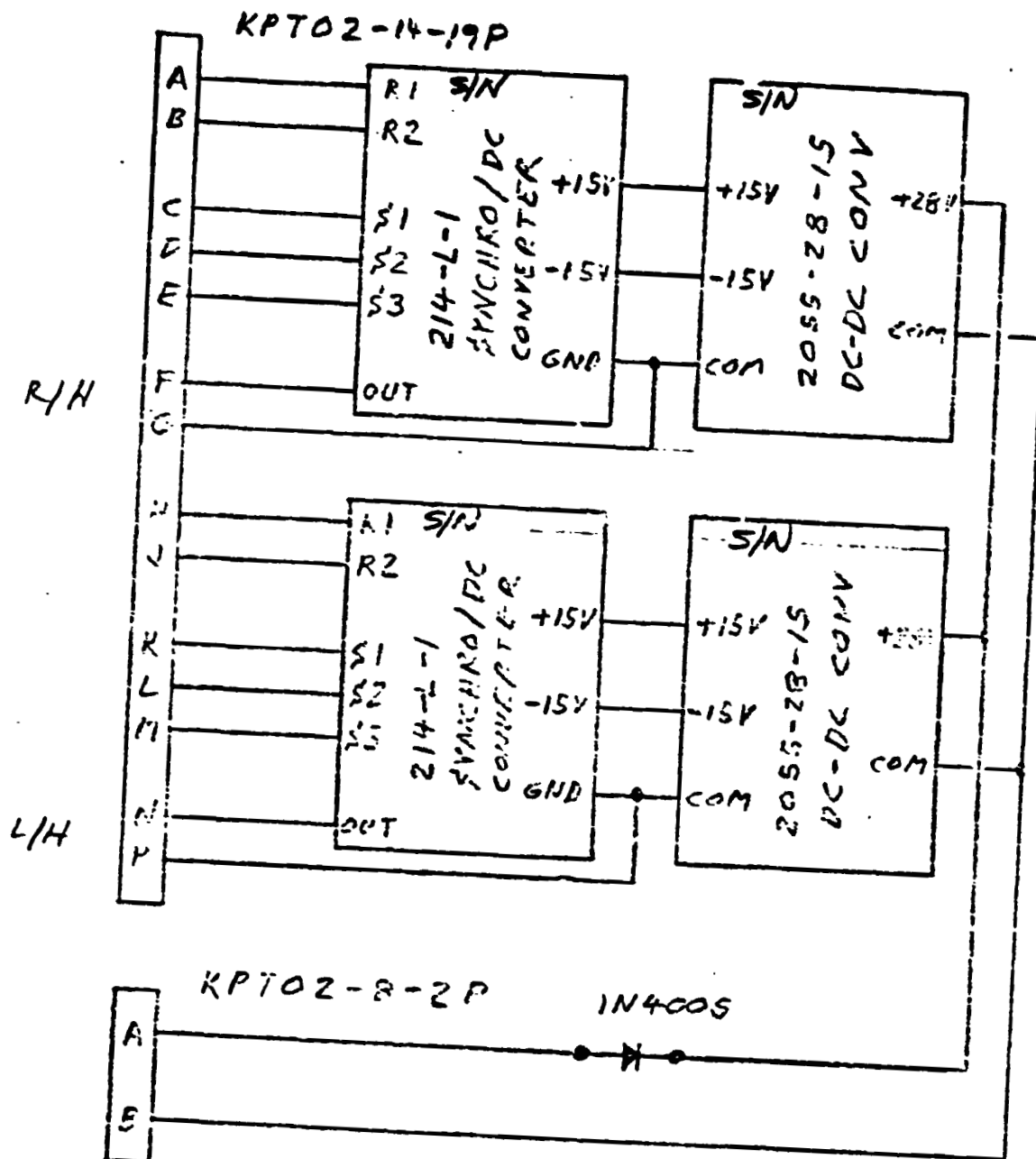
ORIGINAL PAGE IS OF POOR QUALITY

301 SYNCHRO TO DC CONVERTER BOX

31770 121110-1

SH2

ORIGINAL PAGE IS
OF POOR QUALITY.



BY A. WHITENER

Bell Helicopter **TESTRON**

MODEL 301 PAGE 1

CHECKED _____

POST OFFICE BOX 400 - FORT WORTH, TEXAS 76101

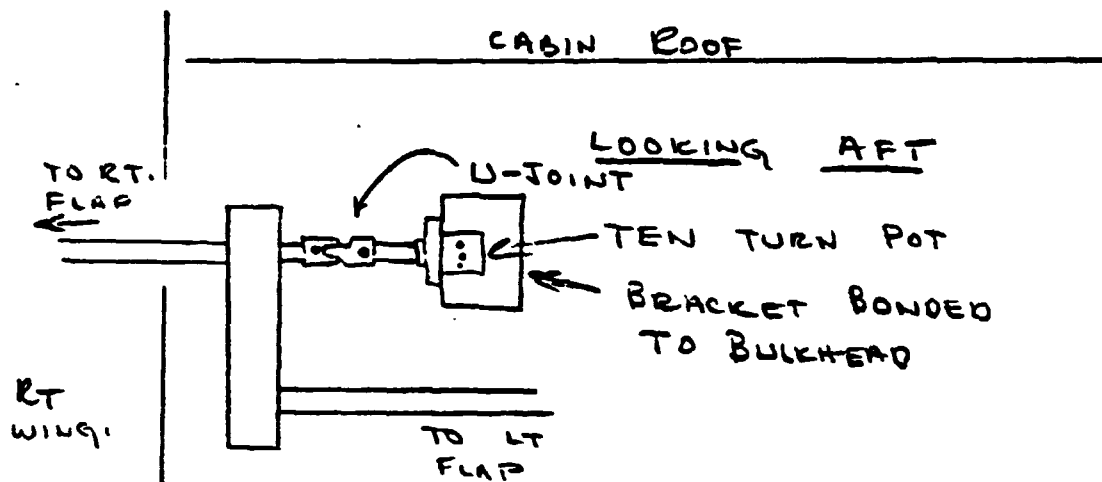
RPT ASWS577-2

*AW
Completed
2-2-77*

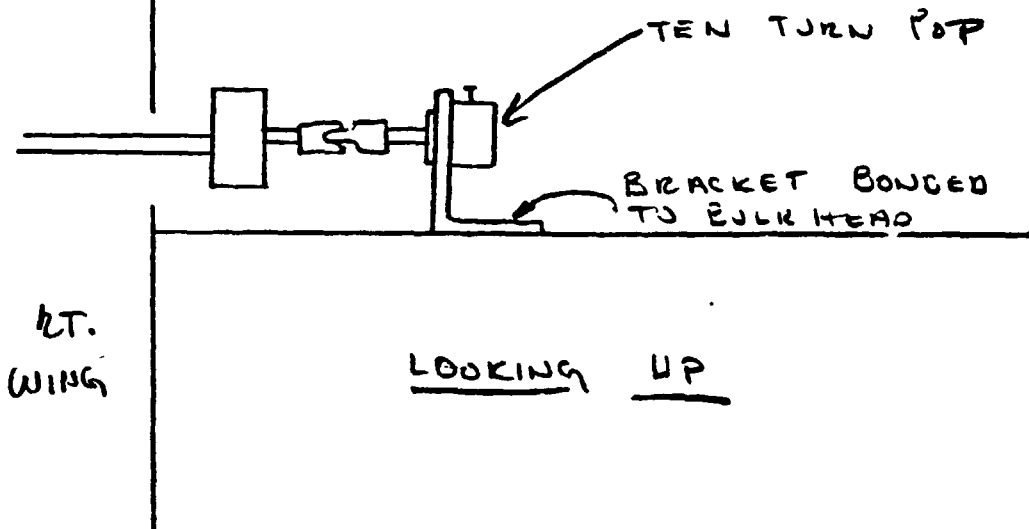
FLAP POS

D617

(b1) 996
102



ORIGINAL PAGE IS OF POOR QUALITY



BY H.D. V. MINIFORD

BELL HELICOPTER COMPANY
POST OFFICE BOX 400 • FORT WORTH, TEXAS

MODEL 301 PAGE _____

CHECKED _____

RPT 511241

HYDRAULIC CYLINDER POSITION BRACKETS

D645 AILERON Pos

SK 76-1-71 -2

990
Complete
Asst
White
2-25-77

GF-100
STRAP

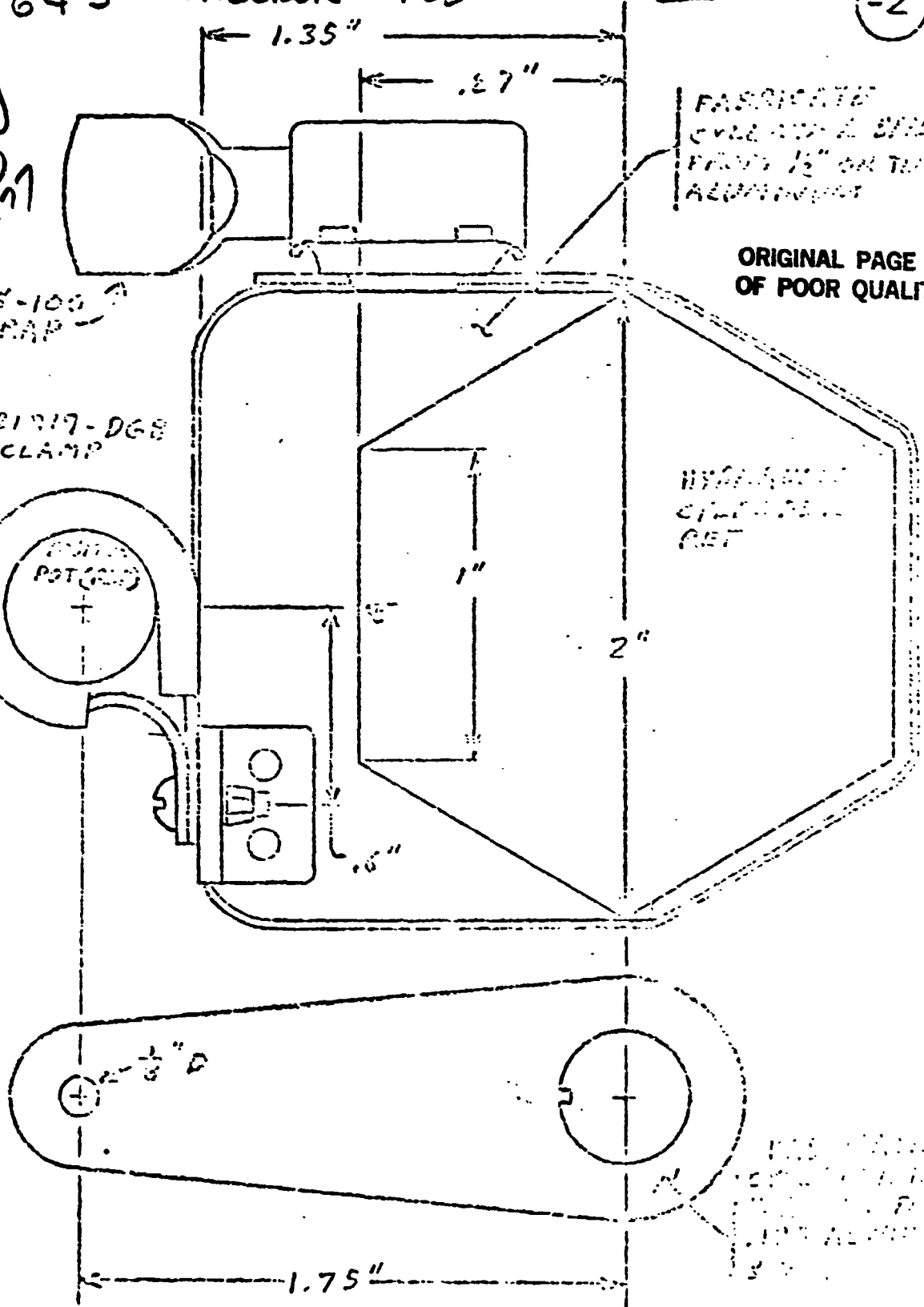
MS21917-D68
CLAMP

POST (GND)

FASCINETE
CYLINDER BRACKET
FROM 1/2" OR THEREABOUT
ADJUSTMENT

ORIGINAL PAGE IS
OF POOR QUALITY

HYDRAULIC
CYLINDER
RET



BY A. WHITENER

BELL HELICOPTER COMPANY

MODEL 301 PAGE _____

CHECKED _____

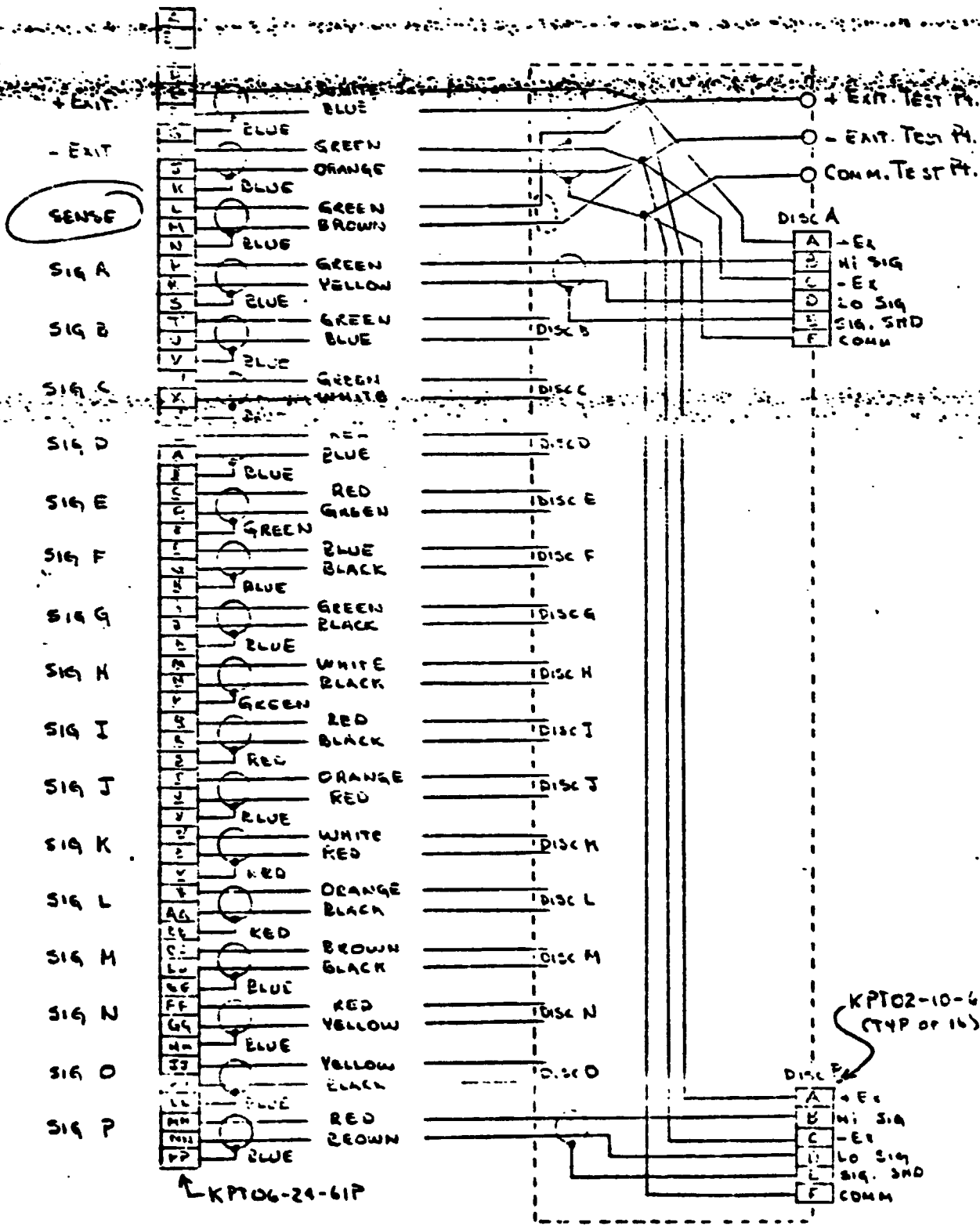
HELI. 1+2 RPT SKTASW041-8

ORIGINAL PAGE IS
OF POOR QUALITY

MODEL 301 SIGNAL CABLE AND J-BOX

~~E297~~, E298, E299
E369, E370, E371,
E372, E373, E374,
E375, E647, E648,
E649

(TYP OF 12 → LW-1, RW-1, RW-2, CAB-1, EM-1, EMP-2, CP-1, CP-2, CP-3, N-1, RIG-1, LMG-1)



7042 0000REV 116

BY A. WHITEHEAD
CHECKED [Signature]

BELL HELICOPTER COMPANY

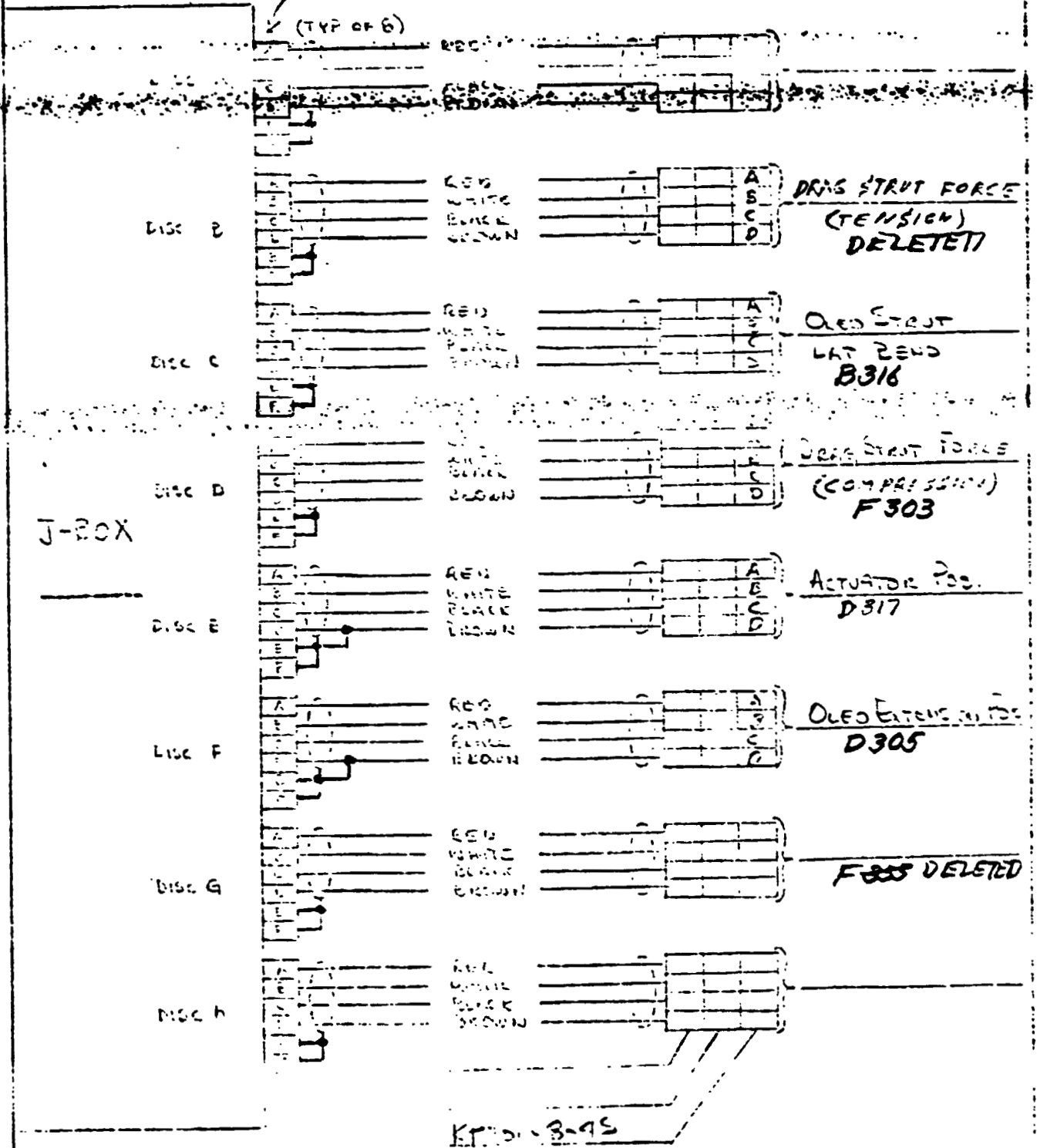
MODEL 301 PAGE 10-2
HELI. 1+2 RPT SKASW04375-1

ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION RMG-1

KPT06-10-67



10-10-67

BY A. WHITNER

BELL HELICOPTER COMPANY

MODEL 301

PAGE 2 OF 2

CHECKED Adw

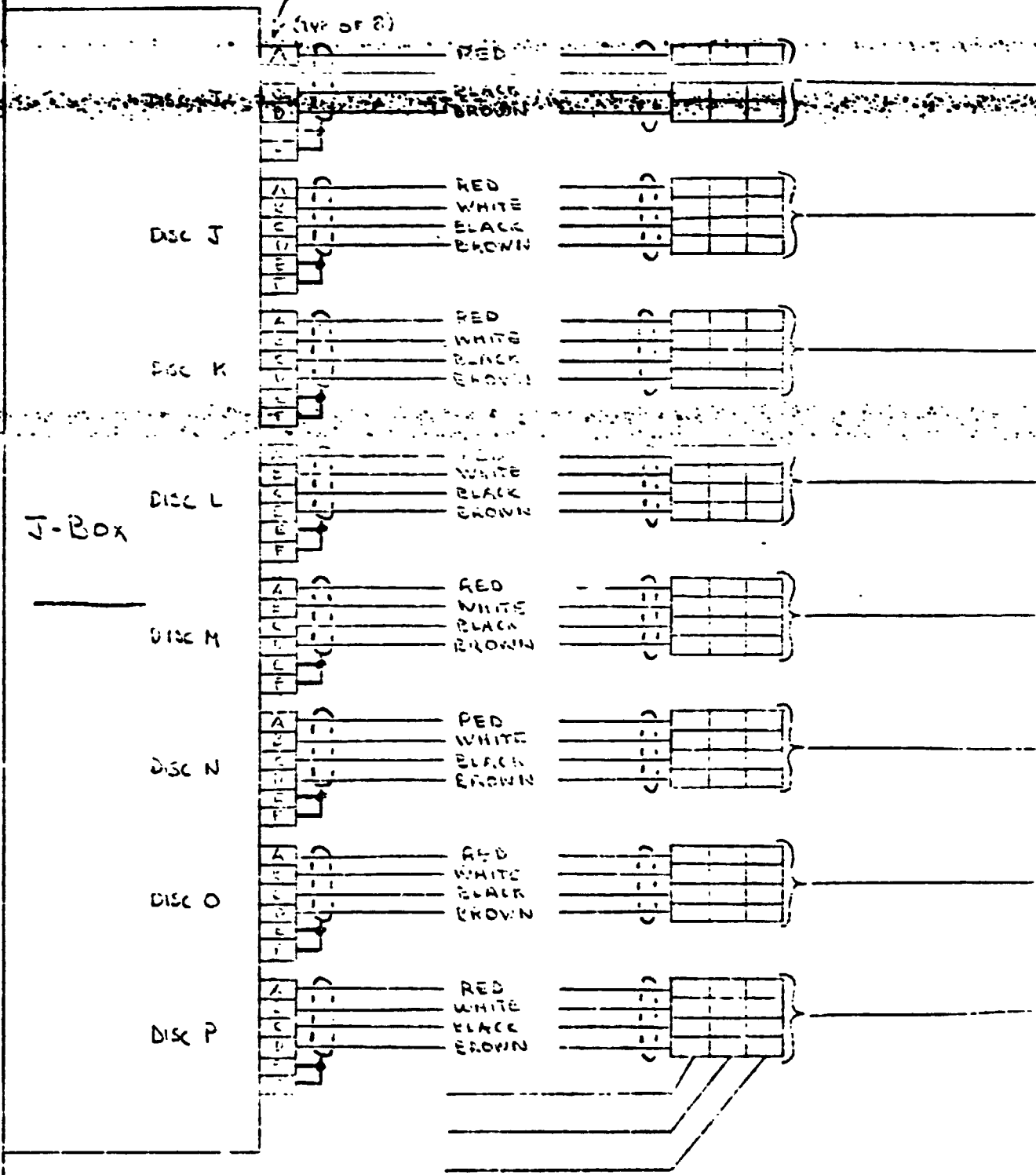
HELI. 1+2 RPT SKASND4225-1

ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION RMG-1

K-506-10-6P



7842 00000000 156

BY A. WHITEHEAD

BELL HELICOPTER COMPANY

MODEL 301 PAGE 1 of 2

CHECKED [Signature]

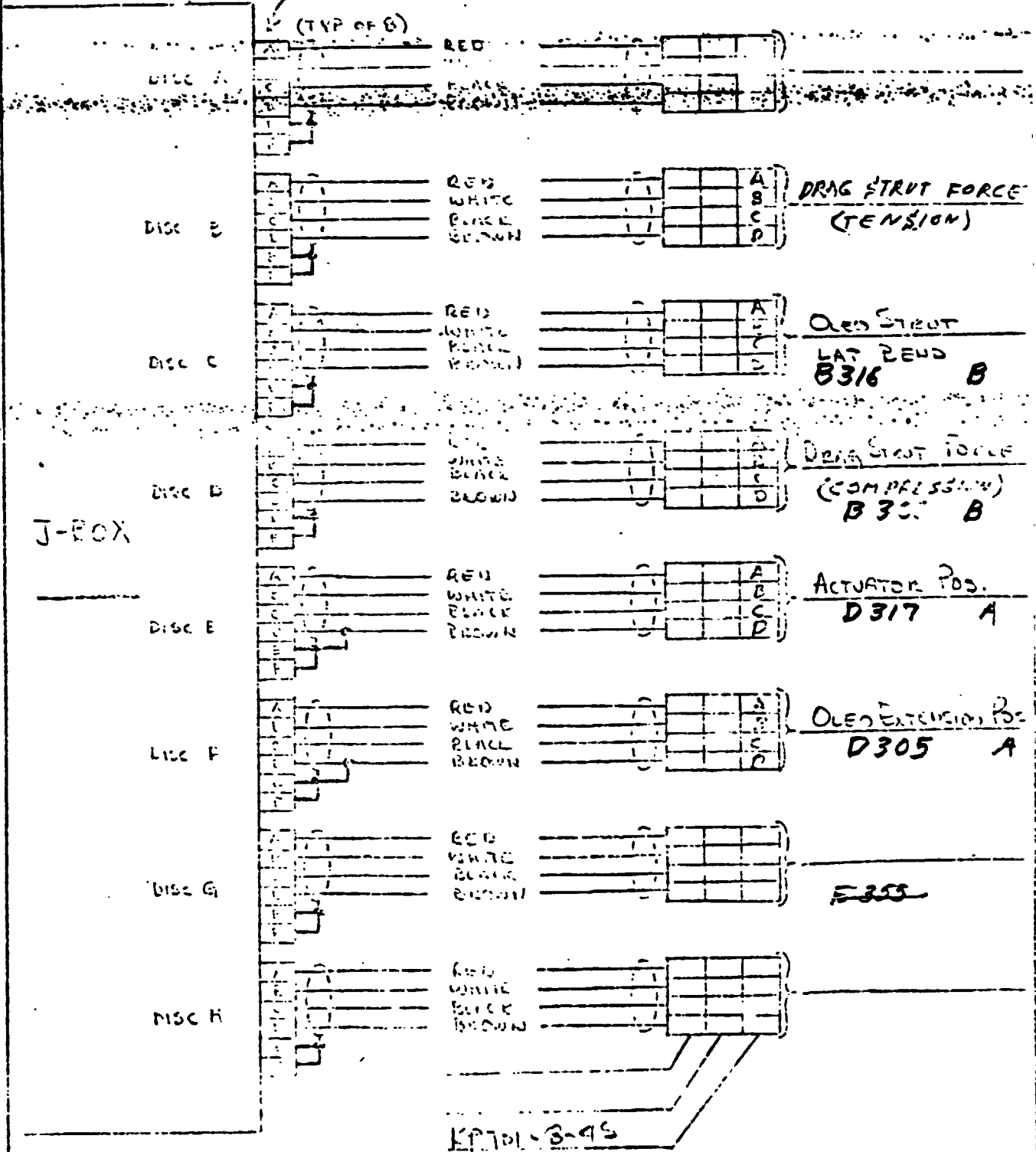
HELI. 1+2 RPT SKA3W04775-1

ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION RMG-1

KPT06-10-6P



2025 RELEASE UNDER E.O. 14176

BY A. WHITEHIER

BELL HELICOPTER COMPANY

MODEL 301 PAGE 2 OF 2

CHECKED AW

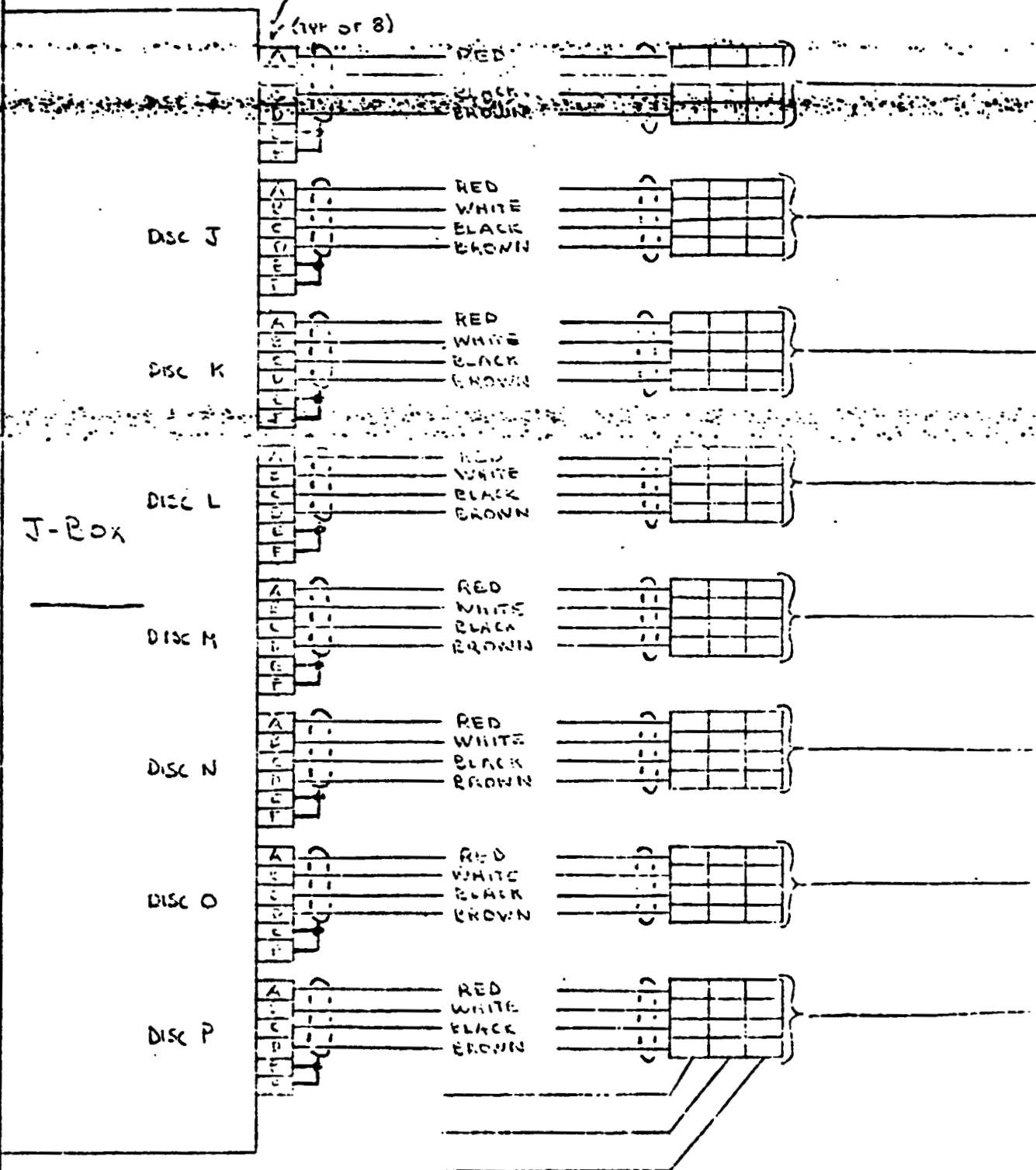
HELI. 142 RPT SKASW04275-1

ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION RMG-1

KPT06-10-6P



79-12 9975 REV 150

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA 06-125 TB -350	DLN 686512
WA NO. A427-11B	RESISTANCE 350.0 ± 0.4 %	LAD. NO. 11332A
K ORDER A427	GAGE FACTOR 2.07 ± 0.5 %	PART NO.
REQUESTED BY: A. WHITNER	LOT NO. Q A 85 ADC2	SERIAL NO.

TITLE OF TEST
301 FLIGHT TEST

SKETCH:

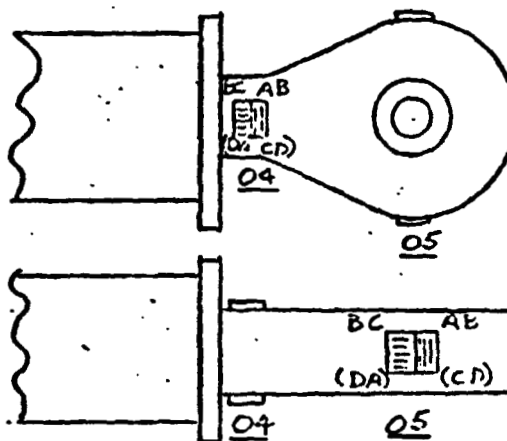
*add
Complete
2-24-77
(10) 995*

ORIGINAL PAGE IS
OF POOR QUALITY

ROD END-HYD. ACTUATOR
RIGHT MAIN GEAR

F 303

F 355



REMARKS:

- ___ INSTALL AXIAL BRIDGES AS SHOWN. USE EASTMAN 910
- ___ CEMENT. MAKE BRIDGE AT FLAT TERMINAL AS INDICATED.
- ___ COVER WITH SHELL 9309. ATTACH FOUR WIRE TEN INCH
- ___ SUPRENT LEADS. ENCASE LEADS IN VINYL SLEEVEING
- ___ AND TERMINATE WITH KPT-06-B-4P PLUG.

04 05
PRIMARY SECONDARY

BRIDGE			
ANCE			
RES. TO GROUND			
DATE ASSIGNED	TECHNICIAN CCW -	EST. HRS.	APPROVED BY:
DATE COMPLETED 11-18-76	ENGINEER	ACT. HRS.	

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-06-250MQ-350	LAB. NO. 688512
EWA NO. A427-118	RESISTANCE 350 ± 0.4 %	LAB. NO. 11333A
ORDER A427	GAGE FACTOR 2.13 ± 0.5 %	PART NO. 10565-200
REQUESTED BY: A. WHITENER	LOT NO. A21AD142	SERIAL NO.

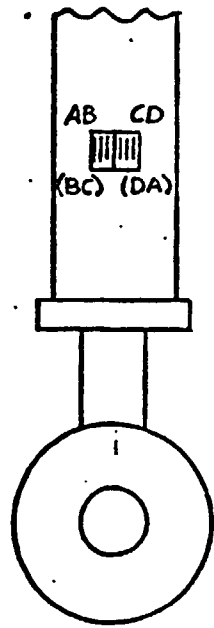
TITLE OF TEST
301 FLIGHT TEST

SKETCH:

Adw
Complete
2-24-77
(11) 98
(1R2)

RIGHT MAIN GEAR

B 316



ORIGINAL PAGE IS
OF POOR QUALITY

SIDE VIEW

REMARKS:

INSTALL BENDING BRIDGE AS SHOWN. USE EASTMAN 910 CEMENT. MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER WITH SHELL 9309. ATTACH FOUR TEN INCH SUPRENTANT LEADS. ENCASE LEADS IN VINYL SLEEVING AND TERMINATE WITH KPT-06-8-4P PLUG.

06

BRIDGE	BENDING						
ANCE							
RES. TO GROUND							
DATE ASSIGNED	TECHNICIAN CCW -			EST. HRS.	APPROVED BY:		
DATE COMPLETED 11-18-76	ENGINEER			ACT. HRS.			

BY A. WHITEHER

Bell Helicopter **TEXTRON**

Division of Textron Inc

POST OFFICE BOX 482 • FORT WORTH, TEXAS 76101

MODEL 301 PAGE 1

RPT ASWS377-1

CHECKED _____

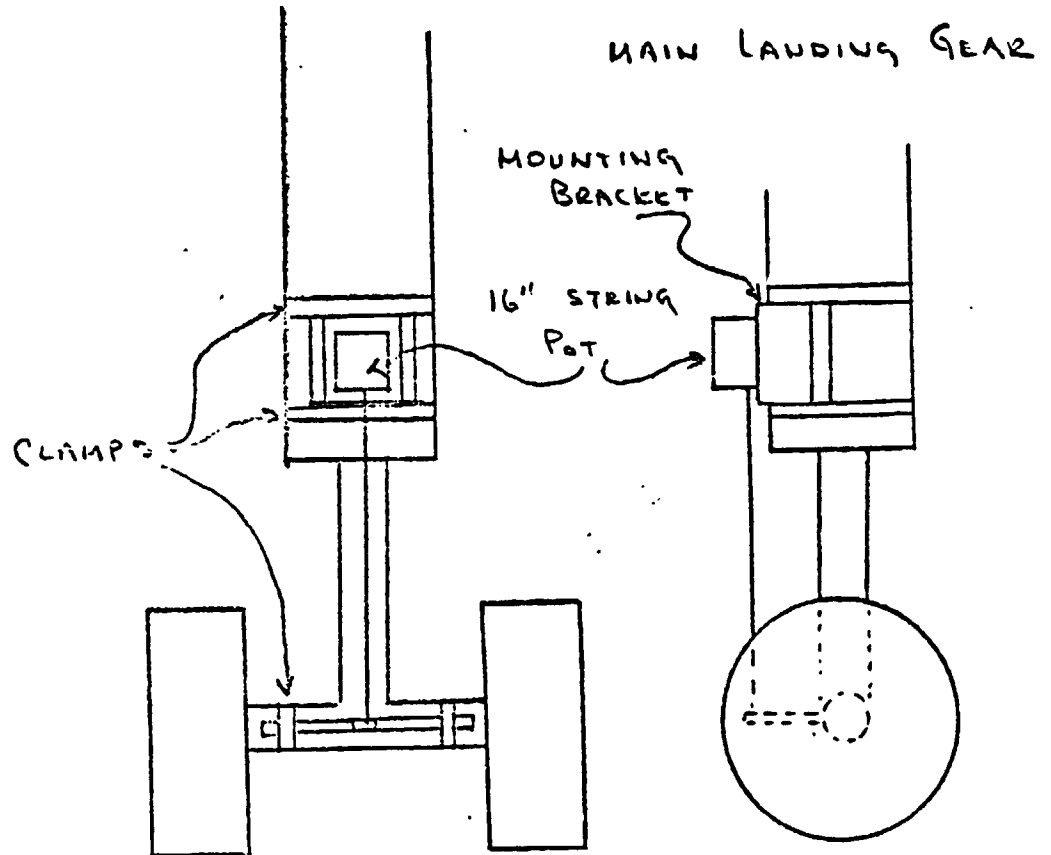
MAIN LANDING GEAR

D305

OLEO EXTENSION POS

ORIGINAL PAGE IS
OF POOR QUALITY

ASW
2-24-77
(117)
995



BY A. WHITENER

Bell Helicopter **TEXTRON**

Division of Textron Inc.

MODEL 321 PAGE 1

CHECKED _____

POST OFFICE BOX 488 • FORT WORTH, TEXAS 76101

RPT ASW5377-2

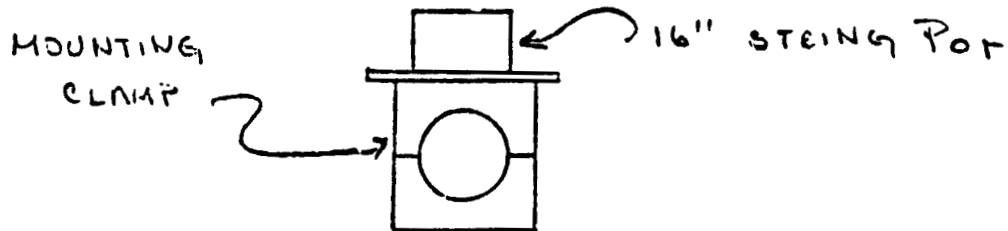
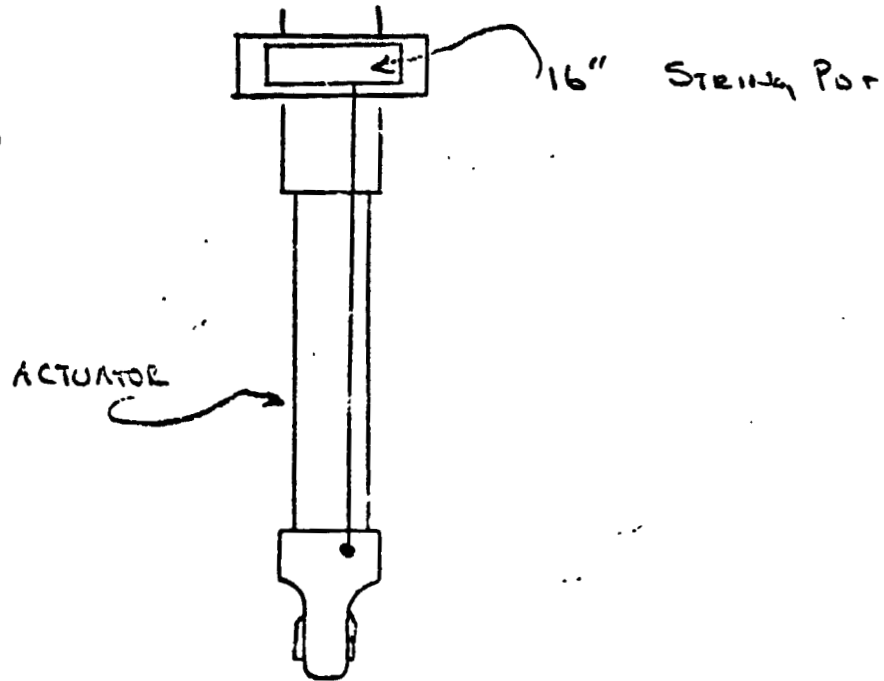
NOSE + MAIN LANDING GEAR

D317

ACT POS

ORIGINAL PAGE IS
OF POOR QUALITY

*ASW
Complete
2-24-77
(112) 995*

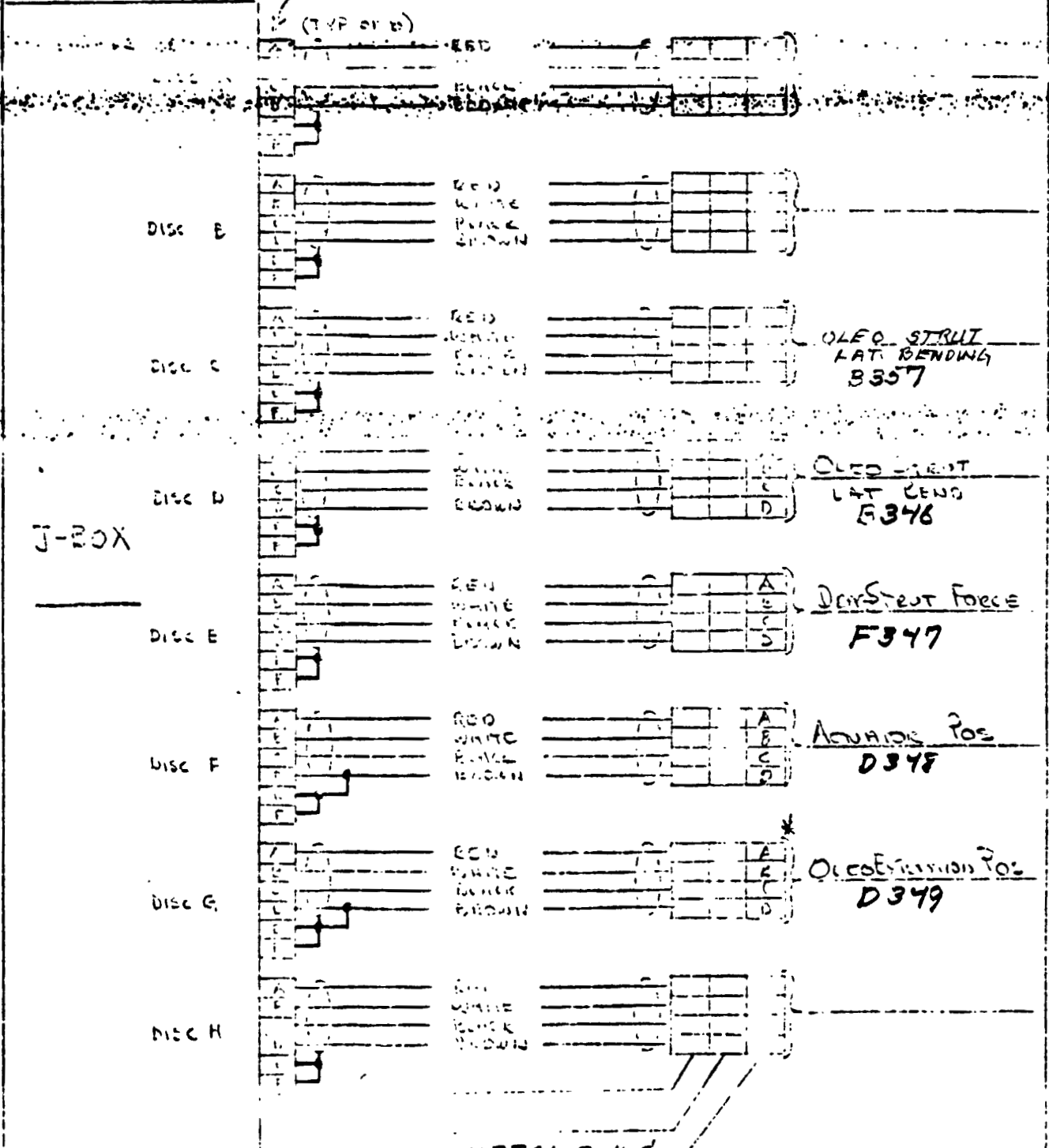


ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-BOX LOCATION N-1

KPT06-10-6P



KPT01-8-4F

* BREAK AWAY PLUG
IN LINE

7842 (REVISED) V. 15.

BY A. WHITENER

BELL HELICOPTER COMPANY

MODEL 301 PAGE 2 OF 2

CHECKED ASW

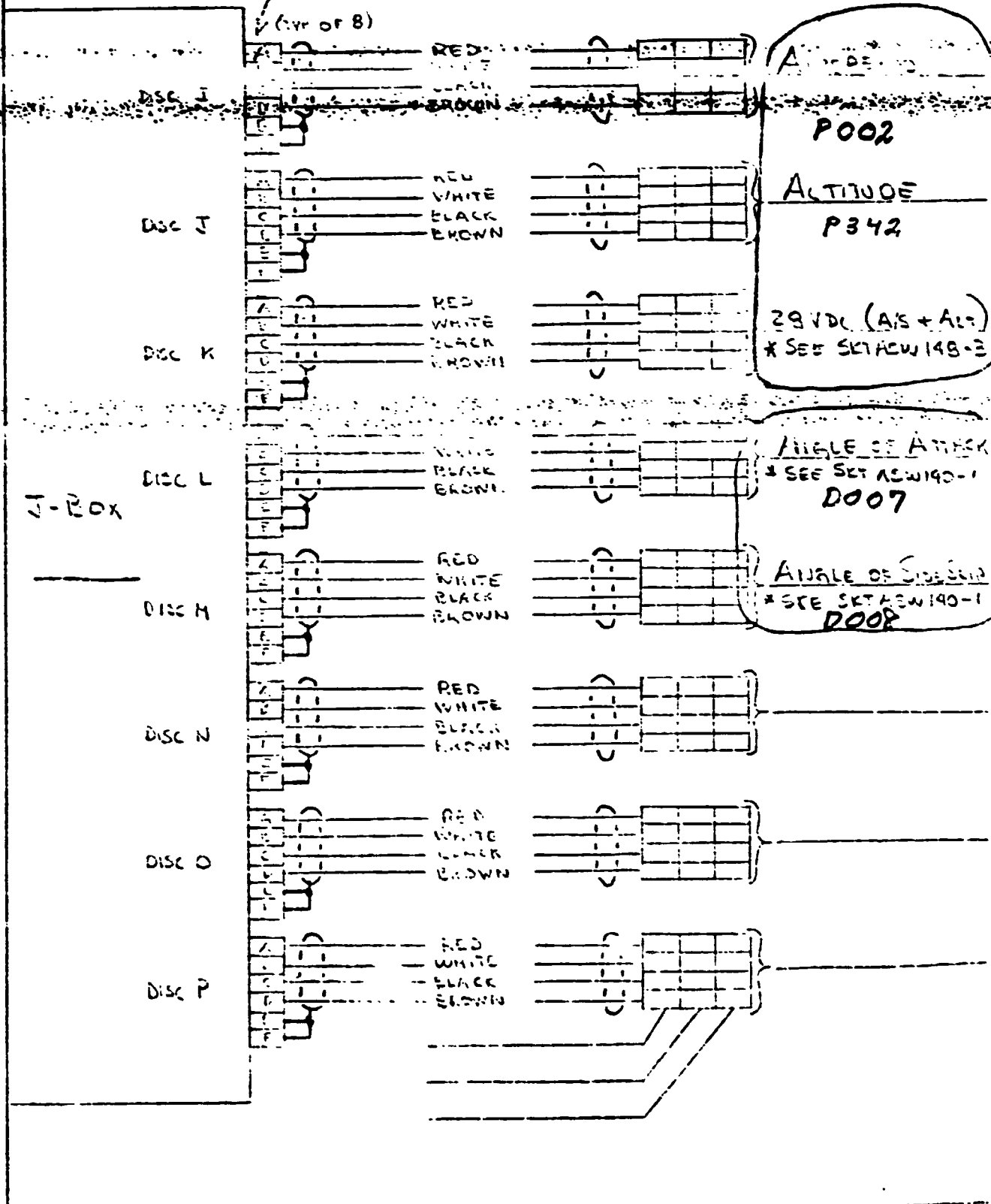
HELI. 1+2 RPT SKASWD0375-1

ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION N-1

KFTOG-10-6P



3942 888811111 1111

BY A. WHITENER

Bell Helicopter **DEXTRON**
Division of Textron Inc

MODEL 321 PAGE 1

CHECKED _____

POST OFFICE BOX 487 • FORT WORTH, TEXAS 76101

RPT ASW5377-2

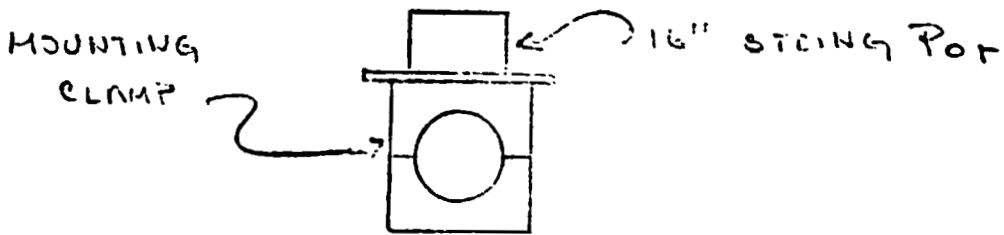
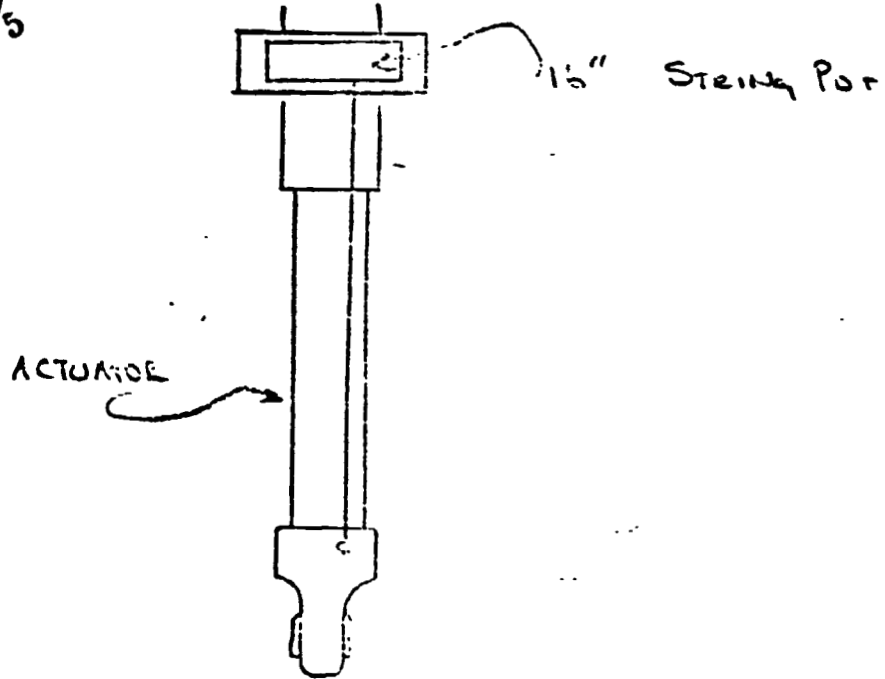
Nose + MAIN LANDING GEAR

ORIGINAL PAGE IS
OF POOR QUALITY

Act Pos

afw
Complete
2-24-77
BY
100
995

D 348



BY A. WHITEHEAD

DELL HELICOPTER COMPANY

MODEL 301 PAGE 1 OF 2

CHECKED [Signature]

HELLI. 1+2 RPT SKA 51024775-1

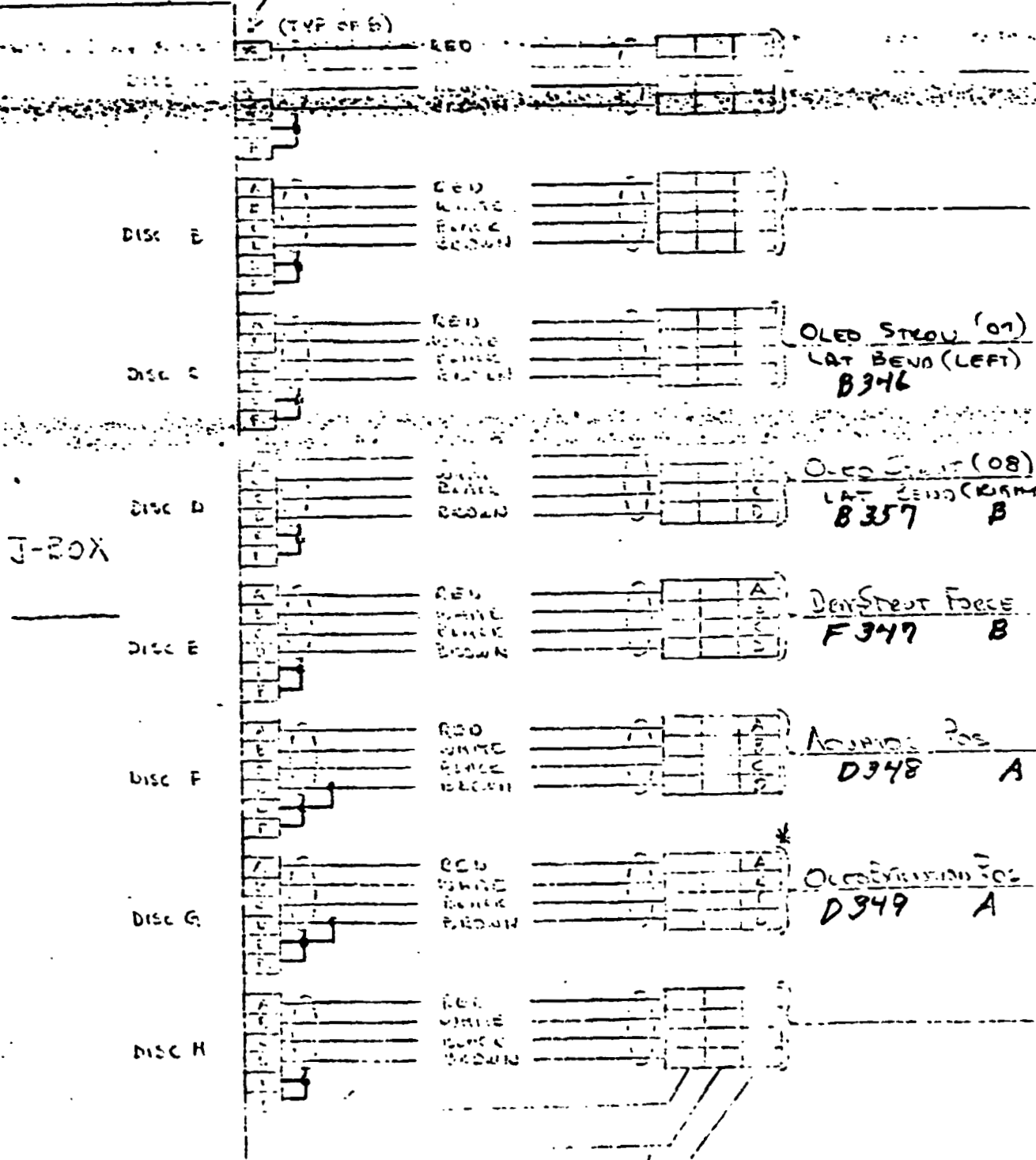
ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-BOX LOCATION N-1

KPT06-10-6P

(TYPE OF B)



OLEO STEAD (01)
LAT BEAD (LEFT)
B346

OLEO STEAD (08)
LAT BEAD (RIGHT)
B357 B

DISCONNECT FORCE
F347 B

ADJUSTING POS
D348 A

OLEO STEAD POS
D349 A

KPT01-8-4P

* BREAK AWAY POINT
IN LINE

7510 5000000 V 100

BY A. WHITENER
CHECKED AW

DELL HELICOPTER COMPANY

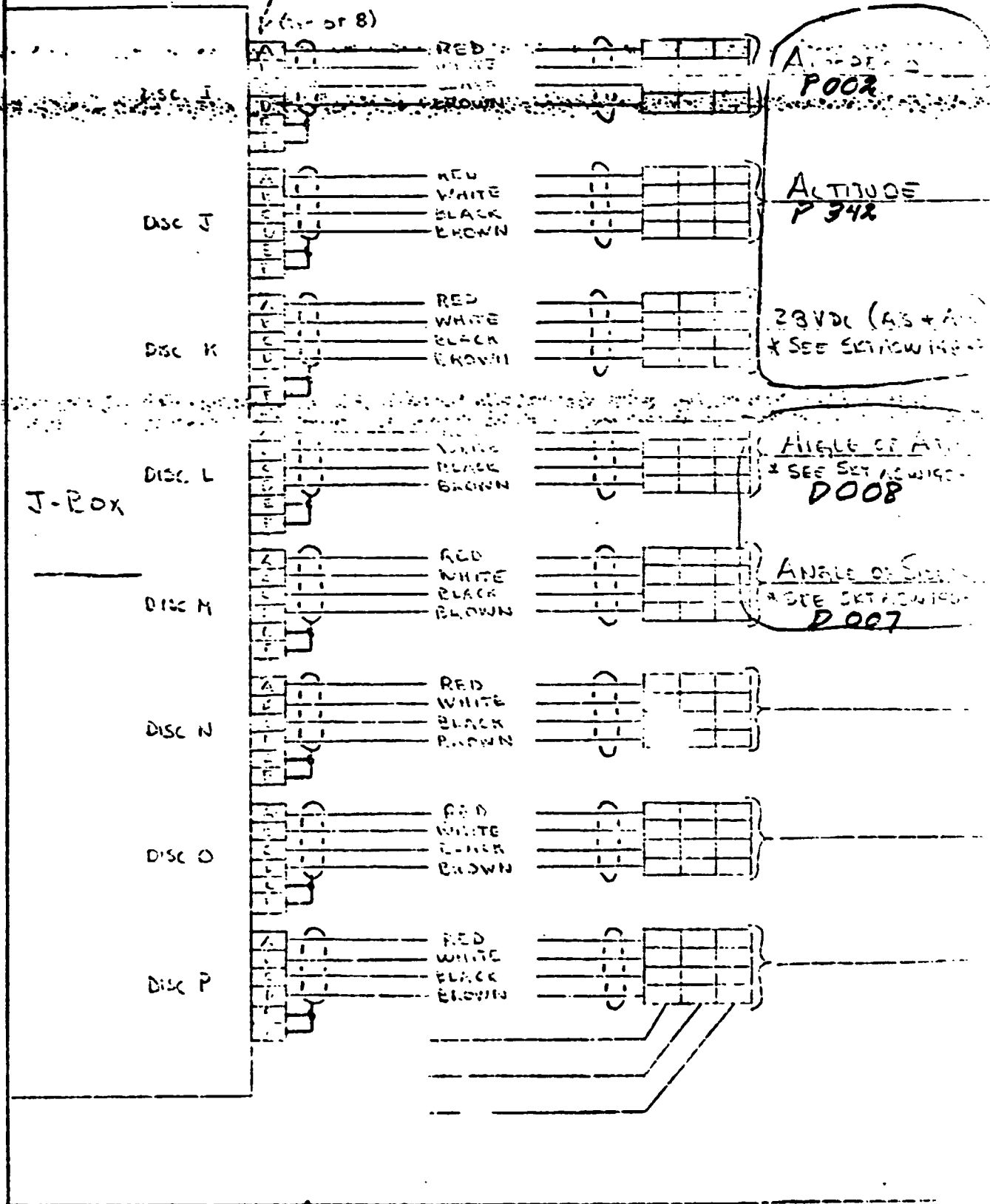
MODEL 301 PAGE 2 OF 2
HELI. 1+2 RPT SKASW06375-1

ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION N-1

KPT06-10-6P



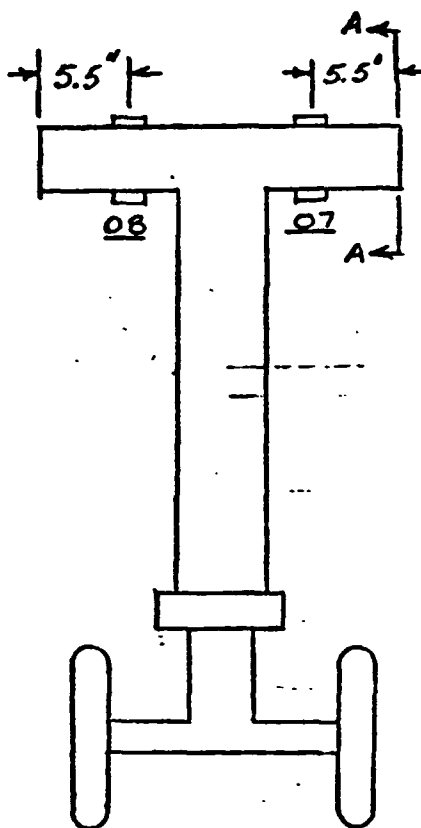
INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-06-250 MC-350	688512
FWA NO. A427-11B	RESISTANCE 350 ± 0.4 %	LAB. NO. 11334A
PK ORDER A427	GAGE FACTOR 2.13 ± 0.5 %	PART NO. 21800-200
REQUESTED BY: A. WHITENER	LOT NO. A 21AD142	SERIAL NO.

TITLE OF TEST: 301 FLIGHT TEST

SKETCH:

AW
Complete
2-24-77
1995



NOSE GEAR

AB-CD



BC-DA

A-A

13357

13346

ORIGINAL PAGE IS
OF POOR QUALITY

FRONT VIEW

REMARKS:

INSTALL BENDING BRIDGES AS SHOWN. USE EASTMAN 910 CEMENT.
MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER WITH
SHELL 9309. ATTACH FOUR TEN INCH SUPRENTANT LEADS.
ENCASE LEADS IN VINYL SLEEVING AND TERMINATE WITH
KPT-06-8-4P PLUG.

	07	08				
BRIDGE	BENDING	BENDING				
ANCE						
RES. TO GROUND						
DATE ASSIGNED	TECHNICIAN CCV-			EST. HRS.	APPROVED BY:	
DATE COMPLETED 11-18-76	ENGINEER			ACT. HRS.		

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-06-125TB-350	688512
EWA NO. A427-11B	RESISTANCE 350.0 ± 0.4 %	LAB. NO. 11335A
WORK ORDER A427	GAGE FACTOR 2.07 ± 0.5 %	PART NO.
REQUESTED BY: A. WHITENER	LOT NO. QA35AD02	SERIAL NO.

TITLE OF TEST
301 FLIGHT TEST

SKETCH:

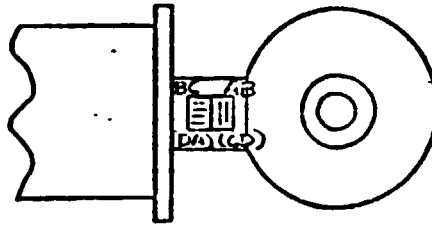
afw
Complete
2-24-77
995

ORIGINAL PAGE IS
OF POOR QUALITY

ROD END-HYD. ACTUATOR

NOSE GEAR

F 347



REMARKS: INSTALL AXIAL BRIDGE AS SHOWN. USE EASTMAN 910 CEMENT.
MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER
WITH SHELL 9309 ATTACH FOUR WIRE TEN INCH SUPRENUMANT
LEADS. ENCASE LEADS IN VINYL SLEEVING AND TERMINATE
WITH KPT-06-B-4P PLUG.

09

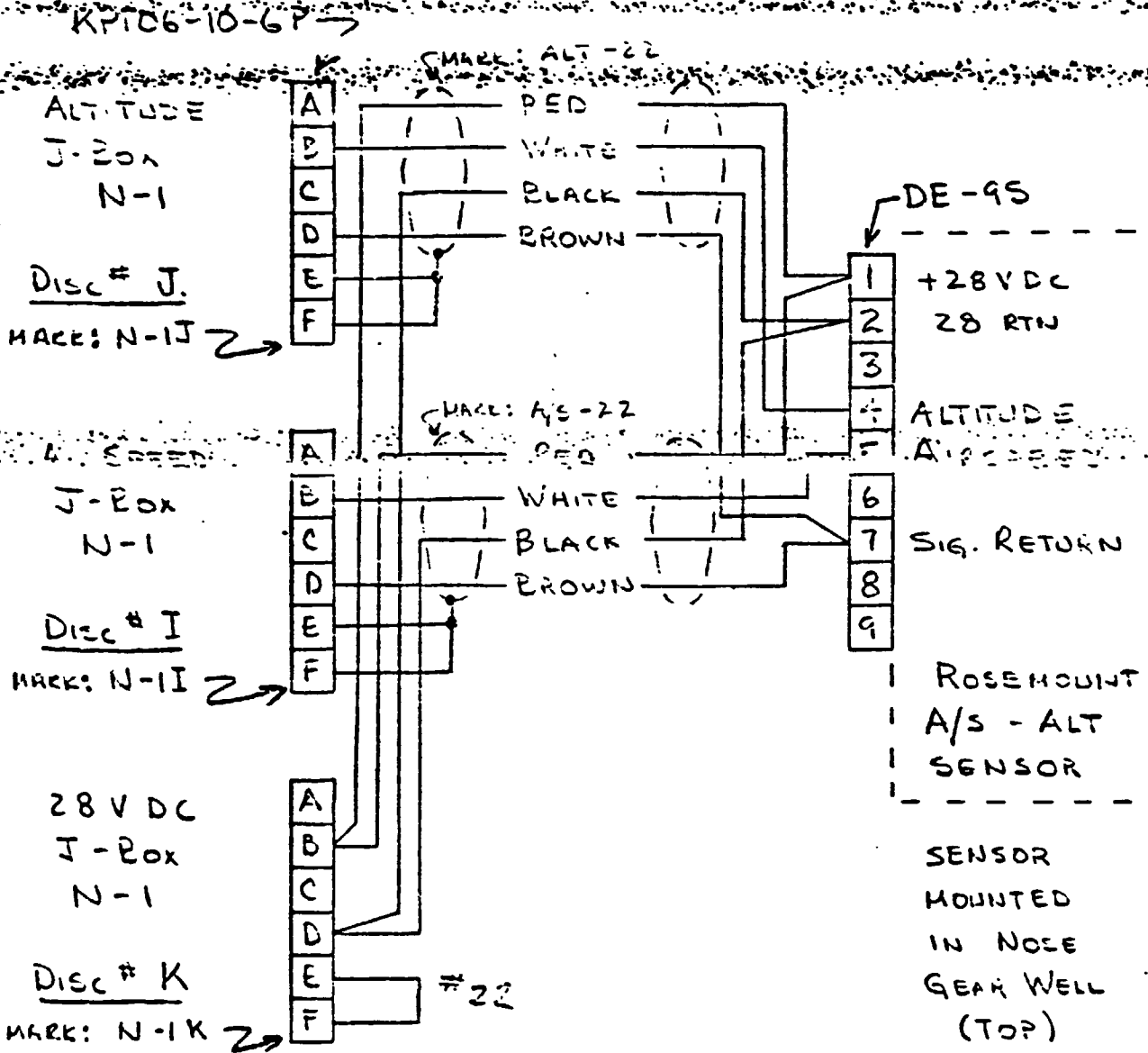
BRIDGE	AXIAL						
ANCE							
RF	O GROUND						
DATE ASSIGNED		TECHNICIAN CCV-			EST. HRS.		APPROVED BY:
DATE COMPLETED 11-18-76		ENGINEER			ACT. HRS.		

AIRSPEED - ALTITUDE WIRING

ORIGINAL PAGE IS
OF POOR QUALITY

N-1 J-Box

P 002
P 342



NOTE: SEE SKTASW001-1 REF N-1 J-Box

BY A. WHITENER
CHECKED AW

BELL HELICOPTER COMPANY

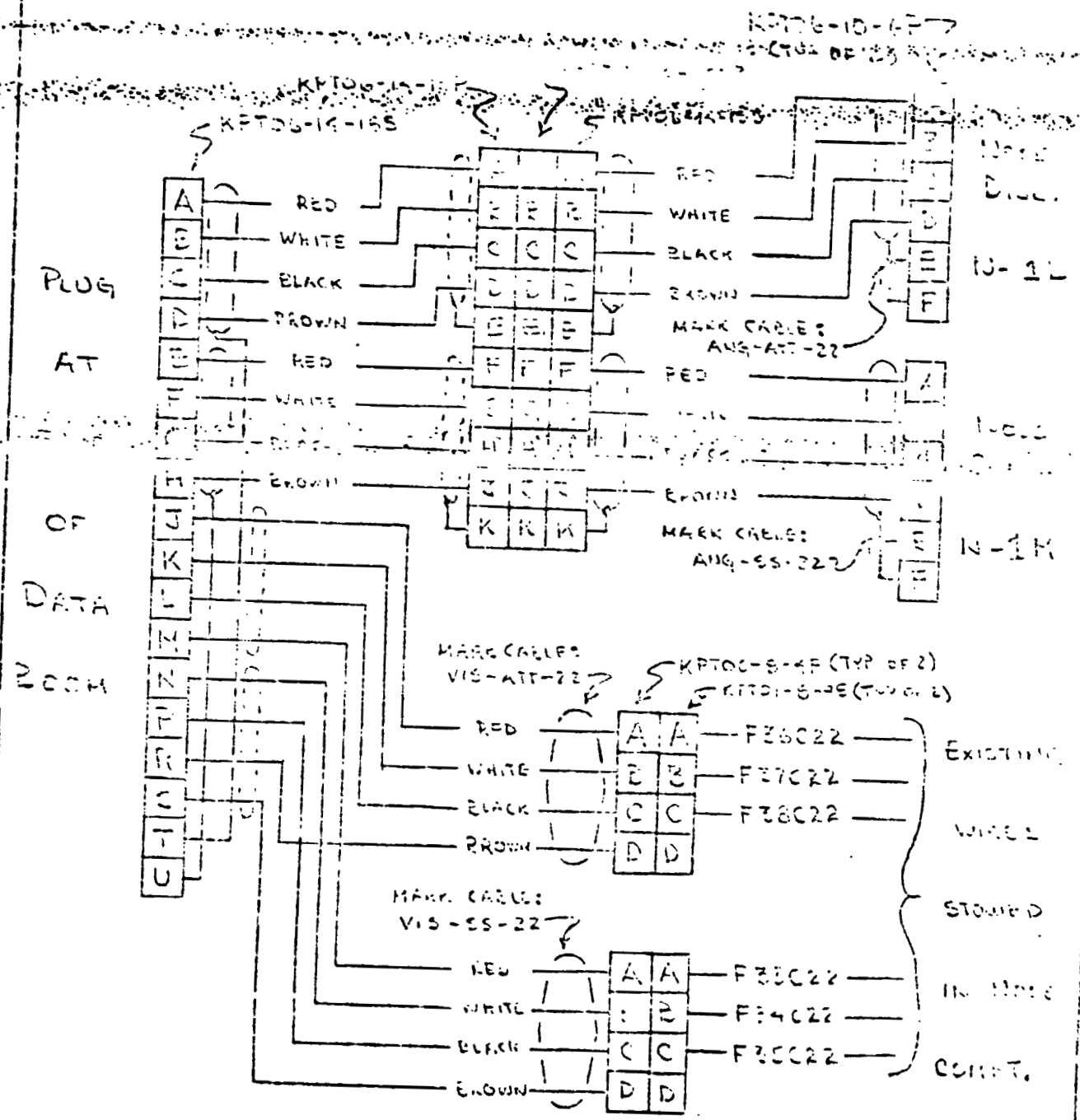
MODEL 301 PAGE 1 OF 1
HELI. 1+2 RPT SETASW140-1

DATA ROOM WIRING

D007
D008

ORIGINAL PAGE IS
OF POOR QUALITY

J-Box NOSE - 1



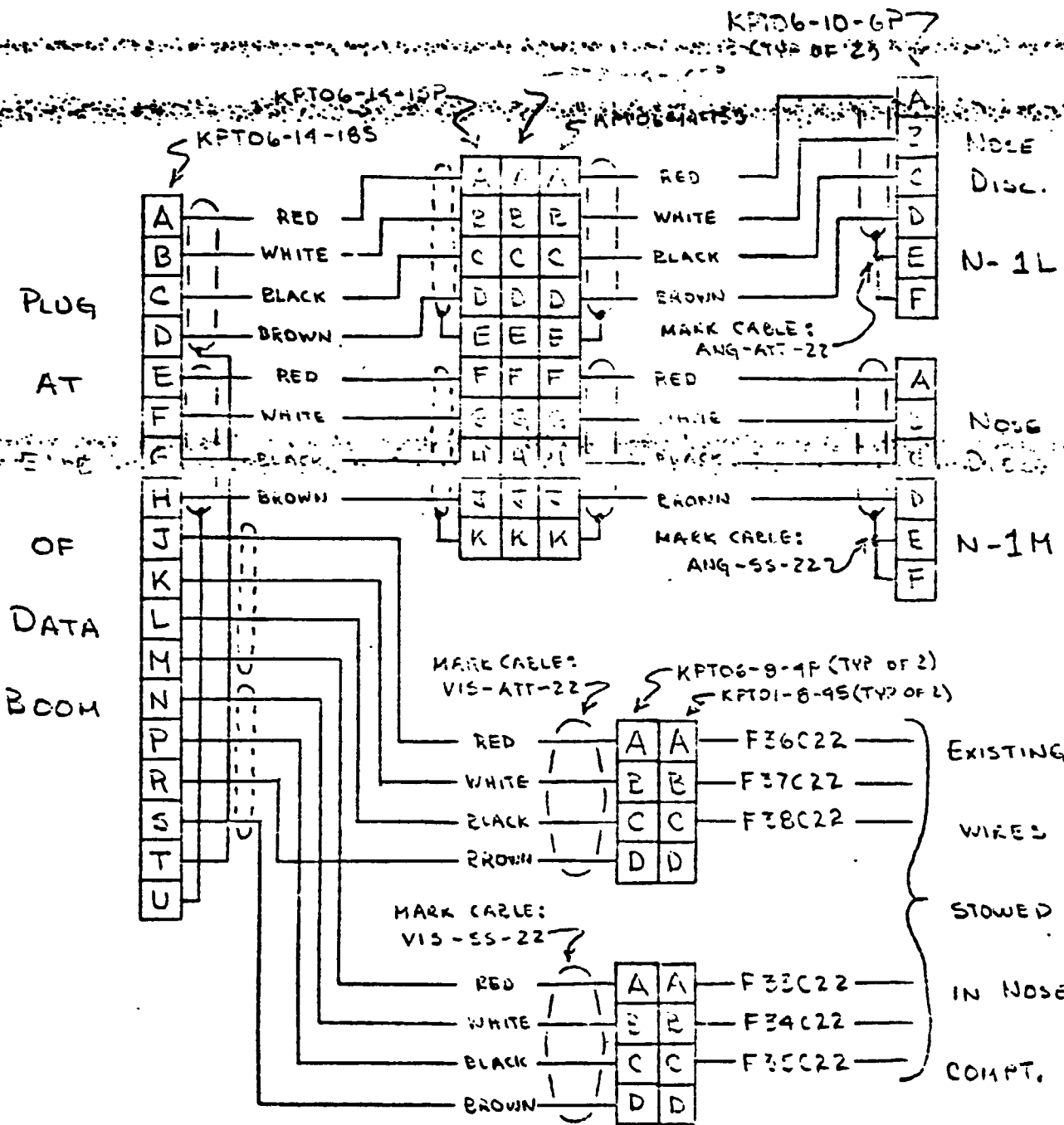
11-1200000-000

DATA ROOM WIRING

D007
D008

ORIGINAL PAGE IS
OF POOR QUALITY

J-Box NOSE-1



9042 0555856 100

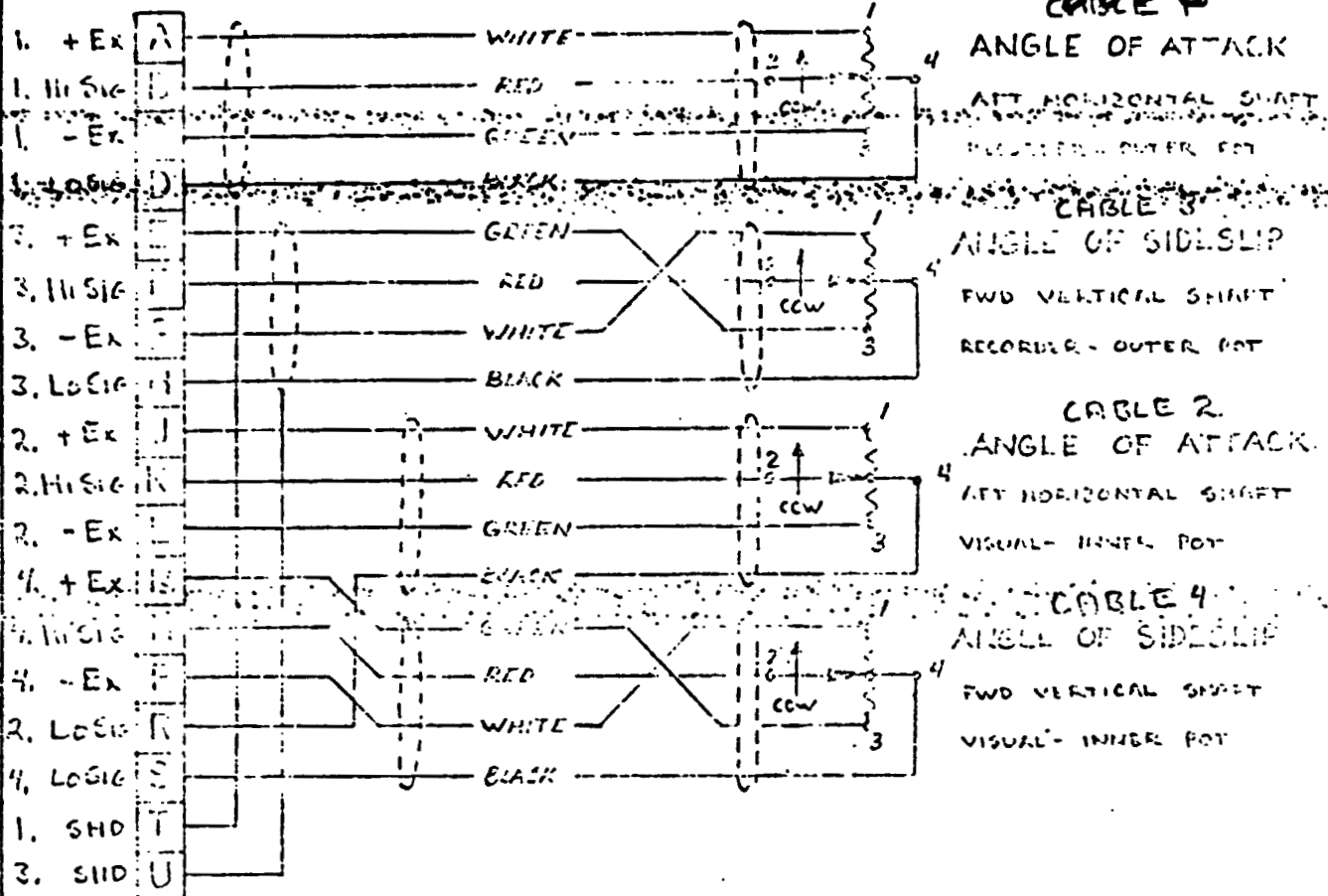
ORIGINAL PAGE IS
 OF POOR QUALITY

DATA BOOM WIRING

SPACE AGE CONTROLS

SWIVEL NOSE

P/N 100510-1
D007
APP 8



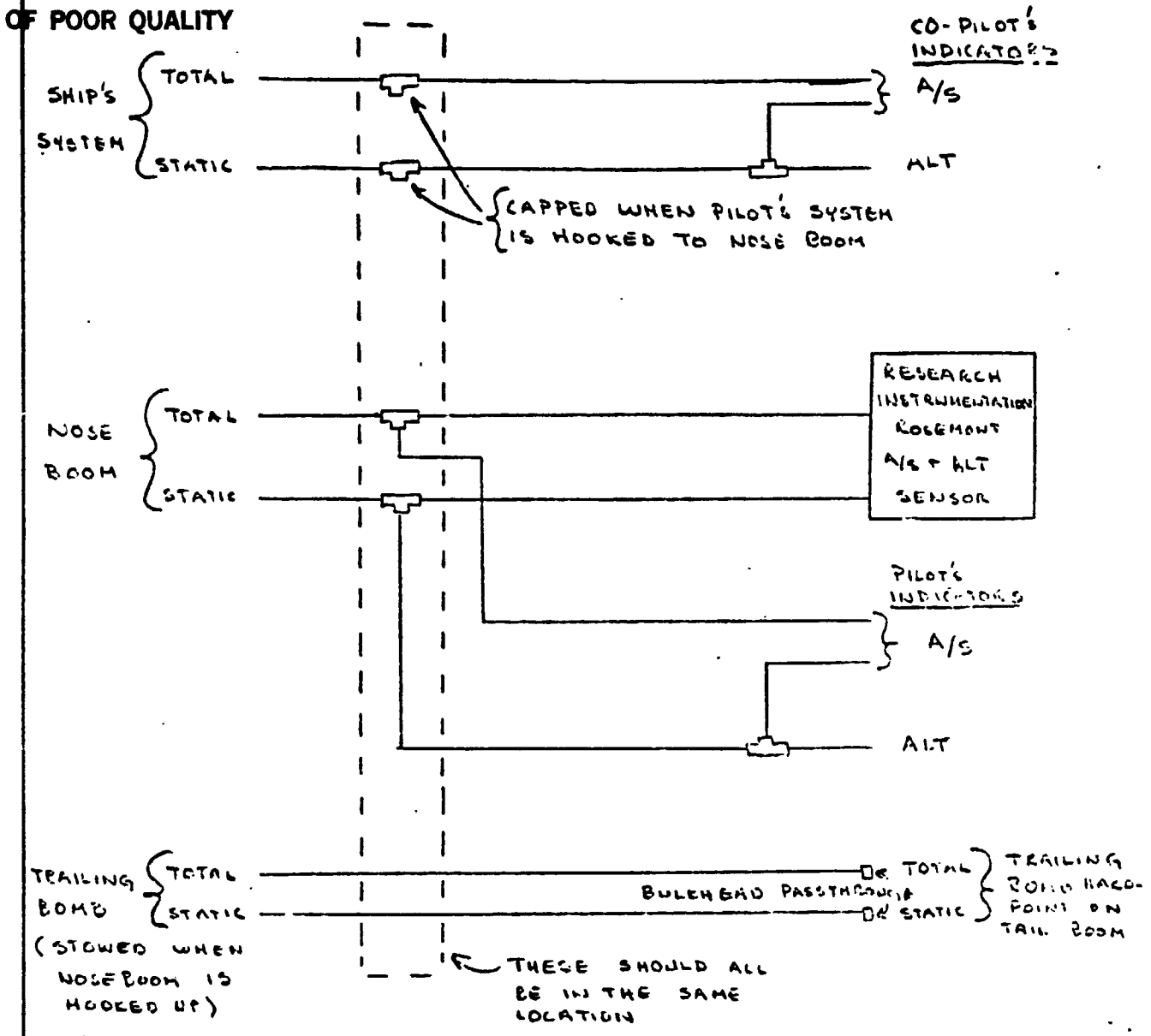
KPT01-14-18P

1. SIGN CONVENTION - UPSCALE, POSITIVE VOLTAGE
 ANGLE OF ATTACK - NOSE OF HORIZONTAL VANE MOVES DOWN
 ANGLE OF SIDESLIP - NOSE OF VERTICAL VANE MOVES RIGHT
2. MECHANICAL ROTATION - 360°
3. ELECTRICAL ROTATION - ± 170° ± 5° FROM CENTER TAP
4. POT - VANE ASSEMBLIES INSTALLED WITH 3 POT TERMINALS AFT

SHIP'S A/S + ALT. CONNECTIONS

P 002 +
P 342

ORIGINAL PAGE IS
OF POOR QUALITY



1. NOSE BOOM AND TRAILING BOMB INPUTS WILL BE EXCHANGED (OR CAN BE EXCHANGED) AT VARIOUS TIME DURING TESTS.
2. ALL TUBES WILL BE RED (TOTAL) + YELLOW (STATIC) 1/4" POLYFLOW TUBING.
3. PILOT'S SYSTEM CAN BE CONNECTED TO EITHER NOSE BOOM, TRAILING BOMB OR SHIP'S SYSTEM

7802 REVISION 130

BY A. WHITENER
CHECKED _____

Bell Helicopter **HEXTRON**
Division of Textron Inc.
POST OFFICE BOX 482 • FORT WORTH, TEXAS 76101

MODEL 301 PAGE 1
RPT ASW5377-3

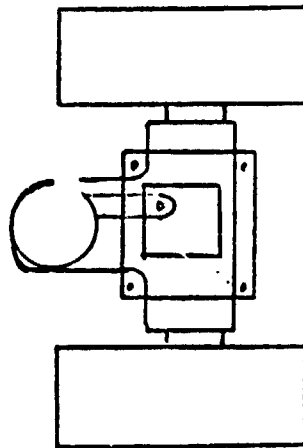
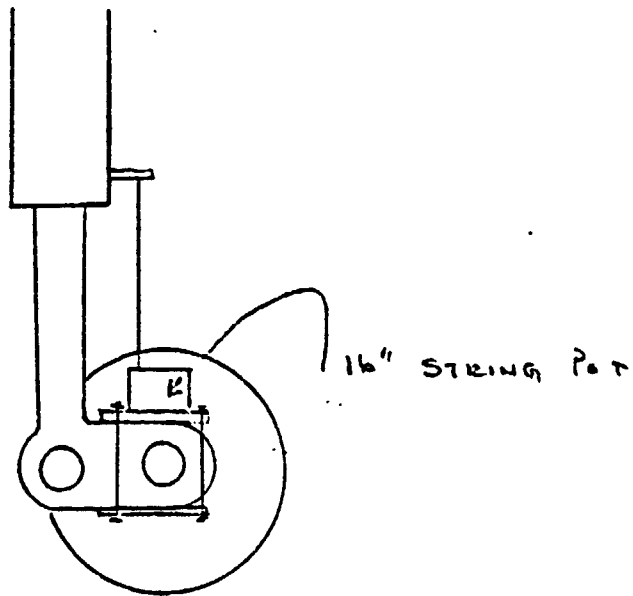
Nose Landing Gear

ORIGINAL PAGE IS
OF POOR QUALITY

OLEO EXTENTION Pos

*all
Complete
2-24-77
395*

D349



BY A. WHITEHEAD

BELL HELICOPTER COMPANY

MODEL 301

PAGE 1 OF 2

CHE KED 1/30

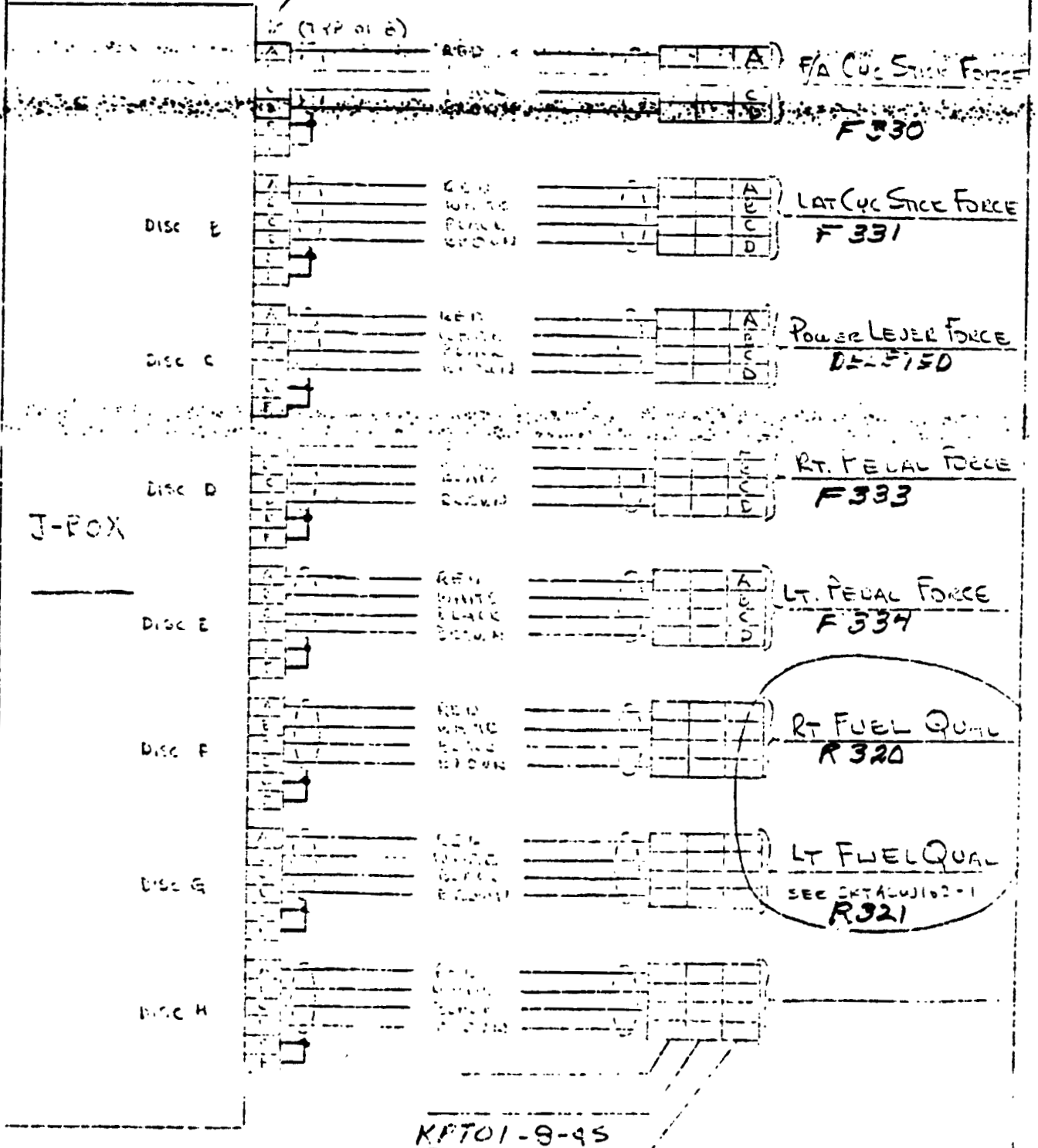
HELI. 1+2 RPT SKACW04375-1

ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-BOX LOCATION CP-1

KPT06-10-6P



KPT01-9-95

BY A. WHITEHUR

BELL HELICOPTER COMPANY

MODEL 301 PAGE 2 of 2

CHECKED AW

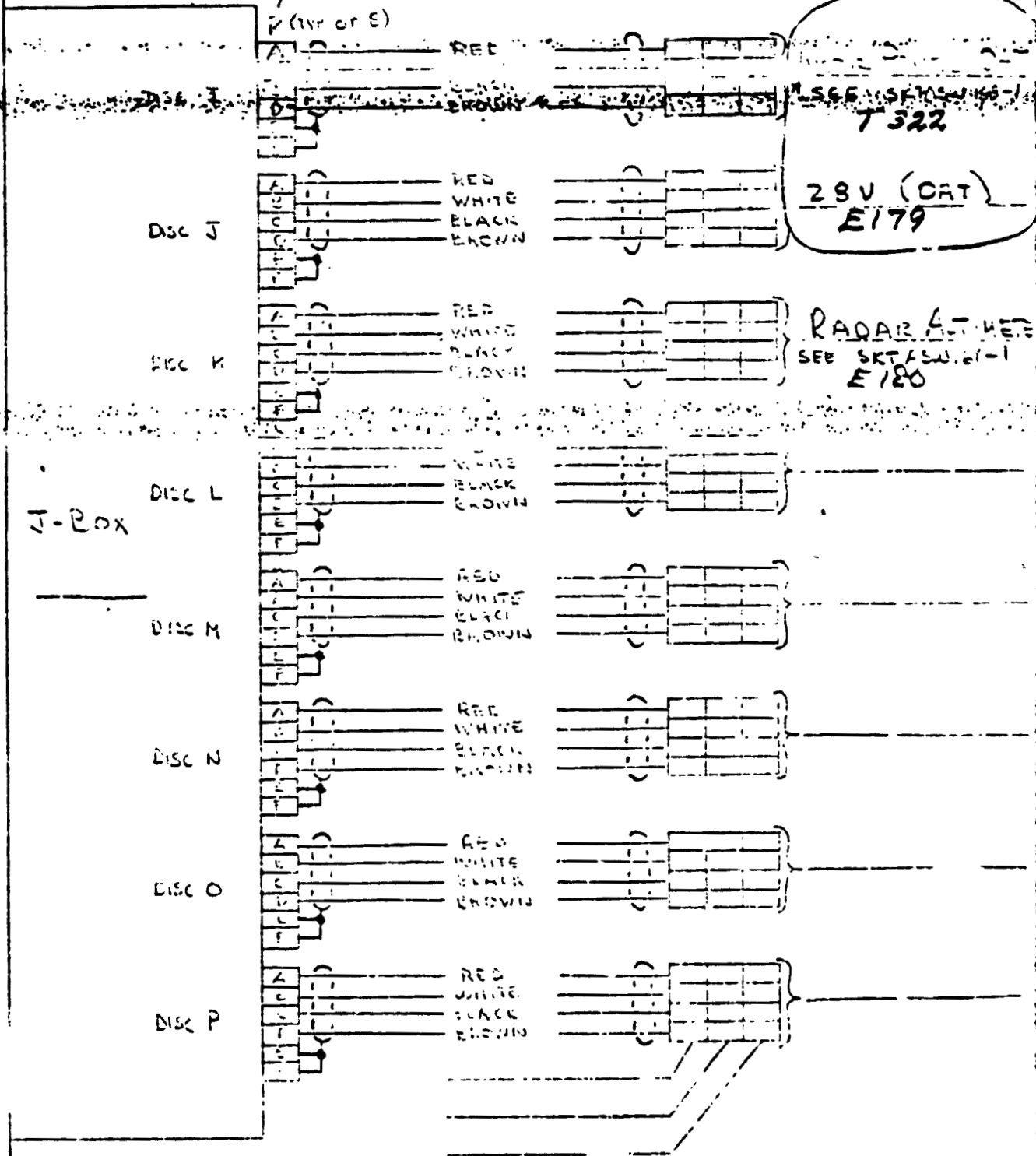
HELI. 142 RPN SKASW307E-1

ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION CP-1

KPTOG-10-6P

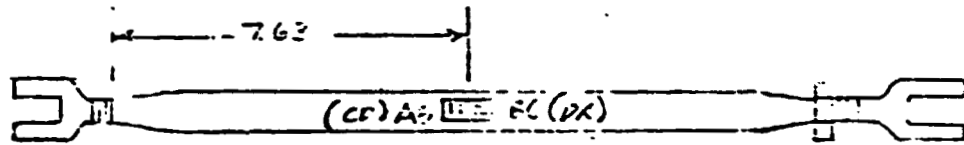


INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-125TB-350	SHEET NO. DLN 678754
EWB NO. A-27-11A	RESISTANCE 350Ω	LAB. NO. 11378A 11378A
ORDER A427	GAGE FACTOR 2.09 ± 1.0%	PART NO. 301-301-05-43
REQUESTED BY: A. VENTNER	LOT NO. Q-A18PF4E	SERIAL NO.

TITLE OF TEST
301 FLIGHT TEST

SKETCH:
F 530
 ORIGINAL PAGE IS OF POOR QUALITY TUBE ASSY, (CYCLIC) P/O.



965
 Complete
 1-11-76
 [Signature]

REMARKS:
 INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT.
 MAKE BRIDGE AT FLAT TERMINAL AS INDICATED.
 COVER WITH 9309. ATTACH FOUR WIRE SIX
 INCH SUPERFLEX LEADS. ENLASE LEADS IN
 VINYL SLEEVING AND TERMINATE WITH M4P PLUS.

01

BRIDGE	AXIAL						
ANCE	4.16						
W.S. TO GROUND	15 MINS						
DATE ASSIGNED	TECHNICIAN [Signature]			EST. HRS.	APPROVED BY:		
DATE COMPLETED	ENGINEER			ACT. HRS.			
	2-17-76						

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-125TB-300	SHEET NO. DLN 673984
TWA NO. A427-11A	RESISTANCE 2.12 ± 0.5%	LAB. NO. 10657A
SK ORDER A427	GAGE FACTOR 5.12 ± 1.0%	PART NO. 301-301-053-41
REQUESTED BY: A. WHITENER	LOT NO. 0-110AF-43	SERIAL NO.

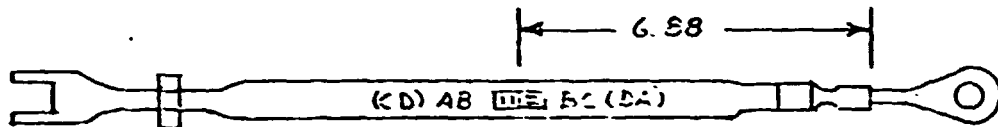
TITLE OF TEST
301 FLIGHT TEST

SKETCH:

F337

**ORIGINAL PAGE IS
OF POOR QUALITY**

TUBE ASSY (CYCLIC STICK) LAT



951
complete
ASW
12-16-76

REMARKS:

INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT.
MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER
W/IT. 9309. ATTACH FOUR WIRE SIX INCH SUPERFLEX
LEADS. ENCASE LEADS IN VINYL SLEEVING AND
TERMINATE WITH MAP PLUG.

01

BRIDGE	AXIAL						
BALANCE	4.42						
RES. TO GROUND	10.000						
DATE ASSIGNED	TECHNICIAN <i>H. J. W.</i>			EST. HRS.		APPROVED BY:	
DATE COMPLETED 2-16-76	ENGINEER			ACT. HRS.			

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13 - 125 TB - 350W	SHEET NO. 106374
ERA NO. A-27-11A	RESISTANCE 350.0 ± 0.4%	LAB. NO. 106374
ORDER A-27	GAGE FACTOR 2.12 ± 1.0%	PART NO. 301-003-015-12
REQUESTED BY A. M. ...	LOT NO. G-113/AF47	SERIAL NO.

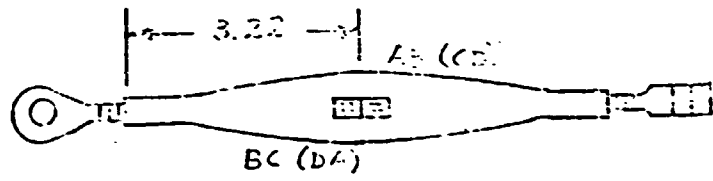
TITLE OF TEST: **301 FLIGHT TEST**

SKETCH: **F333**

ORIGINAL PAGE IS OF POOR QUALITY

TYPE ASSY (TERMINAL BOARD)

*Completed
L.W.
12-14-76*



REMARKS:
 INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT.
 MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER
 WITH 9309. ATTACH FOUR WIRE SIX INCH SUPERFLEX
 LEADS. ENCASE LEADS IN VINYL SLEEVING AND
 TERMINATE WITH M&P PLUG

BRIDGE	AXIAL						
BALANCE	4.20						
TO GROUND	12-11-76						
DATE ASSIGNED	2-11-76	TECHNICIAN	C.E.W. - H.H.W.		EST. HRS	APPROVED BY	
DATE COMPLETED	2-11-76	ENGINEER			ACT. HRS		

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-15-25TB-350W	SHEET NO. 111374-1
MANUFACTURER AAR-11A	RESISTANCE 300.0 ± 0.4%	LAB. NO. 10638A
BY ORDER A527	GAGE FACTOR 0.12 ± 1.0%	PART NO. 301-053-012-17
TESTED BY A. [unclear]	LOT NO. P-A13AF 47	SERIAL NO.

TITLE OF TEST: **301 FLIGHT TEST**

SKETCH: **F334**

ORIGINAL PAGE IS OF POOR QUALITY TUBE ASSY (TERMINAL PINS)

*Completed
2-14-76*

REMARKS:

INSTALL AXIAL BRIDGE AS SHOWN. USE BF-600 CEMENT. MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER WITH 9309. ATTACH FOUR WIRE SIX INCH SUPERFLEX LEADS. ENCASE LEADS IN VINYL SLEEVING AND TERMINATE WITH MAP PLUG.

BRIDGE	AXIAL						
BALANCE	4.07						
TO GROUND	104 KΩ						
DATE ASSIGNED	2-12-76	TECHNICIAN	C.C.W. - H.H.W.		EST. HRS.	APPROVED BY.	
DATE COMPLETED	2-16-76	ENGINEER			ACT. HRS.		

BY A. WHITENER
CHECKED AW

BELL HELICOPTER COMPANY

MODEL 301 PAGE _____
HELI. 142 RPT SKTASW198-1

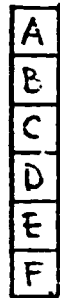
OAT WIRING J-Box CP-1

T 322

ORIGINAL PAGE IS
OF POOR QUALITY

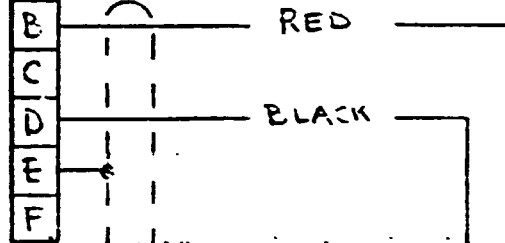
KPT06-10-6P
TYP OF 2

DISC # J

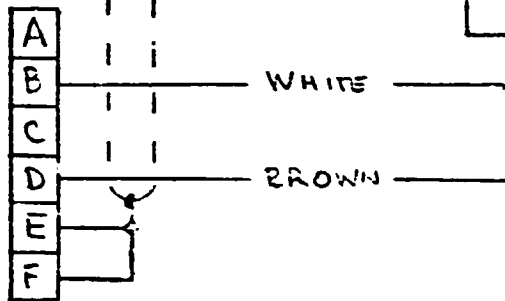
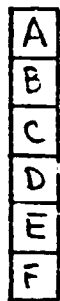


MARK CONNECTORS: CP-I + CP-II

MARK: OAT-Sig-22



DISC # I



KPT06-12-10B
OAT SIGNAL
CONDITIONER

A +28 V DC
B 28 RTN
C 0-5 V DC
D 5V RTN

E } SENSOR

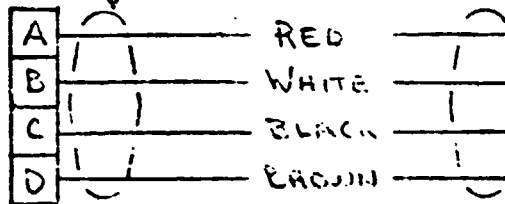
F }
G } CASE GND
H }
I }
J }
K }

MS3106-145-5S

OAT
PROBE
(MOUNTED ON
BELLY OF SHIP)



MARK: OAT PROBE-22



MOUNTED IN
COCK PIT

BY D. WINNIFORD

BELL HELICOPTER COMPANY

MODEL 301 PAGE 10 of 1

CHECKED 9.10.72

HELI. 142 RPT. SKTASW152-1

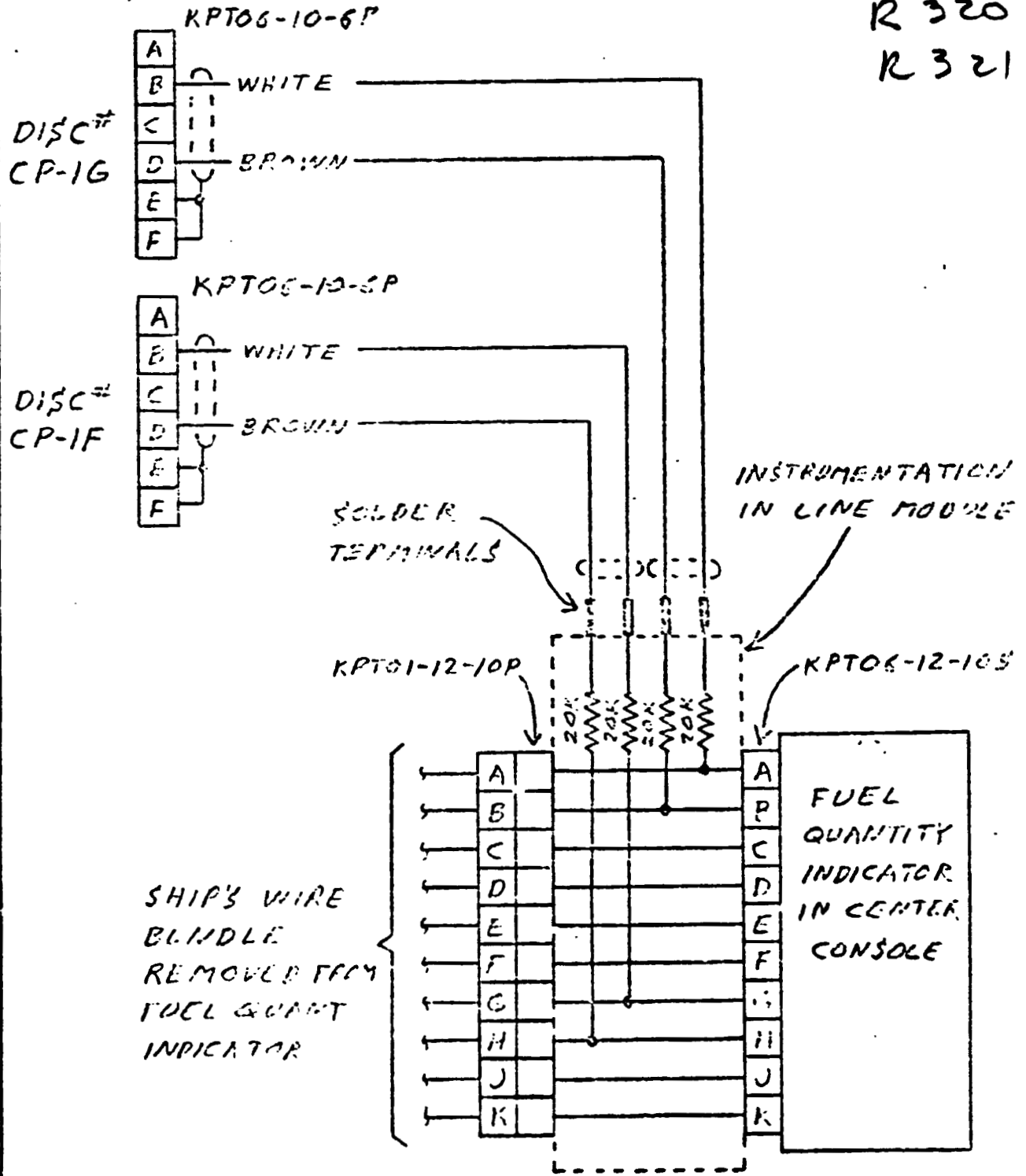
FUEL QUANTITY WIRING

REV A
9.10.72
12-17-76

ORIGINAL PAGE IS
OF POOR QUALITY

J-BOX CP-1

R 320
R 321



7812 9845REV 106

BY A. WHITEHEAD

BELL HELICOPTER COMPANY

MODEL 301

PAGE 1 OF 2

CHECKED A. SWI

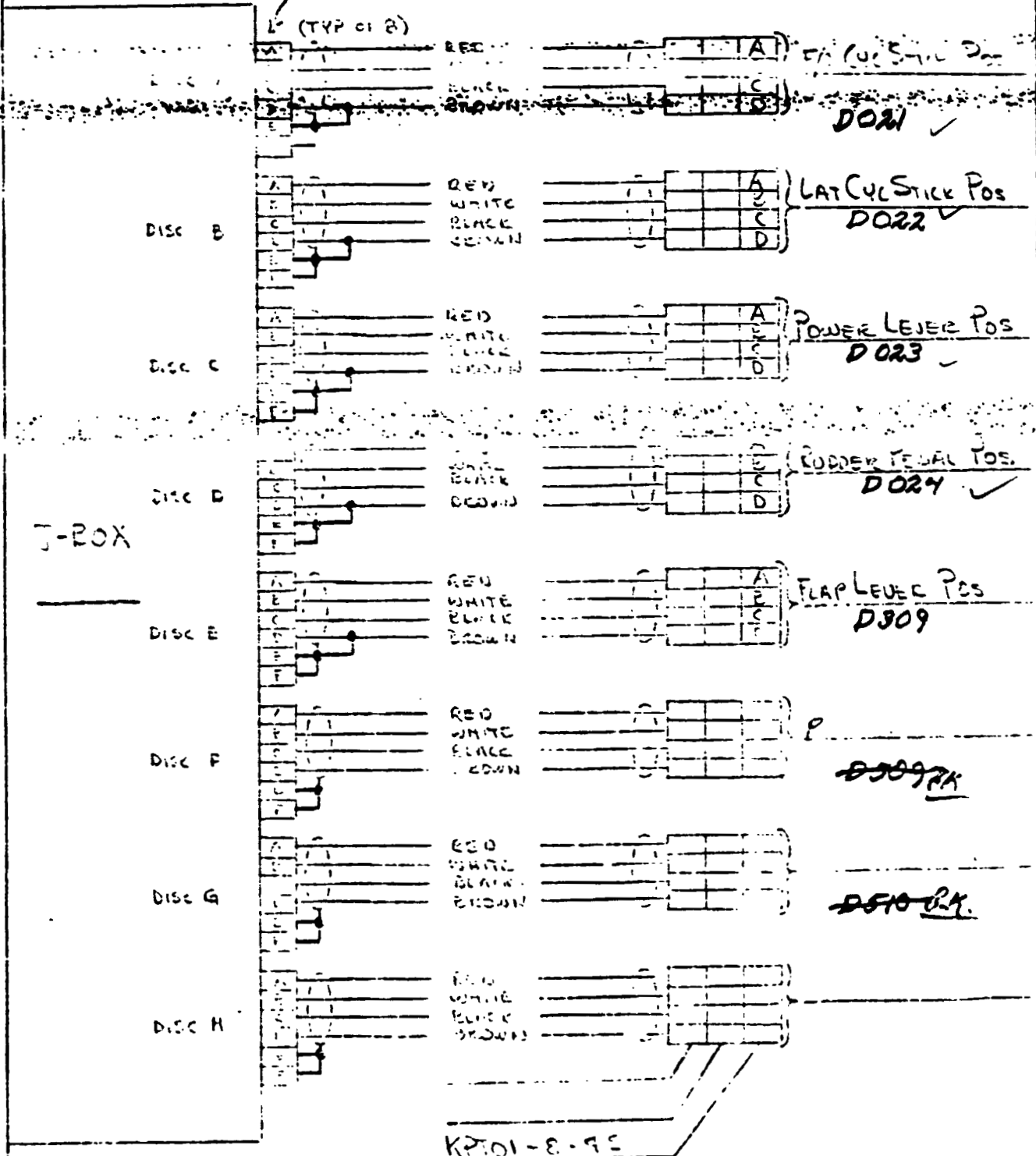
HELI. 142 RPT SKA 8V04373-1

ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HINGES

J-Box LOCATION CP-2

KPT06-10-6P



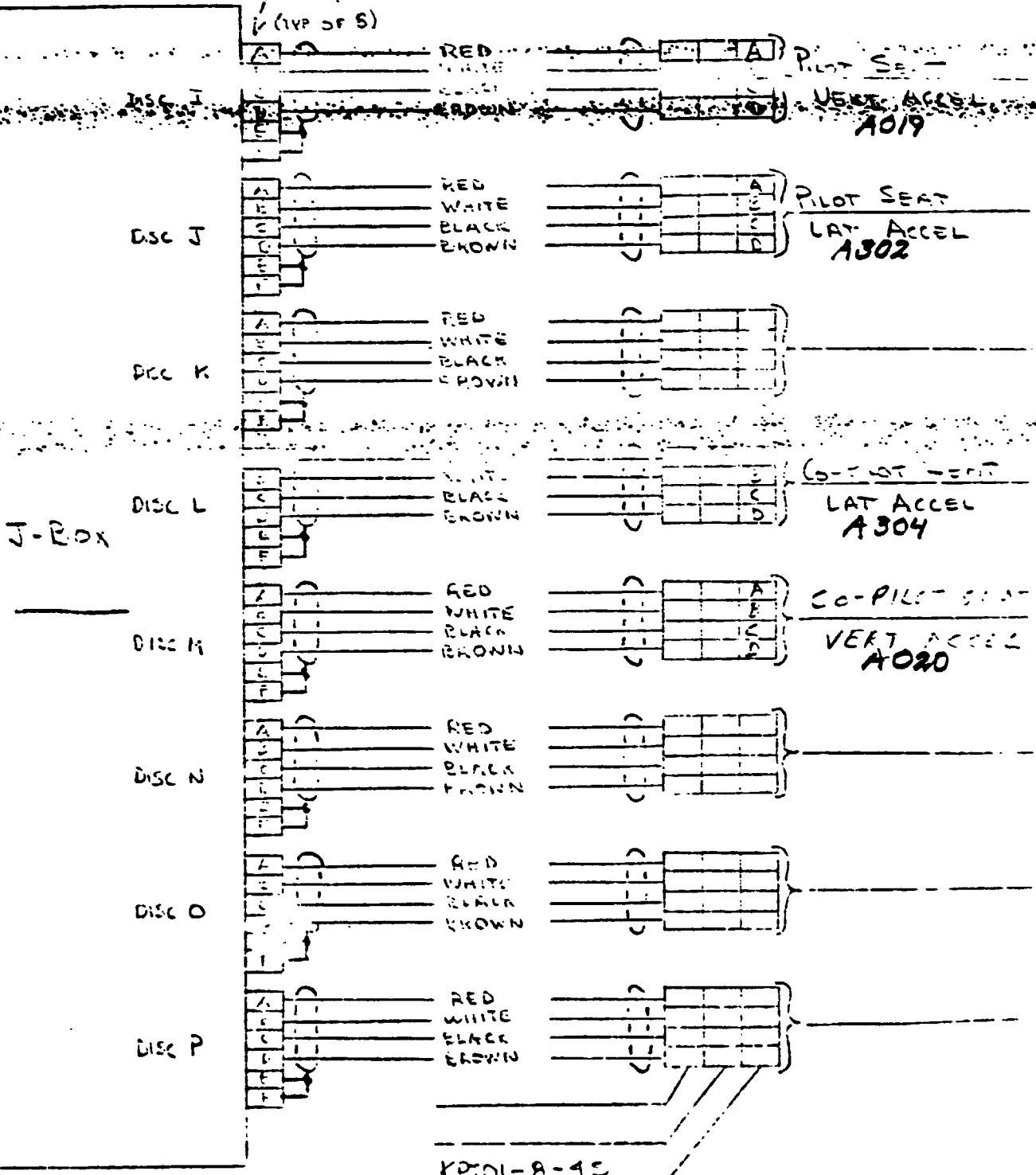
KPT01-8-75

ORIGINAL PAGE IS OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION CP-2

KPTOG-10-6P



BELL HELICOPTER COMPANY
 AUTHORITY FOR CHANGE
 CODE IDENT. NO. 97409
 P.C.A. NO.
 W.A. NO. A427-10
 L.E.T.A.R. NO. DIN 695029

ENGINEERING ORDER

CHANGE
 RELEASE
 PROCESS
 TEST
 HES

SER. NO. 301 HES 60 SHEET 1
 CLASS OF CHANGE ED RELEAS LTR. CF
 ENG'R'S WORK ORDER

REASON: 3 AXIS ACCELEROMETER MOUNT FOR MODEL 301 (XV-15) VIBRATION

DRAWINGS AFFECTED DRAWING CHANGE LTR. (ED NOT INCOMP. ED INCOMP.) DRAWING TITLE

1) PLEASE FABRICATE 12 ACCELEROMETER MOUNTS PER ATTACHED SHEET (219 HES 311).
 2) DIMENSIONS ARE STATED AS INCHES.
 3) UPON COMPLETION, PLEASE DELIVER TO:
A.S. WHITENER X 4832

~~A302~~
~~A301~~
~~A300~~
~~A005~~
~~A150~~
~~A151~~
~~A152~~
~~A175~~
~~A176~~
~~A177~~
~~A302~~
~~A304~~
~~A620~~

DEPT 80
 PLANT # 6

- 1) MARK EACH PIECE 301 HES 60
- 1) Rt. Pylon (Vent, Lat + F/A) 9/27/76 Complete AtW 12-10-76
- 2) Lt. Pylon (Vent, Lat, F/A) 9/27/76 Complete AtW 12-10-76
- 3) Co-Pylon (Vent + Lat) 9/27/76 Complete AtW 12-21-76
9/27/76 Incomplete AtW 12-10-76
- 4) Pylon (Vent + Lat) 9/27/76 Complete AtW 12-27-76
9/27/76 Incomplete AtW 12-10-76
- 5) C.G. (Vent, Lat, F/A) 9/27/76 Complete AtW 12-10-76

STATUS	PART/ASSY NO.	ADD.	REM.	CHG.	ENGINEERING DISPOSITION	
SIGNATURE	DATE	SIGNATURE	DATE	SIGNATURE	DATE	
PREPARED BY		STRUCTURES		MET. DES.		
GROUP ENG'R		CUSTOMER		WEIGHTS		
CHECKED BY		D.E.R.		PROJ. ENG.		
MANUFACTURING EFFECTIVITY			ENGINEERING EFFECTIVITY			ORIGINAL PAGE IS OF POOR QUALITY
RELEASE INFORMATION	CHANGE	CHANGE	MFG.	ENGR.		

IDENT. NO. 87499
IDENTITY FOR CHANGE

A. NO.

W.A. NO.

LET. R. NO. (11)

REASON:

- CHANGE
- RELEASE
- PROCESS

- TEST
- HES

CLASS OF CHANGE

ED. NO. ISSUE LTM.

OF

ENC'G WORK ORDER

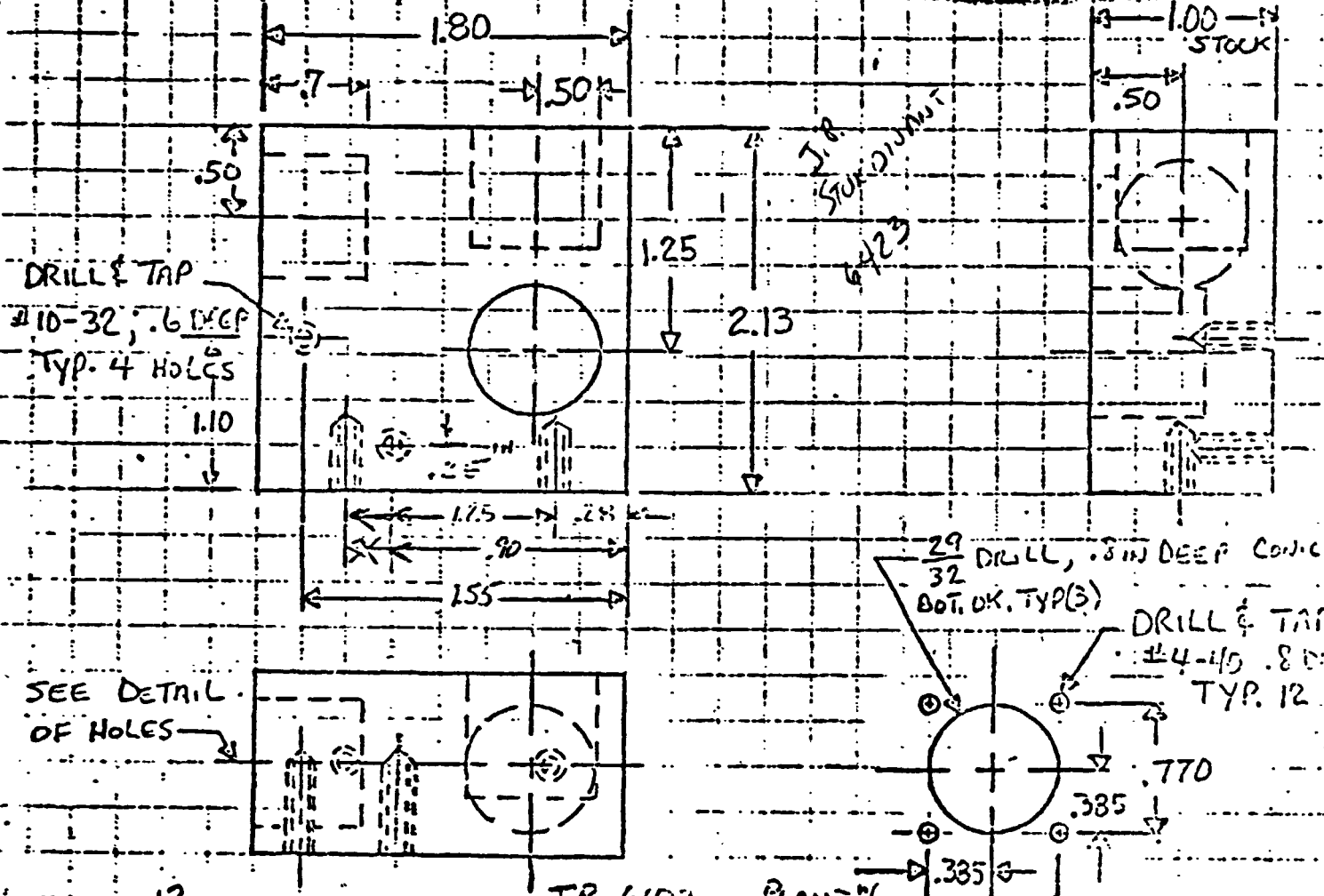
3 AXIS ACCELEROMETER MOUNT FOR VIBRATION SURVEY

DRAWINGS AFFECTED

DRAWING CHANGE LTR.
ED NOT INCORP. ED INCORP.

DRAWING TITLE

FOR REFERENCE



MAKE: ¹² DELIVERY TO A. WHITENER 4882 TP 6102 PLANTING
 MATERIAL: 2024 AL. ALY. OR EQUIV.
 SURFACE FINISH: PAINT INTL. ORANGE

DETAIL OF HOLES

STATUS	PART/ASSY NO	ADD.	REM.	CHG.	ENGINEERING DISPOSITION	
SIGNATURE	DATE	SIGNATURE		DATE	SIGNATURE	DATE
PREPARED BY: H. H. H. H.	7-1-77	STRUCTURES			MET. DES.	
GROUP ENGR:		CUSTOMER			WEIGHTS	
CREATED BY: D. D. S.		D.E.R.			PROJ. ENG.	
ACTUATING EFFECTIVITY: NONE				ENGINEERING EFFECTIVITY: NONE		
						ORIGINAL PAGE IS OF POOR QUALITY

ENGINEERING ORDER

CODE IDENT. NO. 97499
 AUTHORITY FOR CHANGE
 P.C.A. NO.
 E.W.A. NO. **A438**
 L.E.T.A.R. NO.

CHANGE
 RELEASE
 PROCESS

TEST
 HES

SER. NO. **301 HES 121** SHEET **1**
 CLAS. OF CHANGE ED REVIS. LTR. OF **5**
 ENG'R'G WORK ORDER

REASON: **STICK POSITION BRACKET FOR 301 SHIP #1 & #2**

DRAWINGS AFFECTED	DRAWING CHANGE LTR.		DRAWING TITLE
	ED NOT INCORP.	ED INCORP.	

D.021
D.022

PLEASE FABRICATE 2 SETS
OF PARTS. REQ'D 1-6-76

1-9-76
Comp
1-13-76

STATUS	PART/ASS'Y NO.	A.D.D.	REM.	CHG.	ENGINEERING DISPOSITION			
SIGNATURE	DATE	SIGNATURE		DATE	SIGNATURE		DATE	
PREPARED BY <i>WINNIFORD</i>	<i>1-4-77</i>	STRUCTURES			MET. DES.			
GROUP ENGR <i>[Signature]</i>	<i>1-5-77</i>	CUSTOMER			WEIGHTS			
CHECKED BY <i>[Signature]</i>	<i>1-5-77</i>	D.E.R.			PROJ. ENG. <i>[Signature]</i>		<i>1-5-77</i>	
MANUFACTURING EFFECTIVITY					ENGINEERING EFFECTIVITY			
					ORIGINAL PAGE IS OF POOR QUALITY			

ENGINEERING ORDER

CODE IDENT. NO. 97499
 AUTHORITY FOR CHANGE
 P.C.A. NO.
 E.W.A. NO. **A438**
 L.E.T.A.R. NO.

- CHANGE
 RELEASE
 PROCESS
- TEST
 HES

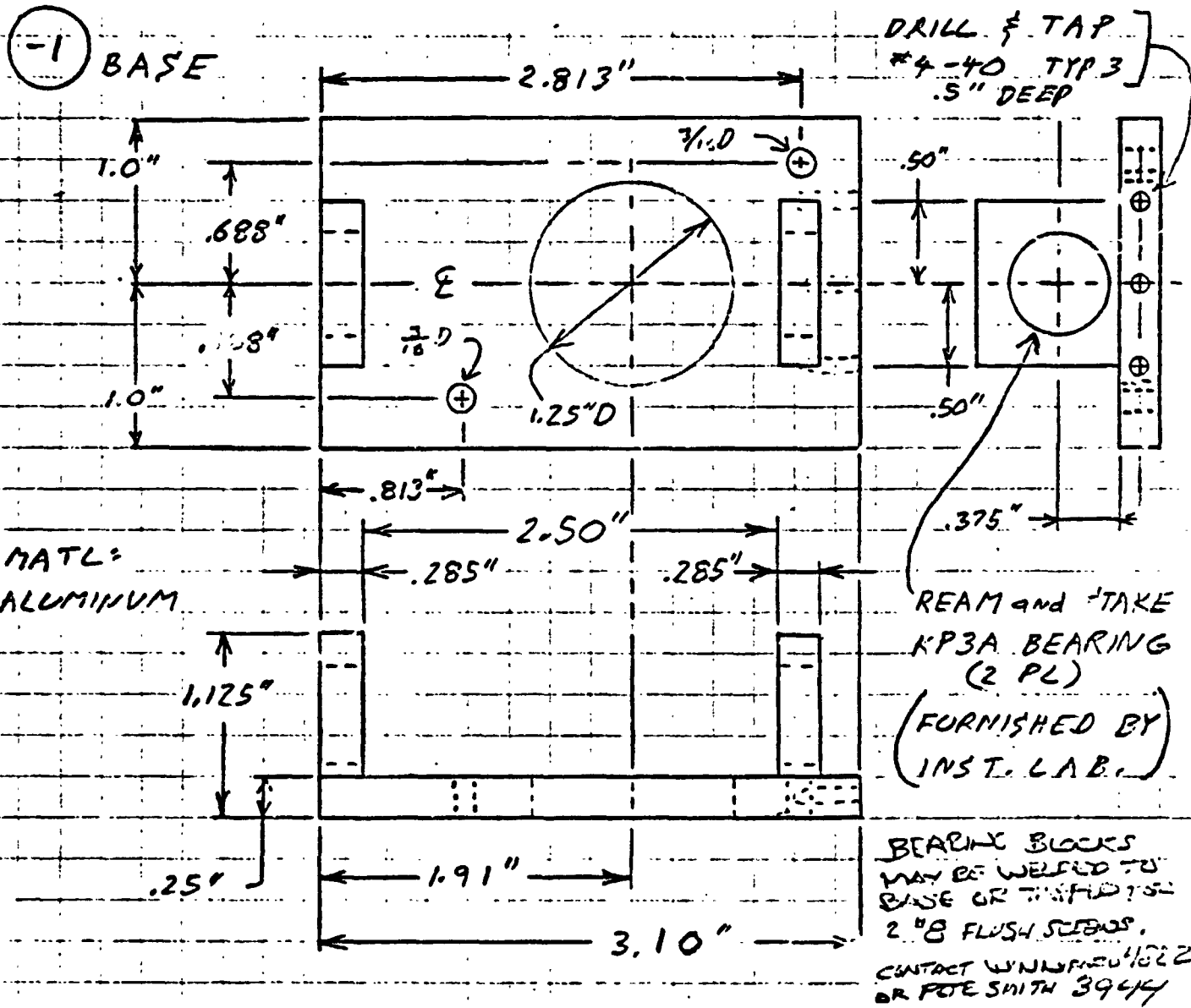
SER. NO. _____ SHEET **2**
 CLASS OF CHANGE _____ EQ RESERVE LTR. OF **5**
 ENGR'G WORK ORDER

REASON: **STICK POSITION BRACKET FOR 301 SHIP #1 & #2**

DRAWINGS AFFECTED

DRAWING CHANGE LTR.
 DO NOT INCORP. DO INCORP.

DRAWING TITLE



STATUS	PART/ASS'Y NO.	ADD.	REM.	CHG.	ENGINEERING DISPOSITION
--------	----------------	------	------	------	-------------------------

SIGNATURE	DATE	SIGNATURE	DATE	SIGNATURE	DATE
PREPARED BY <i>WINNIFORD</i>	1-4-77	STRUCTURES		MET. DES.	
GROUP ENGR		CUSTOMER		WEIGHTS	
CHECKED BY <i>[Signature]</i>	1-5-77	D.E.R.		PROJ. ENG. <i>[Signature]</i>	15-

MANUFACTURING EFFECTIVITY _____ ENGINEERING EFFECTIVITY _____

ORIGINAL PAGE IS OF POOR QUALITY

ENGINEERING ORDER

CODE IDENT. NO. 97499
 AUTHORITY FOR CHANGE
 P.C.A. NO.
 E.W.A. NO. **A438**
 L.E.T.A.R. NO.

- CHANGE
- RELEASE
- PROCESS
- TEST
- HES

SER. NO. _____ SHEET **3**
 CLASS OF CHANGE _____ ED REISSUE LTR. _____ OF **5**
 ENG'R'G WORK ORDER

REASON: **STICK POSITION BRACKET FOR JOI SHIP #1 & #2**

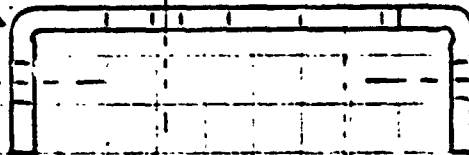
DRAWINGS AFFECTED

DRAWING CHANGE LTR.
 ED NOT INCORP. ED INCORP.

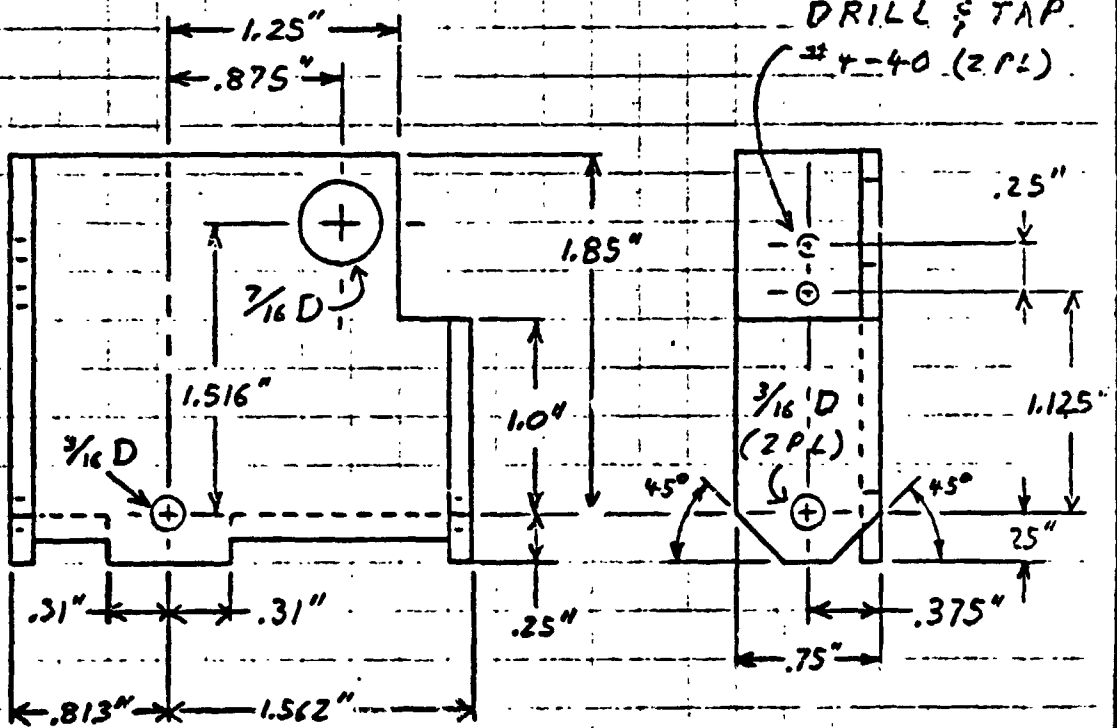
DRAWING TITLE

-2 SHELL

MIN. BEND RADIUS



MATERIAL:
0.10 ALUMINUM



STATUS	PART/ASS'Y NO.	ADD.	REM.	CHG.	ENGINEERING DISPOSITION	
SIGNATURE	DATE	SIGNATURE		DATE	SIGNATURE	DATE
PREPARED BY WINNIFORD	1-7-77	STRUCTURES			MET. DES.	
GROUP ENG'R		CUSTOMER			WEIGHTS	
CHECKED BY [Signature]	1-5-77	D.E.R.			PROJ. ENG. [Signature]	1-5-77
MANUFACTURING EFFECTIVITY				ENGINEERING EFFECTIVITY		
ORIGINAL PAGE IS OF POOR QUALITY						

ENGINEERING ORDER

CODE IDENT. NO. 97499
 AUTHORITY FOR CHANGE
 P.C.R. NO.
 E.W.A. NO. A455
 L.E.T.A.R. NO.

- CHANGE
- RELEASE
- PROCESS
- TEST
- HES

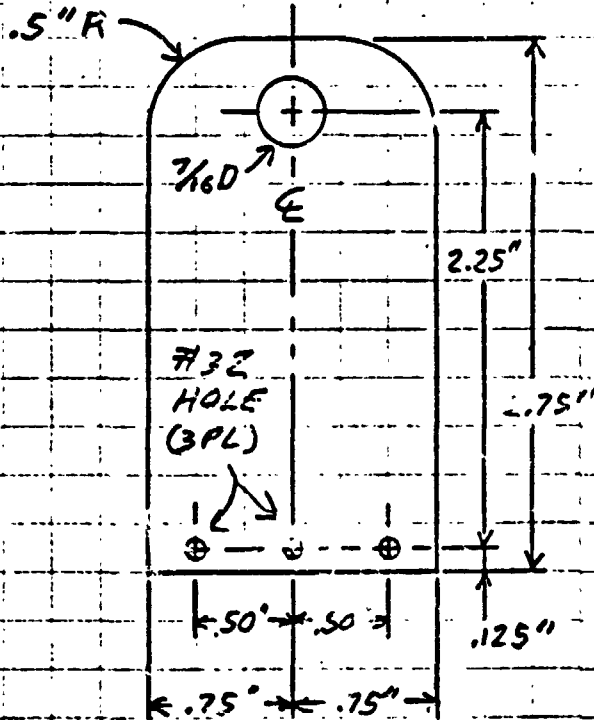
SER. NO. _____ SHEET **4**
 CLASS OF CHANGE _____ SO REVERSE LTR. _____ OF **5**
 ENG'R'G WORK ORDER

REASON: STICK POSITION BRACKET FOR 301 SHIP #1 & #2

DRAWINGS AFFECTED _____ DRAWING CHANGE LTR. SO NOT INCORP. SO INCORP. _____ DRAWING TITLE _____

-3 BRACKET

MATERIAL:
 0.10 ALUMINUM



STATUS	PART/ASS'Y NO.	ADD.	REM.	CHG.	ENGINEERING DISPOSITION	
SIGNATURE	DATE	SIGNATURE	DATE	SIGNATURE	DATE	
PREPARED BY WINNIFORD	1-4-77	STRUCTURES		MET. DES.		
GROUP ENG'R		CUSTOMER		WEIGHTS		
CHECKED BY <i>[Signature]</i>	1-5-77	D.E.R.		PROJ. ENG. <i>[Signature]</i>	1-5-77	
MANUFACTURING EFFECTIVITY			ENGINEERING EFFECTIVITY			

**ORIGINAL PAGE IS
 OF POOR QUALITY**

ENGINEERING ORDER

CODE IDENT. NO. 97499

AUTHORITY FOR CHANGE

P.C.A. NO.

E.W.A. NO. **A438**

L.E.T.A.R. NO.

REASON:

STICK POSITION BRACKET FOR 301 SHIP #1 & #2

- CHANGE
- RELEASE
- PROCESS
- TEST
- HES

SER. NO.

SHEET

5

CLASS OF CHANGE

DO CHANGE LTR.

OF

5

ENG'G WORK ORDER

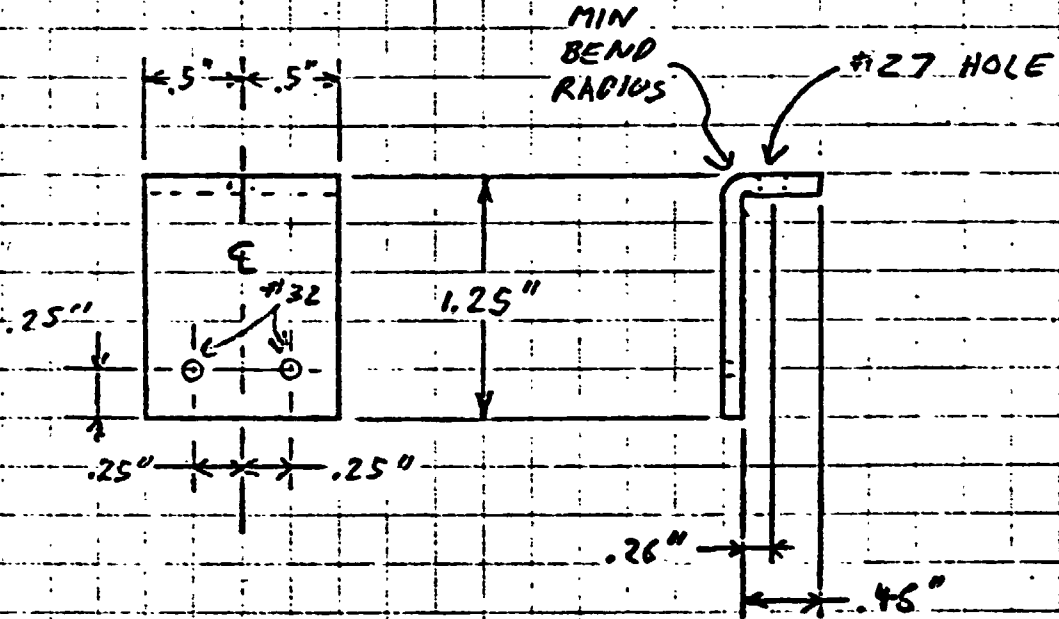
DRAWINGS AFFECTED

DRAWING CHANGE LTR.
EO INST INCORP. DO INCORP.

DRAWING TITLE

(-4) CHANGE

ORIGINAL PAGE IS OF POOR QUALITY



MATERIAL
0.10 ALUMINUM

STATUS	PART/ASS'Y NO.	ADD.	REM.	CHG.	ENGINEERING DISPOSITION	
SIGNATURE	DATE	SIGNATURE	DATE	SIGNATURE	DATE	
PREPARED BY WINNIFORD	1-4-77	STRUCTURES		MET. DES.		
GROUP ENG'R		CUSTOMER		WEIGHTS		
CHECKED BY [Signature]	1-5-77	D.E.R.		PROJ. ENG. [Signature]	1-3-77	
MANUFACTURING EFFECTIVITY			ENGINEERING EFFECTIVITY			
			C-2			

CYCLIC STICK POSITION GEAR/POT ASSY

D.021
D.022

PILOT'S
CYCLIC STICK

ORIGINAL PAGE IS
OF POOR QUALITY

GEAR POT ASSY

(-6) ROD ASSY

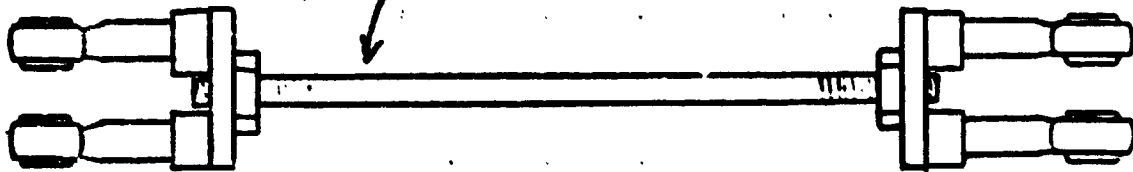
CYCLIC STICK ATTACH
BRACKET TO BE FORMED
ON SHIP. CUT BRACKET FROM
.250" ALUMINUM

(D) 947
COMPLETE
needs (-6) Rod Assy
AW
12-10-76
complete
AW
12-14-76

See ED.#
301 HES 121
12-10-76

(-6) ROD ASSY

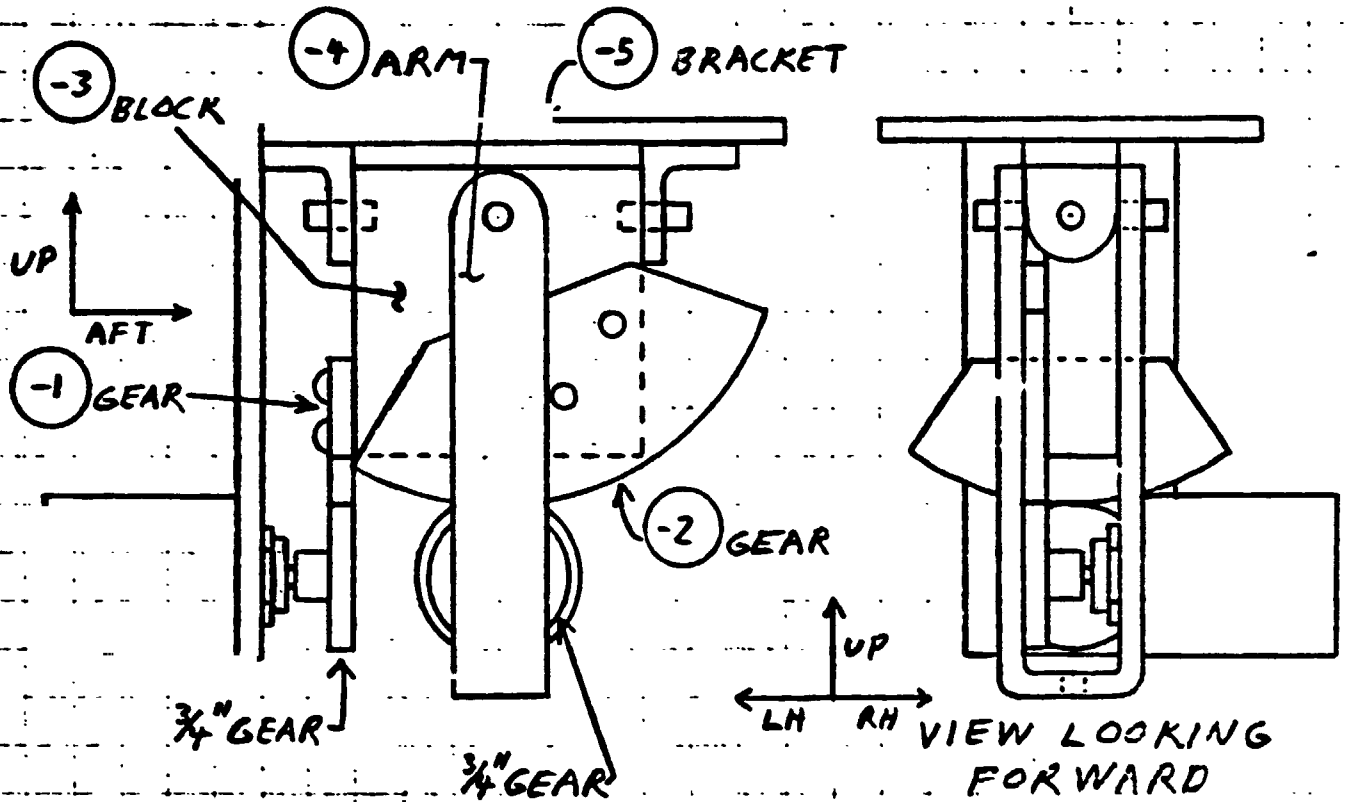
LENGTH TO BE
DETERMINED



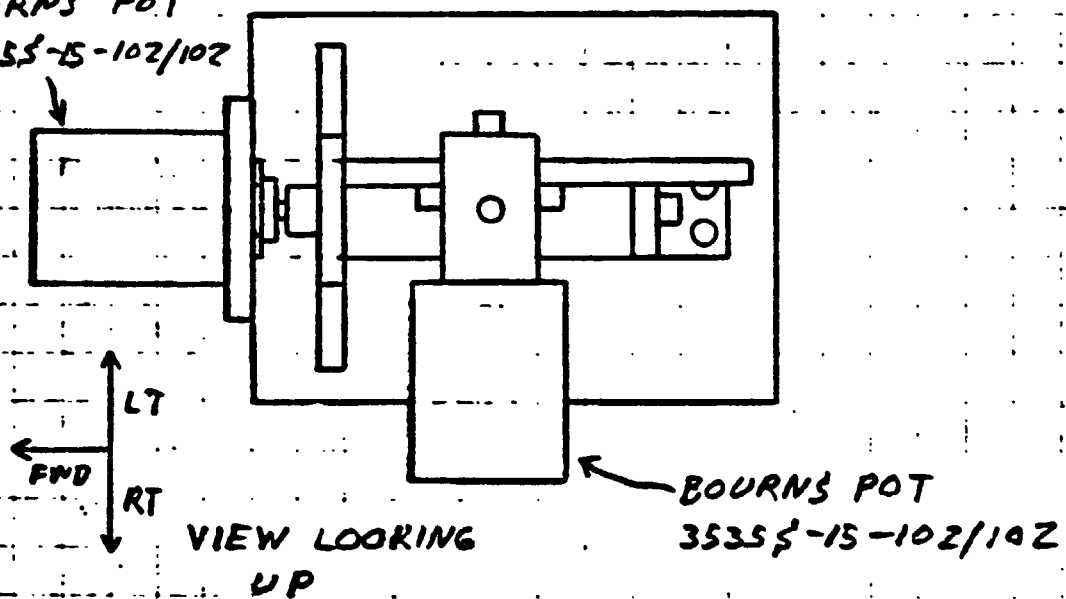
ROD ENDS (4 PL)

CYCLIC STICK POSITION GEAR/POT ASSY

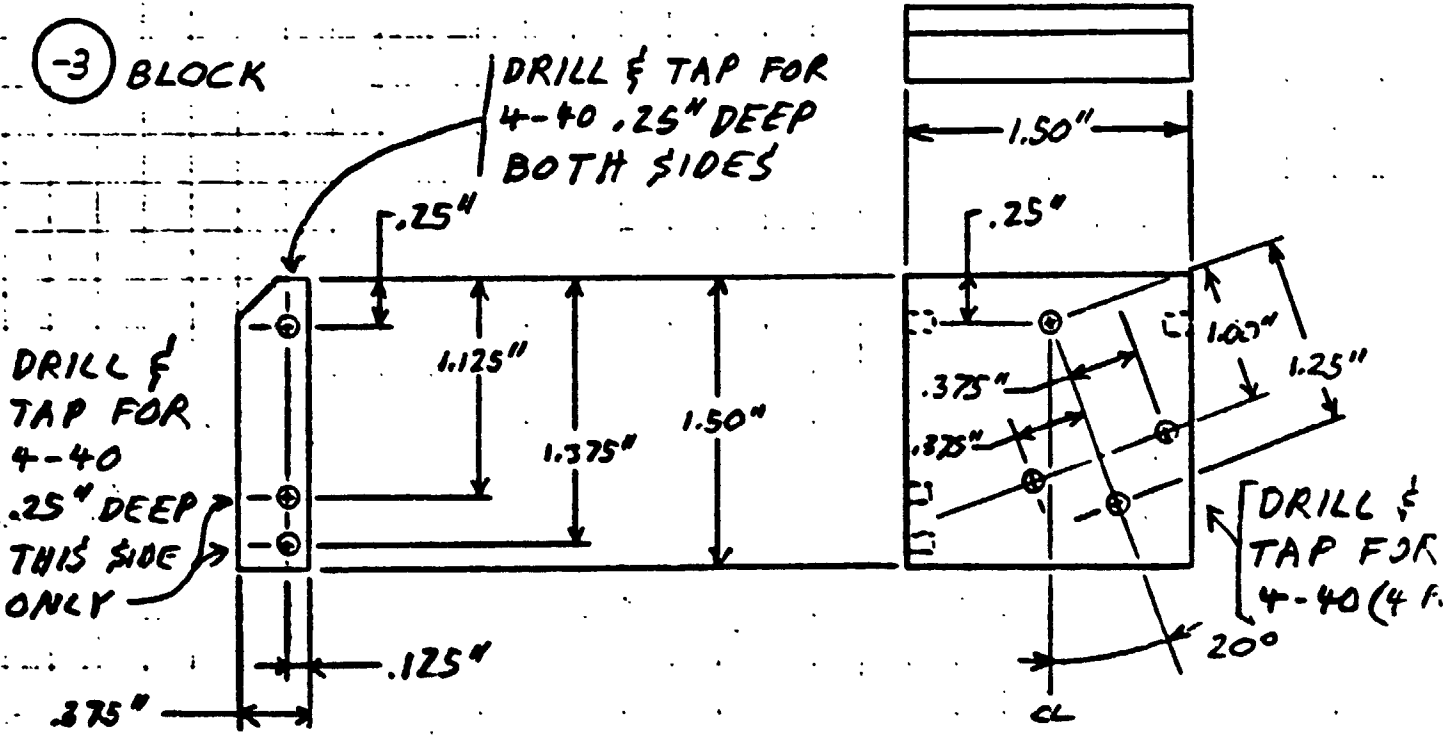
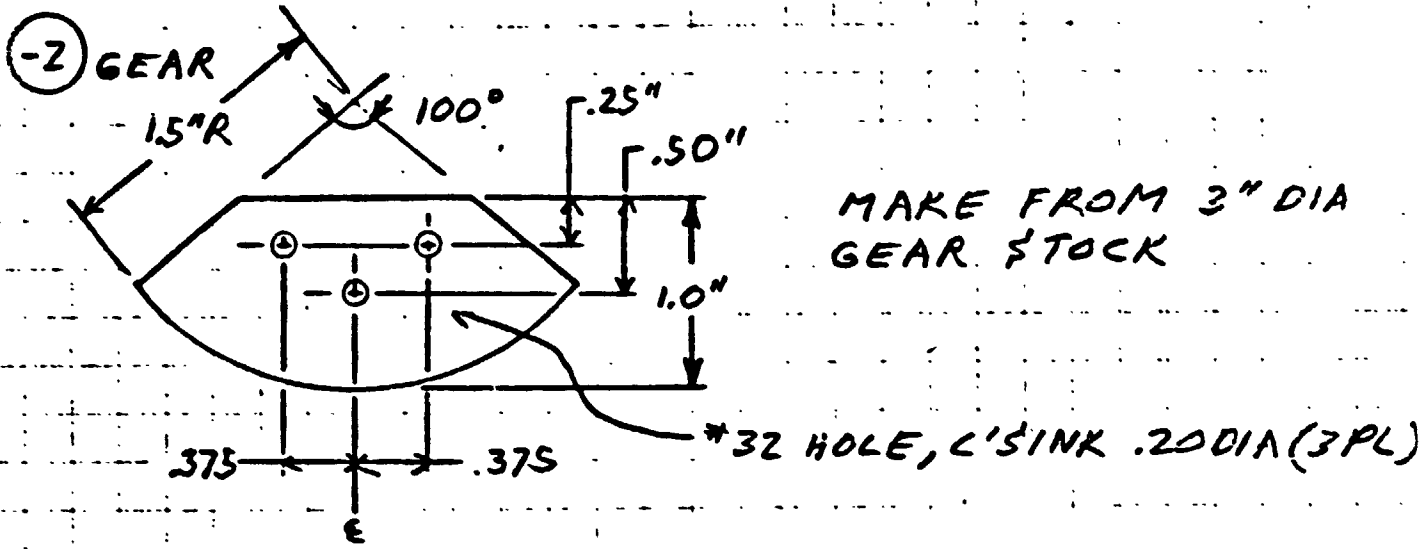
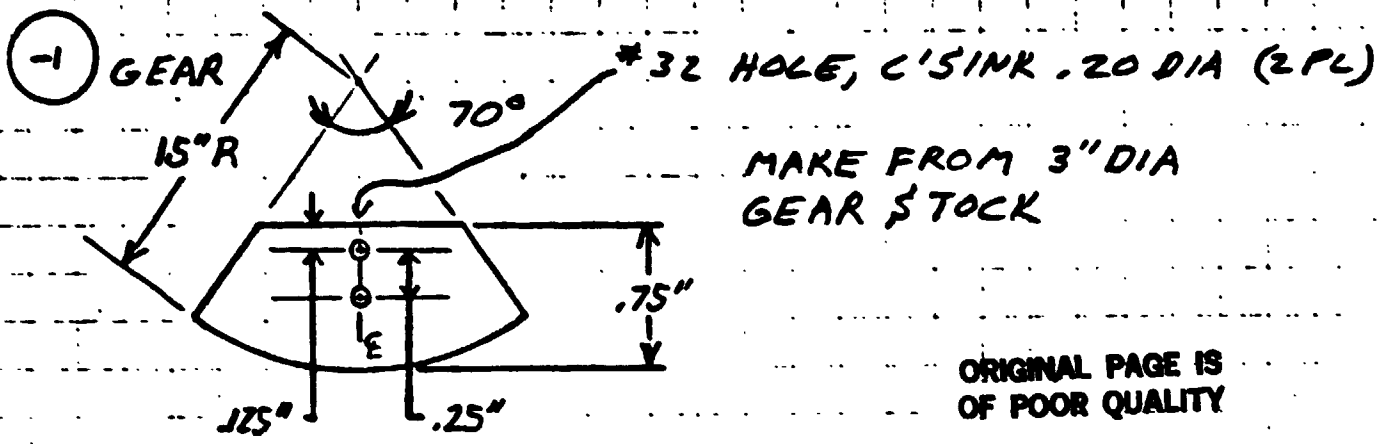
ORIGINAL PAGE IS
OF POOR QUALITY



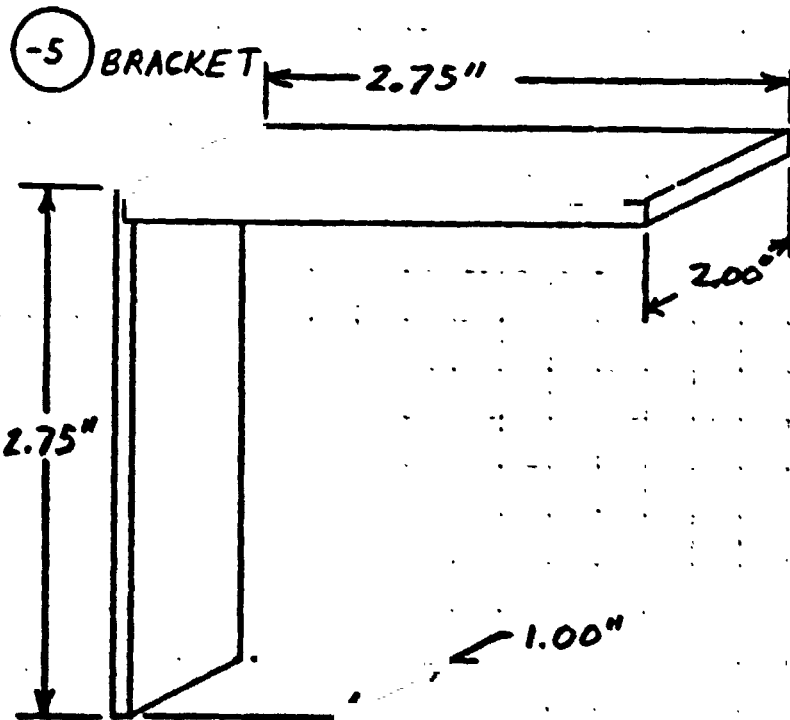
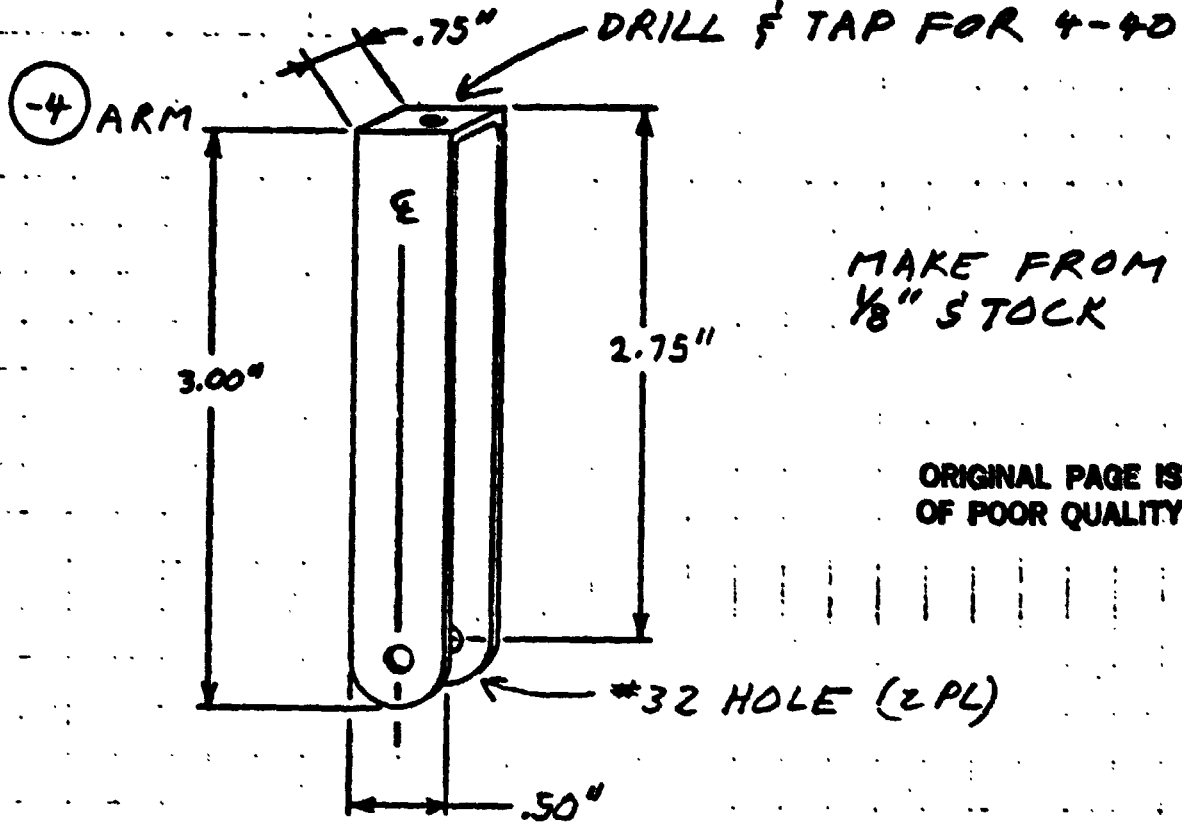
BOURNS POT
35355-15-102/102



CYCLIC STICK POSITION GEAR/POT ASSY



CYCLIC STICK POSITION GEAR/POT ASSY

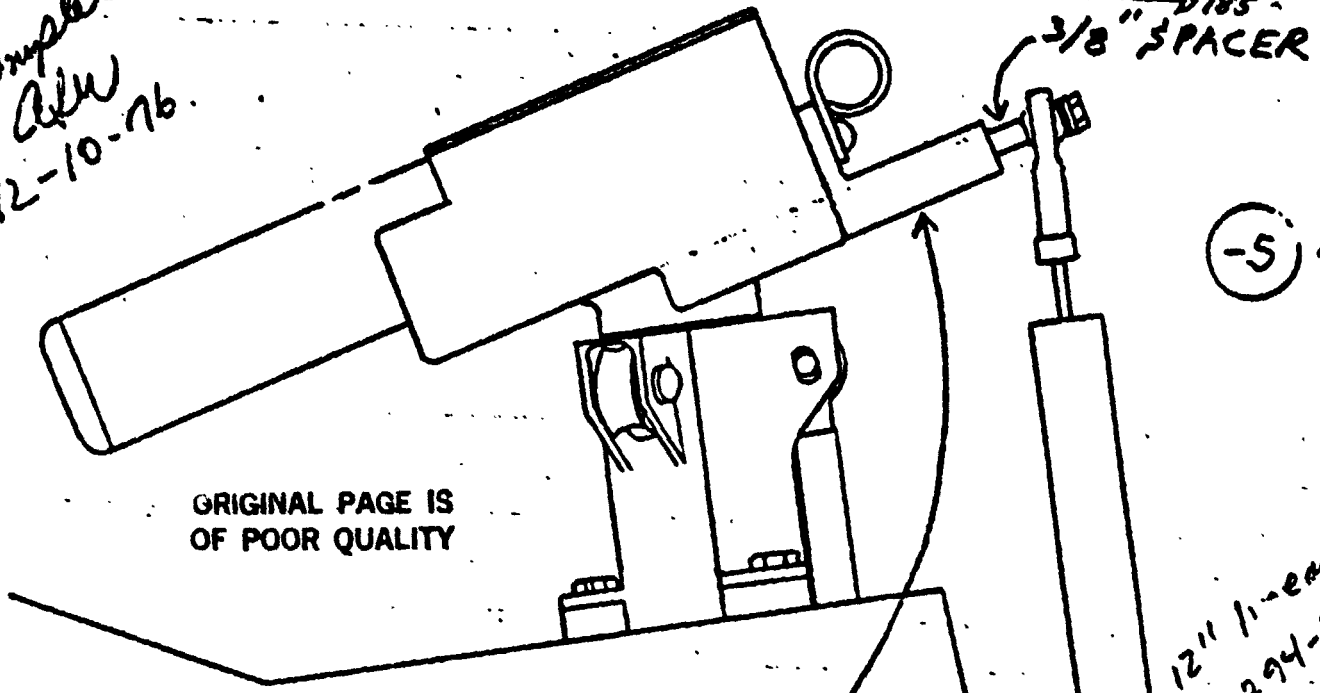


POWER LEVER POSITION POT

~~D378~~
D159
D160
D184
D185

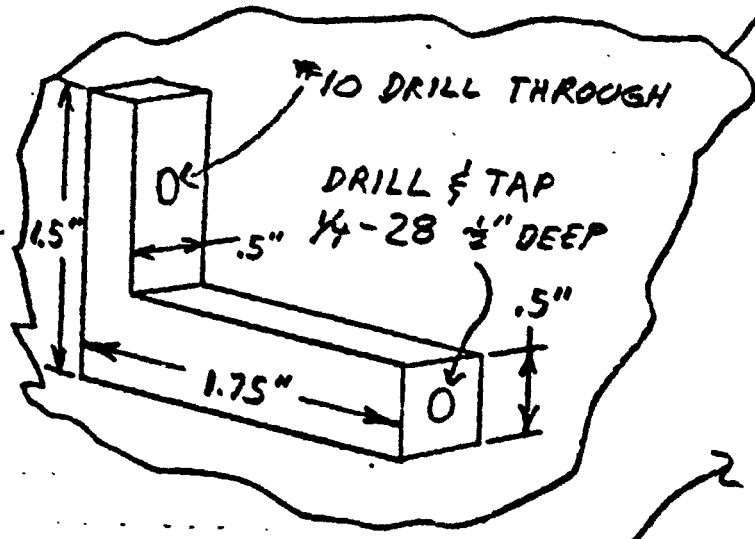
EN 32 047

Complete
ALL
12-10-76.



(-5) 2023

12" linear Pot
80294-200
S/N 75-240



3/8" SPACER

2
LH CONSOLE

HYDRAULIC CYLINDER POSITION BRACKET FOR ELECTRICALLY CONTROLLED ACTUATORS

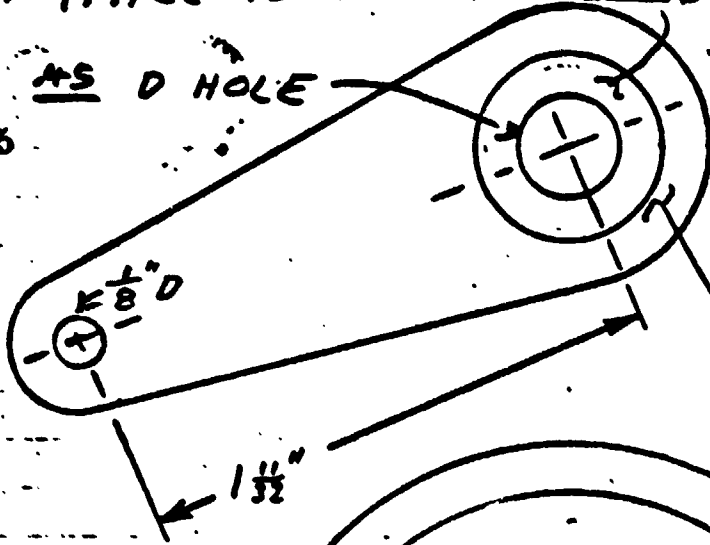
SPOTFACE TO .030 THICK $\frac{20}{32} D$

SKHD6-1-76
REVA. (3)

MS D HOLE

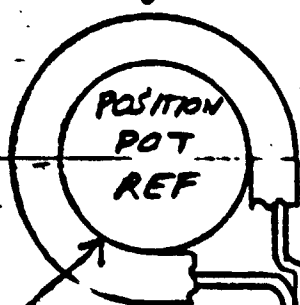
$\frac{1}{8} D$

FABRICATE CYLINDER RO. BRACKET FROM .125 ALUMINUM STOCK



HYDRAULIC CYLINDER (REF)

MS21919-D68 CLAMP



POSITION POT
P/N 80294-
2001841109

REMOVE NAME PLATE FROM THIS SURFACE BEFORE INSTALLING CLAMPS

USE TWO SETS OF CLAMPS $\frac{3}{4}$ " APART TO SUPPORT POT

$\frac{3}{16}$ " WASHER

ORIGINAL PAGE IS OF POOR QUALITY

1) R+L Cyclic Pos 955
2) DIFF. Cyclic Pos 965

5-8
150

947
12-10

HYDRAULIC CYLINDER POSITION BRACKETS

SKHDS-1-76 (2)

(b) 347
complete
CWW
12-10-76
347
incomplete
for Post
CWW
2-10-76

Rt. Swashplate
motion
Lt. Swashplate
motion

Q5-100
STRAP

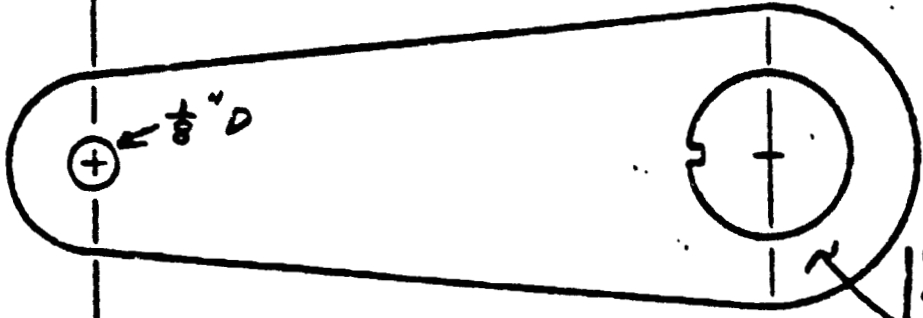
M521919-DGB
CLAMP

POSITION
POT (REF)

FABRICATE
CYLINDER BRACKET
FROM 1/2" OR THICKER
ALUMINUM

ORIGINAL PAGE IS
OF POOR QUALITY

HYDRAULIC
CYLINDER
REF



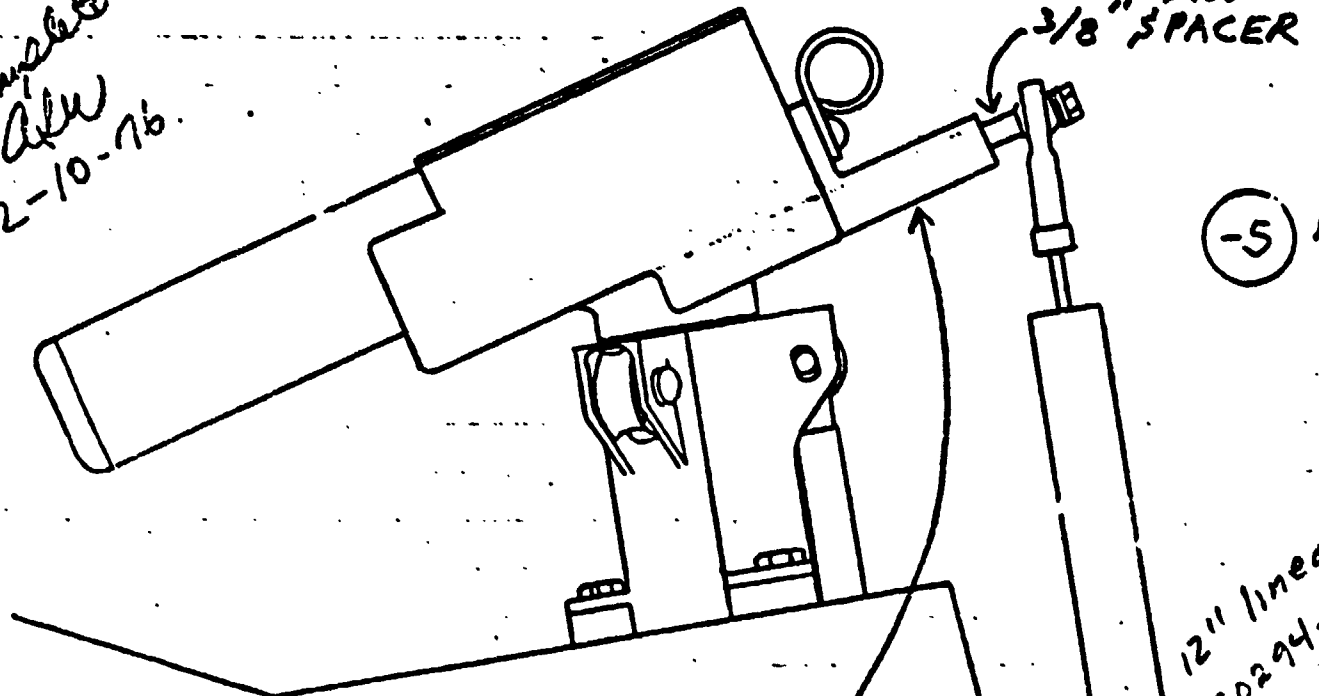
FABRICATE
CYLINDER ROD
BRACKET FROM
.125 ALUMINUM
STOCK

9678 00480

POWER LEVER POSITION POT

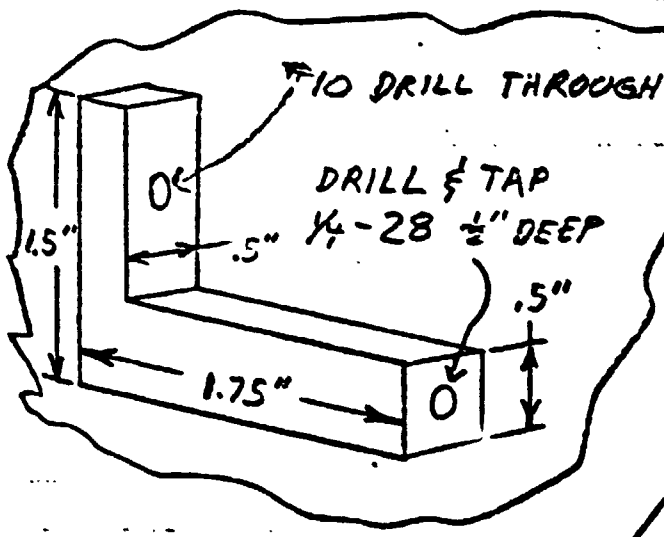
P. 023
D159
D160
D184
D185

947
12-10-76
A/W



(-5) DORE

12" linear Pot
80294-200
S/N 75-24



3/8" SPACER

1/4" CONSOLE

ORIGINAL PAGE IS
OF POOR QUALITY

HYDRAULIC CYLINDER POSITION BRACKET FOR ELECTRICALLY CONTROLLED ACTUATORS

SPOTFACE TO .030 THICK $\frac{29}{32} D$

SKHD6-1-76
REVA. (3)

MS D HOLE

$\frac{1}{8} D$

FABRICATE
CYLINDER ROD
BRACKET FROM
.125 ALUMINUM
STOCK

ORIGINAL PAGE IS
OF POOR QUALITY

HYDRAULIC
CYLINDER
(REF)

MS21919-D68
CLAMP

POSITION
POT
REF

REMOVE NAME
PLATE FROM
THIS SURFACE
BEFORE
INSTALLING
CLAMPS

MS21919-D62
CLAMP

USE TWO SETS OF
CLAMPS $\frac{3}{4}$ " APART
TO SUPPORT POT

POSITION POT
P/N 80294-
2001841109

$\frac{3}{16}$ " WASHER

1) R+L Cyclic Pos 955
Completed 12-21-76

2) DIFF. C.F.C. Washbu+
ACT. Pos 965
Completed 12-77

58
100

947
Completed
12-10-77

BY H.D. WINNIFORD

BELL HELICOPTER COMPANY
POST OFFICE BOX 482 • POST OFFICE STATION

MODEL 301 PAGE _____

CHECKED _____

RPT SHIP #1

HYDRAULIC CYLINDER POSITION BRACKETS

SKHDS-1-38-2

947
Complete
Crew
2-10-76
947
Incomplete
to Part
Add
12-10-76

Rt. SWASHPLATE POSITION

Lt. SWASHPLATE POSITION

Q5-100 STRAP

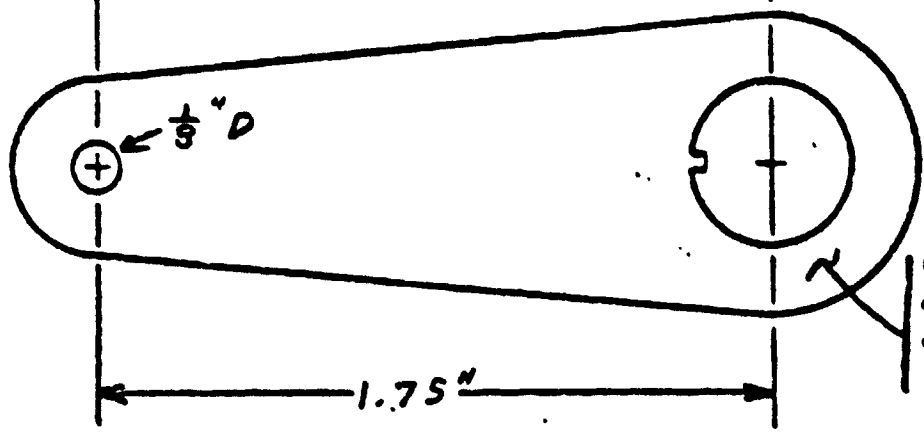
MS21919-DG8 CLAMP

POSITION POT (REF)

FABRICATE CYLINDER BRACKET FROM 1/2" OR THICKER ALUMINUM

HYDRAULIC CYLINDER REF

ORIGINAL PAGE IS OF POOR QUALITY



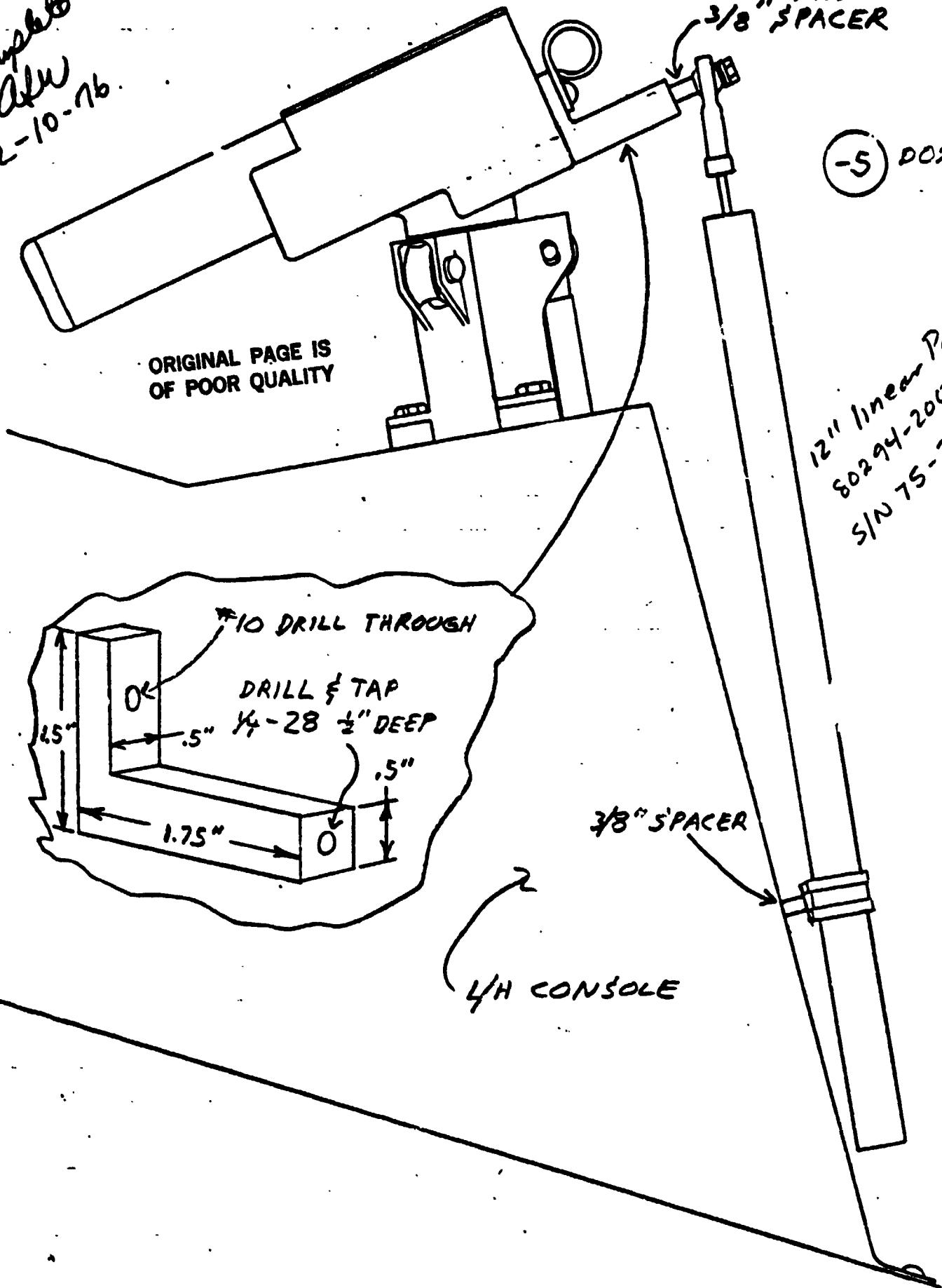
7075 0408

POWER LEVER POSITION POT

D023 -
D318 -
~~D184 -~~
~~D185 -~~

947
Complete
ALW
12-10-76

(-5) D023

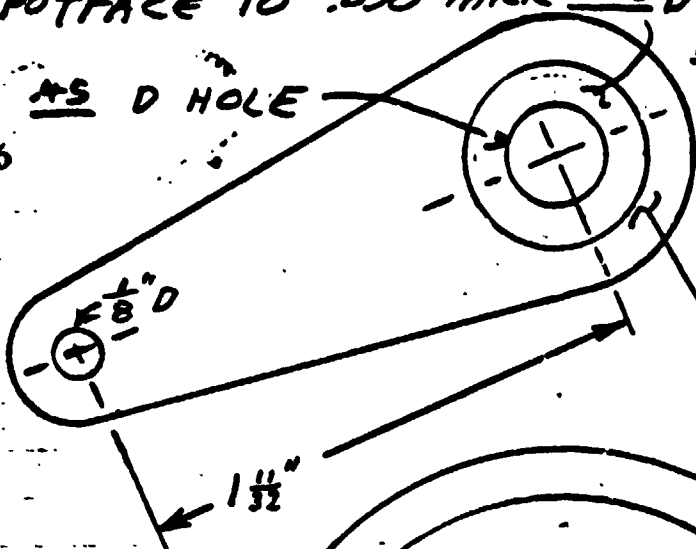


HYDRAULIC CYLINDER POSITION BRACKET FOR ELECTRICALLY CONTROLLED ACTUATORS

SPOTFACE TO .050 THICK $\frac{20}{32} D$

SKHD6-1-76
REVA
-3

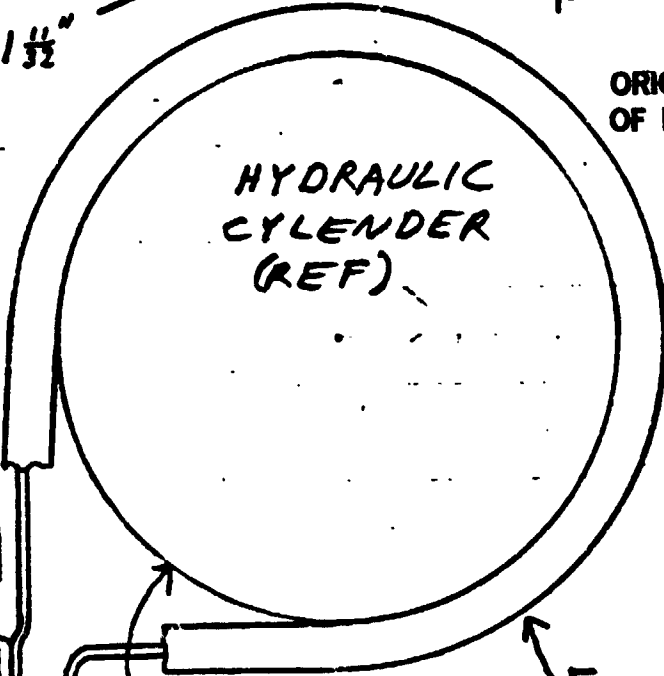
- 1) R+L Cyclic Pos 955
Completed 2-21-76
- 2) DIFF. ACT. Pos 965
Completed 1-3-77



FABRICATE
CYLINDER ROD
BRACKET FROM
.125 ALUMINUM
STOCK

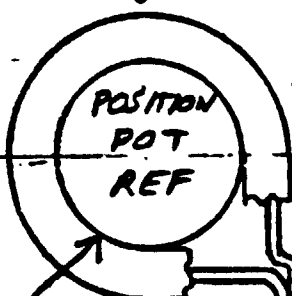
ORIGINAL PAGE IS
OF POOR QUALITY

5-8
135



M521919-D68
CLAMP

947
Completed
12-1-77



POSITION POT
P/N 80294-
2001841109

REMOVE NAME
PLATE FROM
THIS SURFACE
BEFORE
INSTALLING
CLAMPS

M521917-D62
CLAMP

USE TWO SETS OF
CLAMPS $\frac{3}{4}$ " APART
TO SUPPORT POT

$\frac{3}{16}$ " WASHER

BY H.D. WINNIFORD

BELL HELICO TIER COMPANY
POOR QUALITY FOR 002 1001 00010 01000

MODEL 301 PAGE _____

CHECKED _____

RPT. SHIP #1

HYDRAULIC CYLINDER POSITION BRACKETS

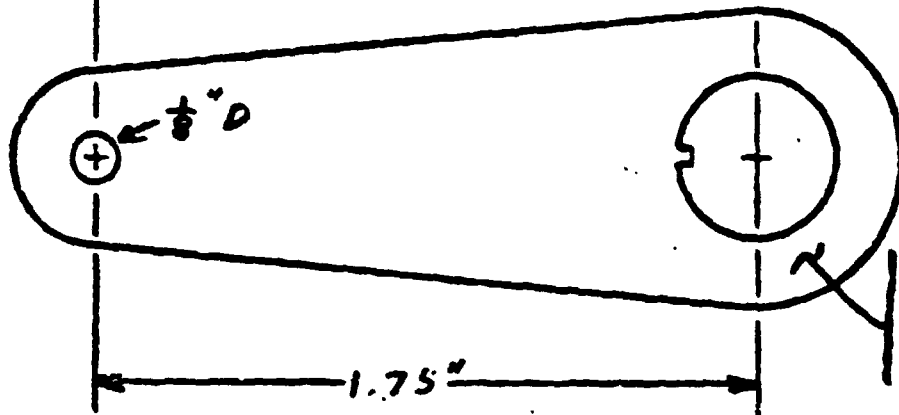
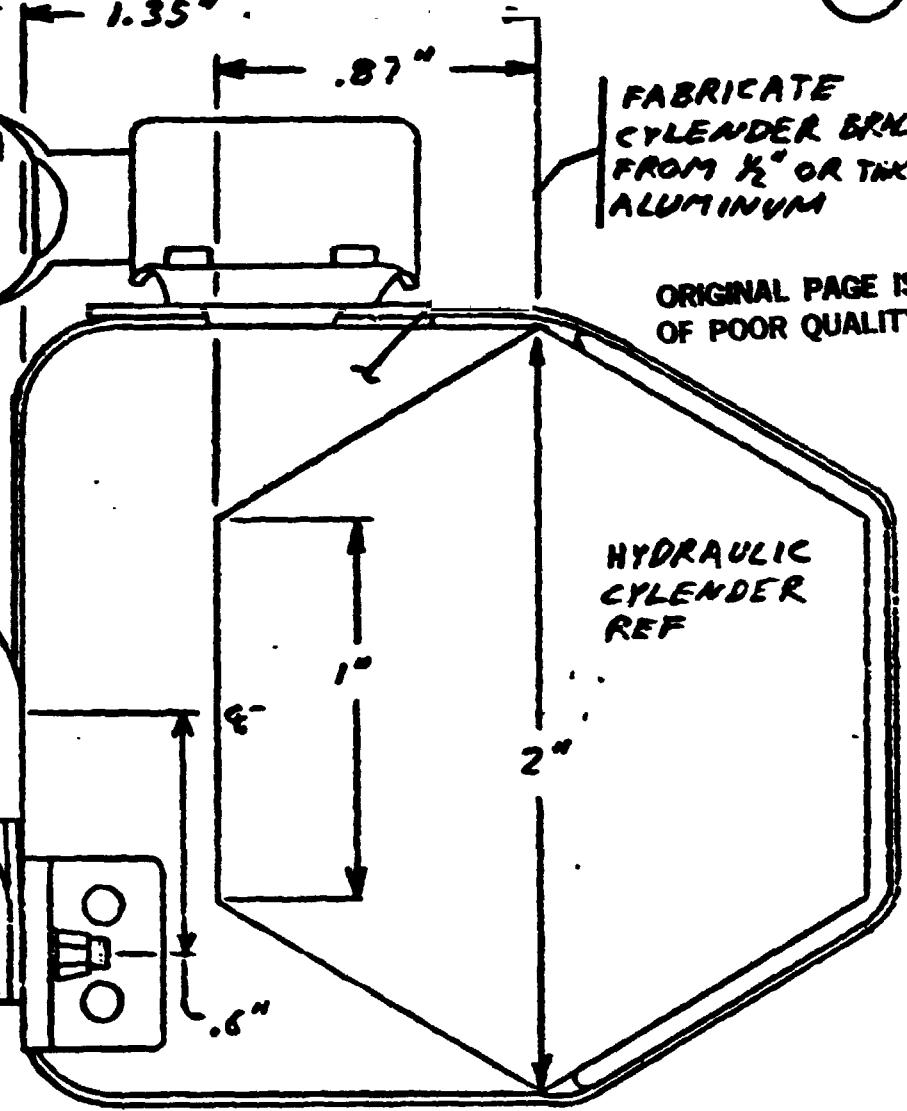
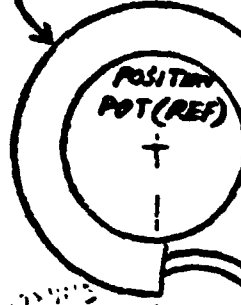
SKADS-1-2 -2

947
Complete
(Adv)
12-10-76
947
Complete
(Adv)
12-10-76

Rt. Swivel
Lt. Swivel

Q5-100
STRAP

M521919-DG8
CLAMP



FABRICATE
CYLINDER ROD
BRACKET FROM
.125 ALUMINUM
STOCK

1079 00000

BY A. WHITENER

Bell Helicopter **TEXTRON**

MODEL 301 PAGE 1062

CHECKED _____

POST OFFICE BOX 400 - FORT BELLEVILLE, ILLINOIS 62204

RPT ASW5577-3

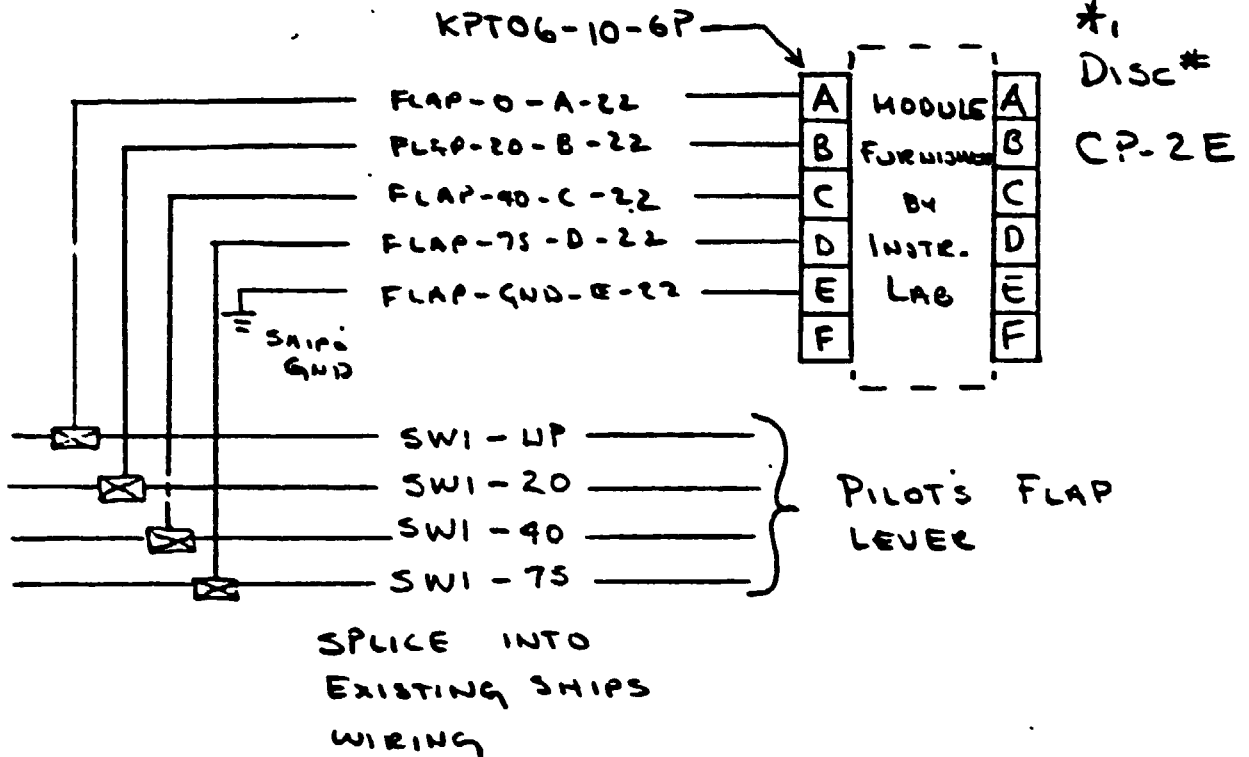
Complete
2-24-77

(17)
(17) 890

D309

PILOT'S FLAP LEVER POS

ORIGINAL PAGE IS
OF POOR QUALITY



*1, CABLE MAY BE ALREADY ROUTED IN SHIP (IT WILL A 4-CONDUCTOR SHIELD) IN THIS CASE USE SHIELD AS GND (PINE) AND RED - WHITE - BLACK - BROWN (GREEN) COLOR TO A - B - C - D PINS IN CONNECTOR

BY A. WHITENEW

Bell Helicopter **TEXTRON**

MODEL 301 PAGE 2 of 2

CHECKED _____

Division of Textron Inc.
POST OFFICE BOX 400 - FORT WORTH, TEXAS 76101

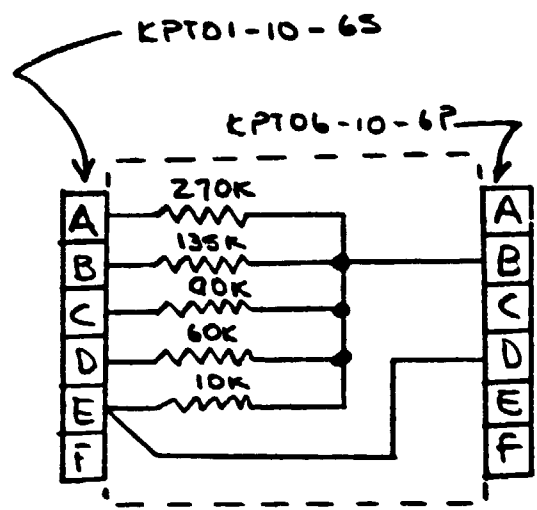
RPT ASW5577-3

AW
Complete
2-24-77
(11) 998

ORIGINAL PAGE IS
OF POOR QUALITY

D301

PILOT'S FLAP LEVER POS ATTEN. MODULE



(-6)

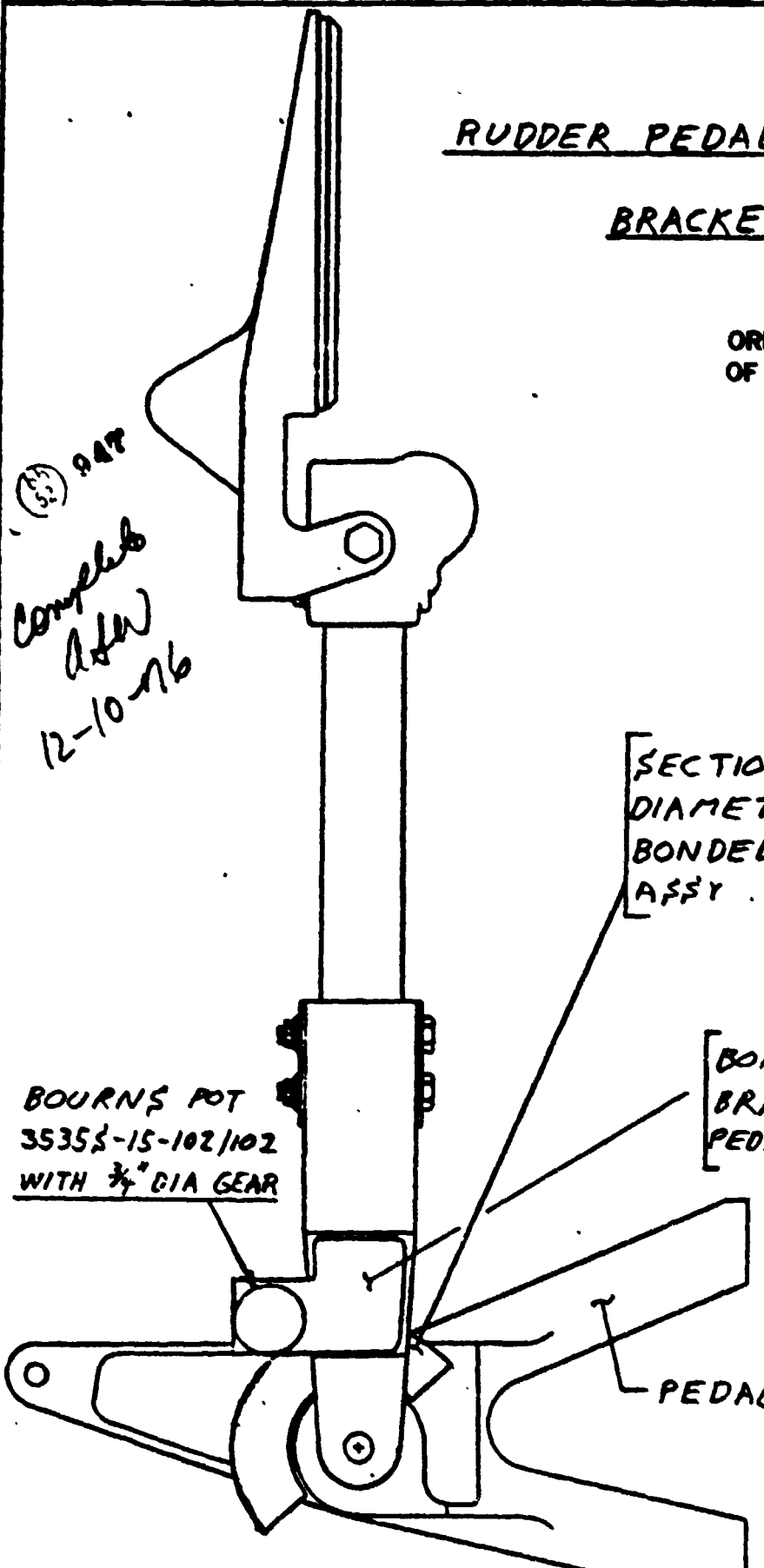
D024

RUDDER PEDAL POSITION

BRACKET

ORIGINAL PAGE IS
OF POOR QUALITY

(53) 942
Completed
ADW
12-10-76



SECTION CUT FROM 3"
DIAMETER GEAR STOCK
BONDED TO PEDAL SUPPORT
ASSY.

BOND POT SUPPORT
BRACKET TO RUDDER
PEDAL LEVER ASSY

BOURNS POT
3535S-15-102/102
WITH 3/4" DIA GEAR

PEDAL SUPPORT ASSY

3544 000000 0000

BY A. WHITENER

BELL HELICOPTER COMPANY

MODEL 301 PAGE 1 of 2

CHECKED RJB

HELI. 1+2 RPT SKASW04379-1

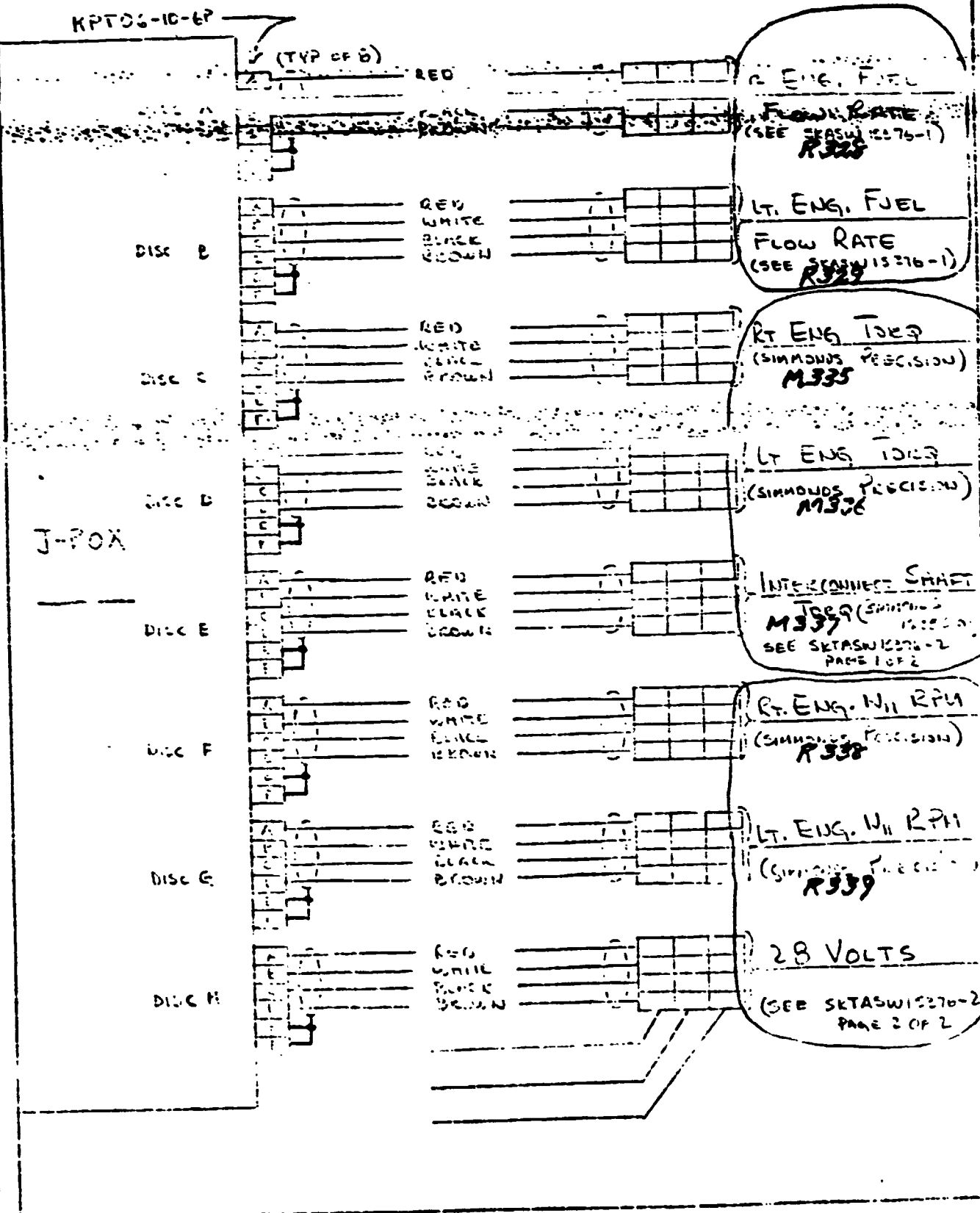
ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION CP-3

KPT06-10-6P

(TYP OF B)



242 SKASW 15276-1

BY A. WHITENER
CHECKED AW

BELL HELICOPTER COMPANY

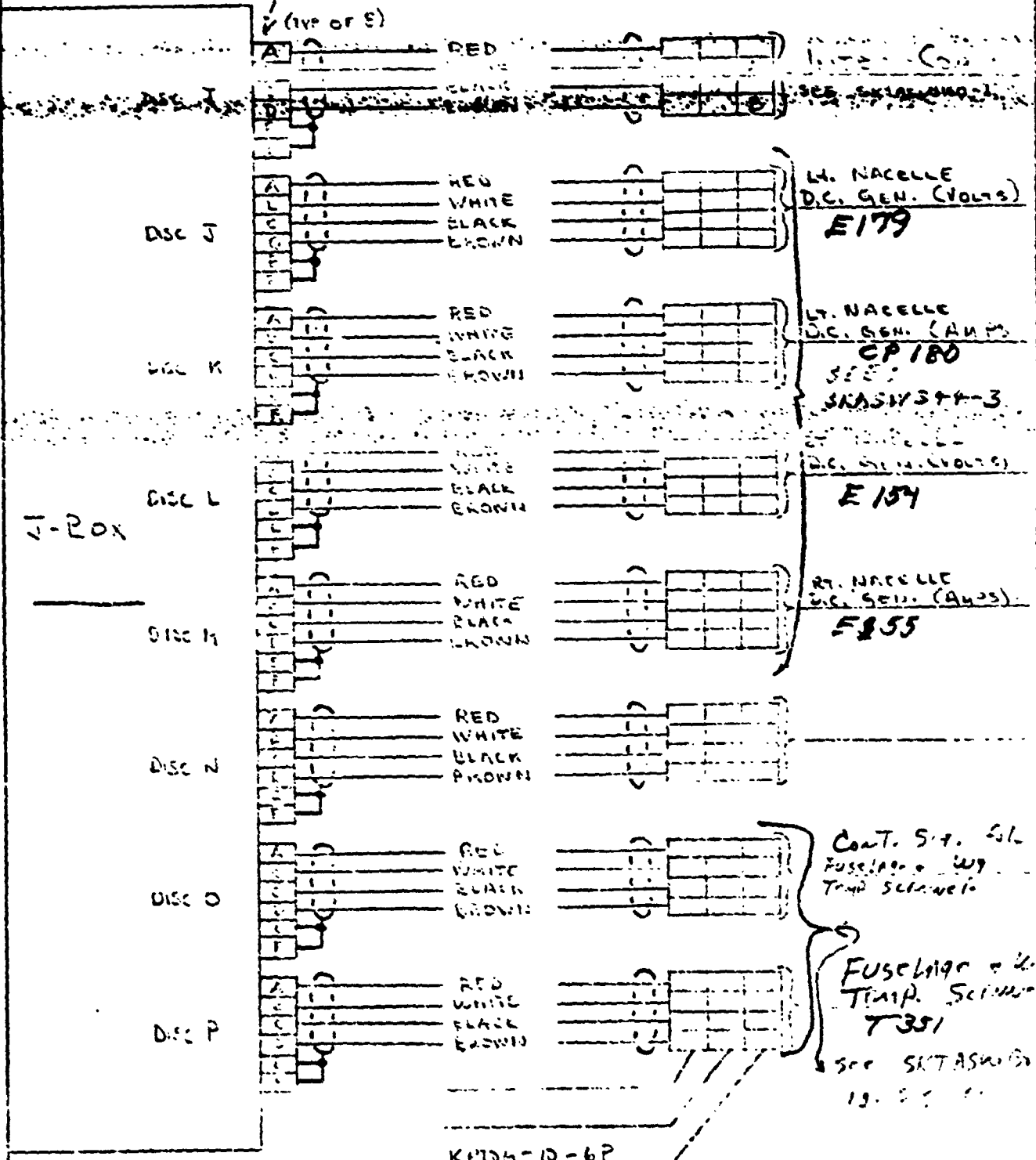
MODEL 301 PAGE 2 of 2
HELI. 142 RPT SKASW04270-1

ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION CP-3

KPT06-10-6P



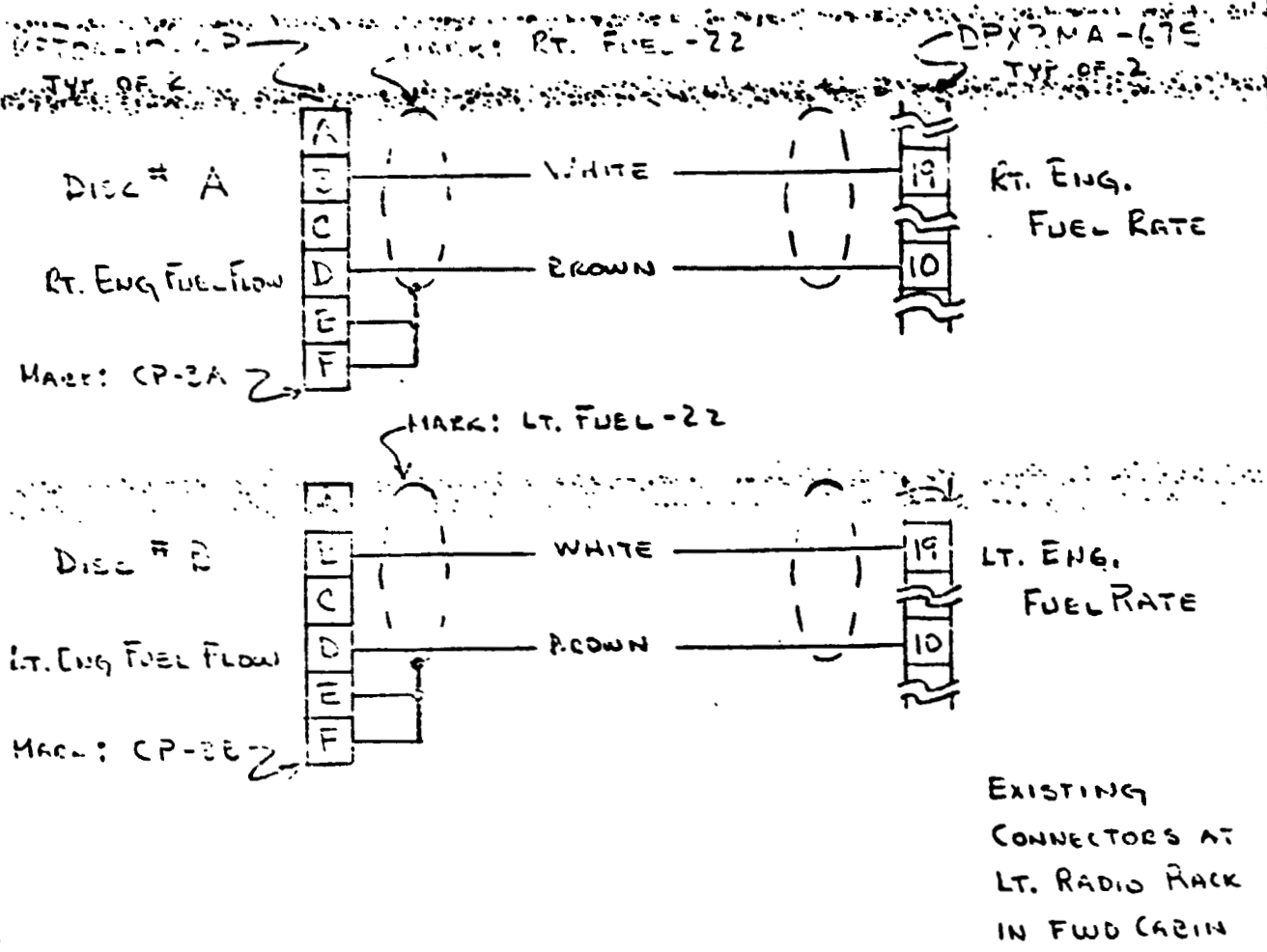
1742 00000000 0000

R328
R329

ORIGINAL PAGE IS
OF POOR QUALITY

RT. + LT. ENG. FUEL RATE

J-Box CP-3



MAKE FROM 2 CONDUCTOR ORANGE CABLE

BY A. WHITENER

BELL HELICOPTER COMPANY

MODEL 301 PAGE 1 OF 2

CHECKED (Signature)

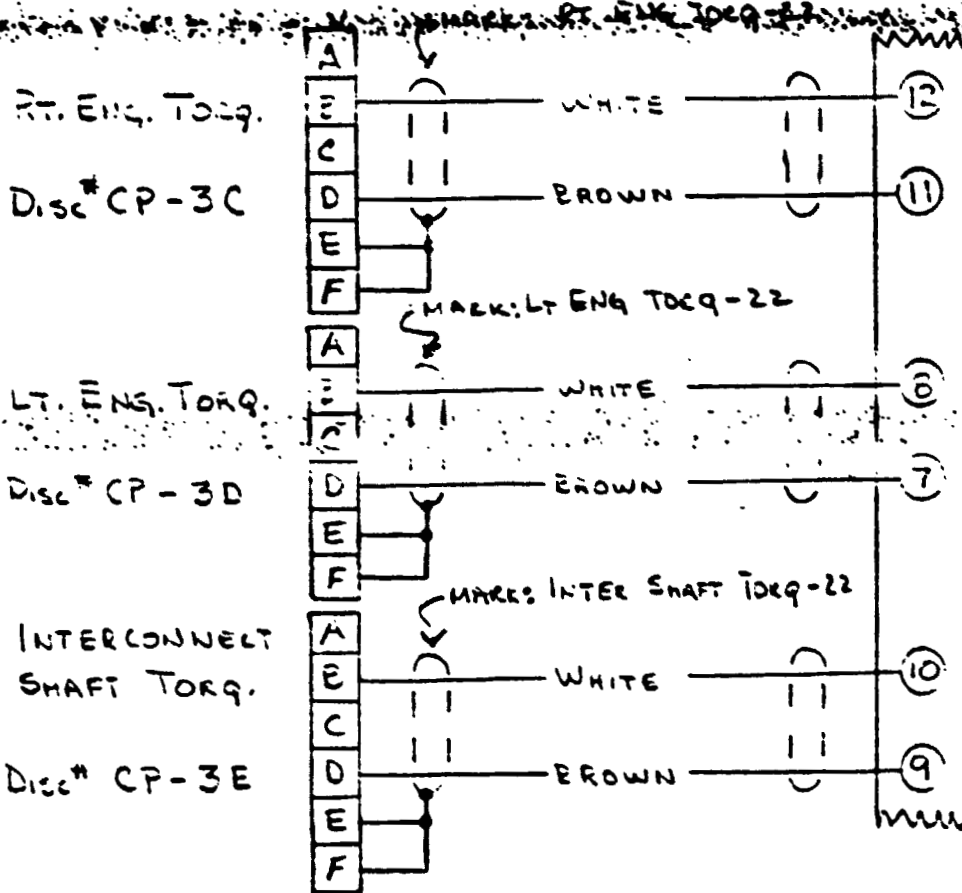
HELI. 142 RPT SEASW15376-2

A1 335
M 336
M 337

ORIGINAL PAGE IS
OF POOR QUALITY

SIMMONDS PRECISION WIRING

J-Box CP-3



MAKE WITH 2 CONDUCTOR ORANGE CABLE

PUT CRIMP LUGS ON TB END AND MARK END PER NUMBER BUT DO NOT CONNECT TO TB

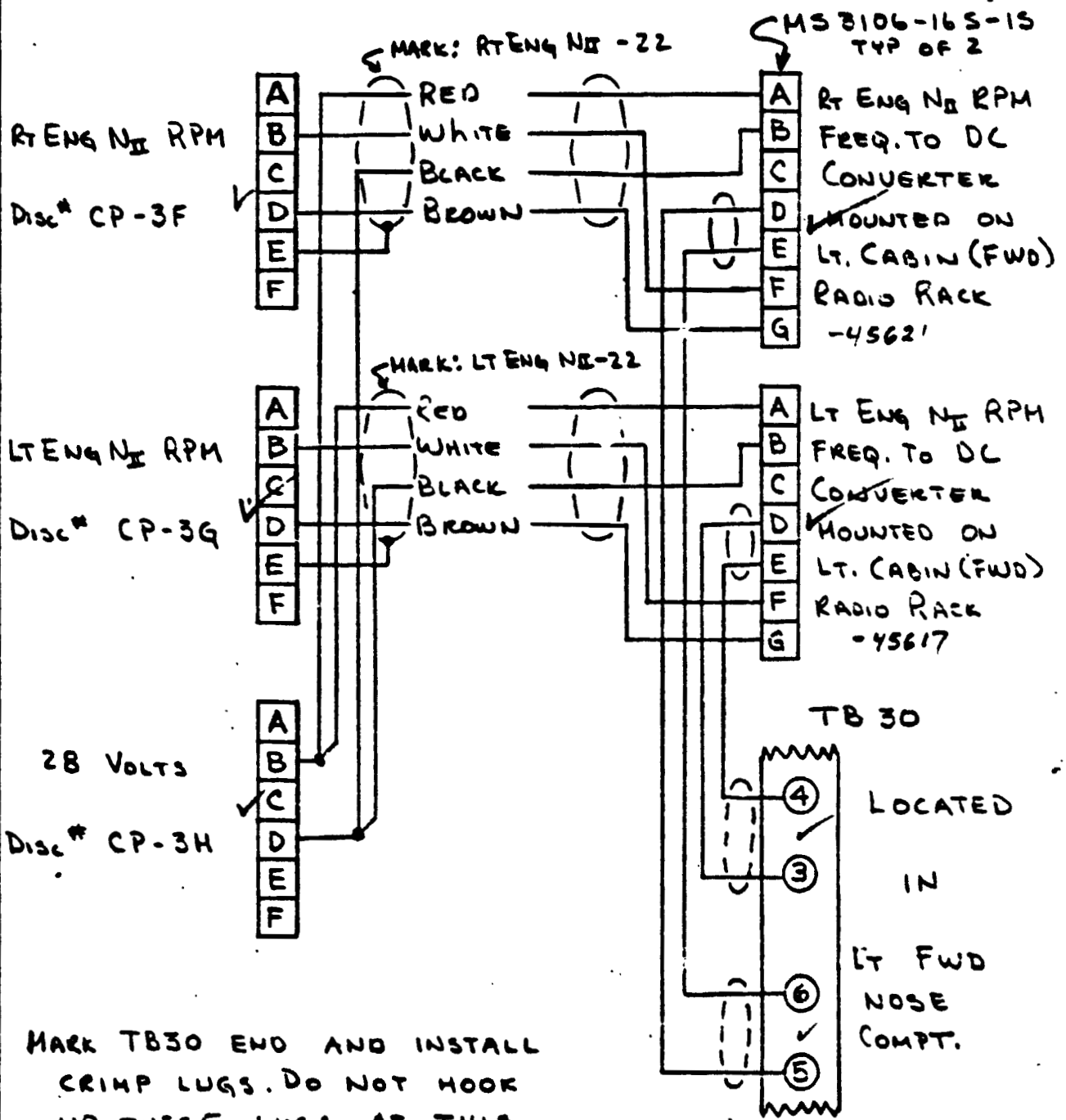
R 338
R 339

SIMMONS PRECISION WIRING

J-Box CP-3

ORIGINAL PAGE IS
OF POOR QUALITY

*Complete
AW
12-10-76*



MARK TB30 END AND INSTALL CRIMP LUGS. DO NOT HOOK UP THESE LUGS AT THIS TIME

7048 500989V 100

M35
M36
M37

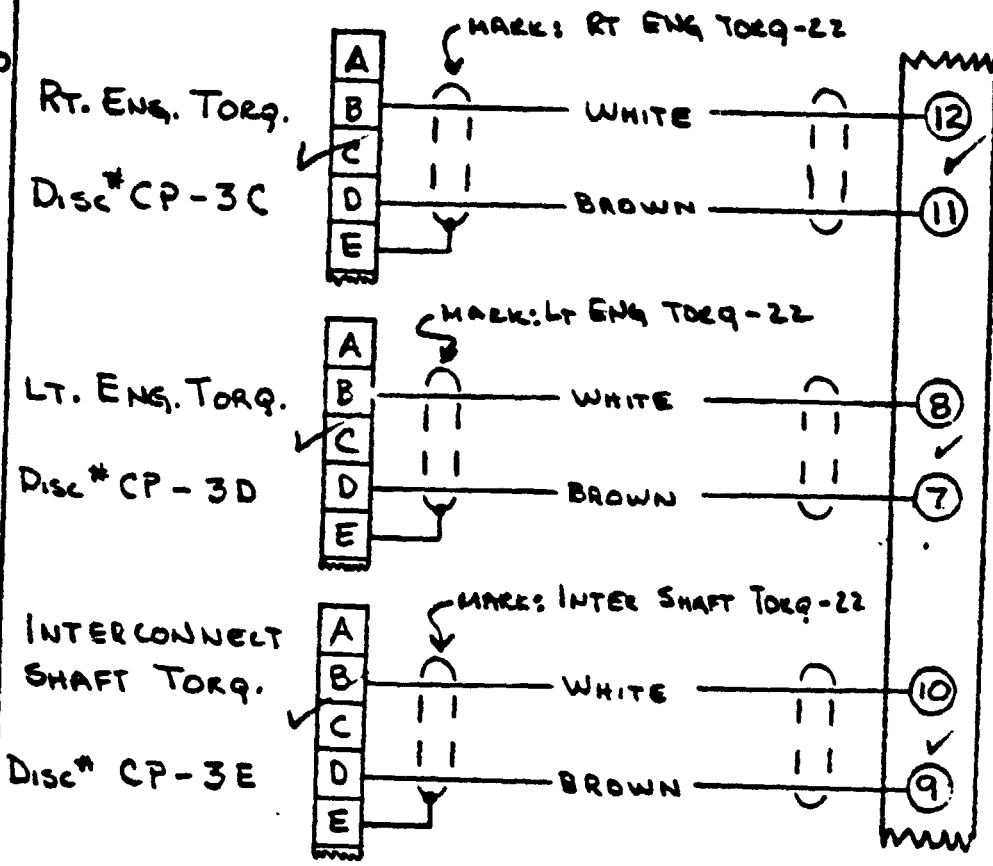
SIMMONDS PRECISION WIRING

ORIGINAL PAGE IS
OF POOR QUALITY

J-Box CP-3

TB 30

947
12-10-76
AW



LOCATED
IN
LT. FWD
NOSE
COMP.

MAKE WITH 2 CONDUCTOR ORANGE CABLE

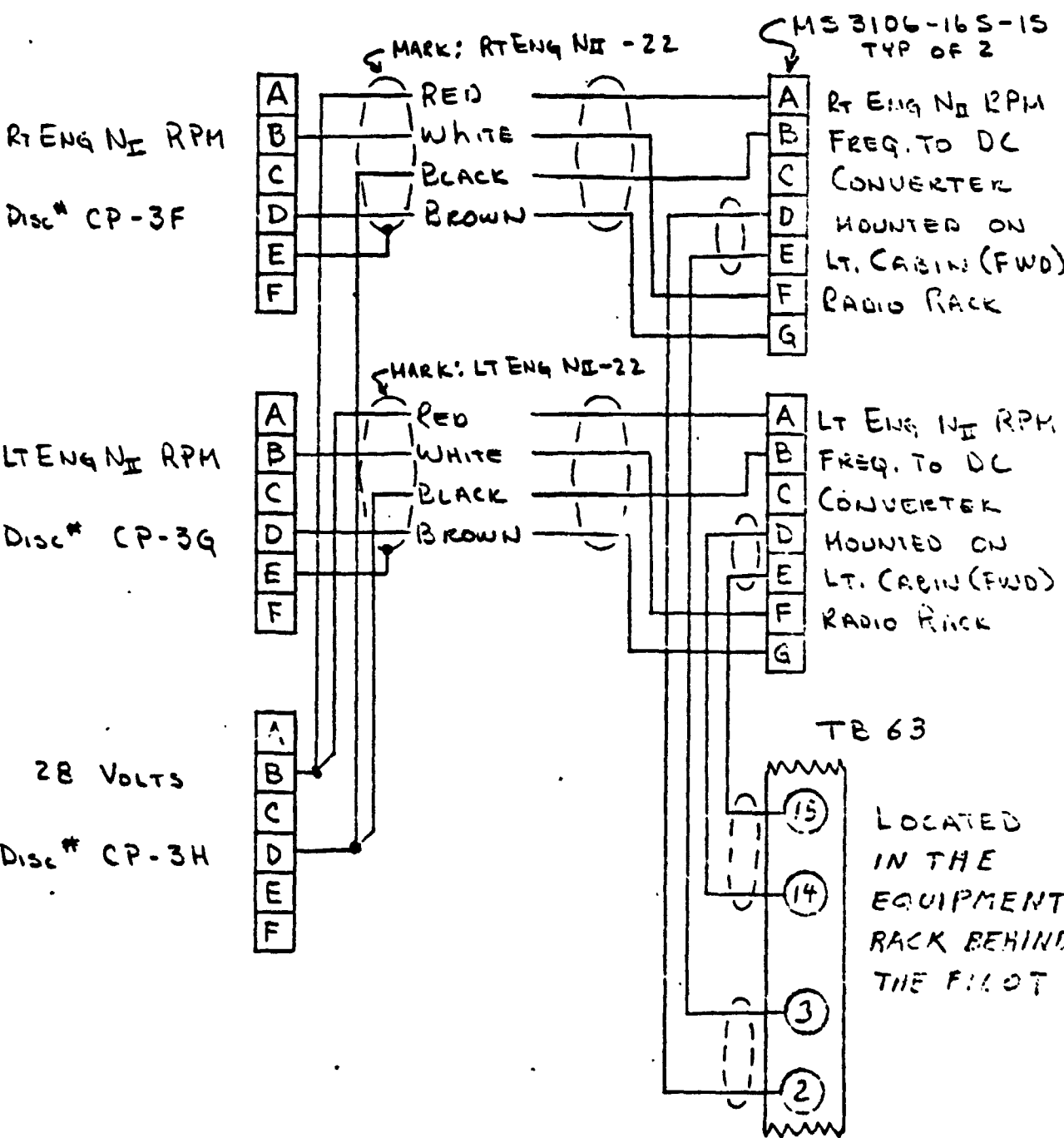
PUT CRIMP LUGS ON TB END AND MARK END
PER NUMBER BUT DO NOT CONNECT TO TE

SIMMONS PRECISION WIRING

REV A
12-14-76
H. D. 94.

ORIGINAL PAGE IS
OF POOR QUALITY

J-Box CP-3



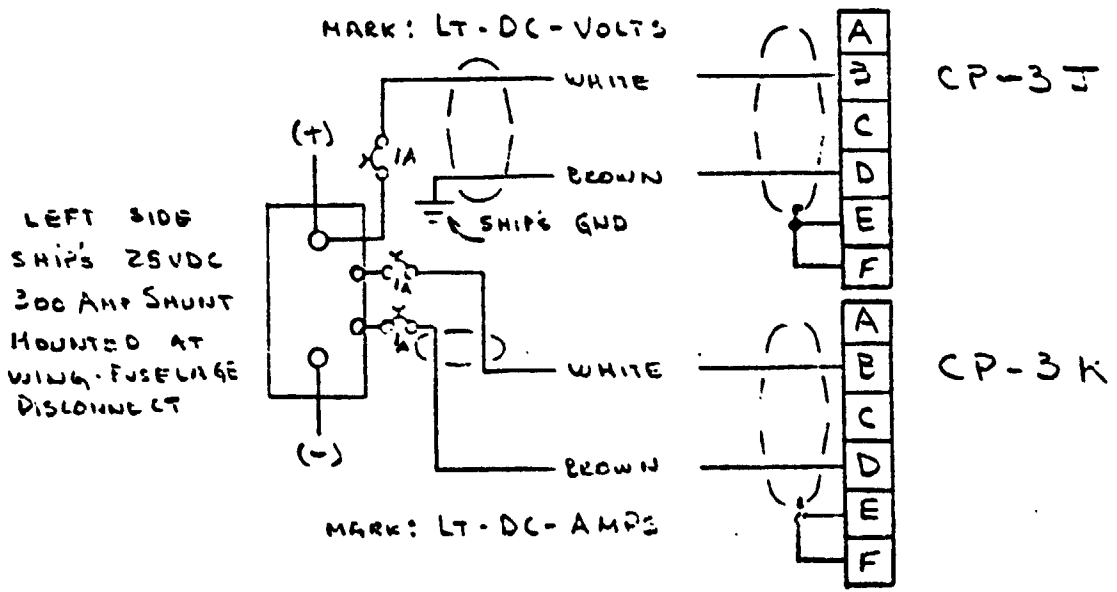
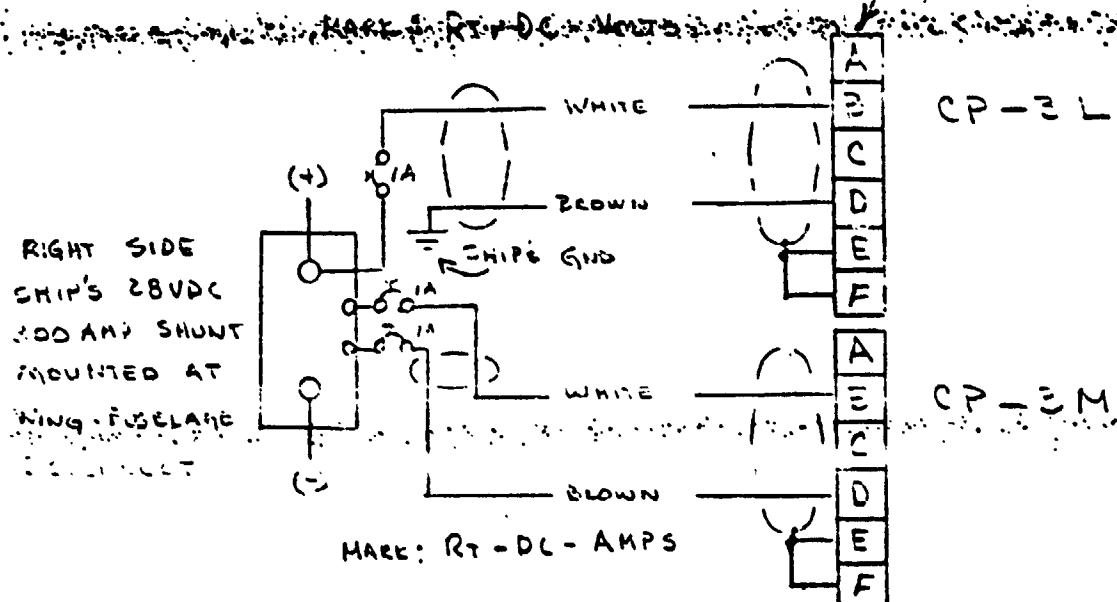
ORIGINAL PAGE IS
OF POOR QUALITY

RT. AND LT. GENERATOR

D.C. VOLTS AND AMPS

E 154 A
E 155 A
E 179 B
E 180 B

(PTOL-10-SP (T-20 SP-9))



NOTE: ALL CIRCUIT BREAKERS ARE TO BE 1 AMP

11-23-65-5000 1007

BY A. WHITENER
 CHECKED _____

BELL HELICOPTER COMPANY

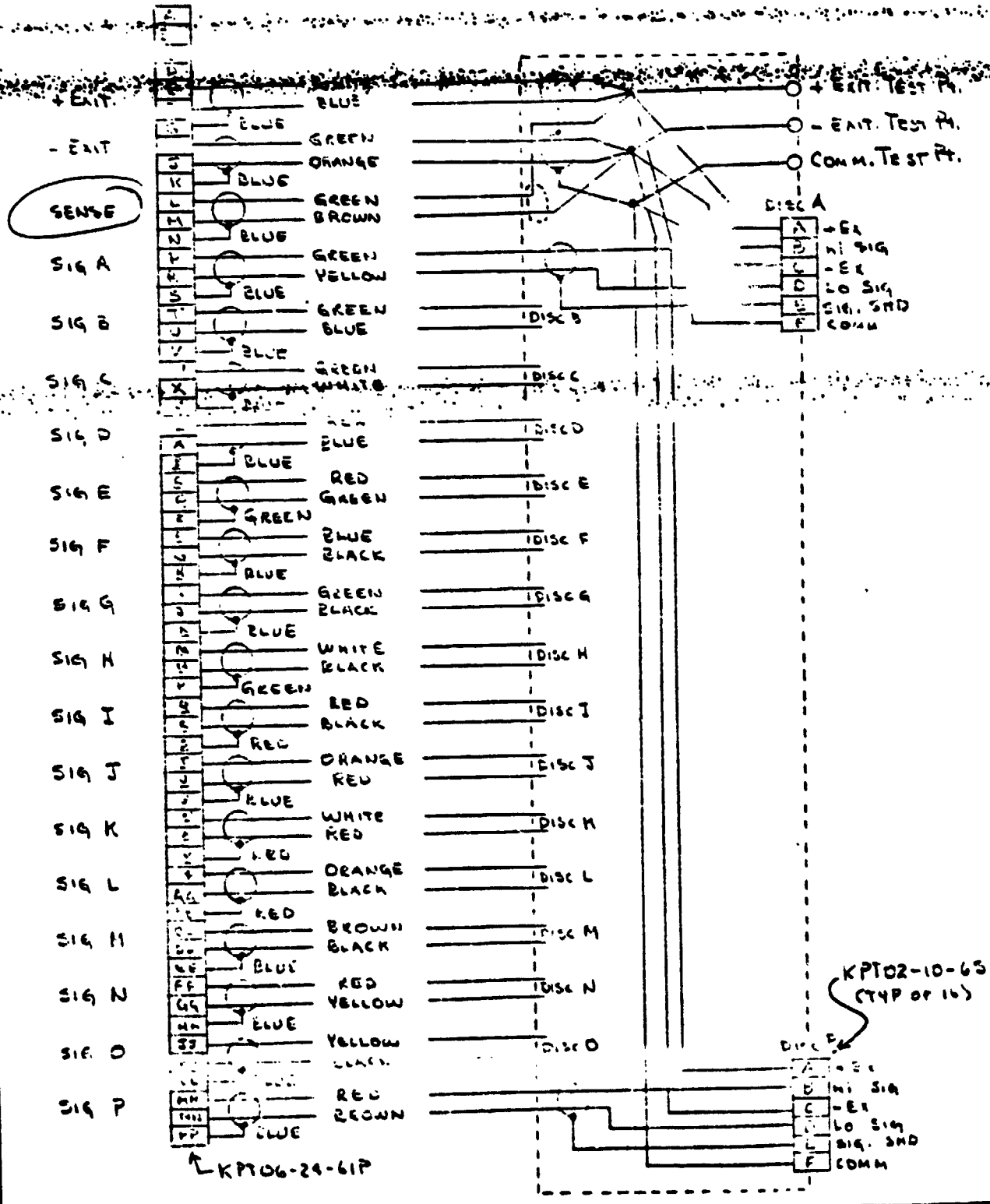
MODEL 301 PAGE _____
 HELI. 1+2 RPT SKTASW001-8

ORIGINAL PAGE IS
 OF POOR QUALITY

MODEL 301
 SIGNAL CABLE AND J-BOX

~~E 297~~, E 298, E 299
 E 369, E 370, E 371,
 E 372, E 373, E 374,
 E 375, E 647, E 648
 E 649.

(TYP OF 12 → LW-1, RW-1, RW-2, CAB-1, EMP-1, EMP-2, CP-1, CP-2, CP-3, N-1, RHQ-1, LHQ-1)



7925 550000000

BY A. WHITENER

BELL HELICOPTER COMPANY

MODEL 301 PAGE _____

CHECKED _____

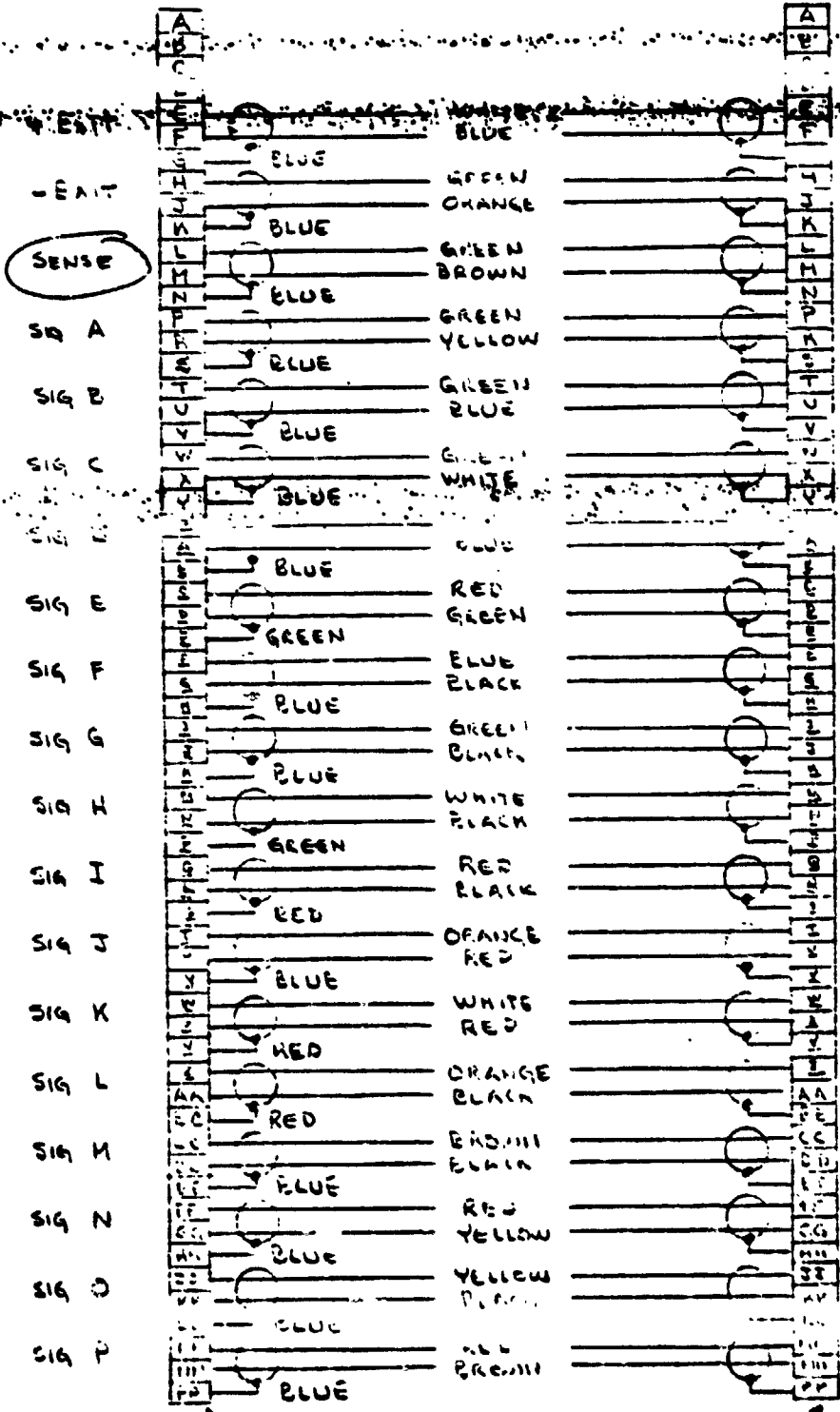
HELI. 142 RPT SKTASW091-6

ORIGINAL PAGE IS
OF POOR QUALITY

MODEL 301 SIGNAL CABLE

E 072, E 073, E 074,
E 075

TYPE OF 8 → LP-1, LP-2, LR-1, LR-2, RP-1, RP-2, RR-1, RR-2)



CONNECTOR

* NOTE 1
RR-1, RR-2,
LR-1, LR-2
SHOULD HAVE
KPT02-24-615

KPT06-24-617

KPT06-24-615

* NOTE 1

9842 SCHEMATIC V. 17.

BY A. WHITENER

BELL HELICOPTER COMPANY

MODEL 301

PAGE

CHECKED _____

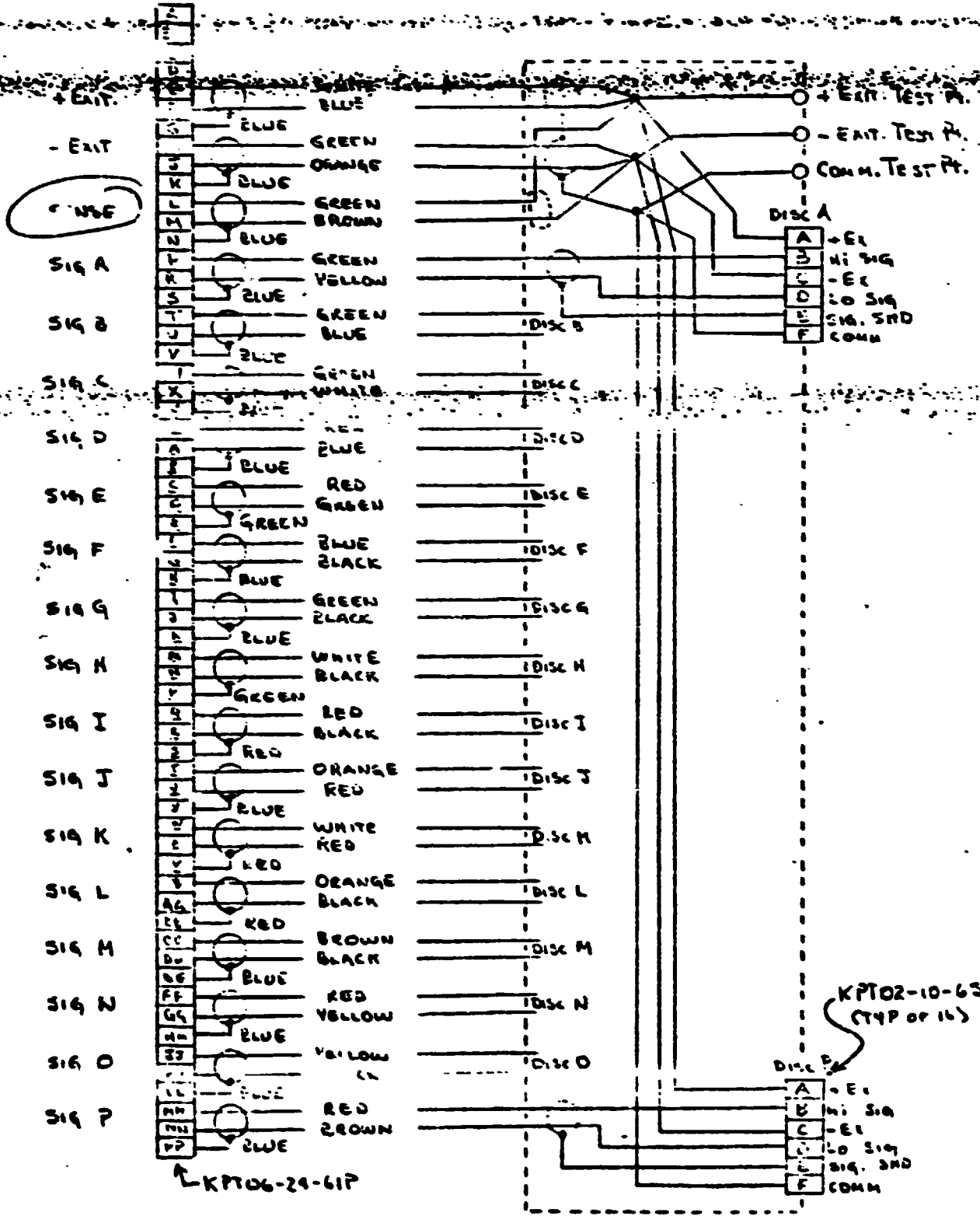
HELI. 142 RPT SKTASW041-8

ORIGINAL PAGE IS
OF POOR QUALITY

MODEL 301 SIGNAL CABLE AND J-BOX

~~E297~~, E298, E299
E369, E370, E371
E372, E373, E374,
E375, E647, E648
E649,

(TYP OF 12 → LW-1, RW-1, RW-2, CAB-1, EHP-1, EHP-2, CP-1, CP-2, CP-3, N-1, RUG-1, LMS-1)



7042 5555REV 174

BY A. WHITEHEAD

BELL HELICOPTER COMPANY

MODEL 301 PAGE 1 of 2

CHECKED AW

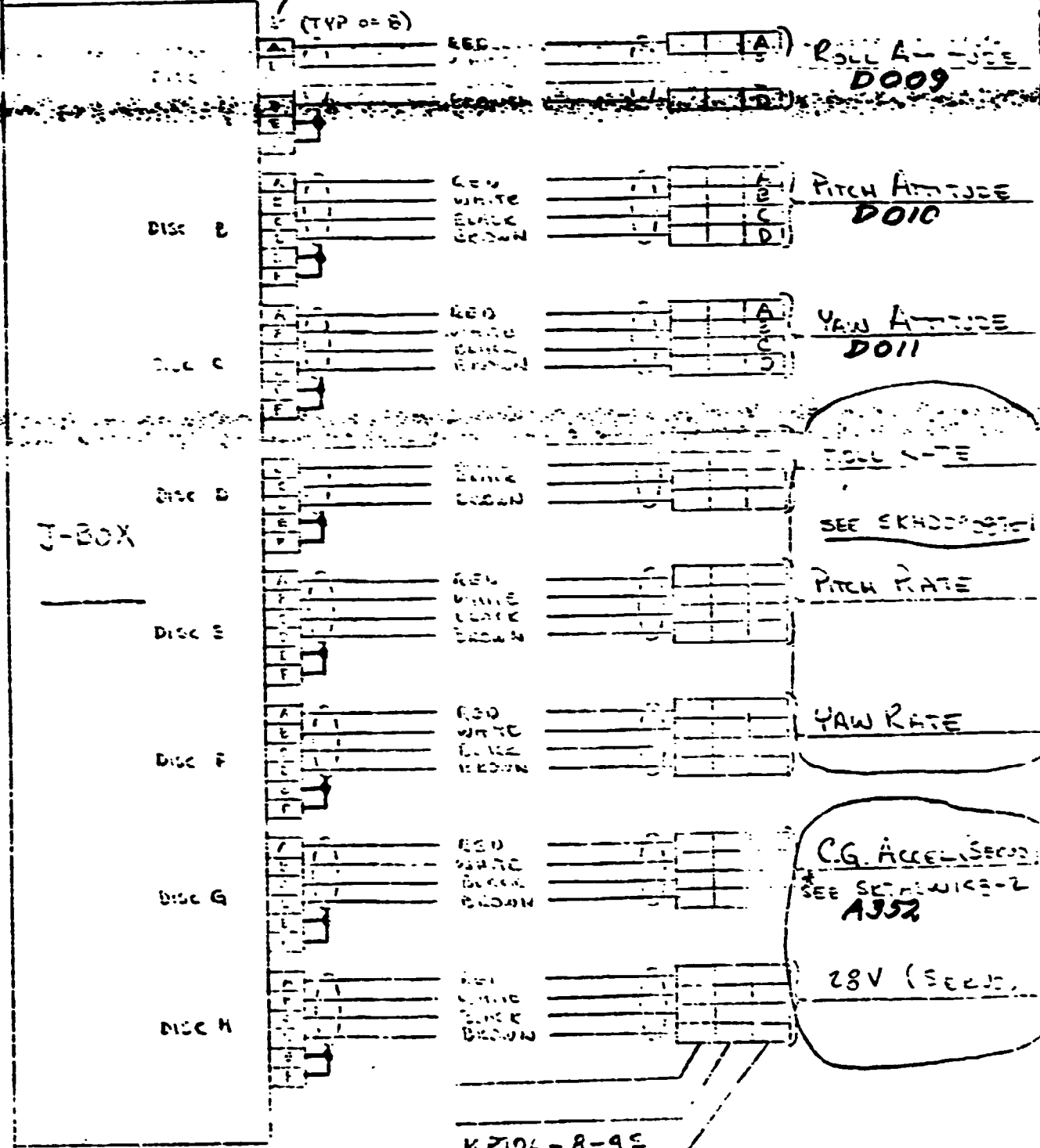
HELL 142 RPT SKASV04375-1

ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION CAB-1

KPT06-10-6P



KPT06-8-9E

304 11/15/67 266

BY A. WHITENER
CHECKED AW

BELL HELICOPTER COMPANY

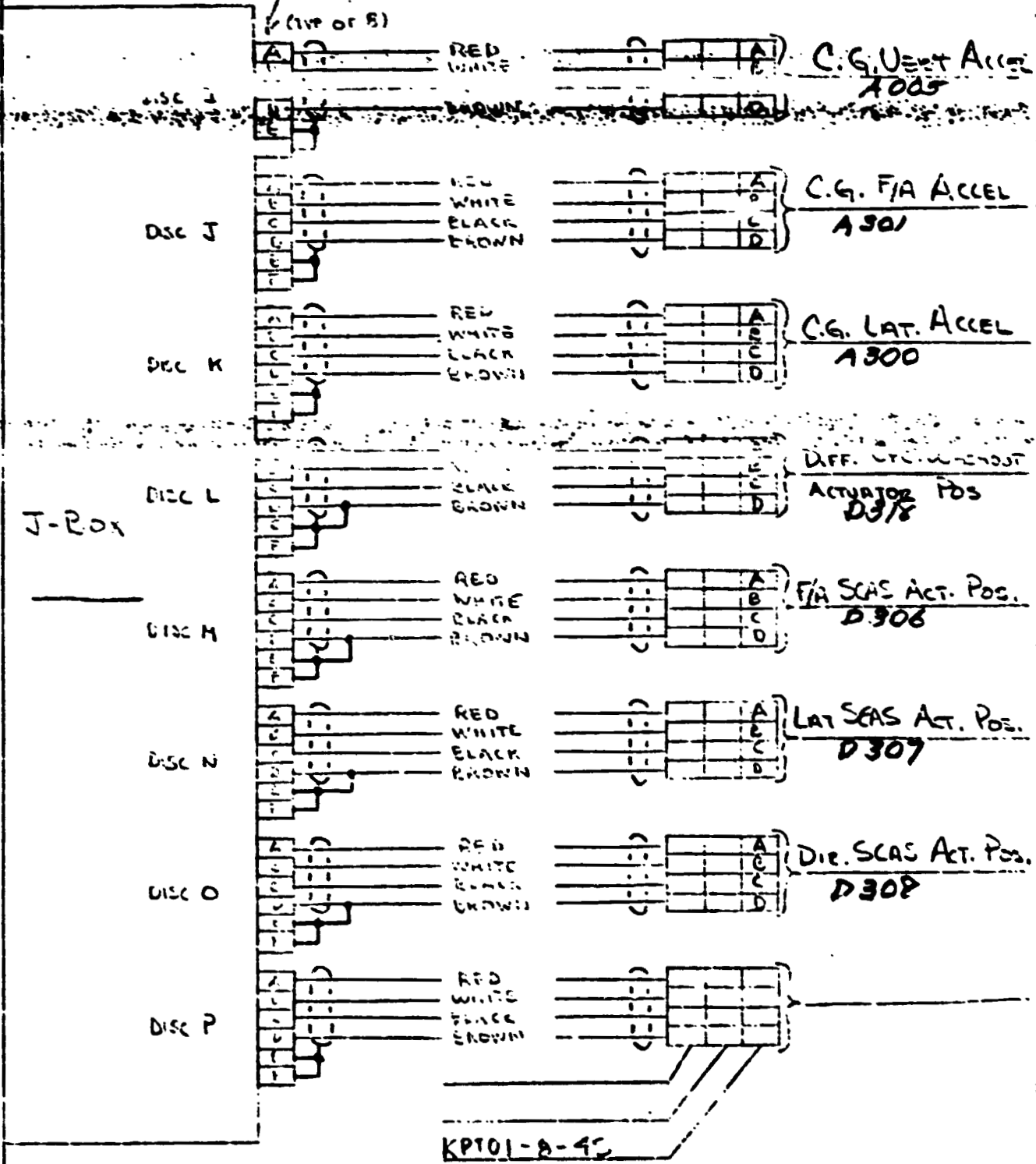
MODEL 301 PAGE 2 of 2
HELI. 142 RPT SKASINDACT-1

ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION CAB-1

KFTOG-10-6P



910 9500000000

BY A. WHITEHUR

BELL HELICOPTER COMPANY

MODEL 301 PAGE _____

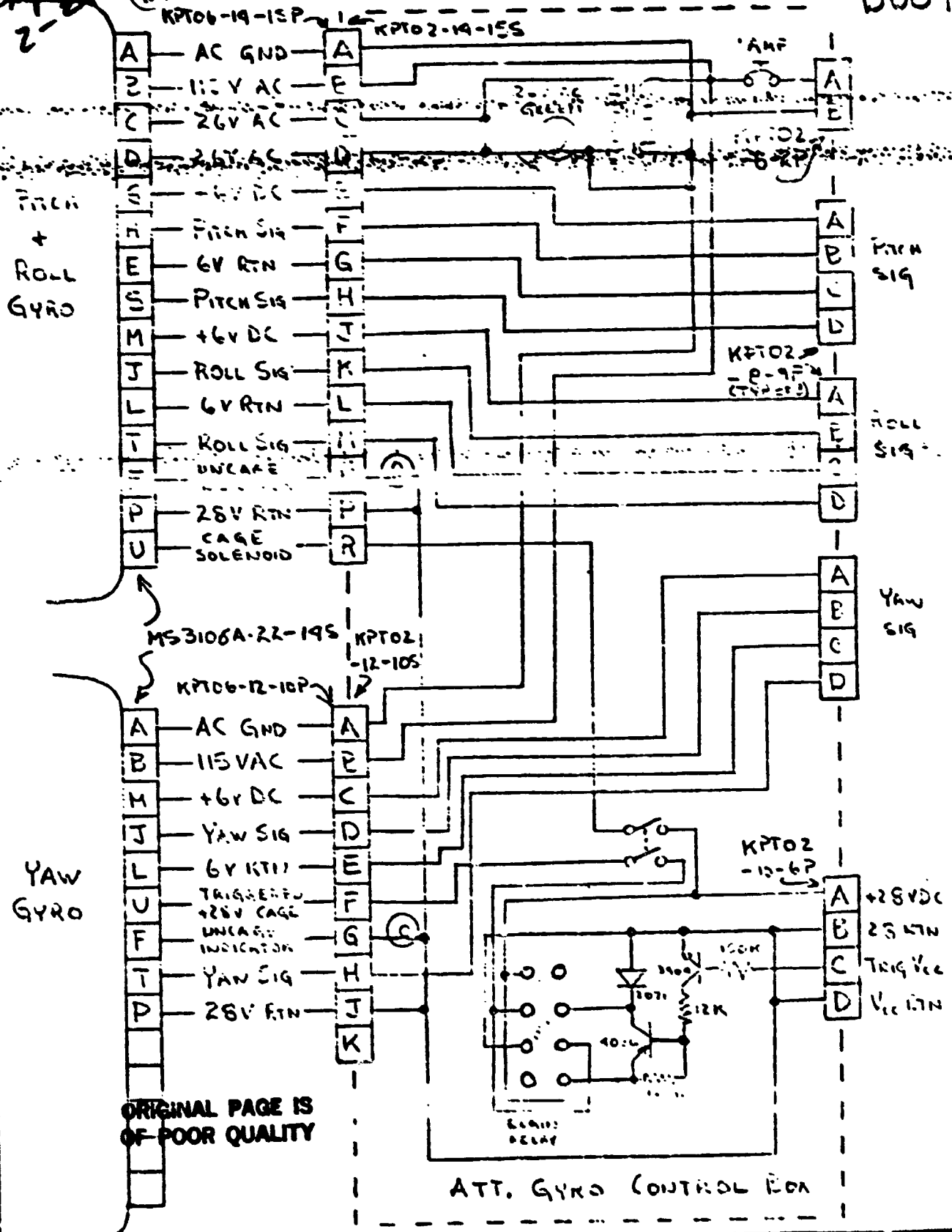
CHECKED AW

HELI. 1+2 RPT SKASWJ05575-14

AW
Complete 11-24-64

ATTITUDE GYRO PACKAGE

D011
D010
D009



ORIGINAL PAGE IS OF POOR QUALITY

ATT. GYRO CONTROL BOX

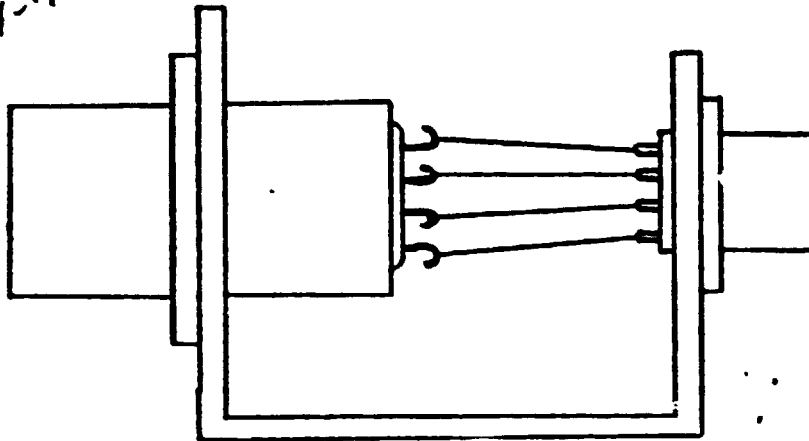
A352

ORIGINAL PAGE IS
OF POOR QUALITY

SERVO ACCEL WIRING

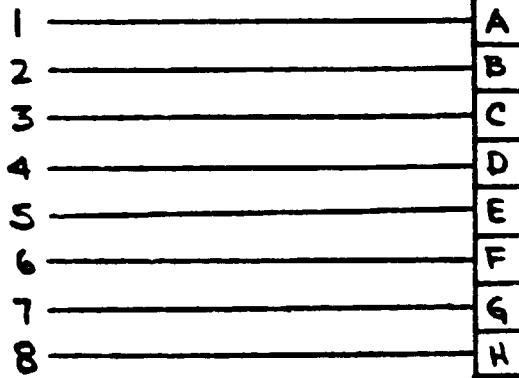
BOND BRACKET TO WING AT 8 W.S. 0.0

*Completed
AW
12-14-76*



PINS ON
ACCEL

- +28V
- 28 RTN
- LOW Z SIG
- SIG GND
- GAIN
- SIG
- + TEST
- TEST



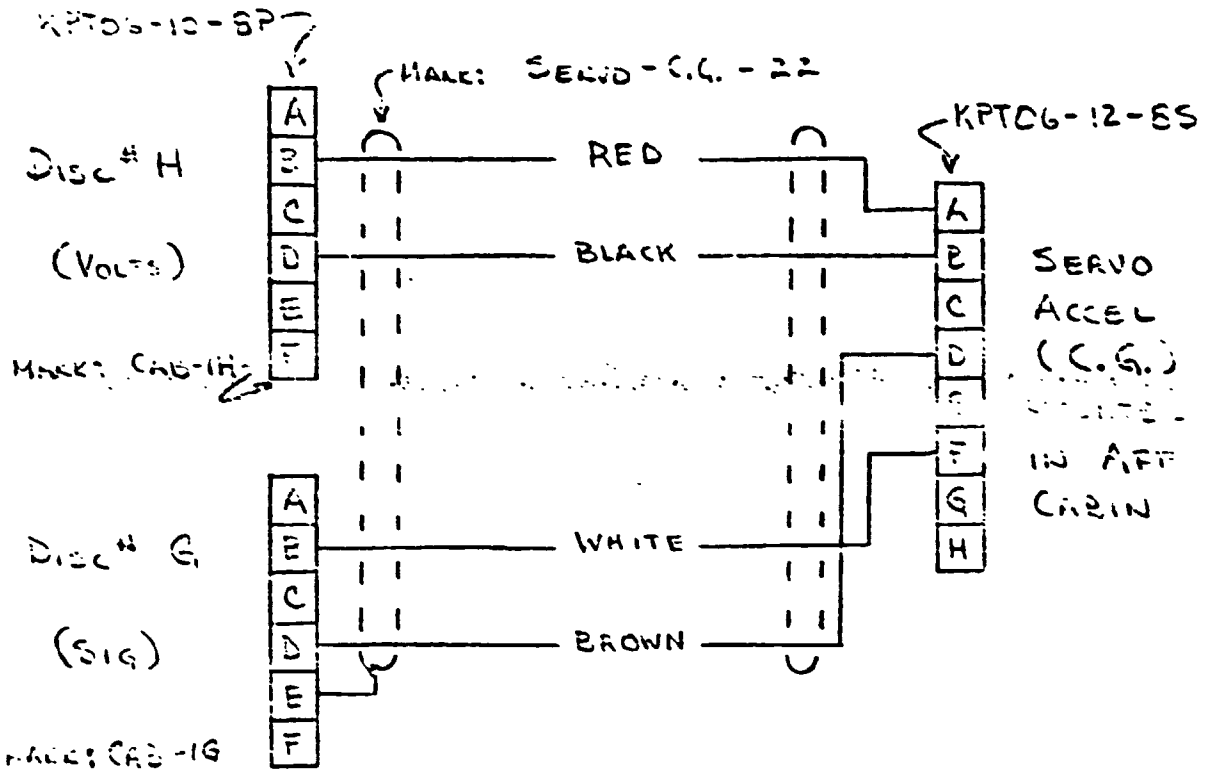
KPT02-12-8P

A352

SERVO ACCEL. WIRING

ORIGINAL PAGE IS
OF POOR QUALITY

J-Box CAB-1



MARK CONNECTORS: CAB-1G + CAB-1H

BY A. WHITE NCR

Bell Helicopter **HEXTRON**
Division of Textron Inc.

MODEL 301 PAGE 1

CHECKED _____

POST OFFICE BOX 488 • FORT WORTH, TEXAS 76101

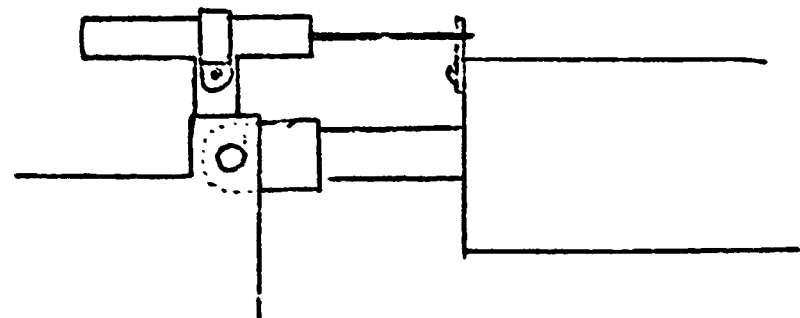
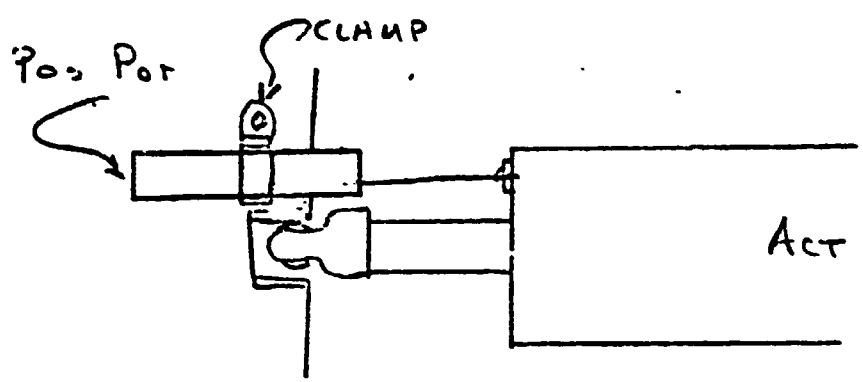
RPT ASW 5377-4

AW
Complete
2-24-77
(995)

PITCH SCAE Act. Pos

D306

ORIGINAL PAGE IS
OF POOR QUALITY



BY A. WHITE NEV.

Bell Helicopter **TEXTRON**

MODEL 301 PAGE 1

CHECKED _____

POST OFFICE BOX 400 - FORT WORTH, TEXAS 76101

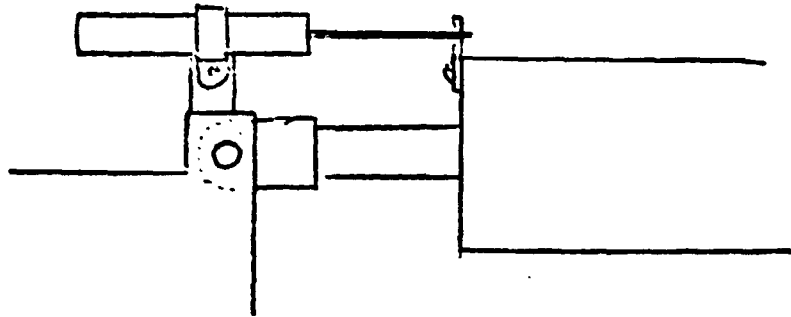
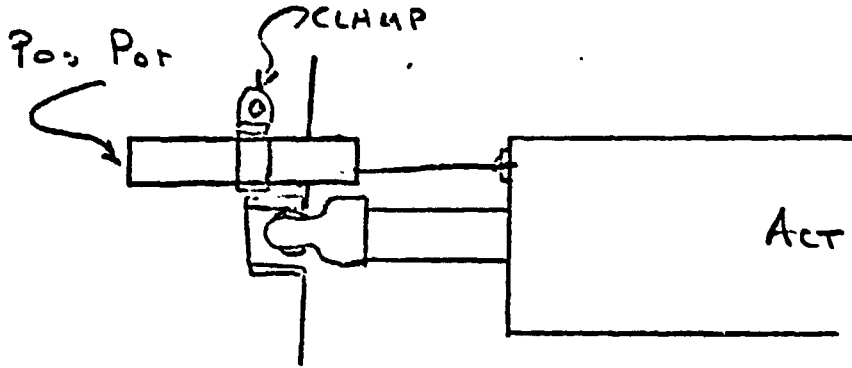
RPT ASW 537-4

*AKW
Complete
2-24-77
(182) 995*

ROLL
SCAS ACT. POS

D307

ORIGINAL PAGE IS
OF POOR QUALITY



BY A. WHITEHEAD

CHECKED _____

Bell Helicopter **LEXTRON**

Division of Tecon Inc

POST OFFICE BOX 488 • FORT WORTH, TEXAS 76101

MODEL 301 PAGE 1

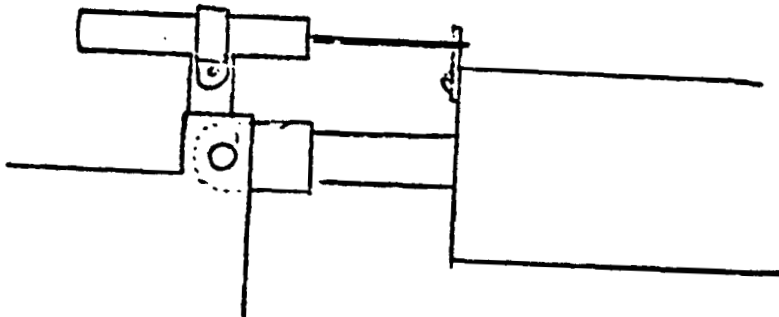
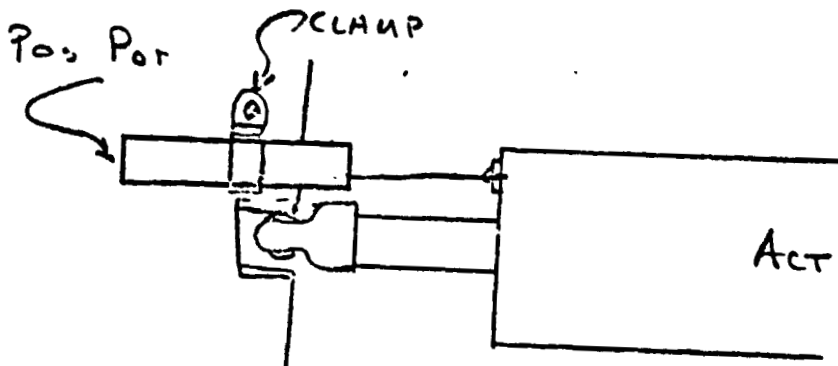
RPT ASW 5077-4

ASW
Complete
2-24-77
(102) 995

DIRECTIONAL SCAS ACT. Pos

D308

ORIGINAL PAGE IS
OF POOR QUALITY



ENGINEERING ORDER

CODE IDENT. NO. 97499
 AUTHORITY FOR CHANGE
 P.C.A. NO.
 E.W.A. NO. A427-10
 L.E.T.A.R. NO. DW 695029

CHANGE
 RELEASE
 PROCESS
 TEST
 HES

SER. NO. 301 HES 60
 CLASS OF CHANGE
 DD REUSE LTR
 OF
 ENG'R'S WORK ORDER

REASON: 3 AXIS ACCELEROMETER MOUNT FOR MODEL 301 (XV-15) VIBRATION

DRAWINGS AFFECTED DRAWING CHANGE LTR. DRAWING TITLE

1) PLEASE FACILITATE 12 ACCELEROMETER MOUNTS PER ATTACHED SHEET (219 HES 311).
 2) DIMENSIONS ARE STATED AS INCHES.
 3) UPON COMPLETION, PLEASE DELIVER TO:
A. S. WHITENER X 4832
DEPT 80
PLANT # 6

~~A 300~~
A 301
~~A 300~~
~~A 150~~
~~A 151~~
~~A 152~~
~~A 175~~
~~A 176~~
~~A 177~~
~~A 302~~
~~A 019~~
~~A 304~~
~~A 020~~

4) MARK EACH PIECE 301 HES 60
 1) Rt. Pylon (Vent, Lat + F/A) 947 Complete ADW 12-10-76
 2) Lt. Pylon (Vent, Lat, F/A) 947 Complete ADW 12-10-76
 3) Co-Pylon (Vent + Lat) 947 Complete ADW 12-10-76
 4) Pylon (Vent + Lat) 947 Complete ADW 12-10-76
 5) C.G. (Vent, Lat, F/A) 947 Complete ADW 12-10-76

STATUS	PART/ASSY NO.	ADD.	REM.	CHG.	ENGINEERING DISPOSITION		
SIGNATURE	DATE	SIGNATURE		DATE	SIGNATURE	DATE	
PREPARED BY		STRUCTURES			MET. DES.		
GROUP ENGR		CUSTOMER			WEIGHTS		
CHECKED BY		D.E.R.			PROJ. ENGR		
MANUFACTURING EFFECTIVITY				ENGINEERING EFFECTIVITY			
				ORIGINAL PAGE IS OF POOR QUALITY			
RELEASE INFORMATION		CHANGE CONTROL	SPARES	MFG. BOARD	ENGR. REL. DATE		

IDENT. NO. 874
QUANTITY FOR CHANGE

A. NO.

MA. NO. ~~100~~

LET. R. NO. (1.1)

REASON:

- CHANGE
- RELEASE
- PROCESS

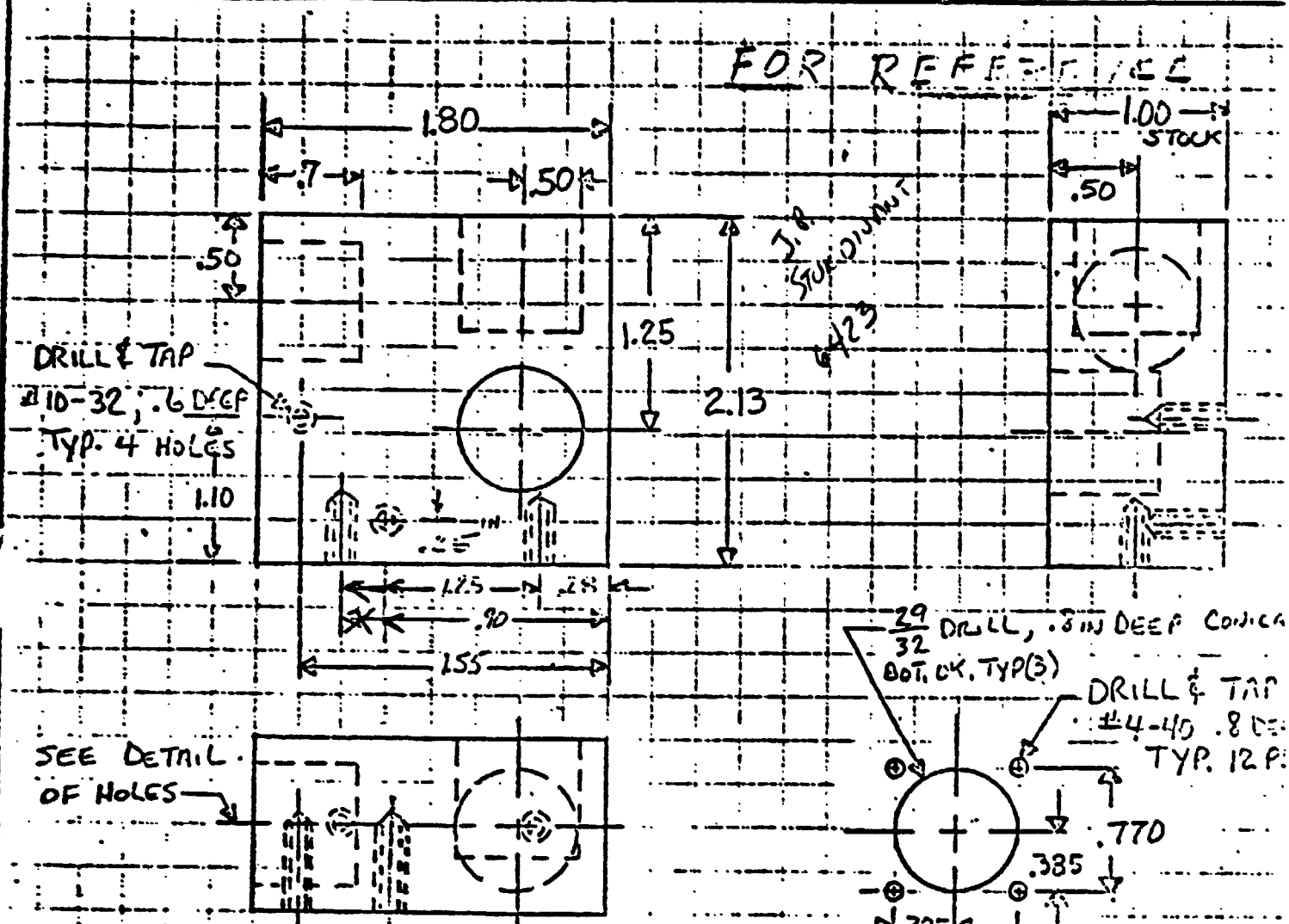
- TEST
- HES

CLASS OF CHANGE		CO. NO. ISSUED LTR.	DF
			1
ENG'R'S WORK ORDER			

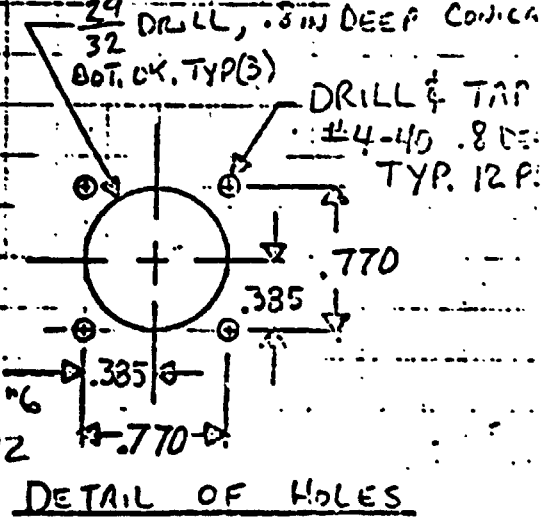
3 AXIS ACCELEROMETER MOUNT FOR VIBRATION SURVEYS

DRAWINGS AFFECTED	DRAWING CHANGE LTR.		DRAWING TITLE
	CONDY. CORP.	CO. INCORP.	

FOR REFERENCE



MAKE: ¹²~~12~~ DELIVERY TO A. WHITENER 4882
 MATERIAL: 2024 AL. ALY. OR EQUIV.
 SURFACE FINISH: PAINT INTL. ORANGE



STATUS	PART/ASS'Y NO.	ADD.	REM.	CHG.	ENGINEERING DISPOSITION	
SIGNATURE	DATE	SIGNATURE		DATE	SIGNATURE	DATE
PREPARED BY H. H. HARRISON	7-6-70	STRUCTURES			MET. DES.	
GROUP ENGR.		CUSTOMER			WEIGHTS	
CHECKED BY D. P. S.	7/6/70	D.E.R.			PROJ. ENG.	
FACTURING EFFECTIVITY			ENGINEERING EFFECTIVITY			
NONE			NONE			
						ORIGINAL PAGE IS OF POOR QUALITY

RELEASE INFORMATION	CHANGE CONTROL	SPARES	MFG. BOARD	ISSUE DATE
---------------------	----------------	--------	------------	------------

ENGINEERING ORDER

CODE IDENT. NO. 87499
 AUTHORITY FOR CHANGE
 P.C.A. NO.
 W.A. NO. A-27-10
 L.E.T.A.R. NO. DN 695029

CHANGE
 RELEASE
 PROCESS
 TEST
 HES

SER. NO. 301 HES 60 SHEET 1
 DATE OF CHANGE
 TO RESULT LTR. OF
 ENG'R'S WORK ORDER

REASON: 3 AXIS ACCELEROMETER MOUNT FOR MODEL 301 (XV-15) VIBRATION

DRAWINGS AFFECTED DRAWING CHANGE LTR.
ED NOT INCORP. ED INCORP. DRAWING TITLE

1) PLEASE FABRICATE 12 ACCELEROMETER MOUNTS PER ATTACHED SHEET (219 HES 311).
 2) DIMENSIONS ARE STATED AS INCHES.
 3) UPON COMPLETION, PLEASE DELIVER TO:

A.S. WHITENER X 4832

~~A 301~~
~~A 302~~
~~A 303~~
 A 005
 A 150
 A 151
 A 152
 A 175
 A 176
 A 177
~~A 198~~
 A 019
~~A 019~~
 A 020

DEPT 80
 PLANT # 6

- 1) MAKE EACH PIECE 301 HES 60
- 1) Rt. Pylon (Upr, Lat + F/A) ⁹⁴ ~~94~~ Complete AdW 12-10-76
- 2) Lt. Pylon (Upr, Lat, F/A) ⁹⁴ ~~94~~ Complete AdW 12-15-76
- 3) Co-Pylon (Upr + Lat) ⁹⁴ ~~94~~ Complete AdW 12-21-76
- 4) Pylon (Upr + Lat) ⁹⁴ ~~94~~ Incomplete AdW 12-10-76
- 5) C.G. (Upr, Lat, F/A) ⁹⁴ ~~94~~ Complete AdW 12-10-76

STATUS	PART/ASSY NO.	ADD.	REI.	CHC.	ENGINEERING DISPOSITION		
SIGNATURE		DATE		SIGNATURE		DATE	
PREPARED BY		STRUCTURES		MET. DES.			
GROUP ENGR		CUSTOMER		WEIGHTS			
CHECKED BY		D.E.R.		PROJ. ENG.			
MANUFACTURING EFFECTIVITY				ENGINEERING EFFECTIVITY			

ORIGINAL PAGE IS OF POOR QUALITY

IDENT. NO. 87199
PRIORITY FOR CHANGE

A. NO.

W.A. NO. ~~111~~

(L.E.T.A.R. NO. 5111)

REASON:

- CHANGE
- RELEASE
- PROCESS.

- TEST
- HES

CLASS OF CHANGE		ED NO. ISSUED LTR.	DP
			1

ENG'R'S WORK ORDER

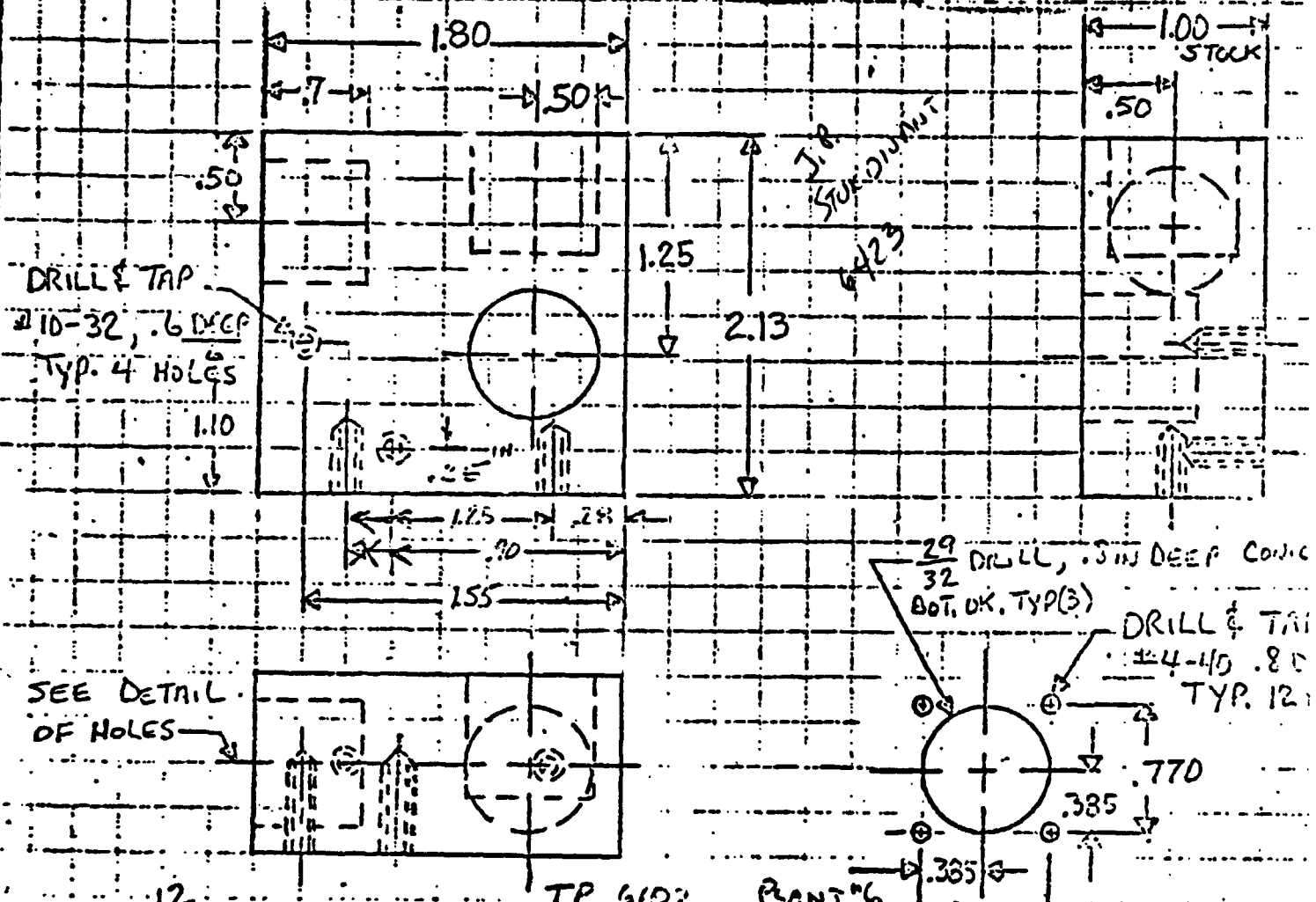
3 AXIS ACCELEROMETER MOUNT FOR VIBRATION SURVEY

DRAWINGS AFFECTED

DRAWING CHANGE LTR.
ED NOT INCORP. ED INCORP.

DRAWING TITLE

FUR REFERENCE



MAKE: 12 DELIVERY TO A. WHITENER 4882
 MATERIAL: 2024 AL. ALY. OR EQUIV.
 SURFACE FINISH: PAINT INTL. ORANGE

DETAIL OF HOLES

STATUS	PART/ASS'Y NO	ADD.	REM.	CHG.	ENGINEERING DISPOSITION		
SIGNATURE	DATE	SIGNATURE		DATE	SIGNATURE	DATE	DP
PREPARED BY H. H. H. H.	7-6-77	STRUCTURES			MET. DES.		
GROUP ENGR. H. H. H. H.	7-6-77	CUSTOMER			WEIGHTS		
CHECKED BY D. D. D. D.	7-6-77	D.E.R.			PROJ. ENG.		
FACTURING EFFECTIVITY				ENGINEERING EFFECTIVITY			
NONE				NONE			

ORIGINAL PAGE IS OF POOR QUALITY

BY A. WHITEHEAD

BELL HELICOPTER COMPANY

MODEL 301 PAGE 1 OF 2

CHECKED (Signature)

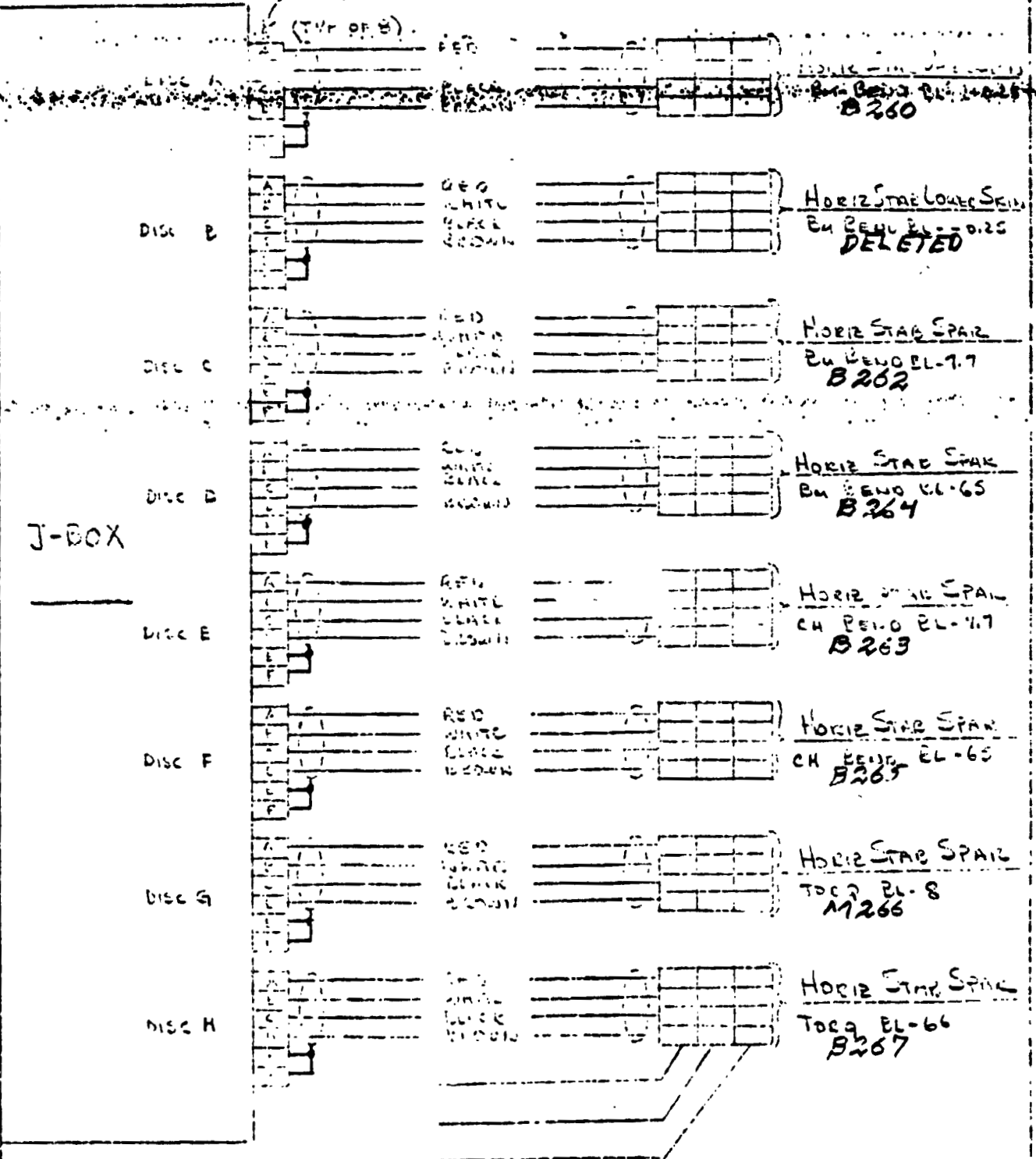
HELI. 14 - RPT SKASW04375-1

ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-BOX LOCATION EMP-1

KPT06-10-67



BY A. WHITENER
CHECKED AW

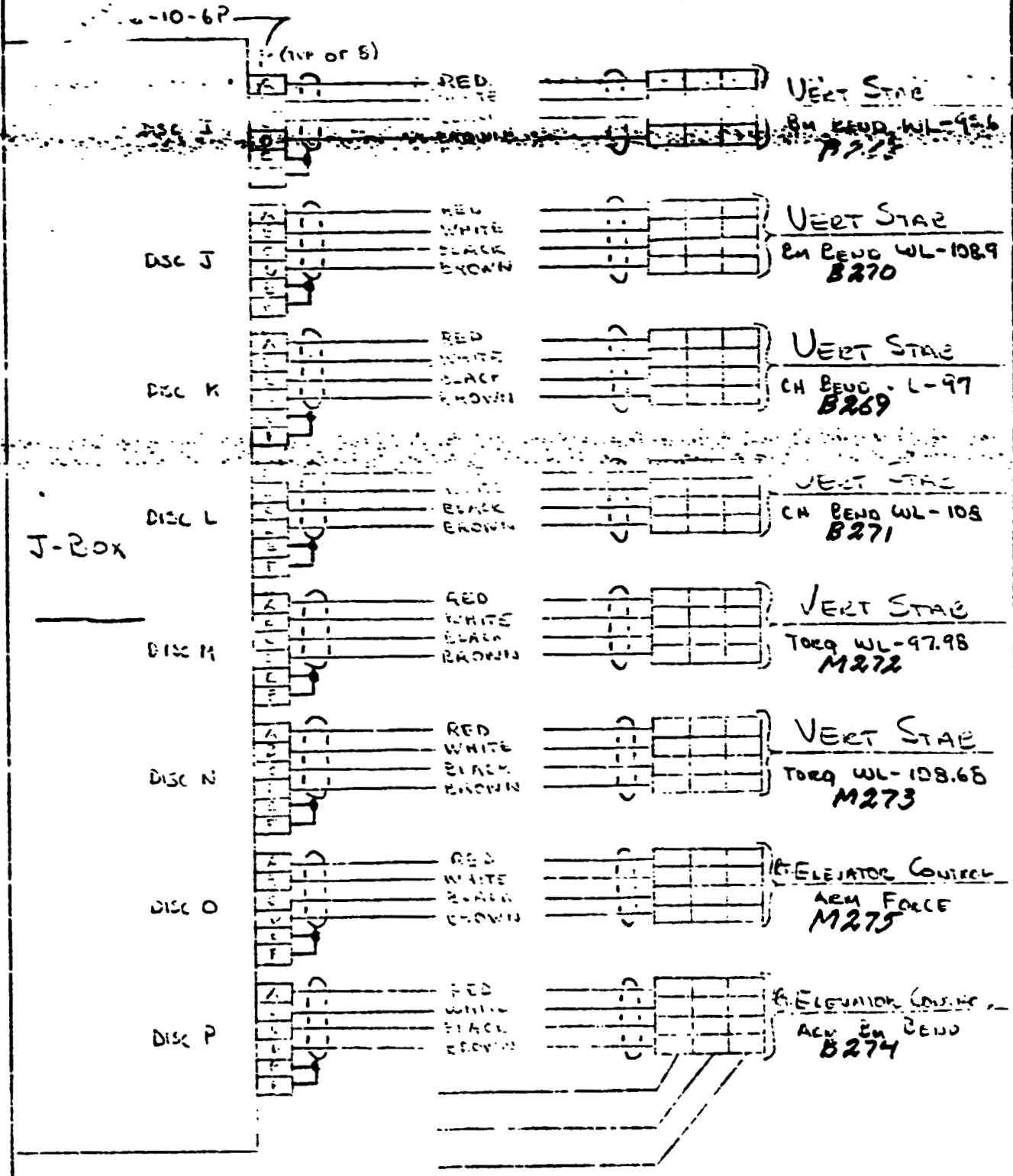
BELL HELICOPTER COMPANY

MODEL 301 PAGE 2 of 2
HELI. 1+2 RPT SKASWJ0375-1

DISCONNECT HARNESS

ORIGINAL PAGE IS
OF POOR QUALITY

J-Box LOCATION EMP-1



717 10-10-65 2842

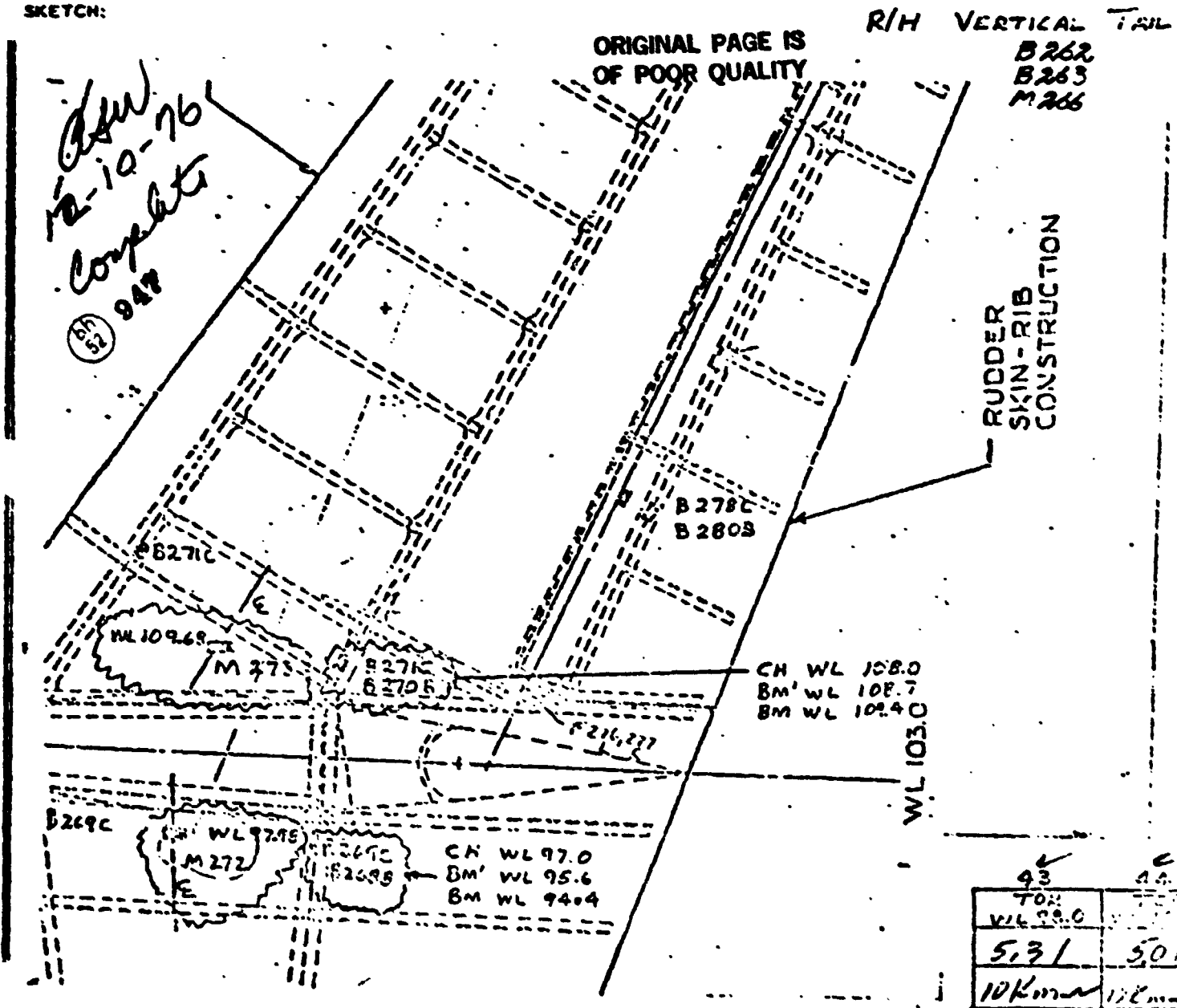
INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-250 NO-250	SHEET NO. 672984
EWA NO. A427-11A	RESISTANCE 350Ω	LAB. NO. 10554A
K ORDER A427	GAGE FACTOR 2.11 ± 0.5%	PART NO.
REQUESTED BY: A. V. WHITENER	LOT NO. Q-A1BAF56	SERIAL NO. Q-A1BAF53

TITLE OF TEST

MODEL 301 FLIGHT TEST

SKETCH:



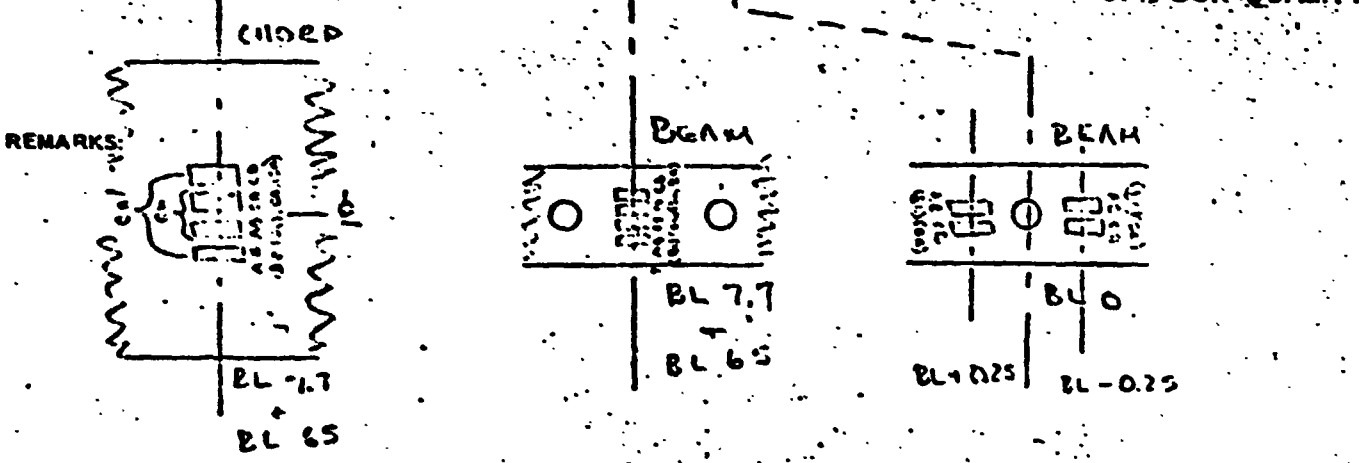
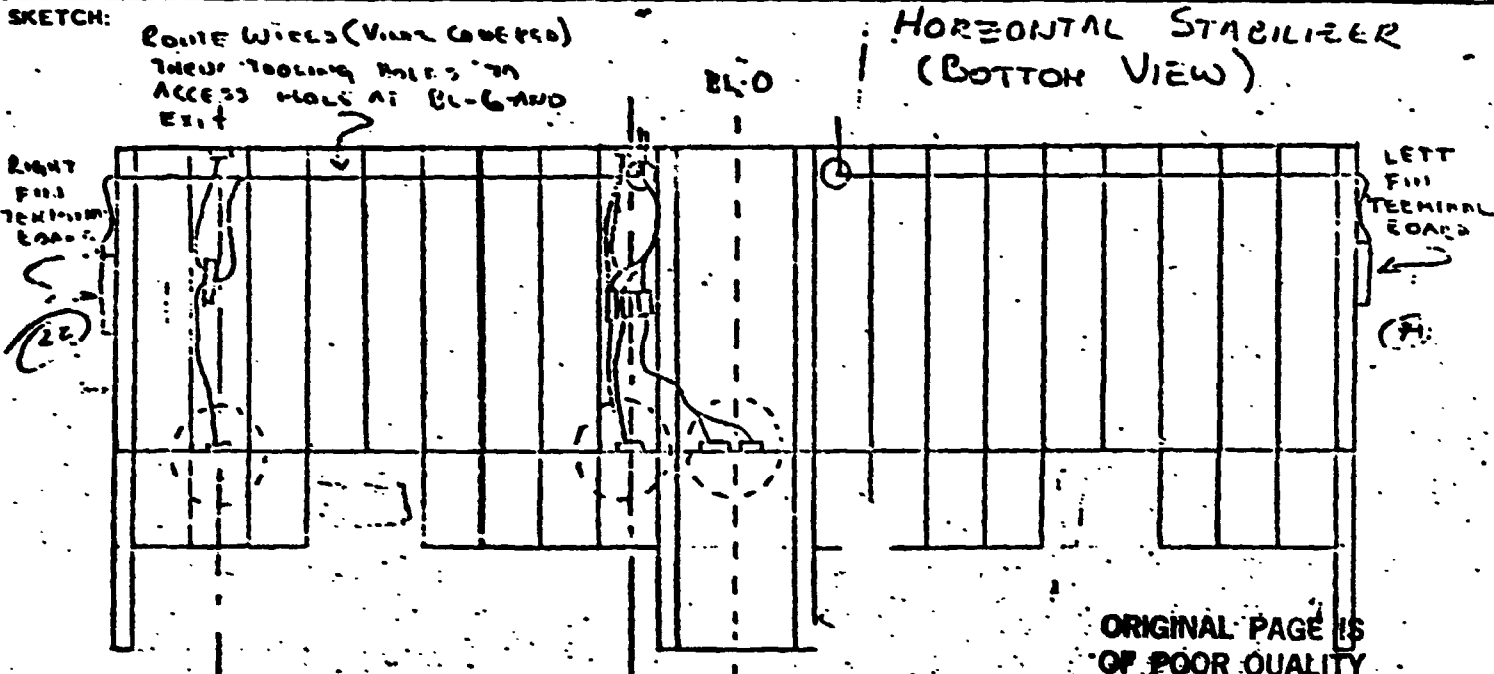
93	95
WL 99.0	WL 100.0
5.31	5.01
10Kms	10Kms

BRIDGE	WL 97.4	WL 96.6	WL 97	WL 97	WL 102.4	WL 102.7	WL 103.0	WL 103.0
ALANCE	3.76	out	5.43	out	4.61	4.60	5.27	5.2
RES. TO GROUND	10Kms	10Kms	10Kms	10Kms	10Kms	10Kms	10Kms	10Kms
DATE ASSIGNED	TECHNICIAN AMH - W.U.F. - S.I. - Check			EST. HRS.		APPROVED BY:		
DATE COMPLETED 1-22-76	ENGINEER			ACT. HRS.				

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-250MQ-350	SHEET NO. 678984
TA NO. A427	RESISTANCE 350.0 ± 0.9%	LAB. NO. 10554A
WORK ORDER	GAGE FACTOR 2.11 ± 0.5	PART NO.
REQUESTED BY: A. WHITENER	LOT NO. Q-A18AF56	SERIAL NO.

TITLE OF TEST
MODEL 301 FLIGHT TEST



✓ 40 ✓ 39 ✓ 38 ✓ 37 ✓ 36 ✓ 35 ✓ 34 ✓ 33 ✓ 32 ✓ 31 ✓ 30 ✓ 29

BRIDGE	0	0	1.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
BALANCE	455	4.62	4.35	4.78	5.70	5.65	4.47	5.13	6.25	5.03	4.63	3.98			
RES. TO GROUND	10.0														
DATE ASSIGNED	TECHNICIAN AMH-CCW-BN-2I-FCP-WVF										EST. HRS.	APPROVED BY:			
DATE COMPLETED	ENGINEER										ACT. HRS.				

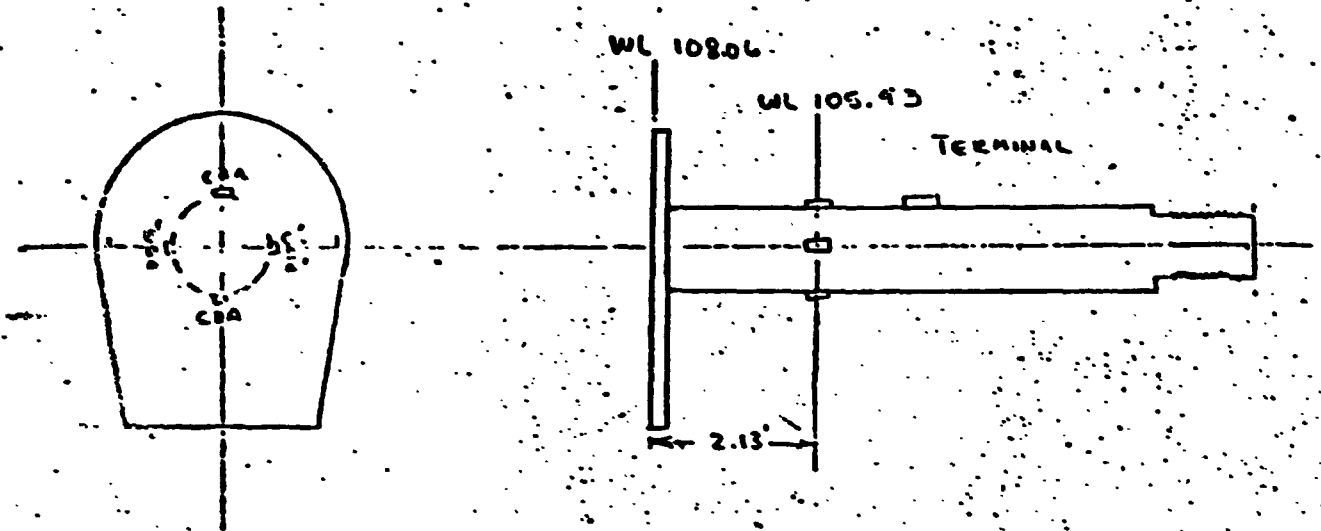
INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE FAE-2-25-35513-EGH	SHEET NO. 678984
TA NO. A427-11A	RESISTANCE 350.0 ± .5	LAB. NO. 10554A
ORDER A427	GAGE FACTOR 2.08 ± 1%	PART NO.
REQUESTED BY: A. WHITENER	LOT NO. A-277	SERIAL NO.

TITLE OF TEST
MODEL 30. FLIGHT TEST

SKETCH:

L/R RUDDER TORQUE TUBE



ORIGINAL PAGE IS
OF POOR QUALITY

REMARKS:

	26 ✓	25 ✓				
BRIDGE	10K WL 125.93	75K WL 125.93				
ANCE	4.74	4.94				
RES. TO GROUND	1016mm	1016mm				
DATE ASSIGNED	TECHNICIAN RICH. SN - CCW - BCP - SI - WIF		EST. HRS.		APPROVED BY:	
DATE COMPLETED 1-22-76	ENGINEER		ACT. HRS.			

INSTRUMENTATION LABORATORY WORK SHEET

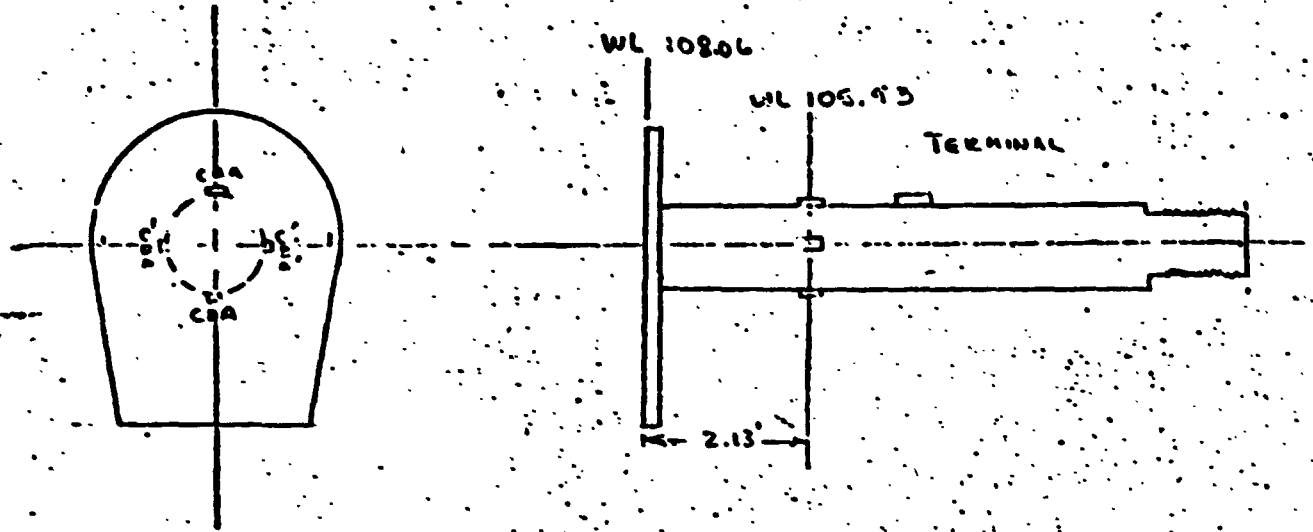
MODEL NO. 301	GAGE TYPE FAE-2-25-35513-EDH	SHEET NO. 478984
QA NO. A427-11A	RESISTANCE 350.0 ± .5	LAB. NO. 10554A
PL. ORDER A427	GAGE FACTOR 2.08 ± 1%	PART NO.
REQUESTED BY: A. WHITENER	LOT NO. A-277	SERIAL NO.

TITLE OF TEST

MODEL 301 FLIGHT TEST

SKETCH:

R/H RUDDER TORQUE TUBE



ORIGINAL PAGE IS
OF POOR QUALITY

REMARKS:

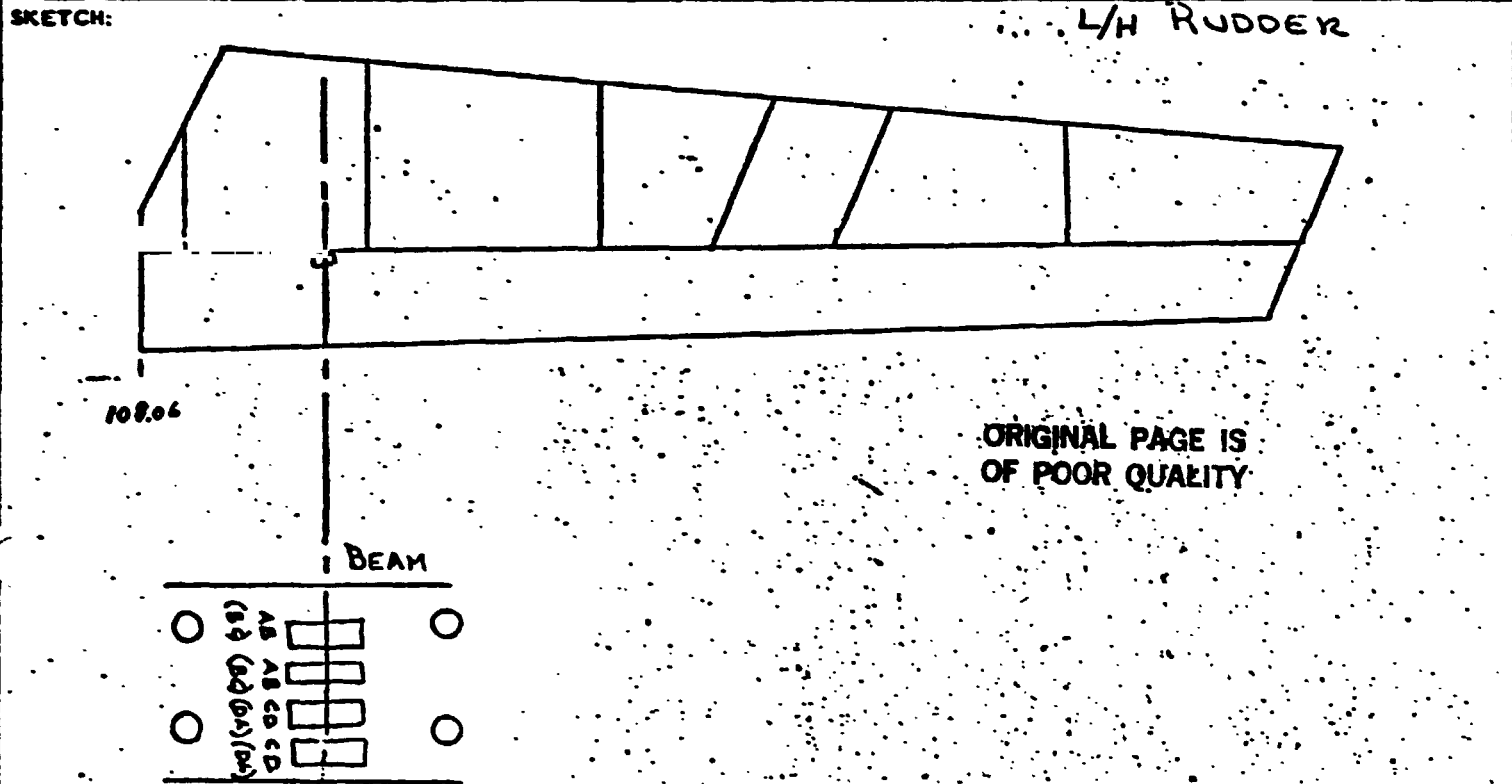
✓ 21 ✓ 22

RIDGE	✓ 21 TOL WL 125.93	✓ 22 TOL WL 125.93				
SPACE	5.59	4.21				
RES. TO GROUND	10KΩ	10KΩ				
DATE ASSIGNED	TECHNICIAN AAH-CCW-EM-BCP-WVF-SI		EST. HRS.		APPROVED BY:	
DATE COMPLETED 1-22-76	ENGINEER		ACT. HRS.			

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-250MQ-350	SHEET NO. 678984
NO. A427-11A	RESISTANCE 350.0 ± 0.4%	LAB. NO. 10554A
WL ORDER A427	GAGE FACTOR 2.11 ± 0.5	PART NO.
REQUESTED BY: A. WHITENER	LOT NO. Q-A18AF56	SERIAL NO.

TITLE OF TEST
MODEL 301 FLIGHT TEST (XV-15)



REMARKS:

WL 118.76

24 23

WEDGE	BM WL 118.76	BM WL 118.76				
BALANCE	4.89	5.29				
RES. TO GROUND	10X in	10X in				
DATE ASSIGNED	TECHNICIAN RAK-5H-CCW-WVF-SJ-BCP			EST. HRS.	APPROVED BY:	
DATE COMPLETED	ENGINEER			ACT. HRS.		

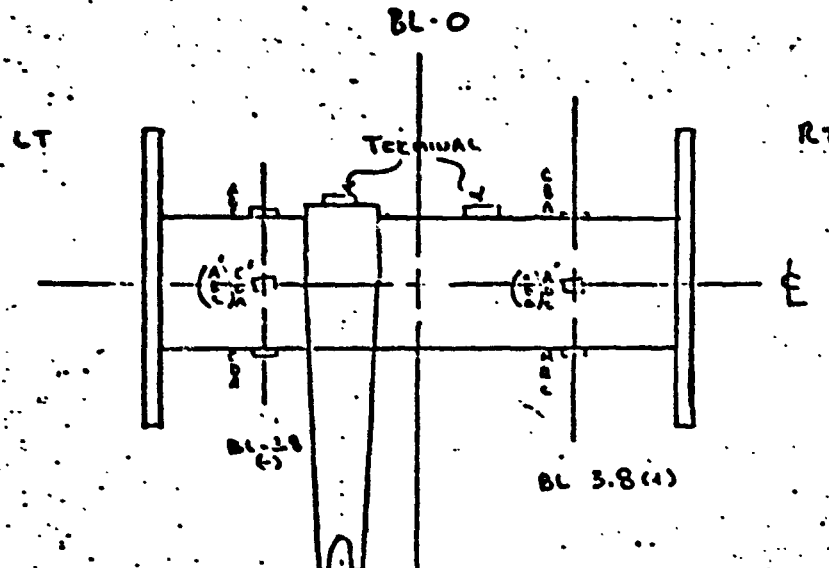
INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE FAE - 2.25 - 35513-611	SHEET NO. 678984
NO. A427-11A	RESISTANCE 350.0 ± .5	LAB. NO. 10554A
WORK ORDER A427	GAGE FACTOR 2.05 ± 1%	PART NO.
REQUESTED BY: A. WHITENER	LOT NO. A-277	SERIAL NO.

TITLE OF TEST
MODEL 301 FLIGHT TEST

SKETCH:

ELEVATOR TORQ. TUBE



ORIGINAL PAGE IS
OF POOR QUALITY

REMARKS:

✓ 4 ✓ 3 ✓ 6 ✓ 5

DGE	LN 7012 RL - 3.8	LN 7012 RL - 3.8	RN 7012 RL + 3.8	RN 7012 RL + 3.8		
BALANCE	5.58	5.30	4.43	5.96		
RES. TO GROUND	10Kmm	~~~~~	~~~~~	10Kmm		
DATE ASSIGNED	TECHNICIAN AMH - WUF - SI - SN - CCW			EST. HRS.	APPROVED BY:	
DATE COMPLETED	ENGINEER			ACT. HRS.		

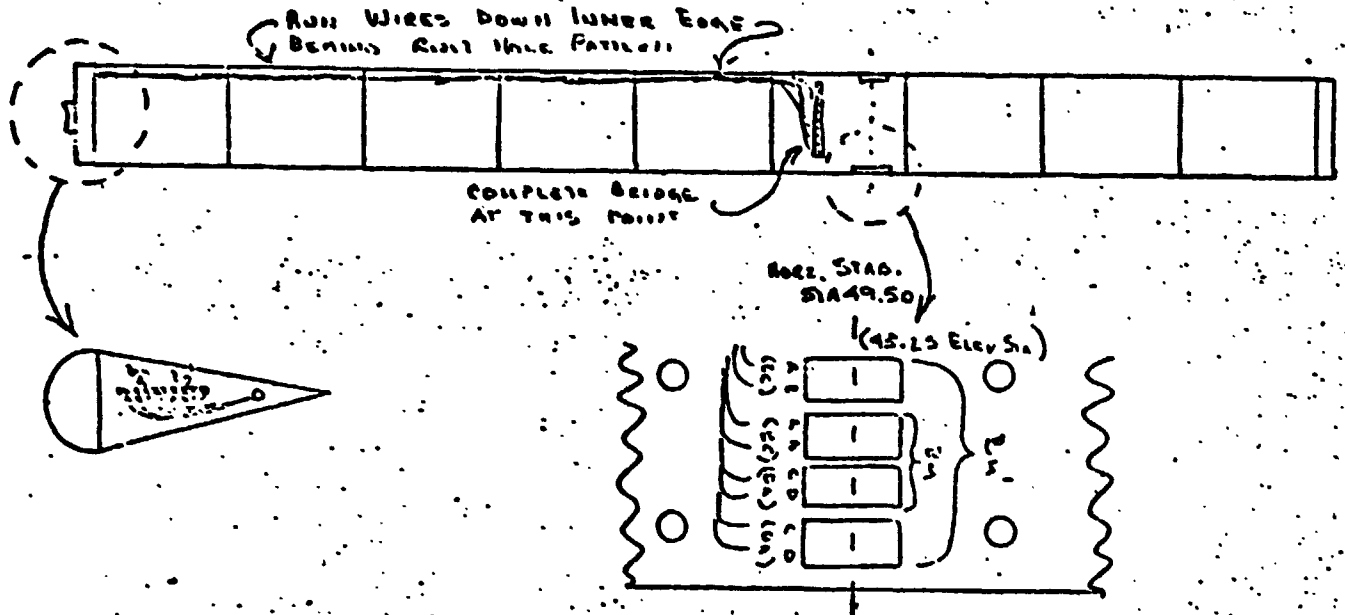
INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-250HQ-350	SHEET NO. 678964
SWA NO. A427-11A	RESISTANCE 350.0 ± 0.4%	LAB. NO. 10554A
ORDER A427	GAGE FACTOR 2.11 ± 0.5	PART NO.
REQUESTED BY: A. WILHELM	LOT NO. Q-A18AF56	SERIAL NO.

TITLE OF TEST
MODEL 301 FLIGHT TEST (XV-15)

SKETCH:

R/H ELEVATOR



REMARKS:

ORIGINAL PAGE IS
OF POOR QUALITY

✓
8 ✓
7

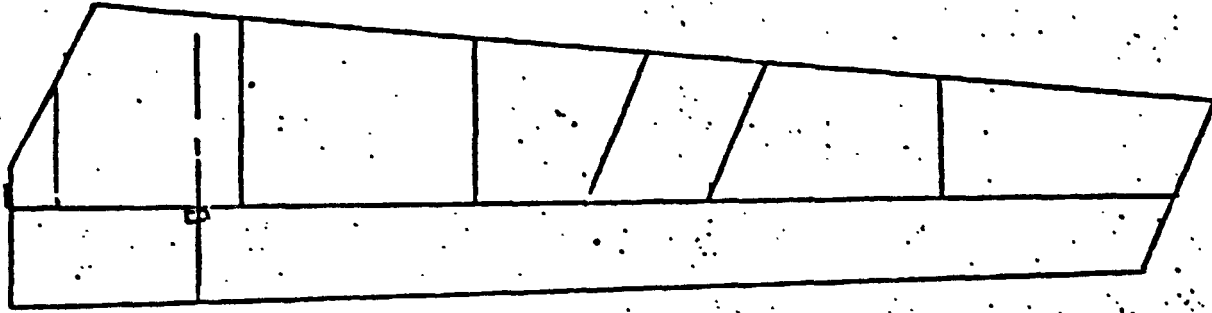
BRIDGE	Bm	Bm'				
SLANCE	6.07	6.01				
RES. TO GROUND	10kms	10kms				
DATE ASSIGNED	TECHNICIAN W. WILHELM, HESTER, CO.		EST. HRS.	APPROVED BY:		
DATE COMPLETED 7-2-55	ENGINEER		ACT. HRS.			

INSTRUMENTATION LABORATORY WORK SHEET

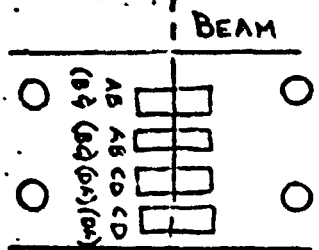
MODEL NO. 301	GAGE TYPE E-A-13-250 MQ-350	SHEET NO. 678984
TA NO. A 427-11A	RESISTANCE 350.0 ± 0.4%	LAB. NO. 10554A
WORK ORDER A427	GAGE FACTOR 2.11 ± 0.5	PART NO.
REQUESTED BY: A. WHITENER	LOT NO. Q-A18AF56	SERIAL NO.

TITLE OF TEST
MODEL 301 FLIGHT TEST (XV-15)

SKETCH: R/H RUDDER



108.06



ORIGINAL PAGE IS
OF POOR QUALITY

REMARKS: **WL 118.76**

19 20

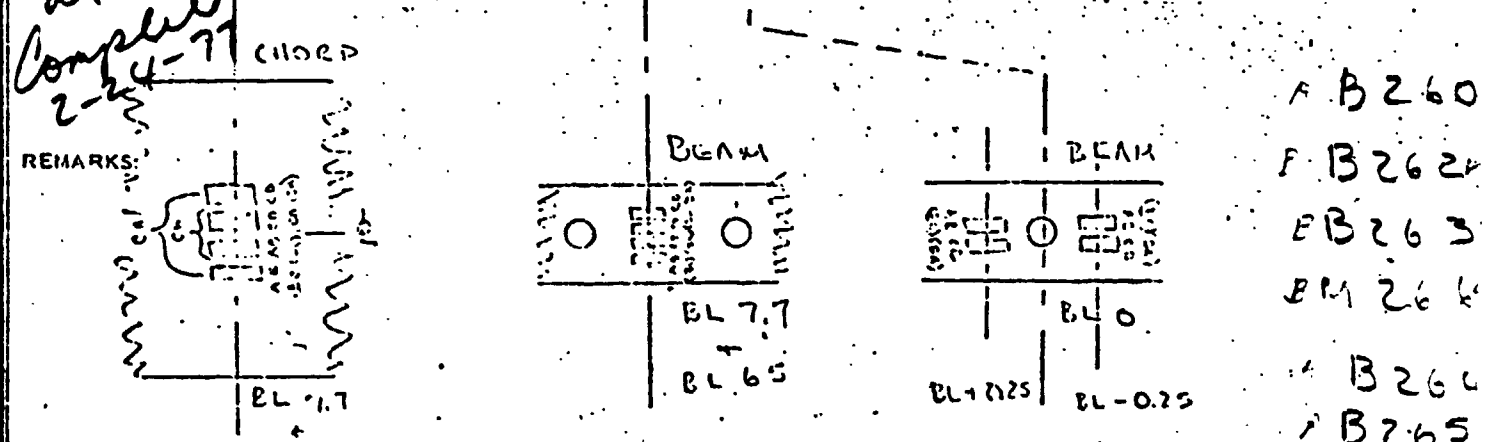
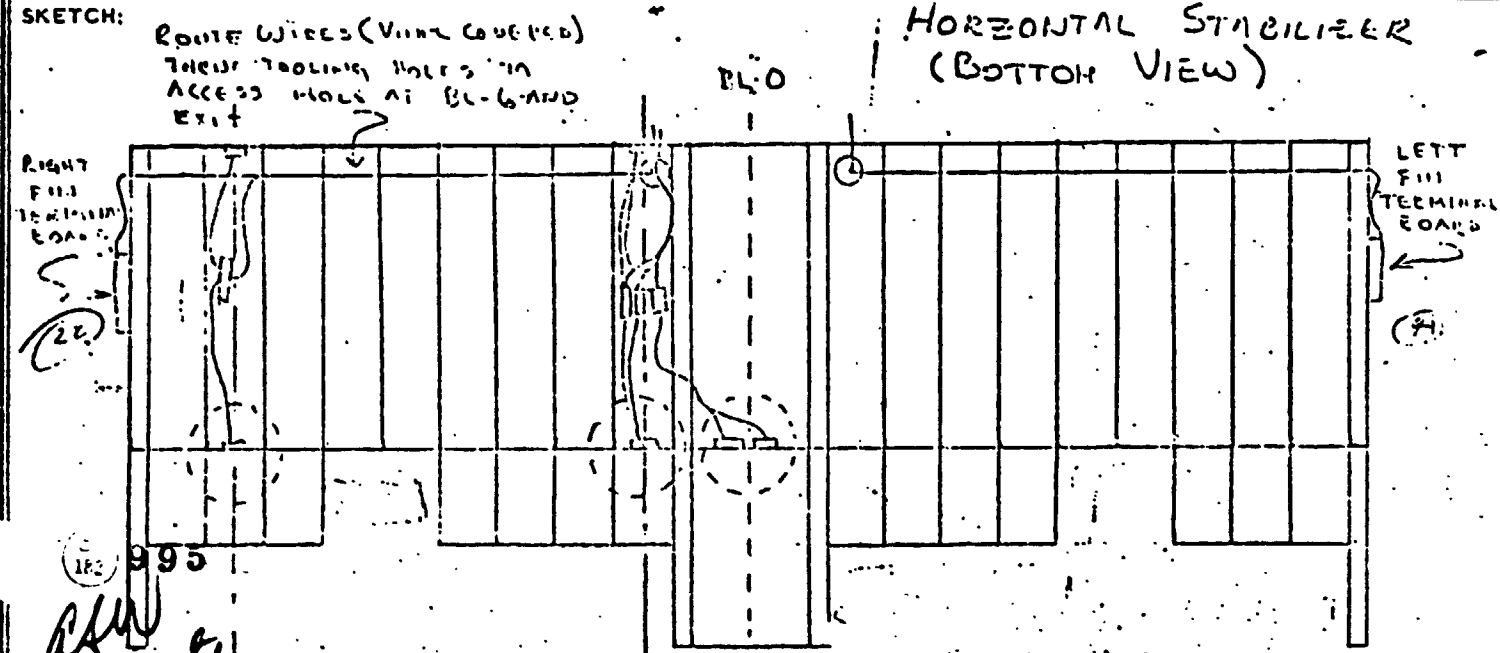
RIDGE	BM WL 118.76	BM WL 118.76				
BALANCE	4.94	4.74				
RES. TO GROUND	10Km	10Km				

DATE ASSIGNED	TECHNICIAN ARTHUR - WVF - SI - CCW	EST. HRS.	APPROVED BY:
DATE COMPLETED	ENGINEER	ACT. HRS.	

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-250MQ-350	SHEET NO. 678984
WA NO. A427	RESISTANCE 350.0 ± 0.4%	LAB. NO. 10554A
WORK ORDER	GAGE FACTOR 2.11 ± 0.5	PART NO.
REQUESTED BY: A. WHITNER	LOT NO. Q-A18AF56	SERIAL NO.

TITLE OF TEST
MODEL 301 FLIGHT TEST



ORIGINAL PAGE IS
OF POOR QUALITY

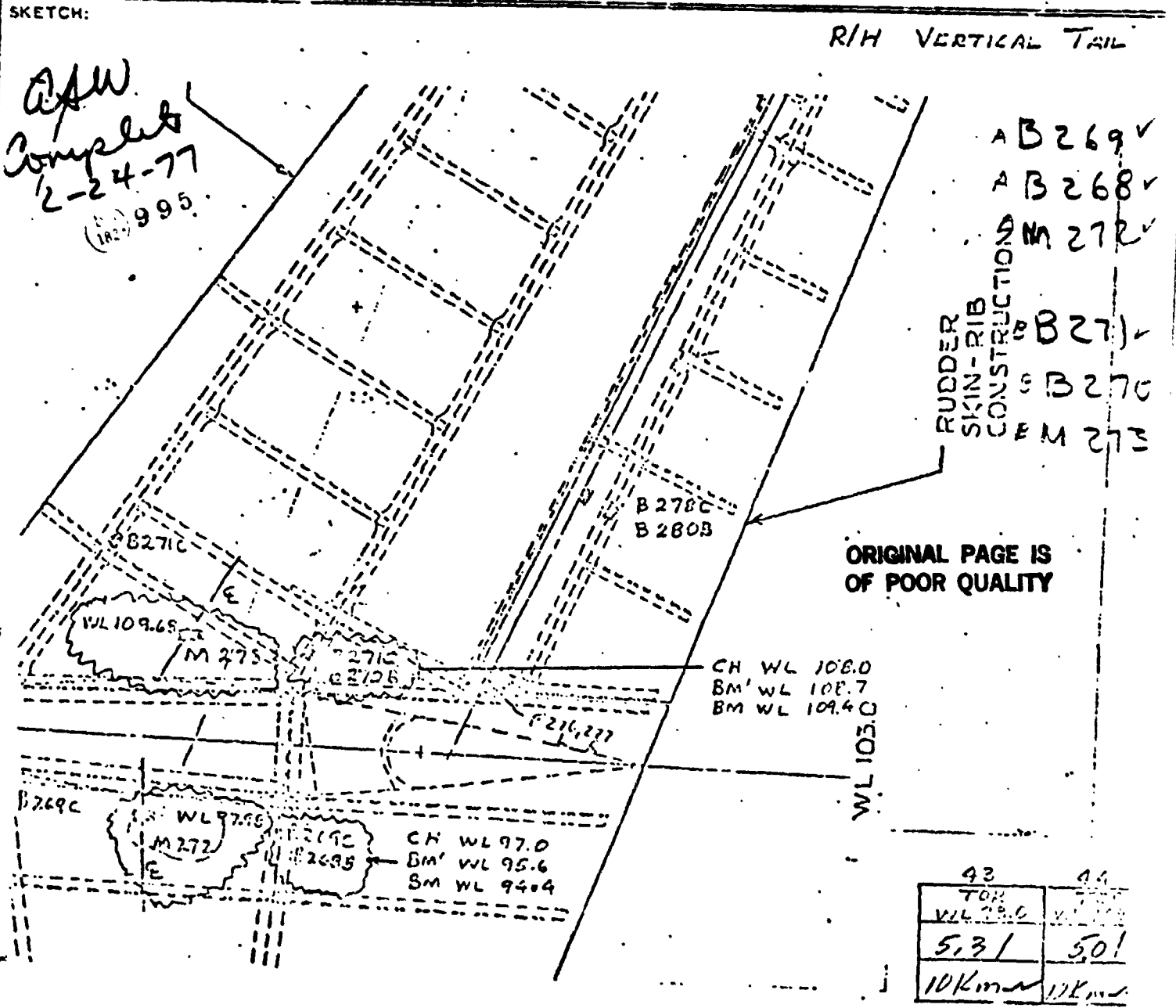
40 39 38 37 36 35 34 33 32 31 30 29

BRIDGE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
BALANCE	4.55	4.62	4.35	4.78	5.70	5.65	4.47	5.13	6.25	5.03	4.83	3.98
RES. TO GROUND	none											
DATE ASSIGNED	TECHNICIAN <i>AMH - CCW - FN - 25 - CCP - WVF</i>								EST. HRS.		APPROVED BY:	
DATE COMPLETED	ENGINEER								ACT. HRS.			

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-2501Q-350	SHEET NO. 678984
EWA NO. A427-11A	RESISTANCE 350Ω	LAB. NO. 10557A
WORK ORDER A427	GAGE FACTOR 2.11 ± 0.5%	PART NO.
REQUESTED BY: A. V. WITCNER	LOT NO. Q-A1BAF56	SERIAL NO.

TITLE OF TEST
MODEL 301 FLIGHT TEST



43	44
TOP WL 98.0	WL 98.0
5.31	5.01
10Kmm	10Kmm

	12	11	14	13	16	15	17	18
BRIDGE	EM WL 97.2	EM WL 96.6	EM WL 97.7	EM WL 97.7	EM WL 100.4	EM WL 100.7	EM WL 100.0	EM WL 100.0
BALANCE	3.78	X	5.43	X	4.61	4.60	5.27	5.23
RES. TO GROUND	10Kmm	X	10Kmm	X	10Kmm	10Kmm	10Kmm	10Kmm
DATE ASSIGNED	TECHNICIAN AMF - W.V.F. - J.I. - Check			EST. HRS.		APPROVED BY:		
DATE COMPLETED 1-22-76	ENGINEER			ACT. HRS.				

BY A. WHITENER
CHECKED AW

BELL HELICOPTER COMPANY

MODEL 301 PAGE 2
HELI. 142 REF. SKACW04375-1

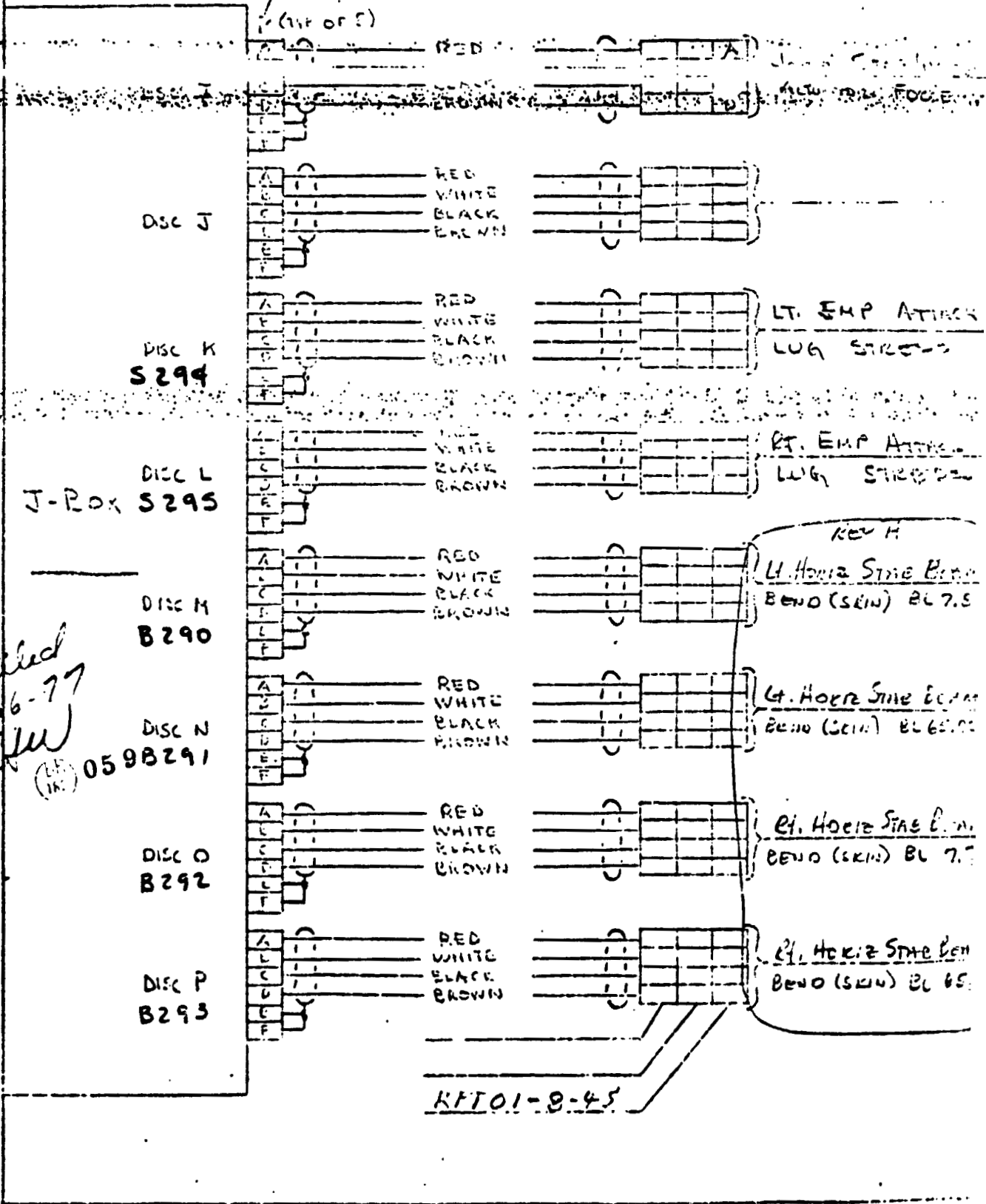
REV H 5-16-77
AW

**ORIGINAL PAGE IS
OF PCOR QUALITY**

DISCONNECT HARNESS

J-Box LOCATION EMP-2

KFTOG-10-6P



*Installed
5-16-77
AW*

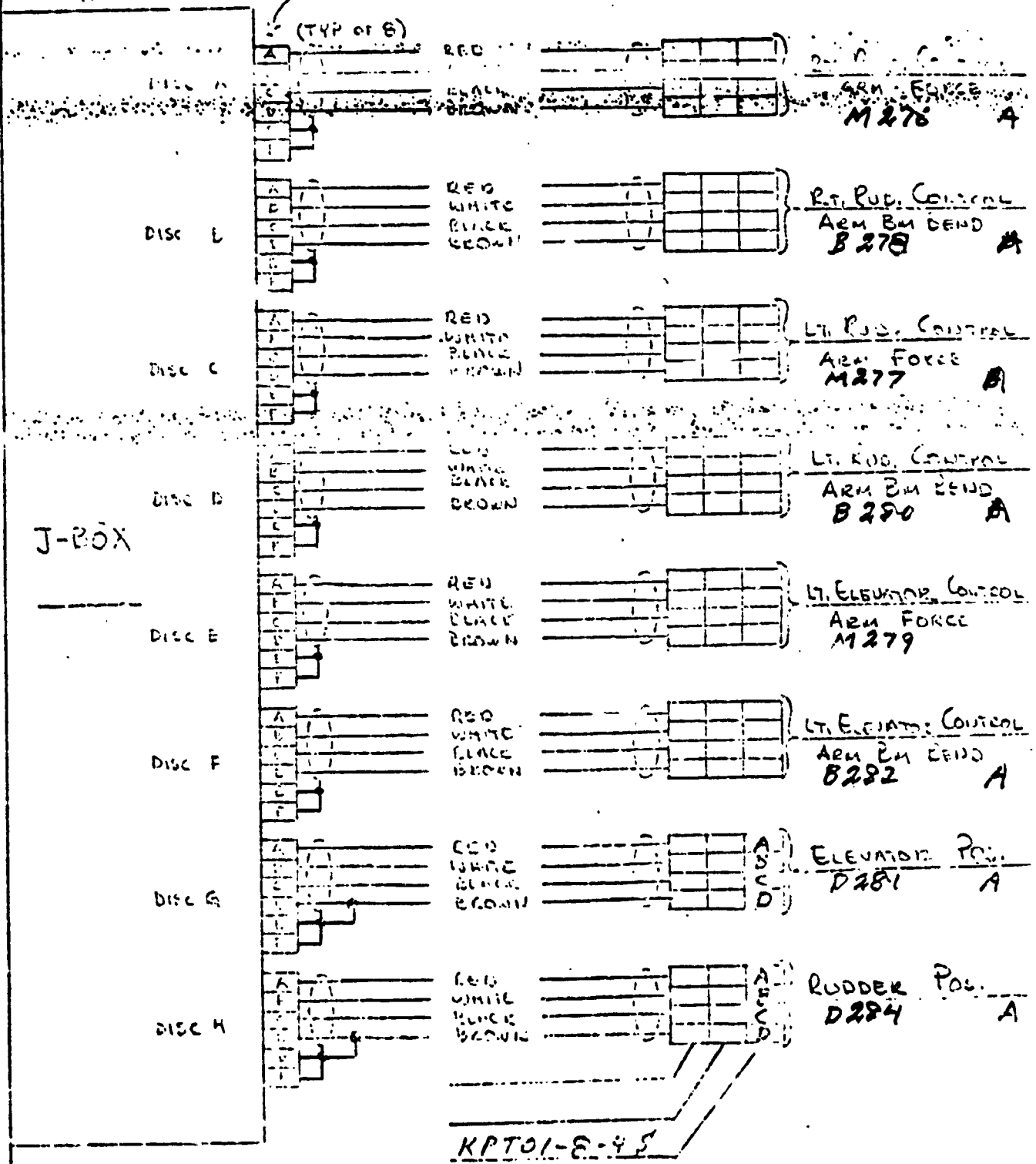
303-2000000-000

ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION EMP-2

KPTOG-10-6P



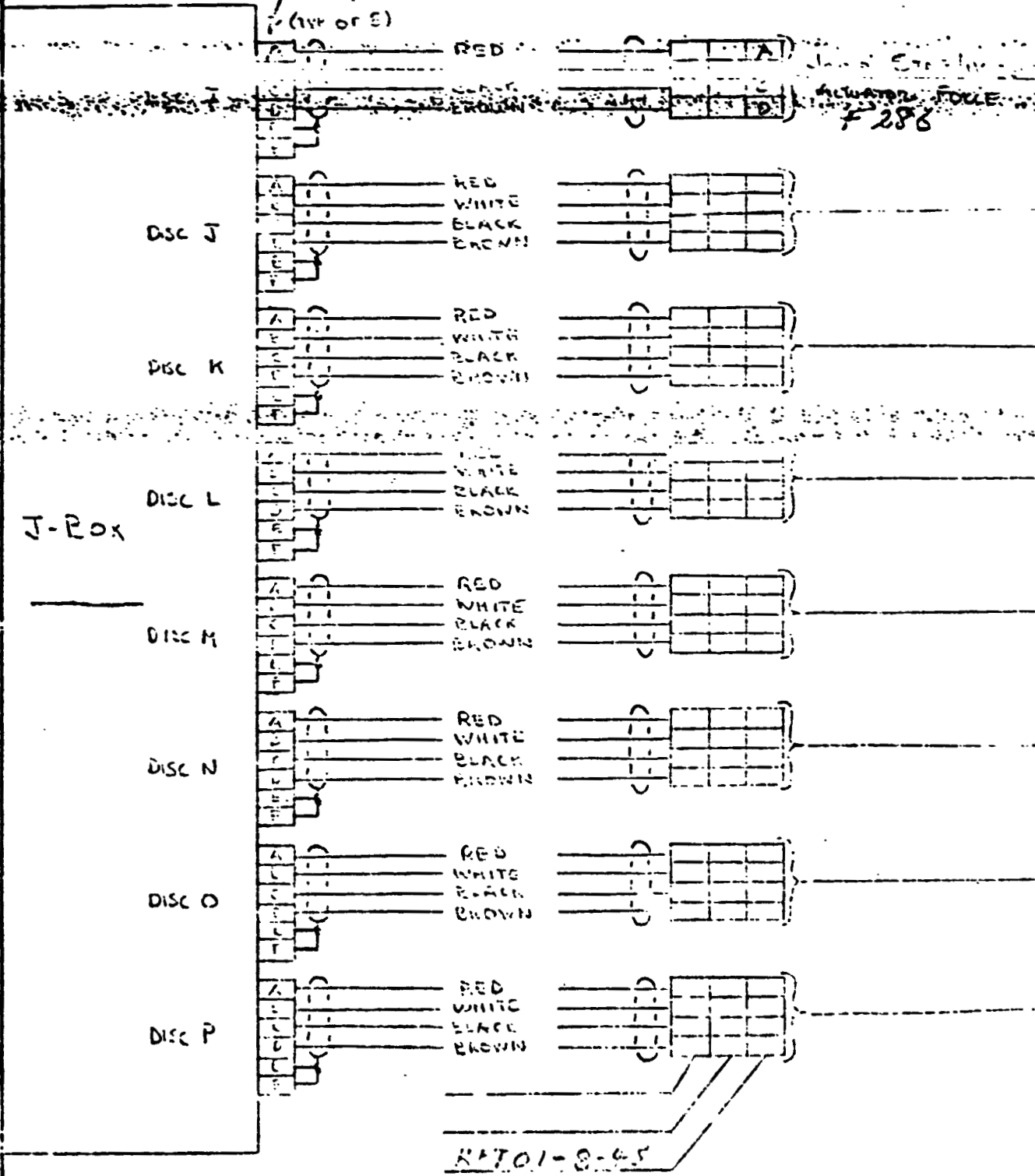
ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

F286

J-Box LOCATION EMP-2

KFTOG-10-6P

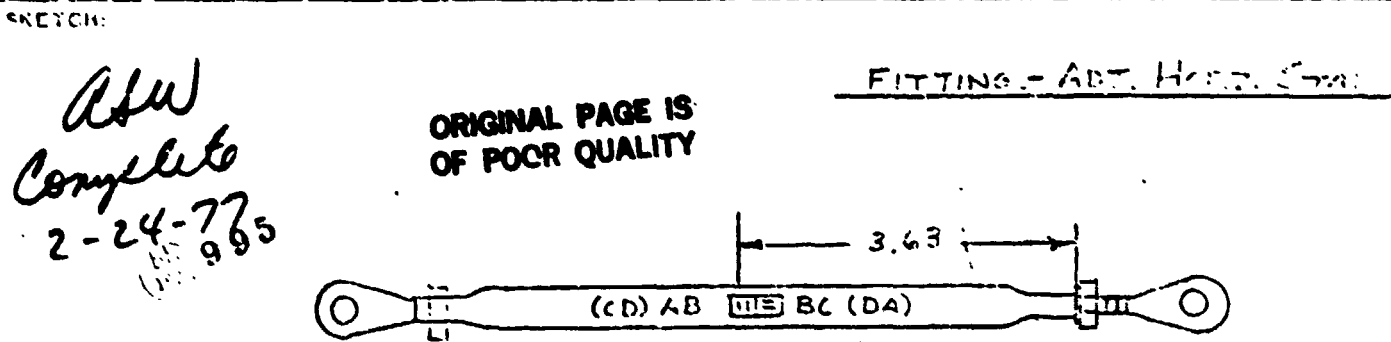


932 88827 CV 152

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-3-1257A-350	SHEET NO. DLN 678904
LWA NO. A427-11A	RESISTANCE 2.000	LAD. NO. 106654
ORDER A427	GAGE FACTOR 2.000 ± 1.0%	PART NO. 301-301-050-01
REQUESTED BY: A. WHITENER	LOT NO. 1-12170113	SERIAL NO.

TITLE OF TEST **F 286**
301 FLIGHT TEST



REMARKS:

- INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT.
- MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER
- WITH 9509. ATTACH FOUR WIRE SIX INCH SUPERFLEX
- LEADS. ENCASE LEADS IN VINYL SLEEVING AND
- TERMINATE WITH MAP PLUG.

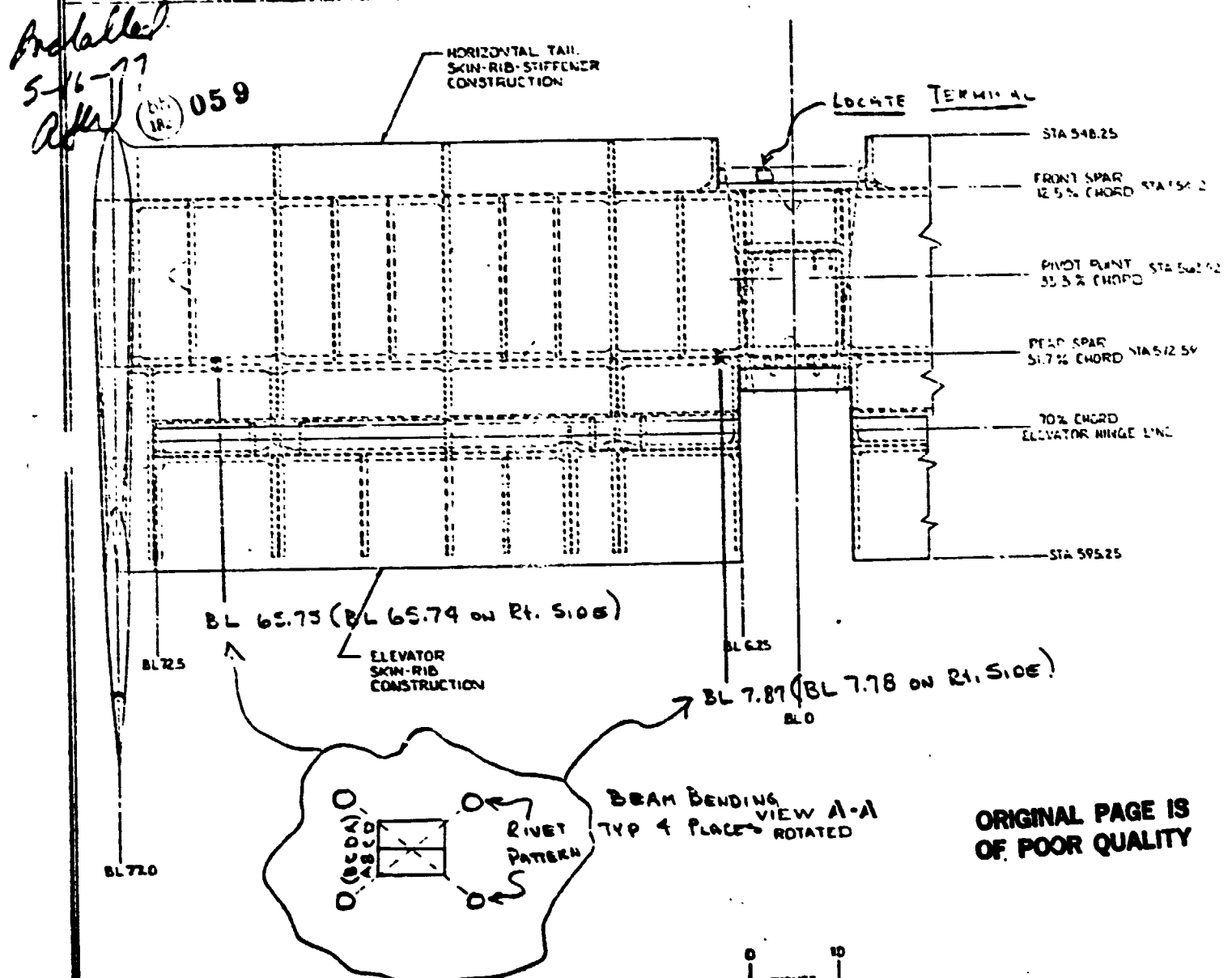
BRIDGE	AXIAL					
LANCE	4.15					
RES TO GROUND	100000					
DATE ASSIGNED	TECHNICIAN <i>[Signature]</i>			EST. HRS		APPROVED BY
DATE COMPLETED	ENGINEER			ACT. HRS		

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301 #1	GAGE TYPE EA-13-250MG-350 OPTION W	SHEET NO. 692741
EWA NO. A439	RESISTANCE 350Ω	LAB. NO. 10554A
WORK ORDER	GAGE FACTOR 2.14 ± 0.3	PART NO.
REQUESTED BY: A WHITENER	LOT NO.	SERIAL NO.

TITLE OF TEST
MODEL 301 GND RUN + HOVER

SKETCH: HORIZ. STAB. BEAM BEND.



ORIGINAL PAGE IS OF POOR QUALITY

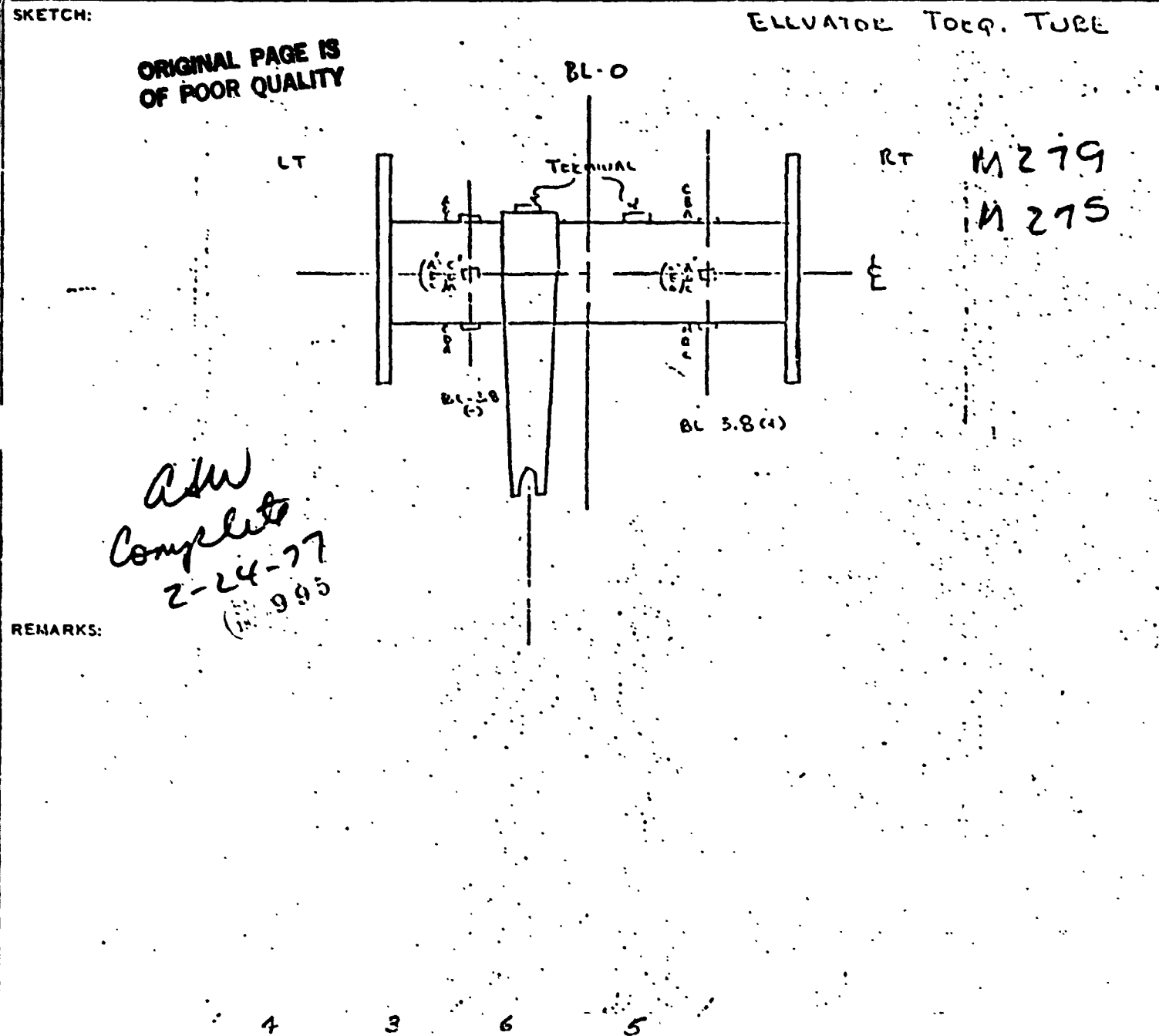
	50	51	52	53		
BRIDGE	Lt. 7.87	Lt. 65.75	Rt. 7.78	Rt. 65.74		
BALANCE						
RES. TO GROUND						
DATE ASSIGNED	TECHNICIAN				EST. HRS.	TESTED BY
DATE COMPLETED	ENGINEER				ACT. HRS.	

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. <div style="text-align: center; font-size: 1.2em;">301</div>	GAGE TYPE FAE - 2.25-35513-621	SHEET NO. <div style="text-align: center; font-size: 1.2em;">678984</div>
TA NO. A427-11A	RESISTANCE <div style="text-align: center; font-size: 1.2em;">350.0 ± .5</div>	LAB. NO. <div style="text-align: center; font-size: 1.2em;">10554A</div>
WK ORDER A427	GAGE FACTOR <div style="text-align: center; font-size: 1.2em;">2.05 ± 1%</div>	PART NO.
REQUESTED BY: A. WHITNER	LOT NO. <div style="text-align: center; font-size: 1.2em;">A-277</div>	SERIAL NO.

TITLE OF TEST

MODEL 301 FLIGHT TEST

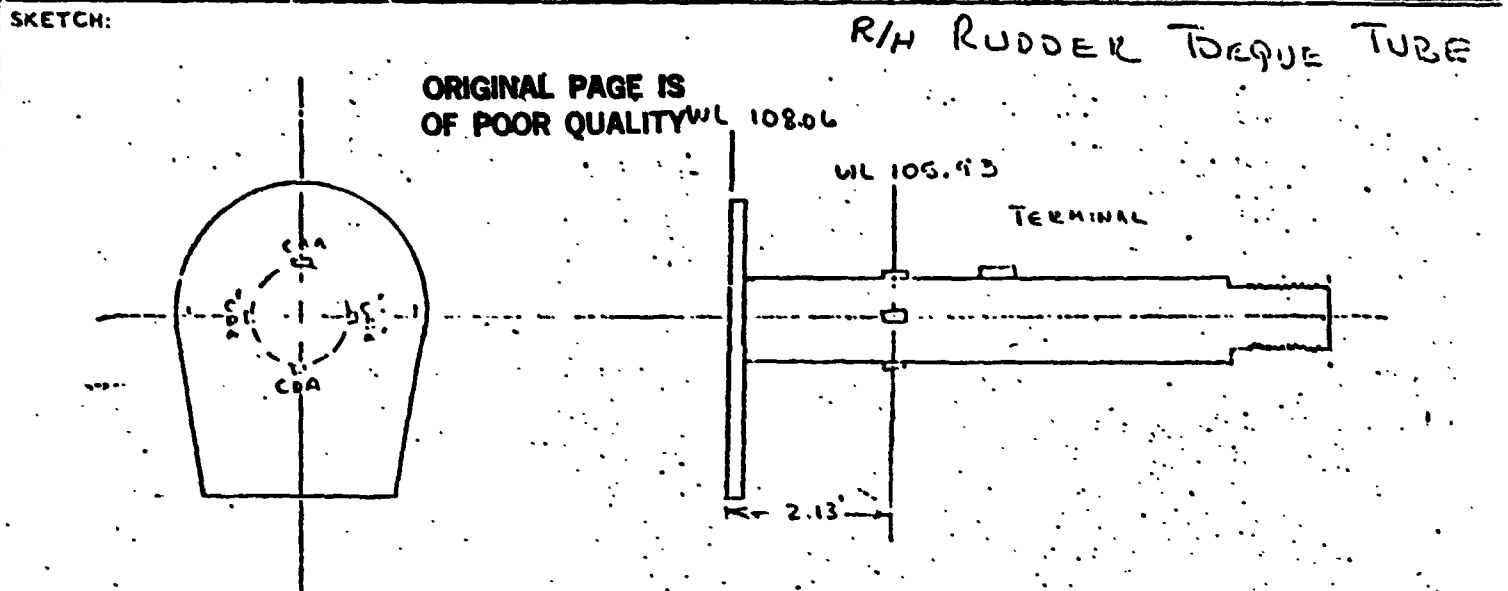


RIDGE	4/12 7000 26 - 3.8	4/12 7000 BL - 3.8	4/12 7000 BL + 3.8	4/12 7000 BL + 3.8		
IMPEDANCE	5.58	5.30	4.43	5.96		
RES. TO GROUND	10KΩ	~~~~~	~~~~~	10KΩ		
DATE ASSIGNED	TECHNICIAN AMH - WNF - SI - BN - CCW			EST. IN'S.	APPROVED BY:	
DATE COMPLETED	ENGINEER			ACT. IN'S.		

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE FAE-2-25-35513-ERH	SHEET NO. 678984
VA NO. A427-11A	RESISTANCE 350.0 ± .5	LAB. NO. 10554A
PK ORDER A427	GAGE FACTOR 2.08 ± 1%	PART NO.
REQUESTED BY: A. WHITENER	LOT NO. A-277	SERIAL NO.

TITLE OF TEST: **MODEL 301 FLIGHT TEST** **M276**



ORIGINAL PAGE IS OF POOR QUALITY WL 108.06

AW
Complete
2-24-77
(10554A)

REMARKS:

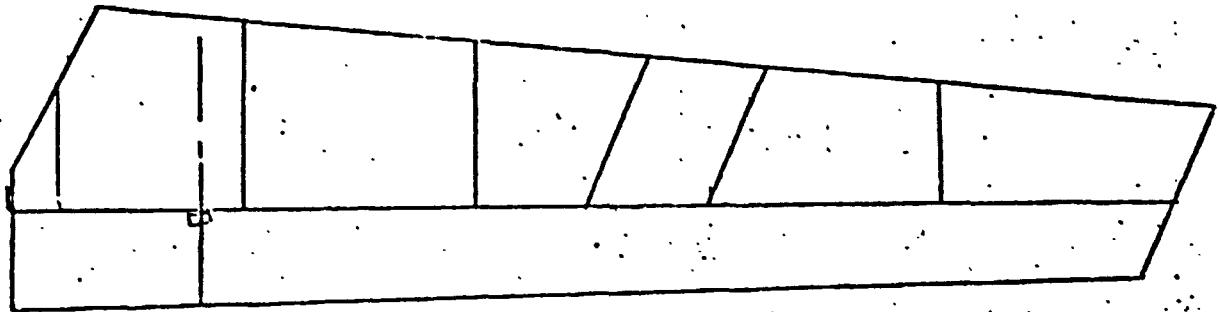
	21	22				
RIDGE	704 WL 125.73	752 WL 105.93				
LANCE	5.59	4.21				
RES. TO GROUND	10KΩ	10KΩ				
DATE ASSIGNED	TECHNICIAN AWH-CCIV-EN-BCP-UNV-SI		EST. HRS.		APPROVED BY:	
DATE COMPLETED 1-2-76	ENGINEER		ACT. HRS.			

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-250MQ-350	SHEET NO. 678984
TRA NO. A 427-11A	RESISTANCE 350.0 ± 0.4%	LAB. NO. 10554A
WO ORDER A427	GAGE FACTOR 2.11 ± 0.5	PART NO.
REQUESTED BY: A. WHITENER	LOT NO. G-A18AF56	SERIAL NO.

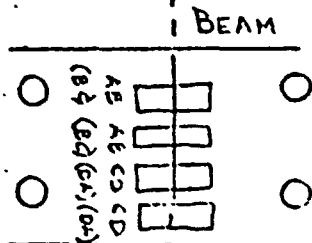
TITLE OF TEST: **MODEL 301 FLIGHT TEST (XV-15)** **13278**

SKETCH: ... R/H RUDDER



108.06

ORIGINAL PAGE IS
OF POOR QUALITY



REMARKS: **WL 118.76**

*Asst
Complete
2-24-77
995*

AGE	19	20				
	<small>BMI</small> WL 118.76	<small>BMI</small> WL 118.76				
BALANCE	4.94	4.74				
RES. TO GROUND	10Kmm	10Kmm				
DATE ASSIGNED	TECHNICIAN <i>Miller - WHF - SI - CCW</i>		EST. HRS.	APPROVED BY:		
DATE COMPLETED	ENGINEER		ACT. HRS.			

HYDRAULIC CYLINDER POSITION BRACKETS ELEVATOR POS

SKIDS-1-31-2

D281

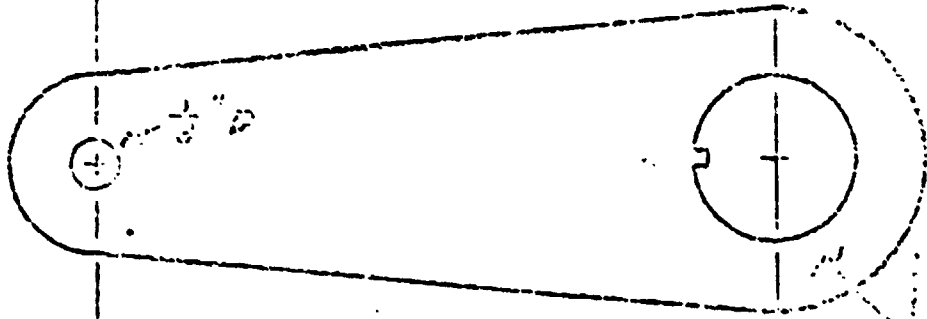
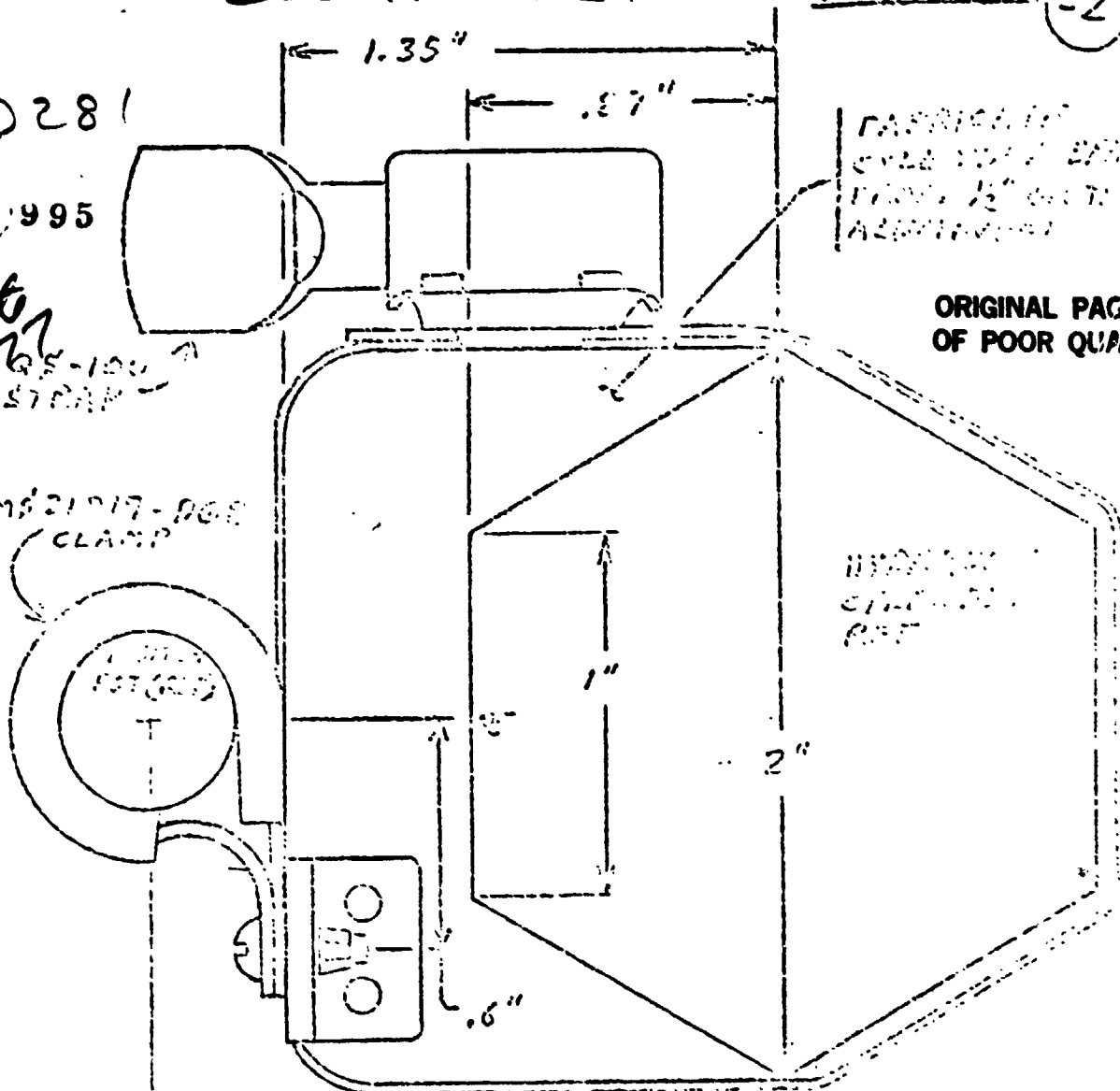
995

*Asst
Complete
2-24-77*

MS21017-008
CLAMP

FABRICATE
CYLINDER BRACKET
FROM 1/2" DIA. TUBING
AS SHOWN

ORIGINAL PAGE IS
OF POOR QUALITY



BY H.D. V. [unclear]

BELL HELICOPTER COMPANY
POST OFFICE BOX 602 • FORT WORTH, TEXAS

MODEL 301 PAGE _____

CHECKED _____

RPT SHIP # 1

HYDRAULIC CYLINDER POSITION BRACKETS

RUDDER POS

SK 476-1-77 (2)

D28d

ABW
Complete
2-24-77
995

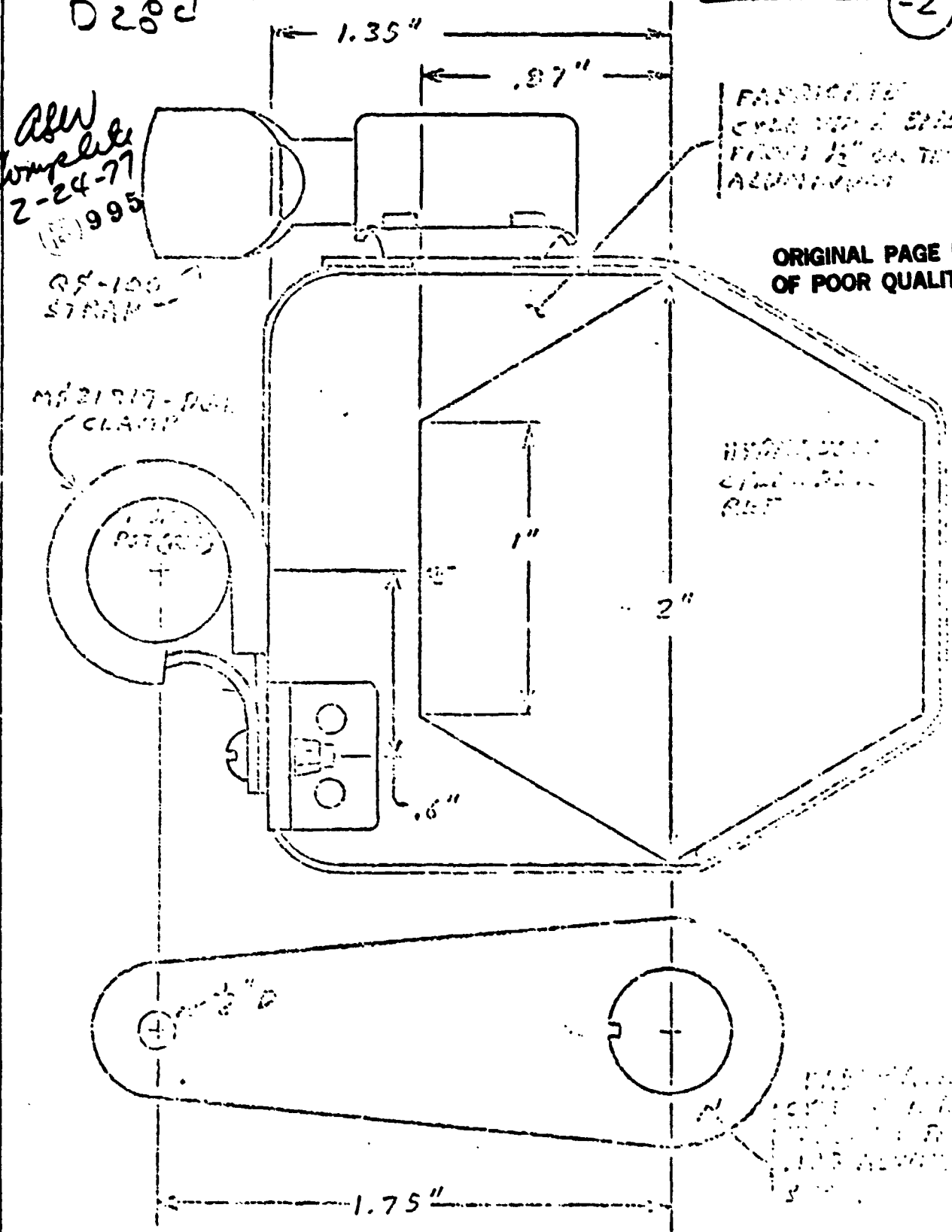
RS-100
STRAP

M21917-001
CLAMP

FABRICATED
FROM 1/2" ALUMINUM

ORIGINAL PAGE IS
OF POOR QUALITY

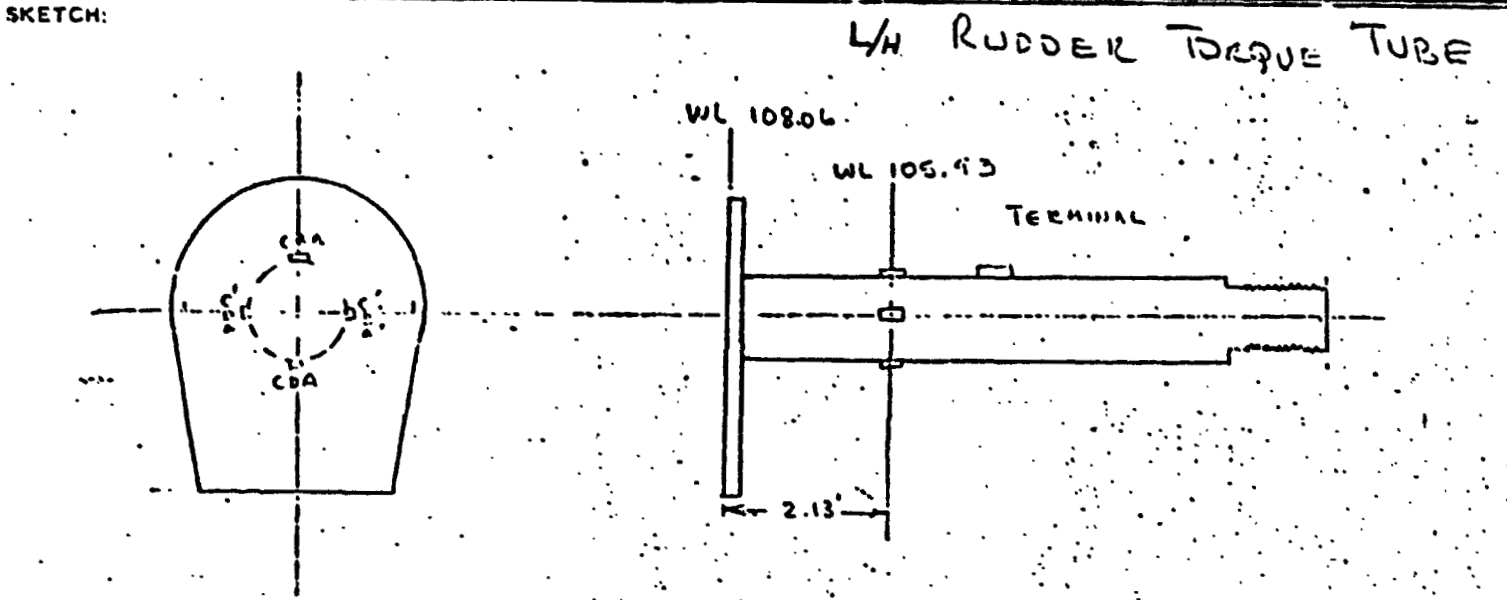
HYDRAULIC
CYLINDER
REF



INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE FAE-2-25-55513-EMH	SHEET NO. 678984
TA NO. A427-11A	RESISTANCE 350.0 ± .5	LAB. NO. 10554A
ORDER A427	GAGE FACTOR 2.08 ± 1%	PART NO.
REQUESTED BY: A. WHITENER	LOT NO. A-277	SERIAL NO.

TITLE OF TEST: **MODEL 301 FLIGHT TEST M277**



ASW
Complete
2-24-77
10990

ORIGINAL PAGE IS
OF POOR QUALITY

REMARKS:

BRIDGE	26 702 WL 125.93	25 702 WL 125.93				
FORCE	4.74	4.94				
RES. TO GROUND	10/1mm	10/1mm				

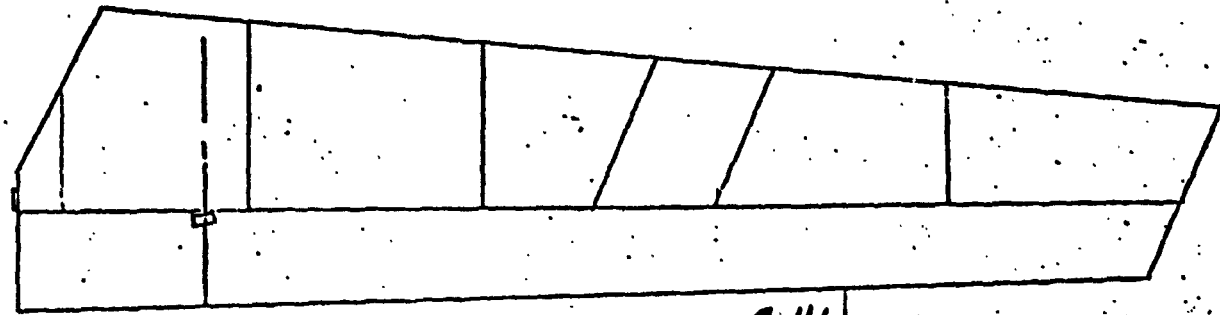
DATE ASSIGNED	TECHNICIAN DAVID S. H. - CCW - RCP - SE - WIF	EST. HRS.	APPROVED BY:
DATE COMPLETED 1-22-76	ENGINEER	ACT. HRS.	

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-250MQ-350	SHEET NO. 678954
TEST NO. A427-11A	RESISTANCE 350.0 ± 0.4%	LAB. NO. 10554A
WORK ORDER A427	GAGE FACTOR 2.11 ± 0.5	PART NO.
REQUESTED BY: A. WHITENER	LOT NO. Q-A18AF56	SERIAL NO.

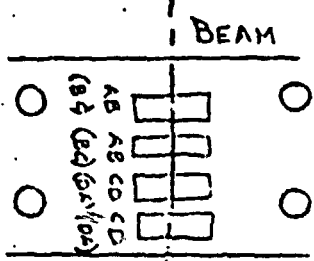
TITLE OF TEST: **MODEL 301 FLIGHT TEST (XV-15) B280**

SKETCH: 1/4 RUDDER



109.06

AW
Complete
2-24-77
(IP2) 995



REMARKS: **WL 118.76**

ORIGINAL PAGE IS OF POOR QUALITY

MODE	24 <i>BM</i>	22 <i>BM</i>				
	<i>WL 118.76</i>	<i>WL 118.76</i>				
BALANCE	4.89	5.29				
RES. TO GROUND	<i>10.5mm</i>	<i>12.1mm</i>				
DATE ASSIGNED	TECHNICIAN AMK-GH-CCW-WVA-SJ-BCP		EST. HRS.	APPROVED BY:		
DATE COMPLETED	ENGINEER		ACT. HRS.			

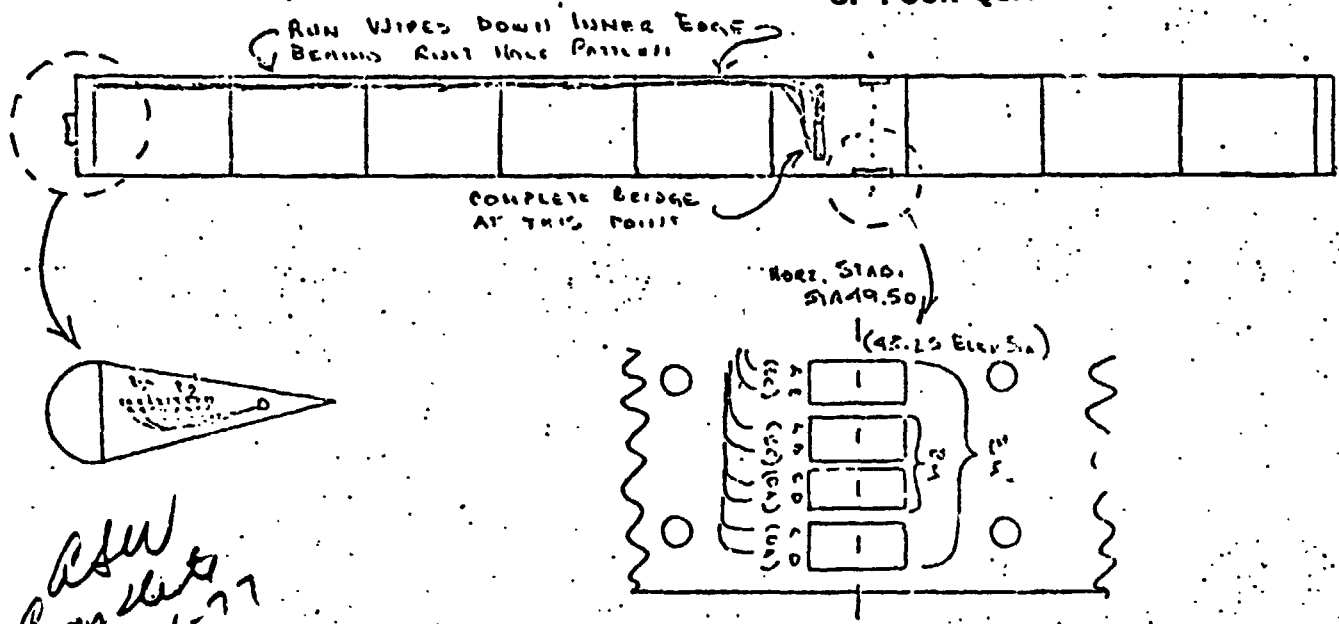
INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-250HQ-350	SHEET NO. 678964
TRA NO. A427-11A	RESISTANCE 350.0 ± 0.4%	LAD. NO. 10554A
WORK ORDER A427	GAGE FACTOR 2.11 ± 0.5	PART NO.
REQUESTED BY: A. VINCENT	LOT NO. Q-A18AF56	SERIAL NO.

TITLE OF TEST: **MODEL 301 FLIGHT TEST (XV-15) B282**

SKETCH: **1/4 ELEVATOR**

ORIGINAL PAGE IS
OF POOR QUALITY



ASW
Complete
2-24-77
995

REMARKS:

BRIDGE	2	1					
SPAN	Bm	Bm'					
RES TO GROUND	5.55	0.1					
DATE ASSIGNED	10/1/77		TECHNICIAN For Vincent, Heston		EST. HRS.	APPROVED BY:	
DATE COMPLETED			ENGINEER		ACT. HRS.		

BY A. WHITEHEAD

BELL HELICOPTER COMPANY

MODEL 301 PAGE 1 OF 2

CHECKED (Signature)

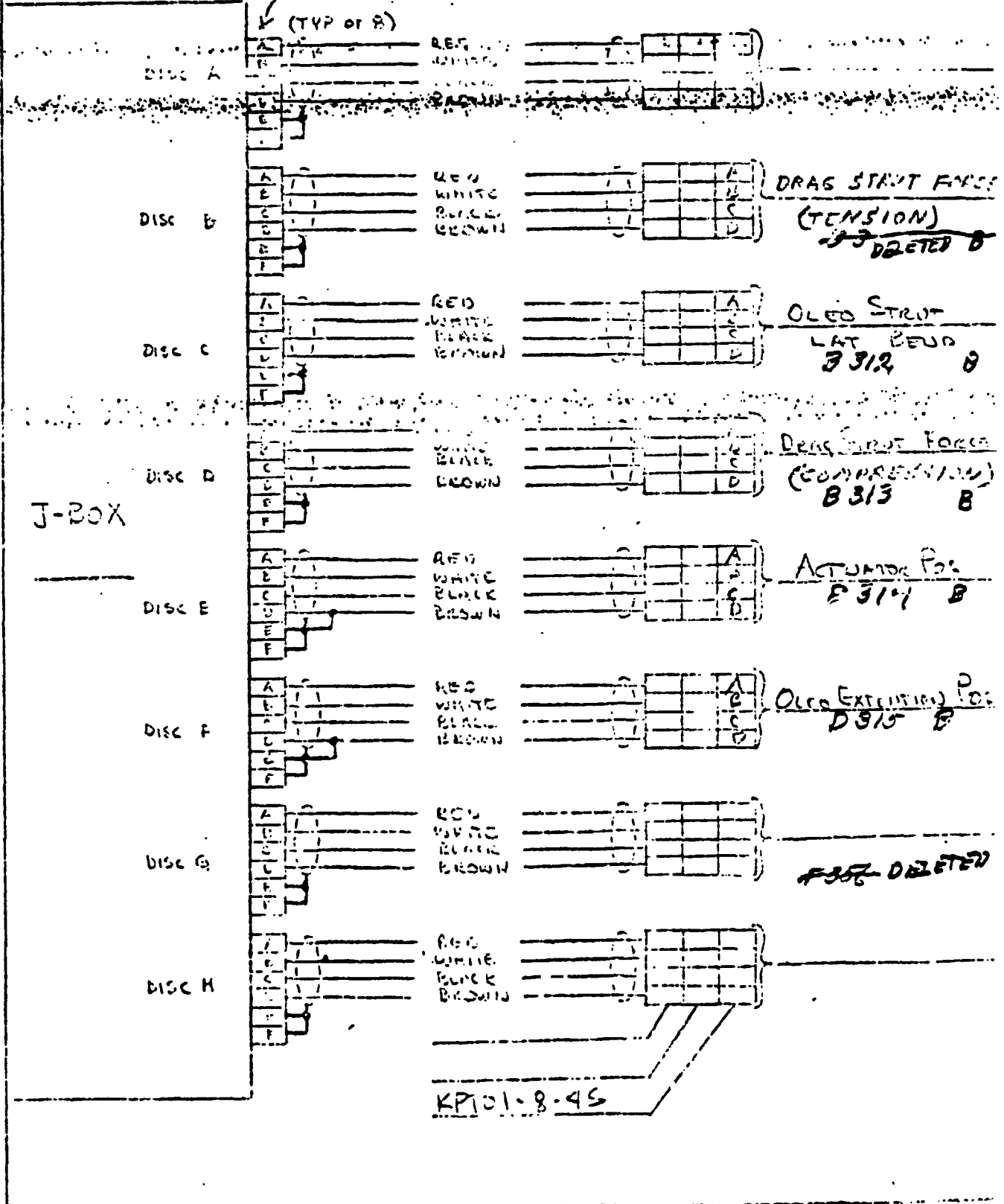
HELI. 1+2 RPT SKASW04375-1

ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-BOX LOCATION LMG-1

KPT06-10-67

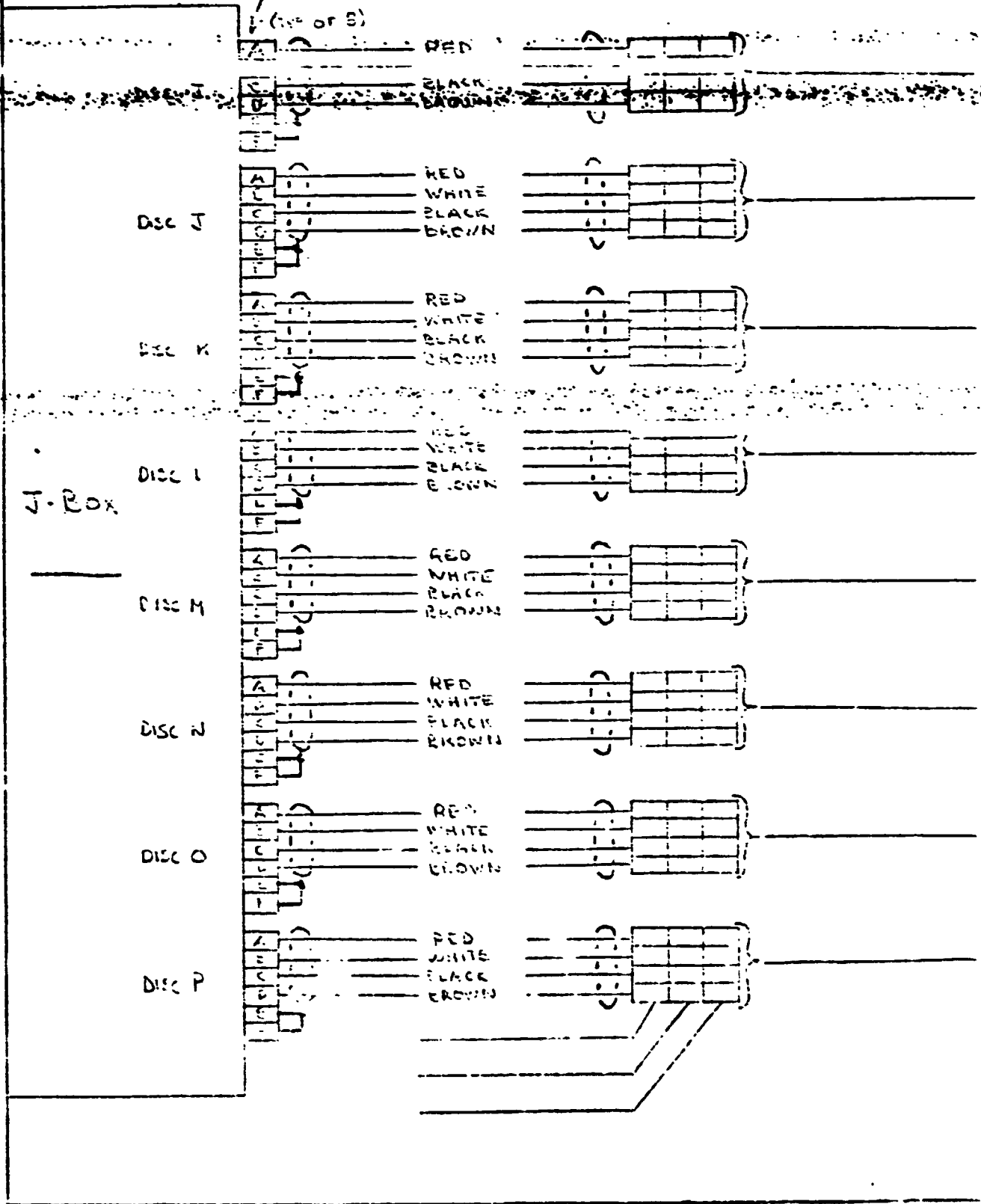


ORIGINAL PAGE IS
OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION LMG-1

KIT02-10-6P



BY A. WHITELEY

Bell Helicopter TEXTRON

Division of Textron Inc.

MODEL 301 PAGE 1

CHECKED _____

POST OFFICE BOX 422 • FORT WORTH, TEXAS 76101

RPT ASWS377-1

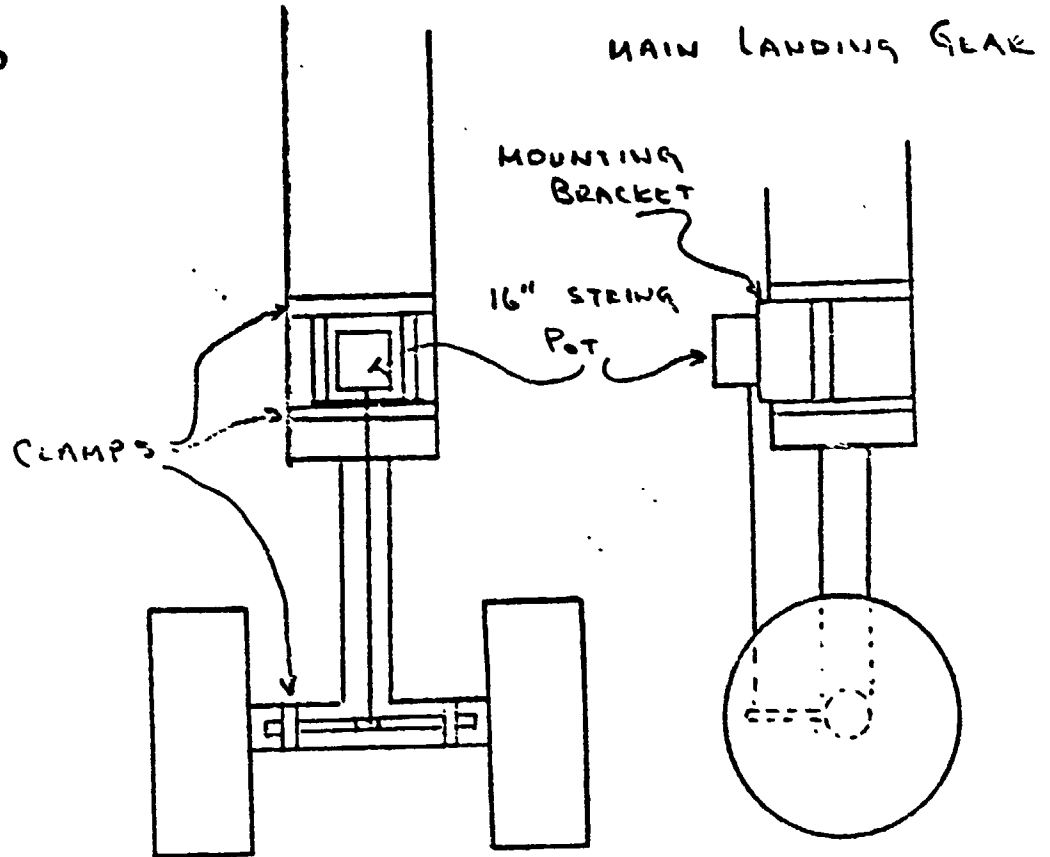
ORIGINAL PAGE IS
OF POOR QUALITY

MAIN LANDING GEAR

D 315

OLEO EXTENSION POS

*ASW
Complete
2-24-77
(10) 985*



BY A. WHITENER

Sell Helicopter **TEXTRON**

MODEL 351 PAGE 1

CHECKED _____

POST OFFICE BOX 487 • FORT WORTH, TEXAS 76101

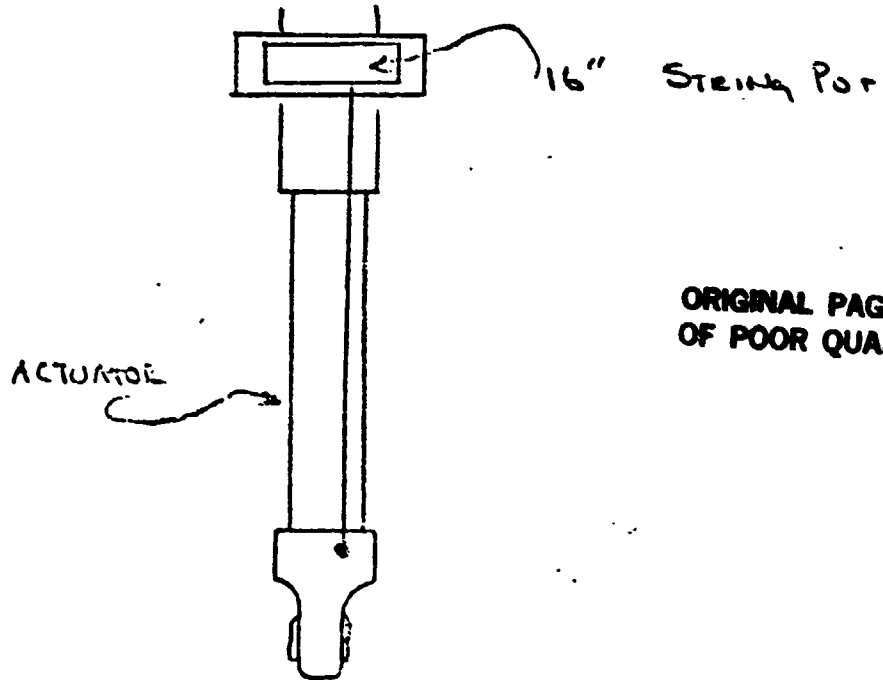
RPT ASW5377-2

Nose + MAIN LANDING GEAR

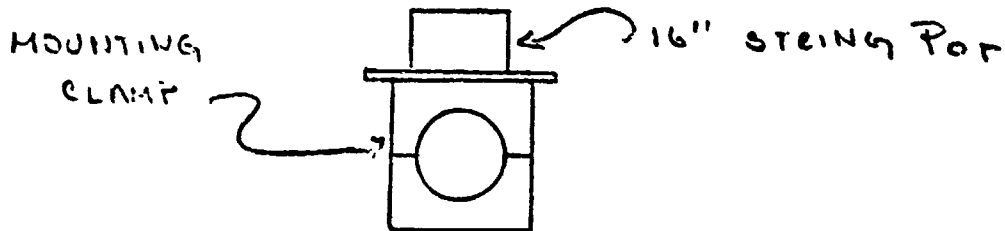
ACT POS

D314

AW
Complete
2-24-77
(107) 995



ORIGINAL PAGE IS
OF POOR QUALITY



INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-06-250MQ-350	LAB. NO. 688512
EWA NO. A427-11B	RESISTANCE 350 ± 0.4 %	LAB. NO. 11331A
PK ORDER A427	GAGE FACTOR 2.13 ± 0.5 %	PART NO. 10565-201
REQUESTED BY: A. WHITENER	LOT NO. A21AD142	SERIAL NO.

TITLE OF TEST
301 FLIGHT TEST

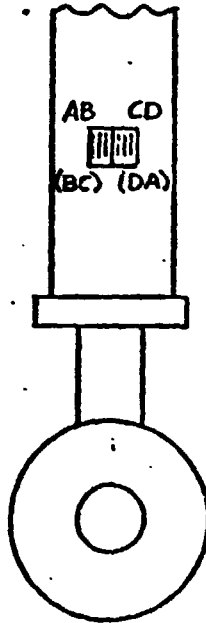
SKETCH:

AW
Complete
2-24-77
(15) 995

ORIGINAL PAGE IS
OF POOR QUALITY

LEFT MAIN GEAR

B 312



SIDE VIEW

REMARKS:

INSTALL BENDING BRIDGE AS SHOWN. USE EASTMAN 910 CEMENT. MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER WITH SHELL 9309. ATTACH FOUR TEN INCH SUPRENTANT LEADS. ENCASE LEADS IN VINYL SLEEVING AND TERMINATE WITH KPT-06-8-4P PLUG.

03

BRIDGE	BENDING						
TOLERANCE							
RES. TO GROUND							
DATE ASSIGNED	TECHNICIAN CCW -				EST. HRS.	APPROVED BY:	
DATE COMPLETED 11-18-76	ENGINEER				ACT. HRS.		

INSTRUMENTATION

MODEL NO. 301	GAGE TYPE EA-06-125TB-350	DLN 688512
EWA NO. A427-11B	RESISTANCE 350.0 ± 0.4 %	LAD. NO. 11330A
RK ORDER A427	GAGE FACTOR 2.07 ± 0.5 %	PART NO.
REQUESTED BY: A. WHITENP.	LOT NO. Q-A 25 ADO 2	SERIAL NO.

TITLE OF TEST **301 FLIGHT TEST**

SKETCH:

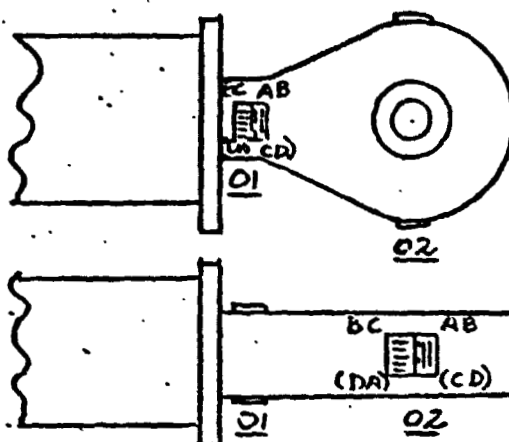
ROD END-HYD. ACTUATO.

LEFT MAIN GEAR

F 313
F 356

ORIGINAL PAGE IS
OF POOR QUALITY

*ADW
Complete
2-24-77
(15) 995*



REMARKS:

- ... INSTALL AXIAL BRIDGES AS SHOWN. USE EASTMAN 910
- ... CEMENT. MAKE BRIDGE AT FLAT TERMINAL AS INDICATED.
- ... COVER WITH SHELL 9309. ATTACH FOUR WIRE TEN INCH
- ... SUPRENT LEADS. ENCASE LEADS IN VINYL SLEEVEING
- ... AND TERMINATE WITH KPT-06-B-4P PLUG.

	01 PRIMARY	02 SECONDARY				
BRIDGE	AXIAL	AXIAL				
ANCE						
S. TO GROUND						
DATE ASSIGNED	TECHNICIAN CCW-		EST. HRS.	APPROVED BY:		
DATE COMPLETED 11-18-76	ENGINEER		ACT. HRS.			

BY A. WHITENER

BELL HELICOPTER COMPANY

MODEL 301 PAGE 1 of 3

CHECKED [Signature]

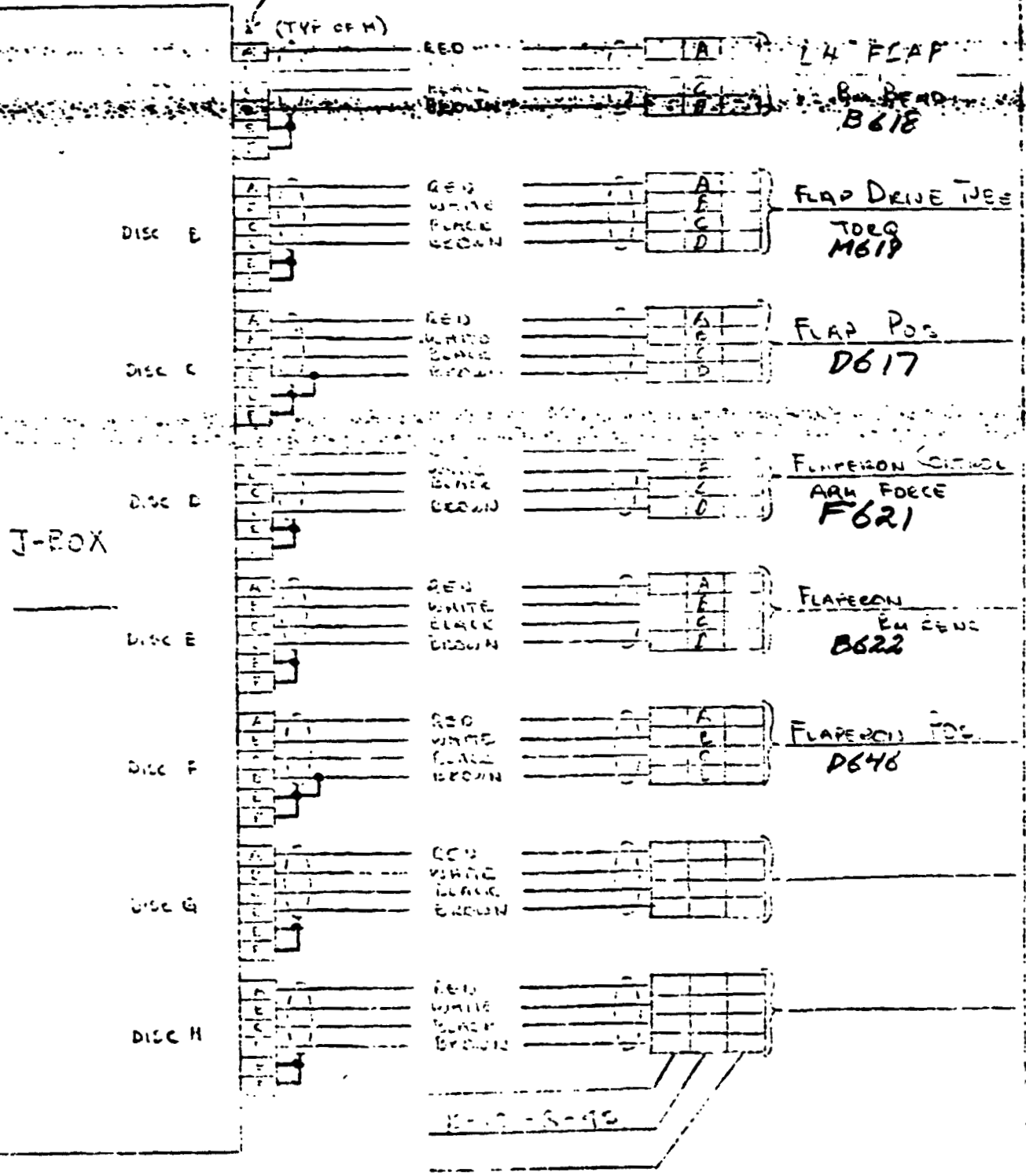
HELL. 1+2 RPT SKASV:04375-1

ORIGINAL PAGE IS OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION LW-1

KPT06-10-6P



BY A. WHITENER

BELL HELICOPTER COMPANY

MODEL 301 PAGE 2 OF 2

CHECKED ASW

HELI. 142 RPT SKASW0477-1

ORIGINAL PAGE IS OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION LW-1

KFTOG-10-6P



1942 SEP 10 V 397

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE FA-13-125TB-350	SHEET NO. DLN 678999
TWA NO. A427-11A	RESISTANCE 350Ω ± 0.4%	LAB. NO. 10632A
WORK ORDER A427	GAGE FACTOR 2.12 ± 1.0%	PART NO. 300-001-614-1
REQUESTED BY: A. WHITENER	LOT NO. Q-A18AF48	SERIAL NO.

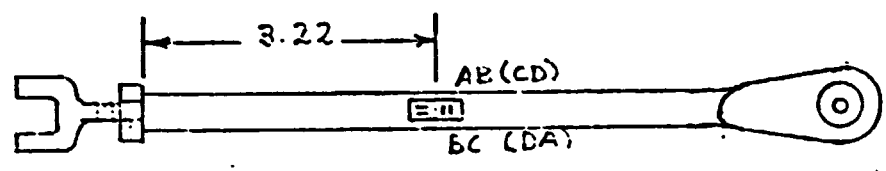
TITLE OF TEST **301 FLIGHT TEST** **F621**

SKETCH:

*AdW
Complete
2-24-77
(10) 995*

ORIGINAL PAGE IS
OF POOR QUALITY

TUBE ASSEMBLY - CONTROL



REMARKS:

INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT.
 MAKE BRIDGE AT FLAT TERMINAL AS INDICATED.
 COVER WITH 9309. ATTACH FOUR WIRE SIX
 INCH SUPERFLEX LEADS. ENCASE LEADS IN
 VINYL SLEEVING AND TERMINATE WITH M4P PLUG.

01

BRIDGE	AXIAL					
PLANCE	4.60					
RES. TO GROUND	10K max.					
DATE ASSIGNED 2-17-76	TECHNICIAN <i>Hillin</i>			EST. HRS.	APPROVED BY.	
DATE COMPLETED 2-18-76	ENGINEER			ACT. HRS.		

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. A427	GAGE TYPE EA 13 - 062VD - 350V	SHEET NO. DLN 67544
SWA NO. A427-11A	RESISTANCE 350.2	LAB. NO. 10624A
ORDER A427	GAGE FACTOR 2.075 ± 0.5%	PART NO. BHF 50624
REQUESTED BY: A. WHITENIE	LOT NO. QA12BF 61	SERIAL NO. S/N 101

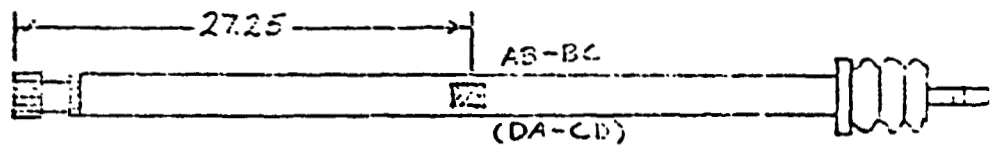
TITLE OF TEST M 619
301 FLIGHT TEST

SKETCH:

*Asw
Complete
2-24-77
(DA) 1995*

**ORIGINAL PAGE IS
OF POOR QUALITY**

L/H FLAP DRIVE TUBE



REMARKS:

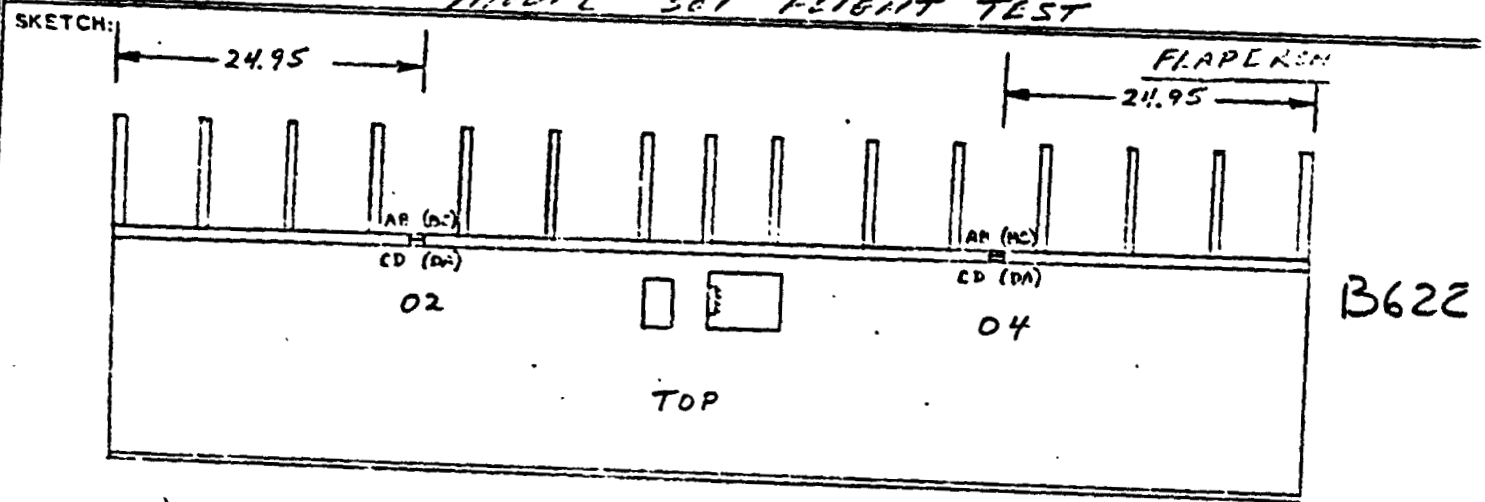
INSTALL TORSION BRIDGE AS SHOWN. USE BR-600 CEMENT. MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. ATTACH FOUR 6 FOOT SUPERFLEX WIRES. ENCASE WIRES IN VINYL SLEEVING AND COIL AROUND SHAFT FOR SIX REVOLUTIONS COVER GAGE AREA WITH 7309.
01

BRIDGE	TORSION						
RANGE	4.72						
TO GROUND							
DATE ASSIGNED	TECHNICIAN				EST. HRS	APPROVED BY	
DATE COMPLETED	ENGINEER				ACT. HRS.		

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE FRE-2-25-35513 EB11	SHEET NO. 678984
'A NO. A 427-11A	RESISTANCE 350 ~	LAB. NO. 10266A
WORK ORDER A 427	GAGE FACTOR 2.08 ± 1%	PART NO. 300-028-068-
REQUESTED BY: A. WHITNER	LOT NO. A-277	SERIAL NO.

TITLE OF TEST
MODEL 301 FLIGHT TEST



AW
Complete
2-24-77
(1977) 995.

**ORIGINAL PAGE IS
OF POOR QUALITY**

REMARKS: **INSTALL TWO BENDING BRIDGES AS SHOWN.
USE 910 CEMENT. RUN WIRES PER INSTRUCTIONS.
TO POST TYPE TERMINAL IN ACCESS HOLE.
COVER WITH 7309.**

BRIDGE	SND-02	SND-04				
BALANCE	4.88	5.50				
RES. TO GROUND	10k.Ω	10k.Ω				
DATE ASSIGNED	TECHNICIAN Payne		EST. HRS.	APPROVED BY:		
DATE COMPLETED 8-29-75	ENGINEER		ACT. HRS.			

INSTRUMENTATION LABORATORY WORK SHEET

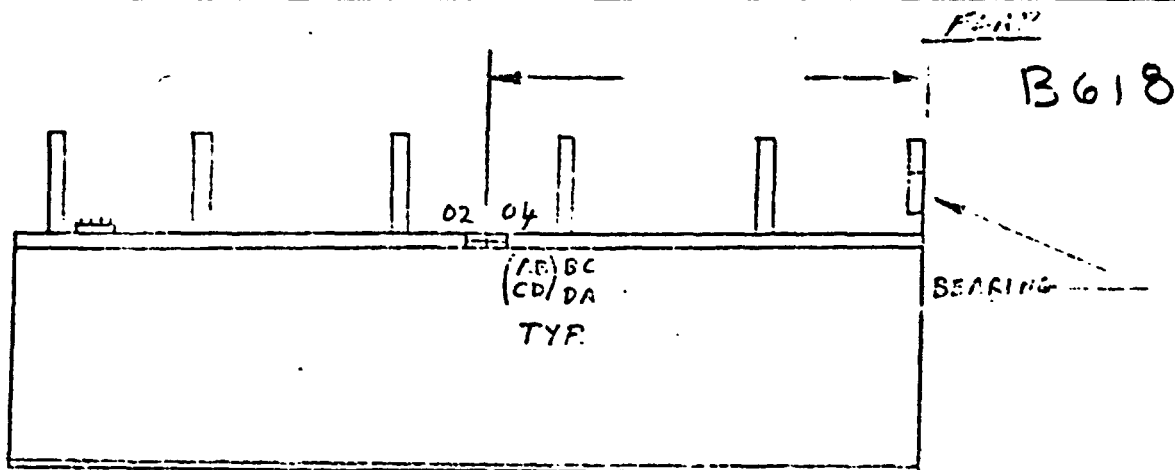
MODEL NO. 301	GAGE TYPE FR-17-25740-357	SHEET NO. 175954
WA NO. A427-11A	RESISTANCE 7.5100	LAB. NO. 10313A
WORK ORDER 2427	GAGE FACTOR 2.11 ± 0.5%	PART NO. 300-028-067-15
REQUESTED BY: R. H. ...	LOT NO. Q-A14AF48	SERIAL NO. —

TITLE OF TEST

ALADDI 301 FLIGHT TEST

SKETCH:

*all
Complete
2-24-77
(175954)*



**ORIGINAL PAGE IS
OF POOR QUALITY**

REMARKS: *INSTALL TWO BINDING BRIDGES AS SHOWN.
USE 910 CEMENT. RUN WIRES PER INSTRUCTIONS
TO POST TYPE TERMINAL IN ACCESS HOLE.
COVER WITH 7309.*

BRIDGE	P111-02	1111-01			
BALANCE	1.20	3.57			
D.S. TO GROUND	10KM	10KM			
DATE ASSIGNED	TECHNICIAN MITCH		EST. HRS.	APPROVED BY.	
DATE COMPLETED 10-1-75	ENGINEER		ACT. HRS.		

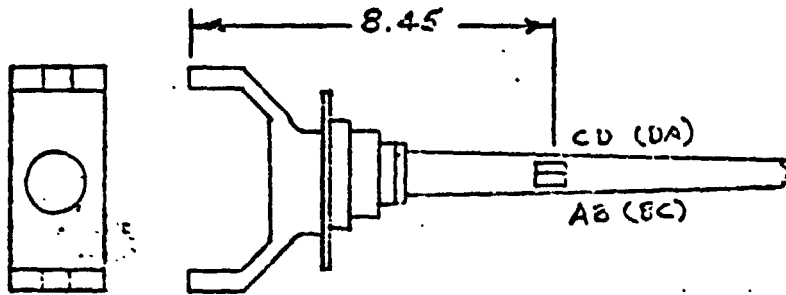
INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-06-250MQ-350	SHEET NO. DLN 679954
EWA NO. A427-11A	RESISTANCE 350	LAB. NO. 106064
ORDER A427	GAGE FACTOR 2.13 ± .5%	PART NO. BHV 2.00575-1
REQUESTED BY: A. WHITENER	LOT NO. Q-A 21AD 195	SERIAL NO. R/H

TITLE OF TEST
301 FLIGHT TEST

SKETCH:

CAT
 Complete
 ALW
 12-10-76



F638
SHAFT TRUNNION

ORIGINAL PAGE IS
OF POOR QUALITY

REMARKS:

INSTALL BENDING BRIDGE AS SHOWN. USE
 BR-600 CEMENT. MAKE BRIDGE AT FLAT.
 TERMINAL AS INDICATED. COVER WITH 9309.
 ATTACH FOUR 6 FOOT SUPERPLEX WIRES TO
 TERMINAL. ENCASE WIRES IN VINYL SLEEVING.

01

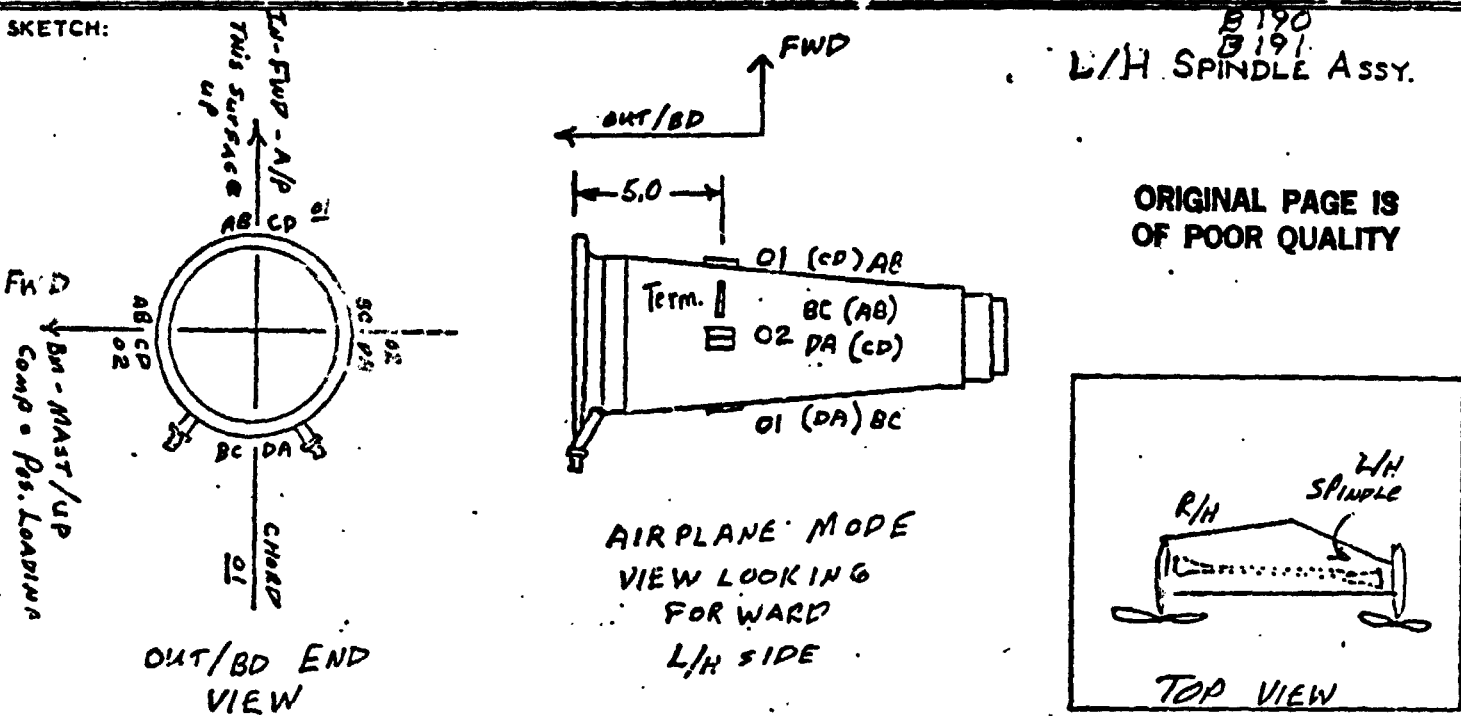
BRIDGE	READ						
RANGE	4.82						
RES. TO GROUND	10KΩ						
DATE ASSIGNED	TECHNICIAN H. 11			EST. HRS.	APPROVED BY:		
DATE COMPLETED 2-11-76	ENGINEER			ACT. HRS.			

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-06-250MQ-350W	SHEET NO. DLN 678984
EWA NO. A427-11	RESISTANCE 350.0 ± 0.4%	LAB. NO. 10598A
TK ORDER A427	GAGE FACTOR 2.13 ± 0.5%	PART NO. 500-040-323-1
REQUESTED BY: A. WHITENER.	LOT NO. Q-AZIAD186	SERIAL NO.

TITLE OF TEST 301 FLIGHT TEST

SKETCH:



REMARKS: 947
 (11/25)
 Complete
 12-10-76

- INSTALL BENDING BRIDGES AS SHOWN.
- USE BR-600 CEMENT. MAKE BRIDGE AT FLAT.
- TERMINAL AS INDICATED. COVER WITH 9309.
- ATTACH FOUR WIRE SIX FOOT SUPERFLEX LEADS TO TERMINAL.

	02	01					
BRIDGE	BEND	BEND					
ALANCE	3.95	5.58					
RES. TO GROUND	10kms	10kms					

DATE ASSIGNED 2-4-76	TECHNICIAN C.C.W.	EST. HRS.
DATE COMPLETED	ENGINEER	ACT. HRS.
		APPROVED BY:

BY H.D. V. [unclear]

BELL HELICOPTER COMPANY

MODEL 301 PAGE

CHECKED

9001 91001 900 902 9001 90000 91000

RPT. 211941

HYDRAULIC CYLINDER POSITION BRACKETS

AILERON POS

SKHDG-1-70 -2

D 646

895
PLW
Complete
2-24-97

95-100
STRAP

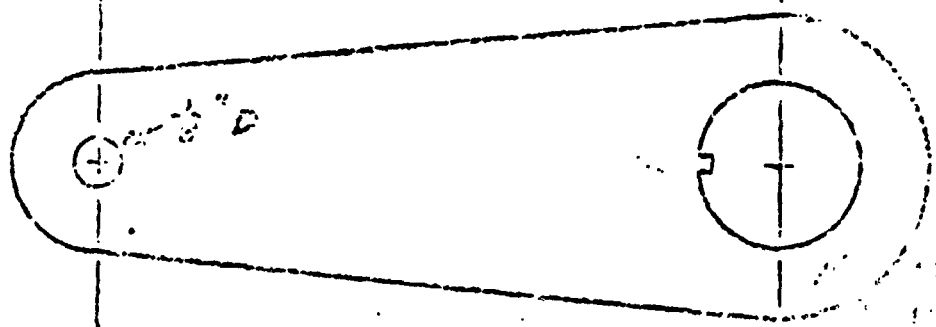
M52179-DGE
CLAMP

POST (GND)

FABRICATED
CYLINDER SPECIAL
FROM 1/2" OD TYPICAL
ALUMINUM

ORIGINAL PAGE IS
OF POOR QUALITY

HYDRAULIC
CYLINDER
RET

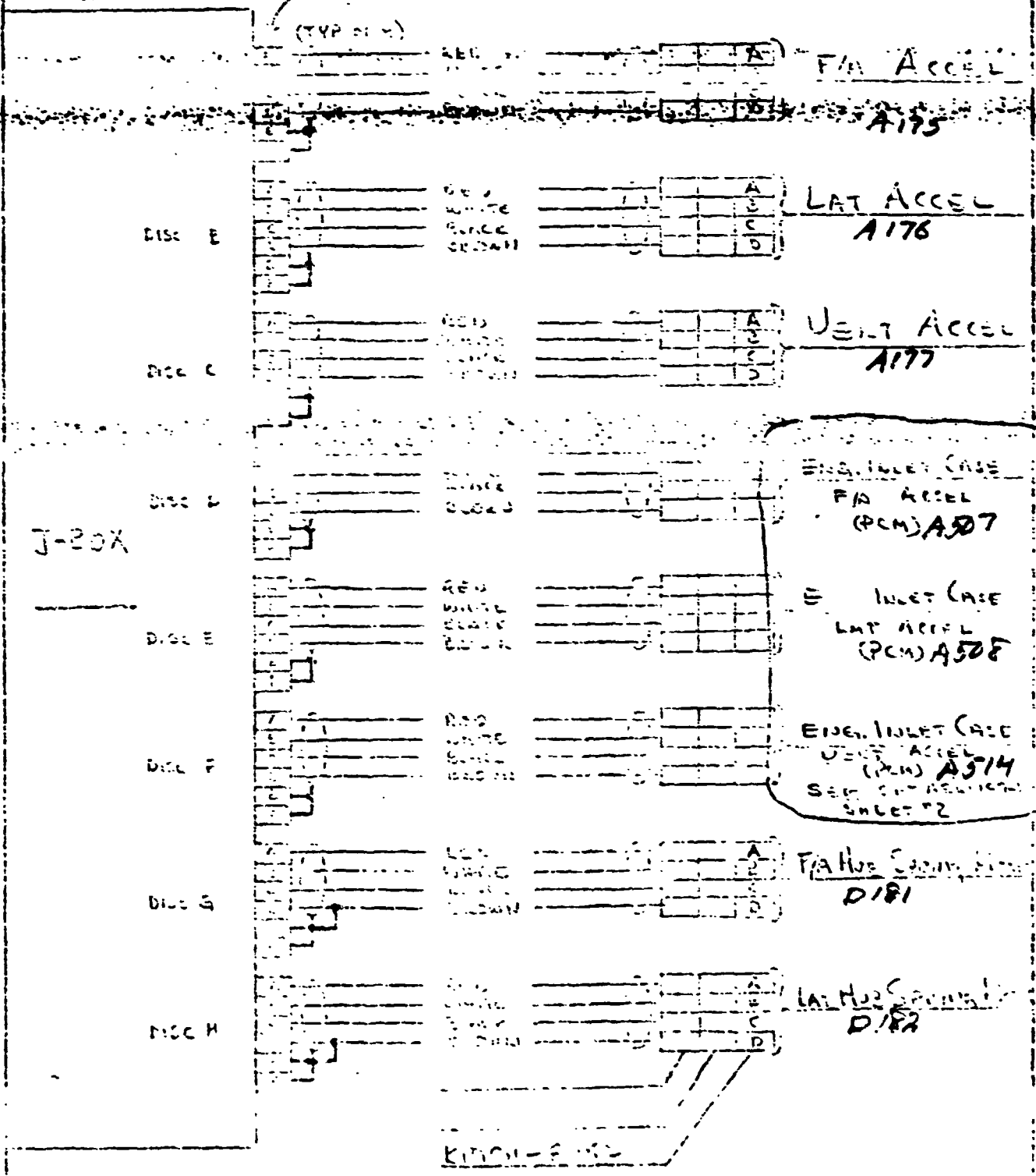


DISCONNECT HARNESS

ORIGINAL PAGE IS OF POOR QUALITY

J-BOX LOCATION LP-1

KPTOC-10-6P



BY A. WHITENER

BELL HELICOPTER COMPANY

MODEL 301 PAGE 2 OF 2

CHECKED AW

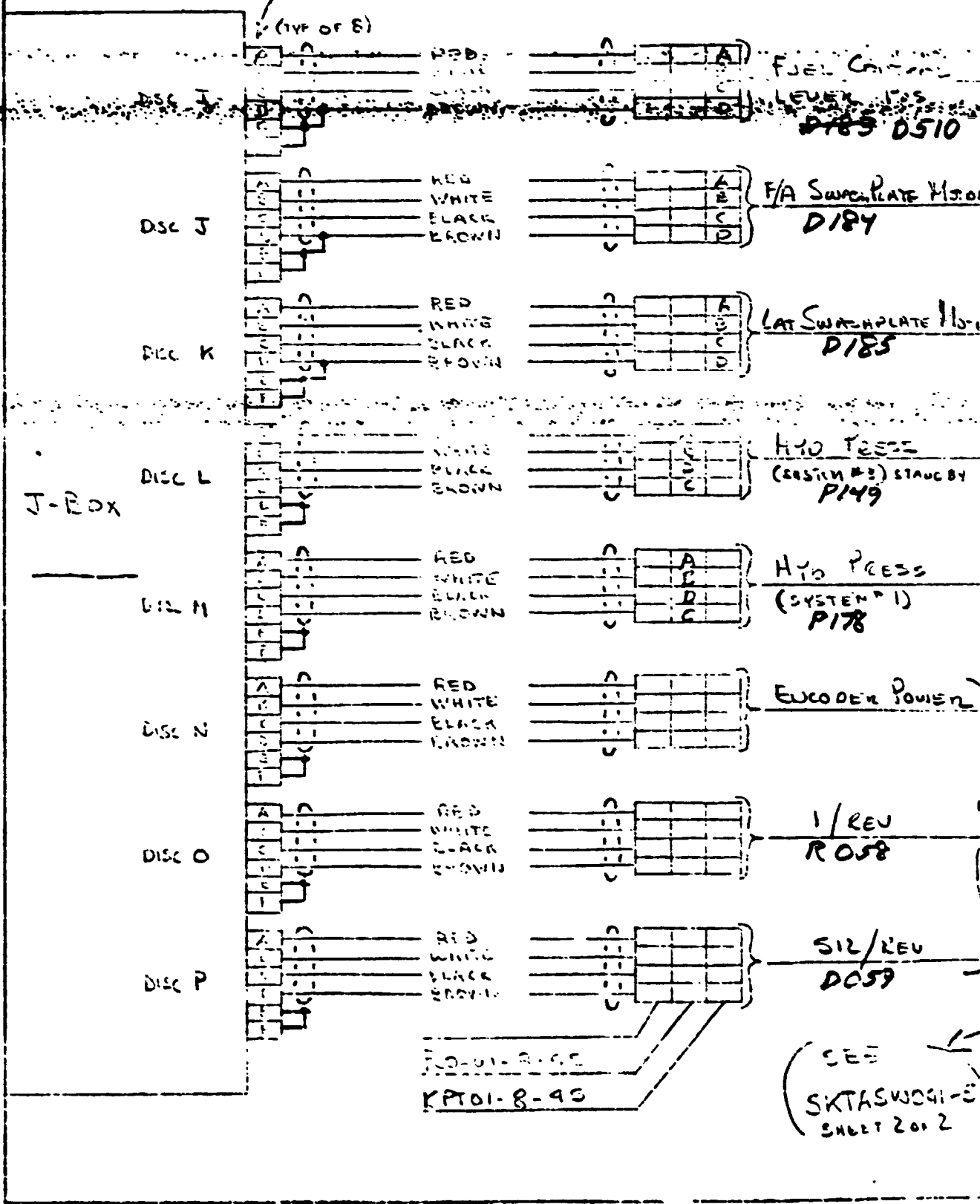
HELI. 142 RPT SKASW04175-1

DISCONNECT HARNESS

ORIGINAL PAGE IS OF POOR QUALITY

J-Box LOCATION LP-1

KPT06-10-62



BELL HELICOPTER COMPANY
 CODE IDENT. NO. 97409
 AUTHORITY FOR CHANGE
 P.C.A. NO.
 W.A. NO. A-27-11
 L.E.T.A.R. NO. DN 395029

ENGINEERING ORDER

CHANGE
 RELEASE
 PROCESS

IT
 HES

SER. NO. 301 HES 60 SHEET 1
 CLASS OF CHANGE: GO BEHIND LTR. OF
 ENG'G WORK ORDER

REASON: 3 AXIS ACCELEROMETER MOUNT FOR MODEL 301 (XV-15) VIBRATION

DRAWINGS AFFECTED: DRAWING CHANGE LTR. DRAWING TITLE:

1) PLEASE FABRICATE 12 ACCELEROMETER MOUNTS PER ATTACHED SHEET (214 HES 311).
 2) DIMENSIONS ARE STATED AS INCHES.
 3) UPON COMPLETION, PLEASE DELIVER TO:
 A. S. WHITEHER X 4832

A 301
 A 301
 A 300
 A 005
 A 150
 A 151
 A 152
 A 302
 A 019
 A 304
 A 020

DEPT 80
 PLANT # 6

1) MAKE EACH PIECE 301 HES 60
 2) Rt. Pylon (Vert, Lat + F/A) Complete ADW 12-10-76
 3) Lt. Pylon (Vert, Lat, F/A) Complete ADW 12-10-76
 4) Co-Foot (Vert + Lat) Incomplete ADW 12-10-76
 5) Pylon (Vert + Lat) Incomplete ADW 12-10-76
 6) C.G. (Vert, Lat, F/A) Complete ADW 12-10-76

STATUS	PART/ASSEMBLY NO.	ADD.	REAL.	CHG.	ENGINEERING DISPOSITION			
SIGNATURE	DATE	SIGNATURE	DATE	SIGNATURE	DATE			
PREPARED BY		STRUCTURES		MET. DES.				
GROUP ENGR		CUSTOMER		WEIGHTS				
CHECKED BY		D.E.R.		PROJ. ENG.				
MANUFACTURING EFFECTIVITY				ENGINEERING EFFECTIVITY				

ORIGINAL PAGE IS OF POOR QUALITY

IDENT. NO. 87490
AUTHORITY FOR CHANGE

- CHANGE
- RELEASE
- PROCESS

- TEST
- HES

210-115-311	
CLASS OF CHANGE	IN ISSUE LTR. OF
ENG'G WORK ORDER	

A. NO. _____

MA. NO. A

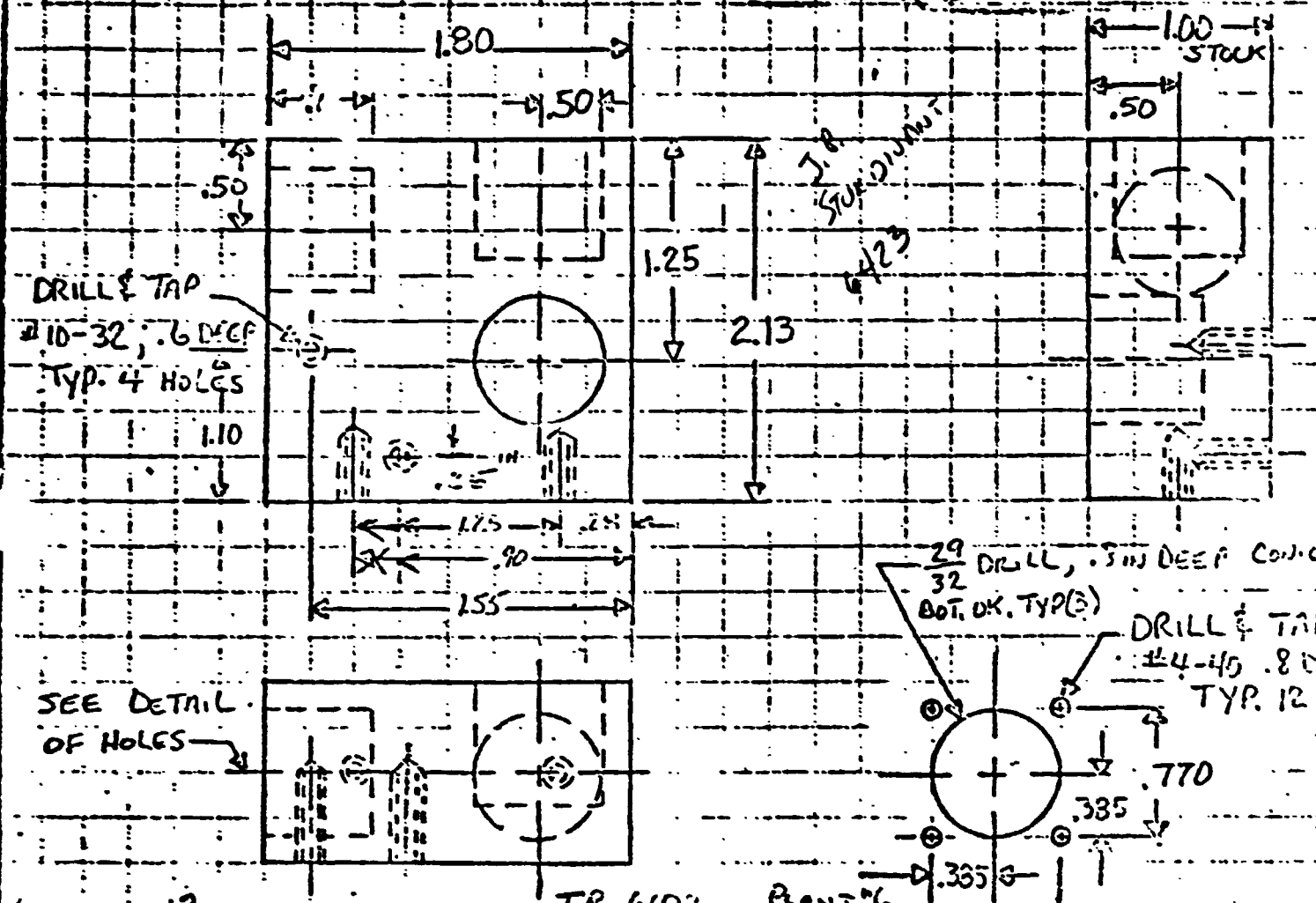
LET. A. R. NO. (D. 1.1) _____

REASON: 3 AXIS ACCELEROMETER MOUNT FOR VIBRATION SURVEY

3 AXIS ACCELEROMETER MOUNT FOR VIBRATION SURVEY

DRAWINGS AFFECTED	DRAWING CHANGE LTR. ED NOT INCORP. ED INCORP.	DRAWING TITLE
-------------------	---	---------------

FOR REFERENCE



MAKE: 12 DELIVERY TO A. WHITENER 4882

MATERIAL: 2024 AL. ALY. OR EQUIV.

SURFACE FINISH: PAINT INTL. ORANGE

DETAIL OF HOLES

STATUS	PART/ASSY NO.	ADD.	REN.	CHG.	ENGINEERING DISPOSITION	
					SIGNATURE	DATE
PREPARED BY	<u> H. J. ... </u>	<u> STRUCTURES </u>			MET. DES.	
GROW ENGR.	<u> ... </u>	<u> CUSTOMER </u>			WEIGHTS	
CHKD BY	<u> D. P. ... </u>	<u> D.E.R. </u>			PROJ. ENG.	
ACTUARY EFFECTIVITY				ENGINEERING EFFECTIVITY		
NONE				NONE		
ORIGINAL PAGE IS OF POOR QUALITY						

BY A.S. WHITENH

Bell Helicopter **TEXTRON**
Division of Textron Inc

MODEL 301 PAGE 1

CHECKED _____

POST OFFICE BOX 488 • FORT WORTH, TEXAS 76101

RPT ASW 5577-1

PS12

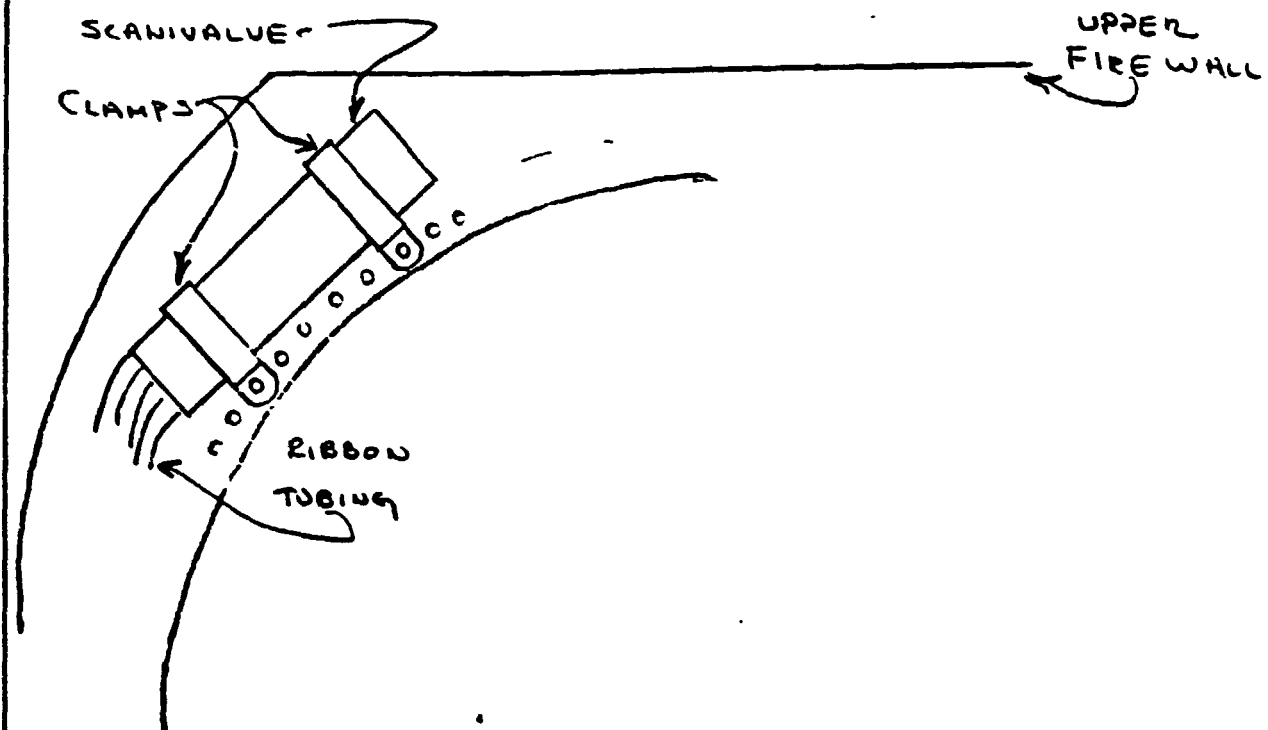
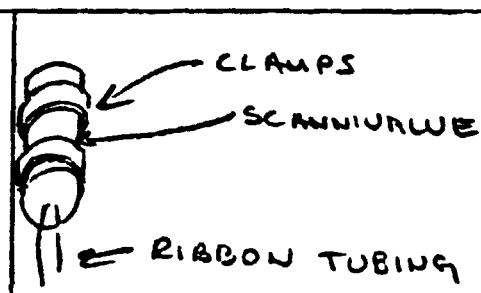
SCANIVALVE INSTALLATION

*ASW
Bryant
2-24-77
162 998*

ORIGINAL PAGE IS
OF POOR QUALITY

← P-STA 86.084

UPPER FIRE WALL



LOOKING FWD
LT. SIDE

BY A. WHITEHER

BELL HELICOPTER COMPANY

MODEL 301 PAGE 1 of 2

CHECKED (Signature)

HELI. 1+2 RPT SKASUJ04375-1

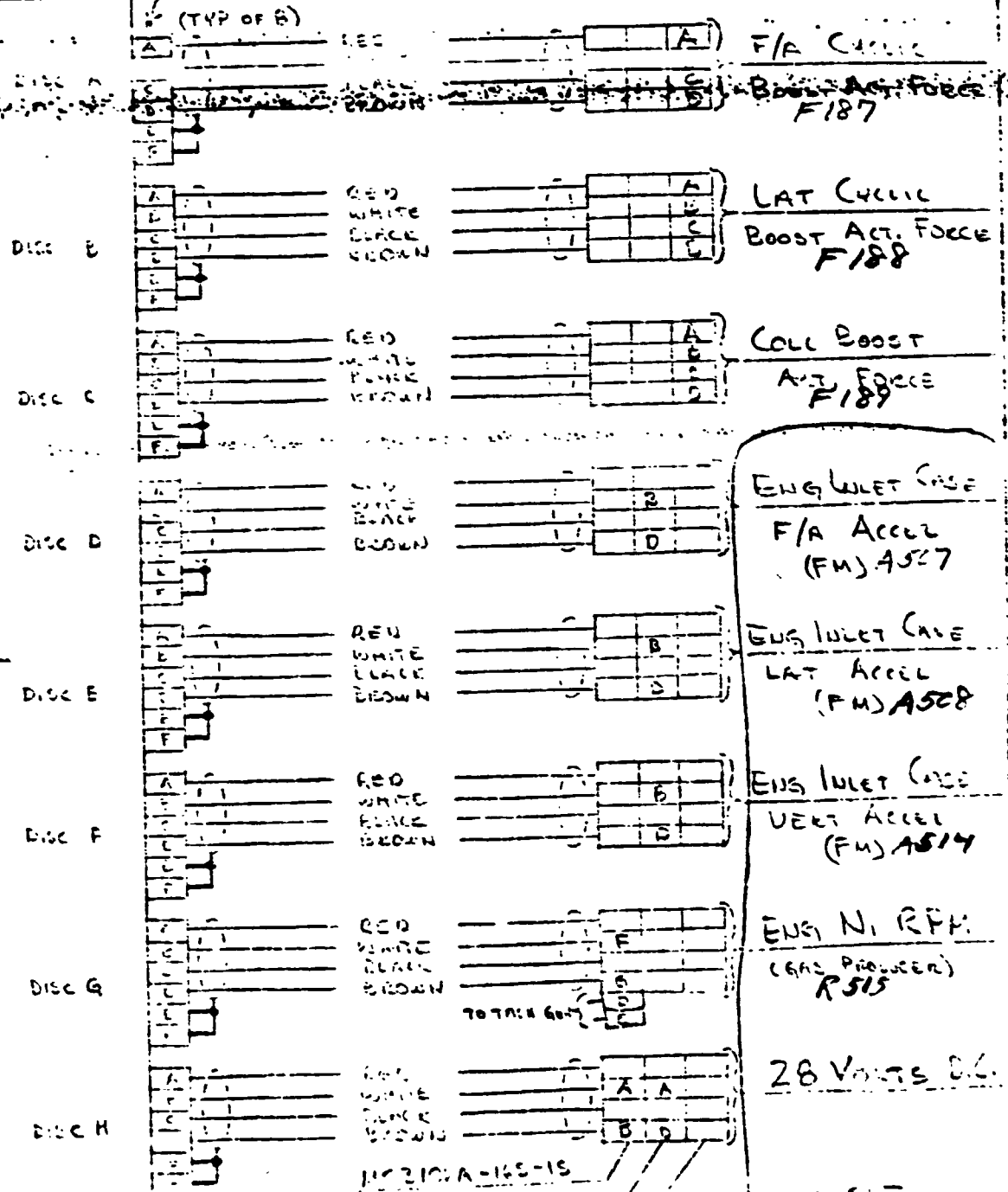
ORIGINAL PAGE IS OF POOR QUALITY

DISCONNECT HARNESS

J-BOX LOCATION LP-2

KPT06-10-67

J-BOX



112310A-145-15
 VRC/MSIE
 KPT01-B-912

SEE SHT
 ASUJ147-1
 SHT 2 of 2

BY A WHITENER

BELL HELICOPTER COMPANY

MODEL 301 PAGE 2 OF 2

CHECKED AW

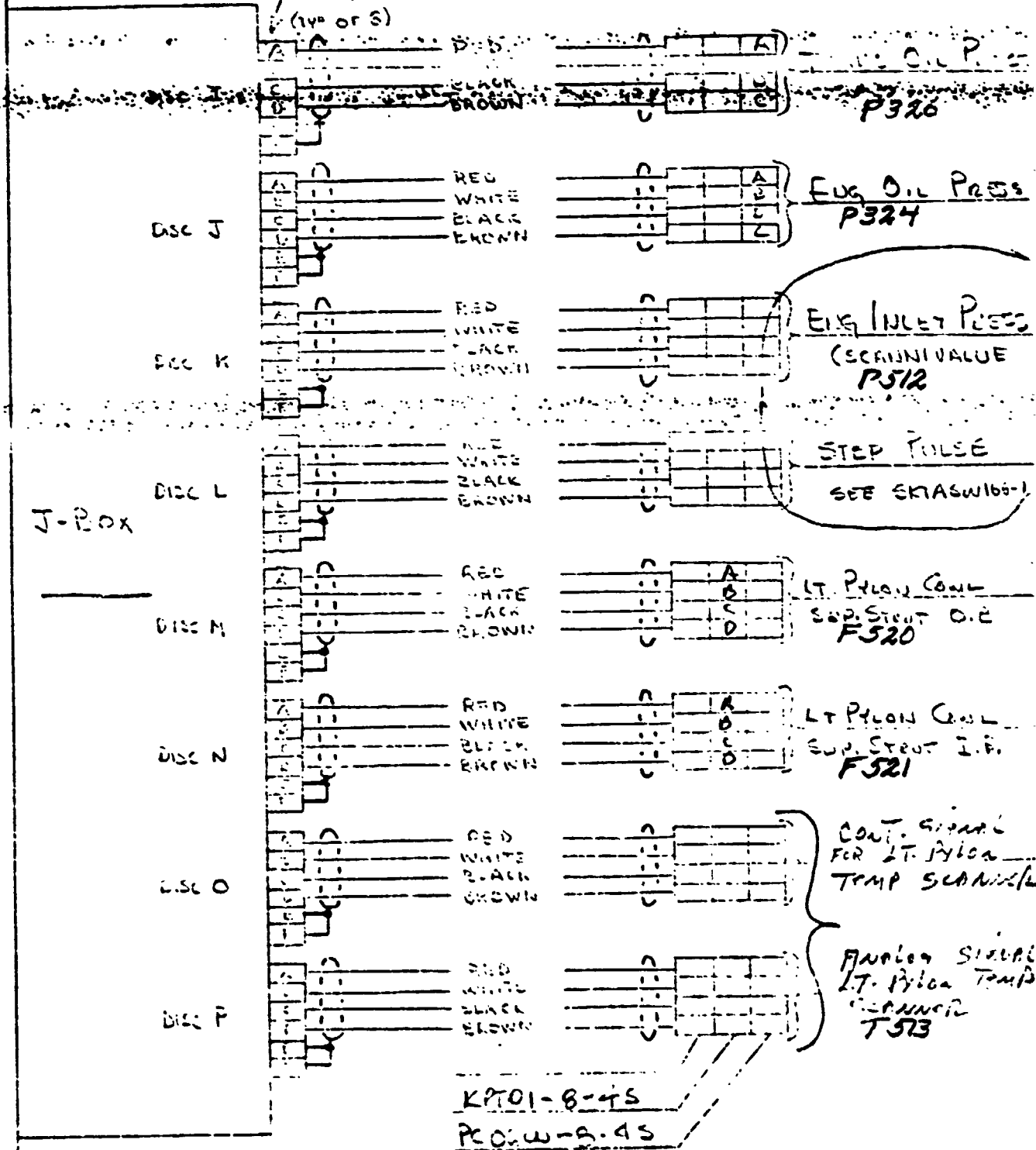
HELI. 1+2 RPT SKASW04375-1

ORIGINAL PAGE IS OF POOR QUALITY

DISCONNECT HARNESS

J-Box LOCATION LP-2

KPT06-10-6P



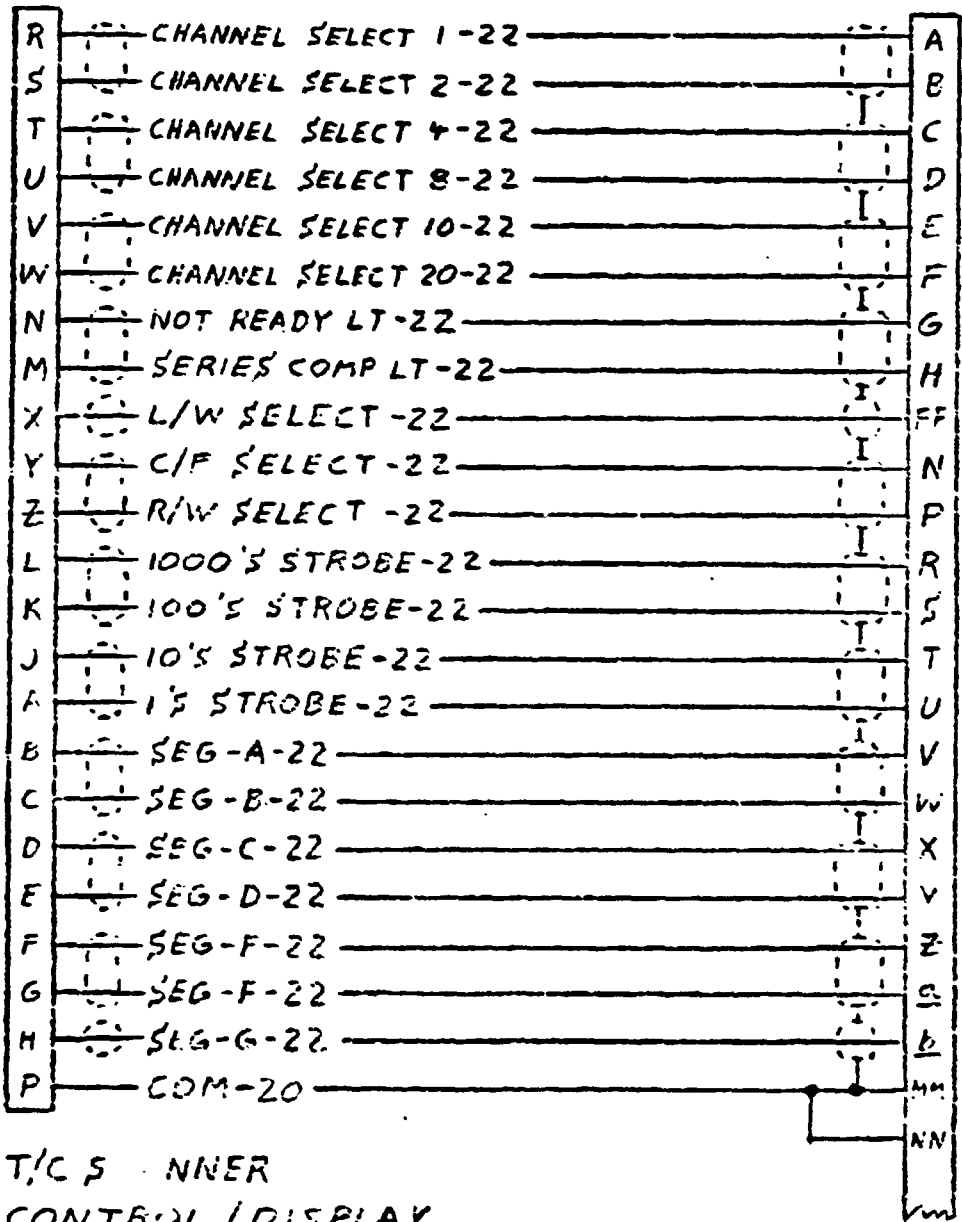
Completed
25-77

ORIGINAL PAGE IS
 OF POOR QUALITY

T 357
 T 506 } IFB
 T 573

TEMP SCANNER SYSTEM

Co-Pilot's
 PANEL



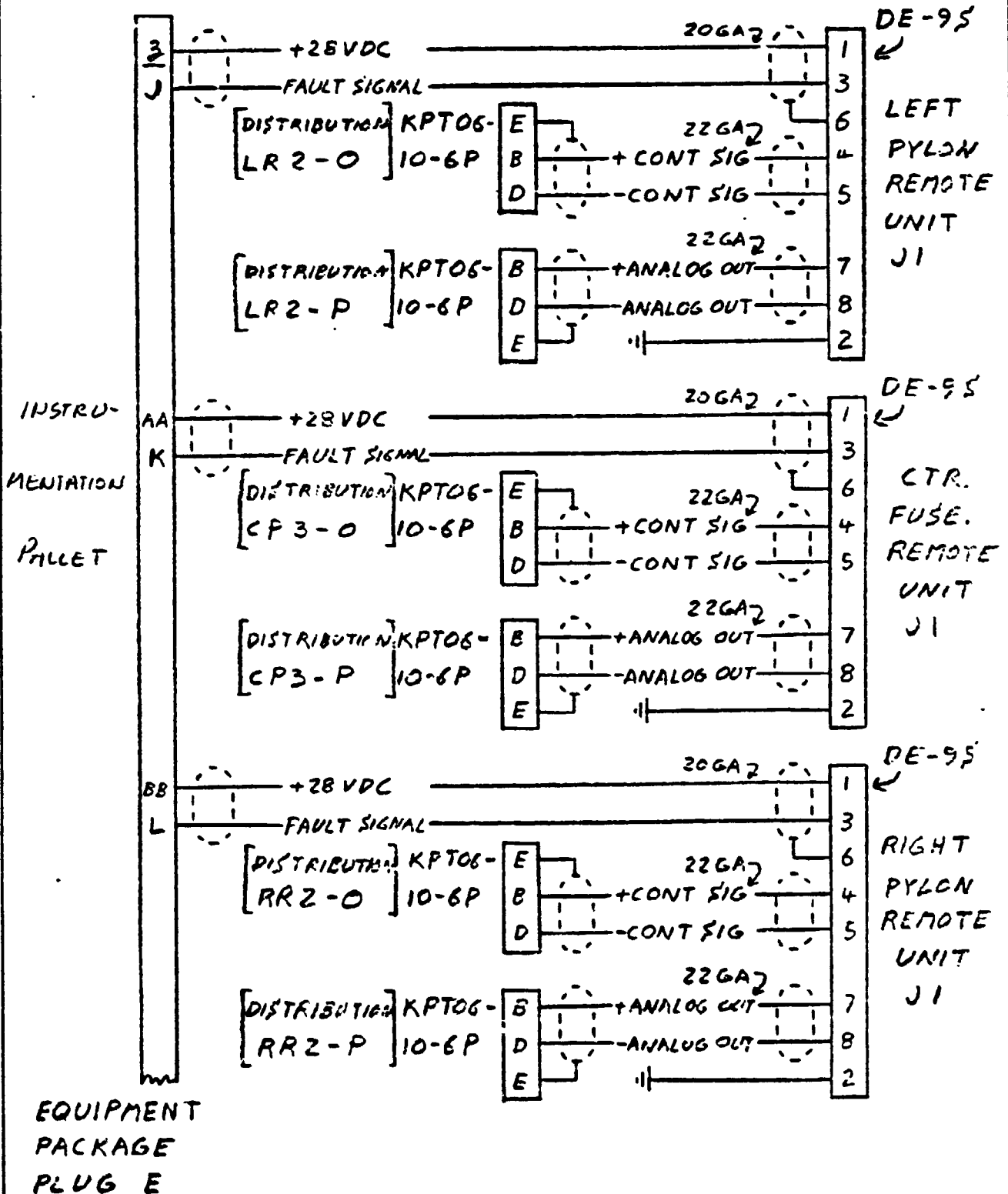
INSTRUMENTATION
 PANEL

T/C SCANNER
 CONTROL/DISPLAY
 PANEL
 PLUG A
 KPT05-16-265

EQUIPMENT PACKAGE
 PLUG E
 KPT06-24-61P
 (SEE SKTASW133-1
 PAGE 2 OF 11 + SKTASW138-2
 FOR COMPLETION OF THIS PANEL)

ORIGINAL PAGE IS OF POOR QUALITY

TEMP SCANNER SYSTEM

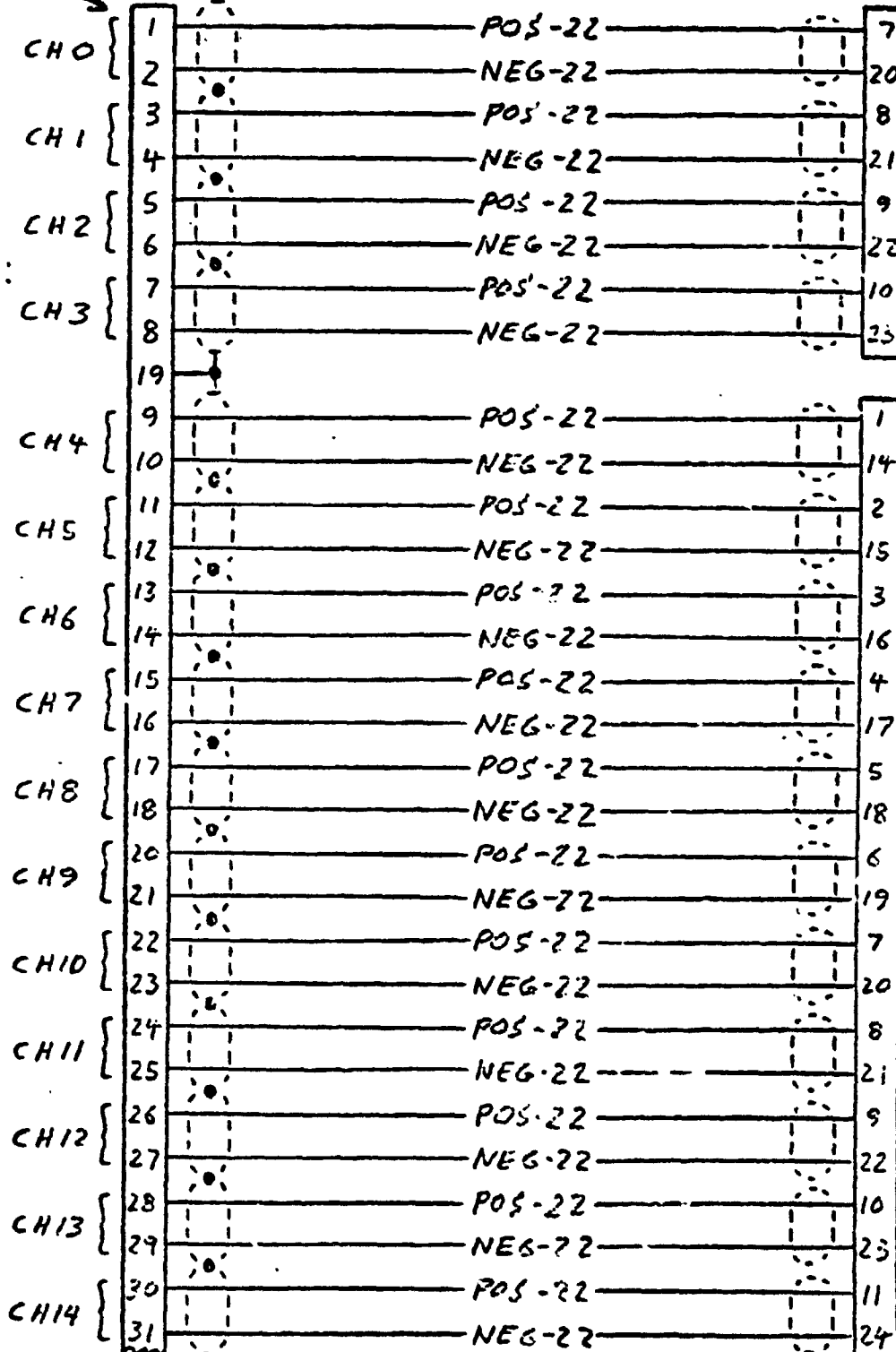


7642 5985 REV 106

TEMP SCAN SYSTEM RIGHT PYLON

ORIGINAL PAGE IS
OF POOR QUALITY

DC-37P



DB25

INPUT
13-24
(J4)

DB25

INPUT
1-12
(J2)

TEMP SCANNER REMOTE UNIT

VALIDYNE T/C REF
JUNCTION #1

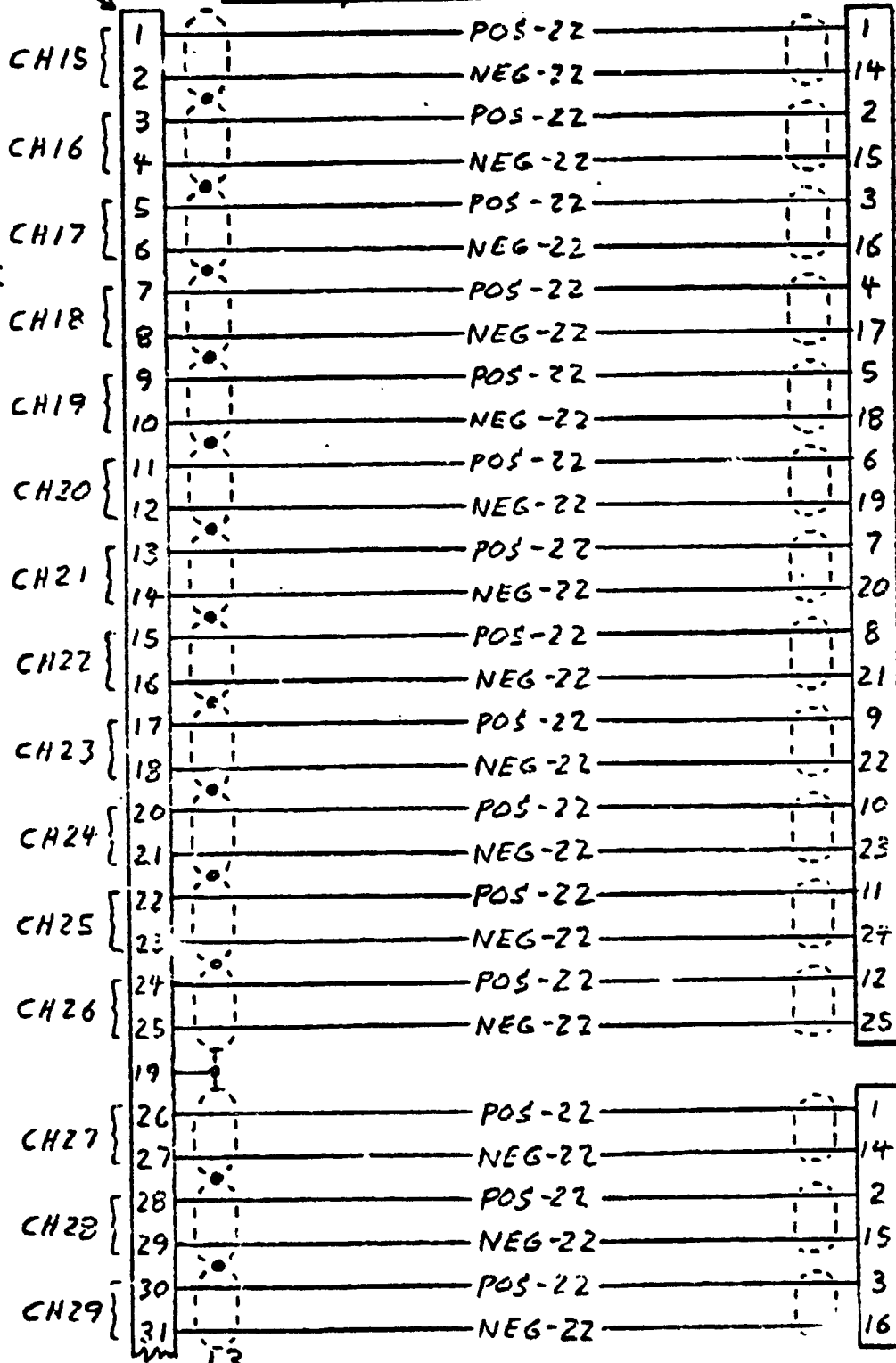
7802 9905REV 1A6

TEMP SCAN SYSTEM RIGHT PYLON

ORIGINAL PAGE IS
OF POOR QUALITY

DC-37P

DB255



INPUT
1-12
(J2)

DB255

INPUT
13-24
(J4)

TEMP SCANNER REMOTE UNIT

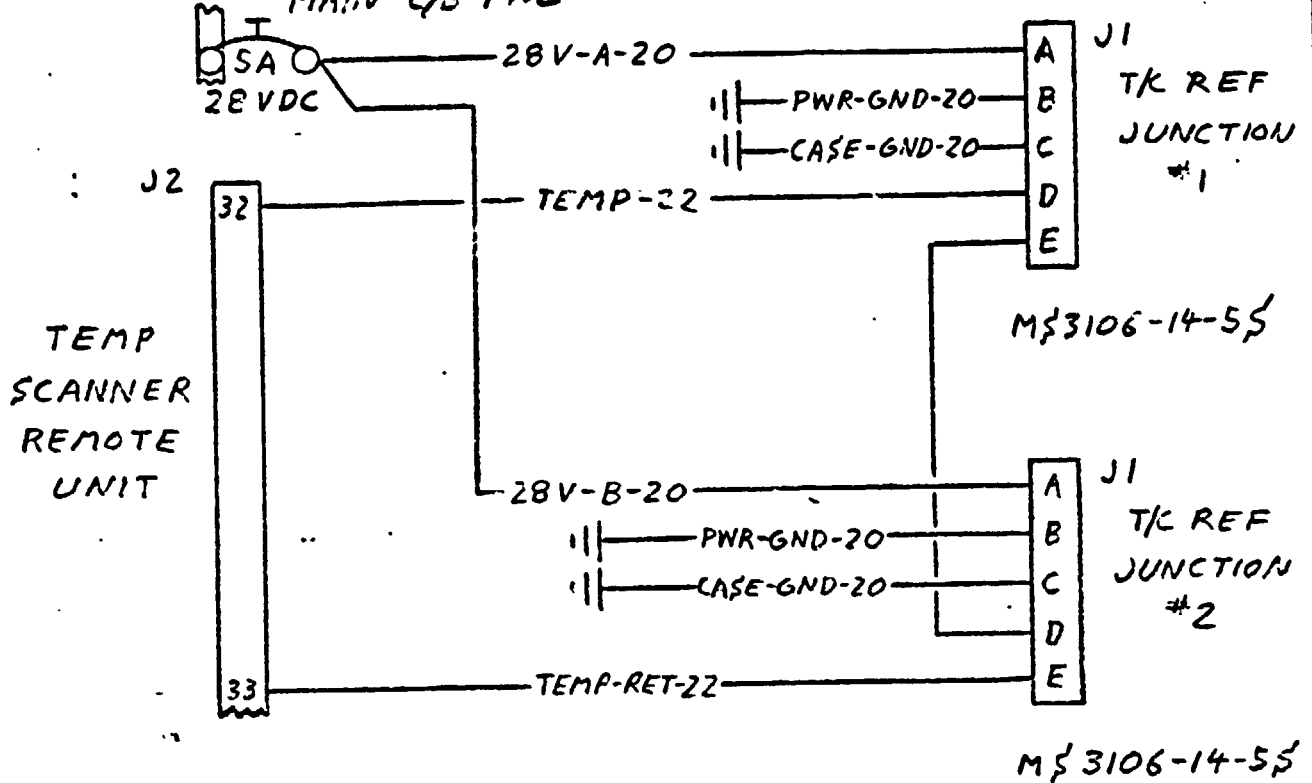
VALIDYNE T/C
REF JUNCTION
2

TEMP SCAN SYSTEM

ORIGINAL PAGE IS OF POOR QUALITY

RIGHT PYLON

LOCATE IN MAIN C/B PNL



TEMP SCAN SYSTEM AFT CENTER FUSELAGE

ORIGINAL PAGE 13
OF POOR QUALITY

DC-37P

CH0	1	POS-22	7
	2	NEG-22	20
CH1	3	POS-22	8
	4	NEG-22	21
CH2	5	POS-22	9
	6	NEG-22	22
CH3	7	POS-22	10
	8	NEG-22	23
CH4	9	POS-22	1
	10	NEG-22	14
CH5	11	POS-22	2
	12	NEG-22	15
CH6	13	POS-22	3
	14	NEG-22	16
CH7	15	POS-22	4
	16	NEG-22	17
CH8	17	POS-22	5
	18	NEG-22	18
CH9	20	POS-22	6
	21	NEG-22	19
CH10	22	POS-22	7
	23	NEG-22	20
CH11	24	POS-22	8
	25	NEG-22	21
CH12	26	POS-22	9
	27	NEG-22	22
CH13	28	POS-22	10
	29	NEG-22	23
CH14	30	POS-22	11
	31	NEG-22	24

DB25F

INPUT
13-24
(J4)

DB25F

INPUT
1-12
(J2)

J2

TEMP SCANNER REMOTE UNIT

VALIDYNE T/C REF
JUNCTION #1

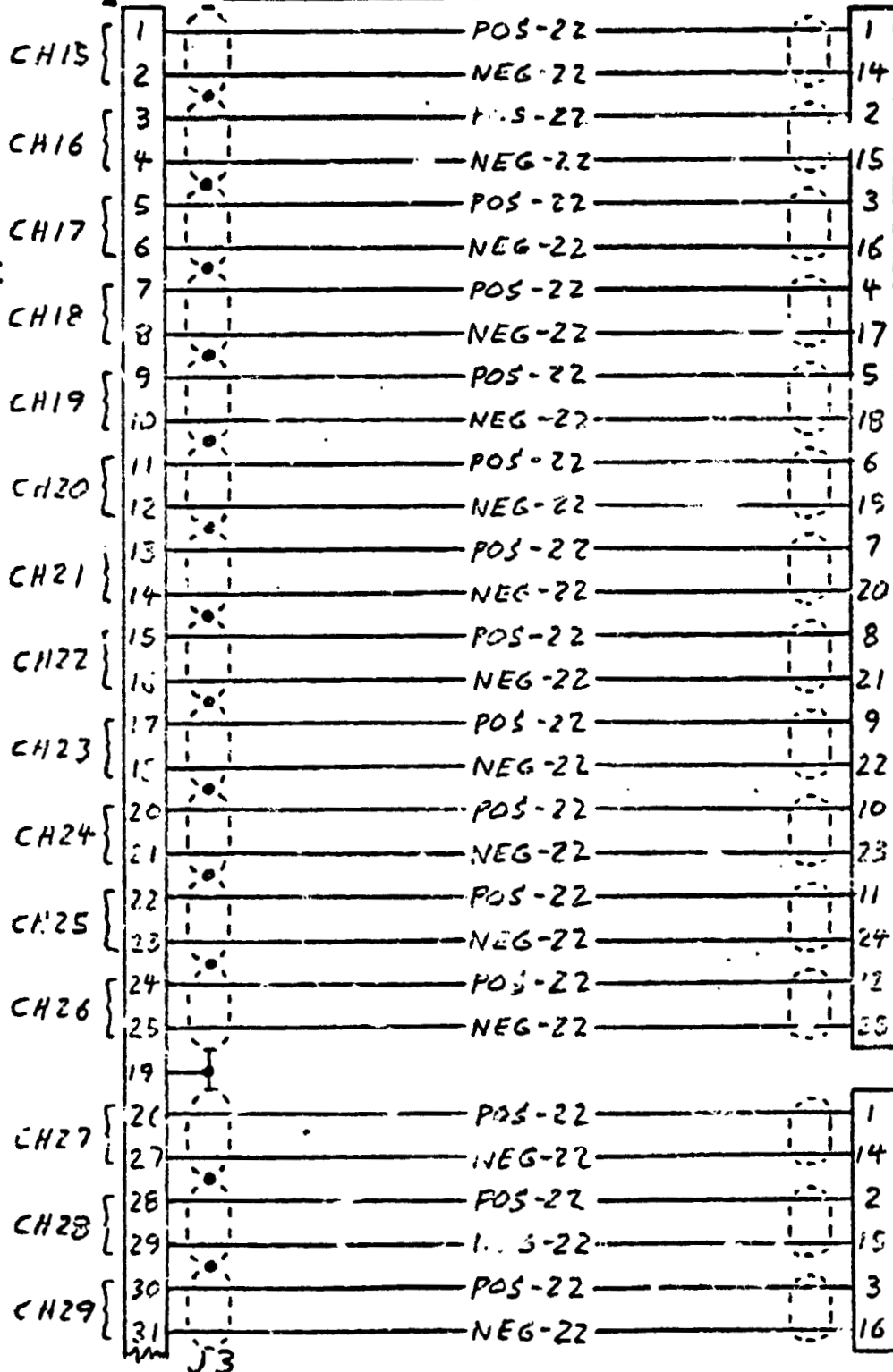
7842 94854E 100

ORIGINAL PAGE IS
OF POOR QUALITY

TEMP SCAN SYSTEM
AFT CENTER FUSELAGE

DC-37P

DB255



INPUT
1-12
(J2)

DB255
INPUT
13-24
(J4)

TEMP SCANNER REMOTE UNIT

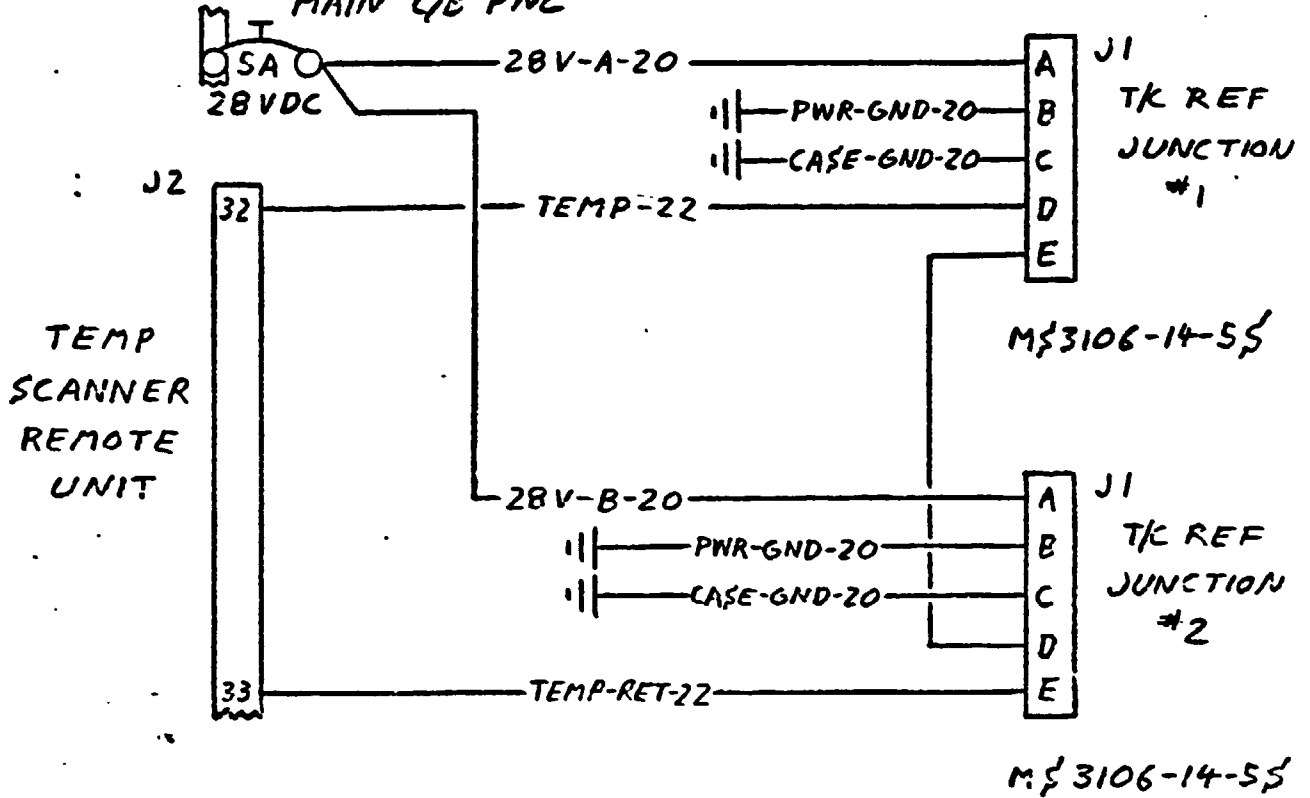
VALIDYNE T/C
REF JUNCTION
2

TEMP SCAN SYSTEM

ORIGINAL PAGE IS
OF POOR QUALITY

AFT CENTER FUSELAGE

LOCATE IN
MAIN C/E PNL



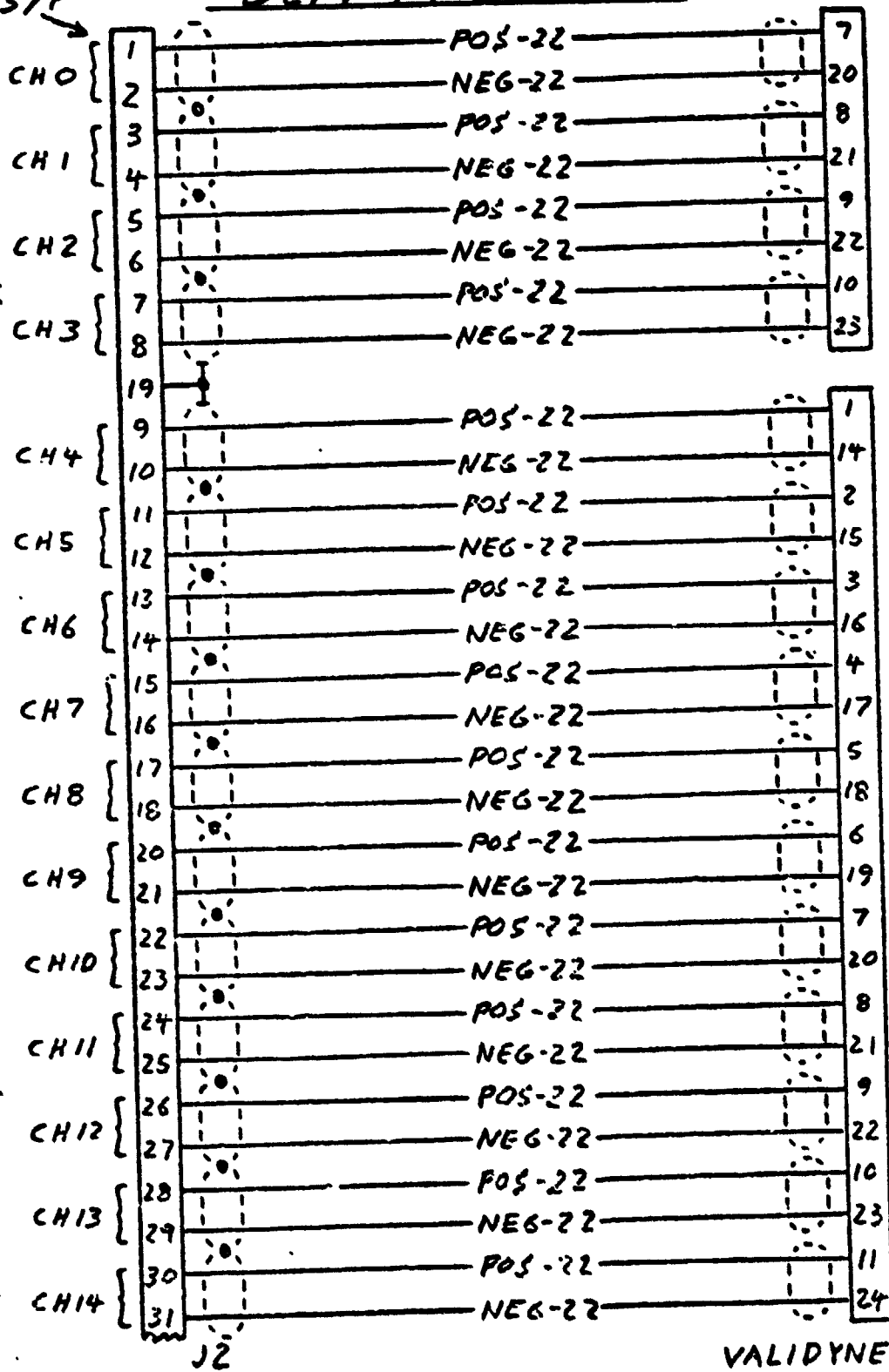
~~Handwritten scribble~~

C-3

TEMP SCAN SYSTEM LEFT PYLON

ORIGINAL PAGE IS
OF POOR QUALITY

DC-37P



DB25S

INPUT
13-24
(J4)

DB25S

INPUT
1-12
(J2)

VALIDYNE T/C REF
JUNCTION #1

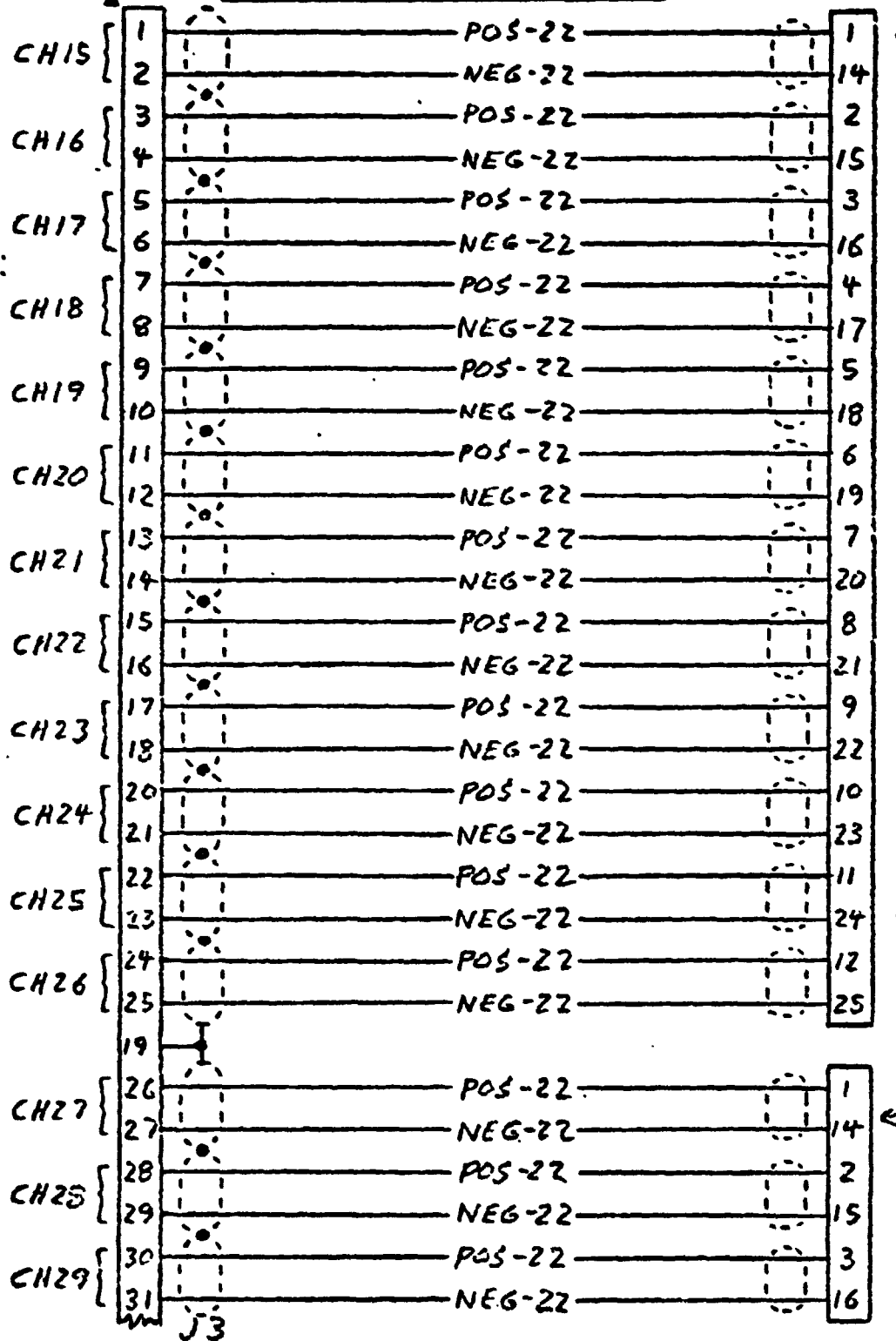
TEMP SCANNER REMOTE UNIT

ORIGINAL PAGE IS OF POOR QUALITY

TEMP SCAN SYSTEM LEFT PYLON

DC-37P →

DB25S ←



INPUT
1-12
(J2)

DB25S ←
INPUT
13-24
(J4)

TEMP SCANNER REMOTE UNIT

VALIDYNE T/C
REF JUNCTION
2

BY H. D. WINNIFORD

BELL HELICOPTER COMPANY

MODEL 301 PAGE 11 OF 11

CHECKED HLW

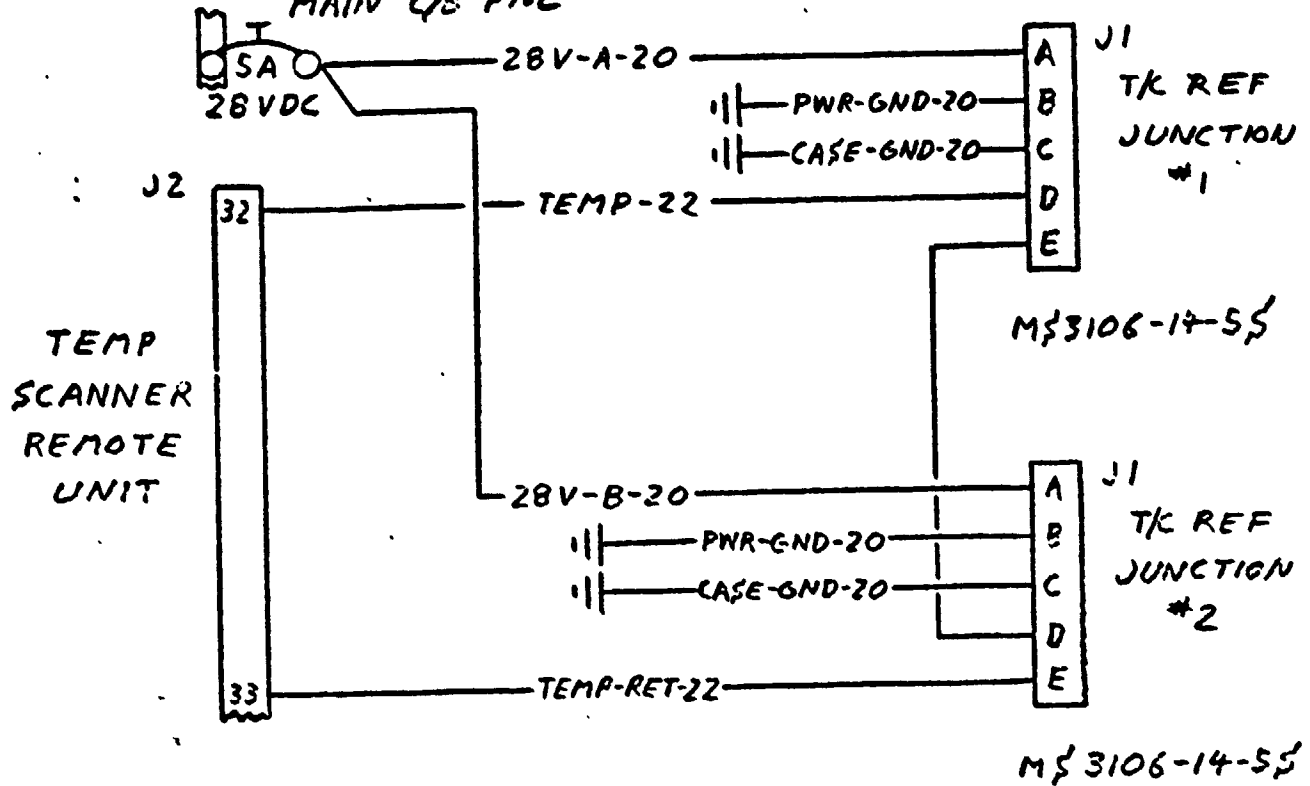
HELI. 152 RPT SKTASW138-1

TEMP SCAN SYSTEM

ORIGINAL PAGE IS
OF POOR QUALITY

LEFT PYLON

LOCATE IN
MAIN C/B PNL



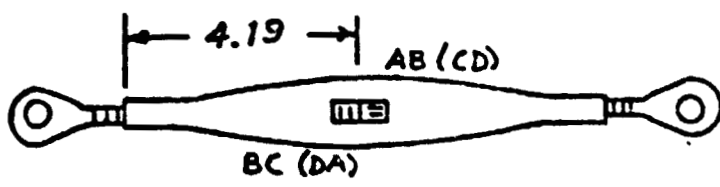
INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-125TB-350	SHEET NO. DLN 373454
DEWA NO. A427-11A	RESISTANCE 350 Ω ± 0.4%	LAB. NO. 10640A
ORDER A427	GAGE FACTOR 2.12 ± 0.5%	PART NO. 301-001-552-1
REQUESTED BY: A. WHITENER	LOT NO. QA18AF48	SERIAL NO.

TITLE OF TEST **301 FLIGHT TEST**

SKETCH: **F187**
TUBE FOR LEFT CYCLE
LH
 ORIGINAL PAGE IS OF POOR QUALITY

947
Complete
AW
12-10-76



REMARKS:
 INSTALL AXIAL BRIDGE AS SHOWN...USE BR-600 CEMENT.
 MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER
 WITH 9309. ATTACH FOUR WIRE SIX INCH SUPERFLEX
 LEADS. ENCASE LEADS IN VINYL SLEEVING AND
 TERMINATE WITH M4P PLUS.

BRIDGE	01 <i>AXIAL</i>					
BALANCE	4.80					
TO GROUND	0.1408					
DATE ASSIGNED	2-19-76	TECHNICIAN	Hill		EST. HRS.	APPROVED BY:
DATE COMPLETED	2-19-76	ENGINEER			ACT. HRS.	

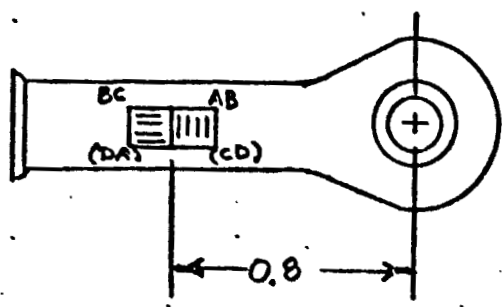
MODEL NO. 301	GAGE TYPE EA-06-062TZ-350	SHEET NO. DLN 688512
EWA NO. A427-11B	RESISTANCE 350 Ω	LAB. NO. 11366A
WORK ORDER A427	GAGE FACTOR 2.07 ± 1.0%	PART NO. 41002120
REQUESTED BY: A. WHITENER	LOT NO. D-134 B200	SERIAL NO. 001 R/H

TITLE OF TEST
301 FLIGHT TEST

SKETCH:
F188
L/H LATERAL ACTUATOR

ORIGINAL PAGE IS
OF POOR QUALITY

352
Sample
12-18-76



REMARKS:
INSTALL AXIAL BRIDGE AS SHOWN... USE BR-600 CEMENT.
MAKE BRIDGE AT FLAT TERMINAL AS INDICATED... COVER
WITH 9309... ATTACH FOUR TEN INCH SUPERFLEX
LEADS... ENCASE LEADS IN VINYL SLEEVING AND
TERMINATE WITH KPT-06-8-4P PLUG.

01

BRIDGE	AXIAL						
BALANCE	422						
RES. TO GROUND	10KΩ						
DATE ASSIGNED	12-14-76	TECHNICIAN	<i>R. P. Eulimsky</i>		EST. HRS.	APPROVED BY:	
DATE COMPLETED	12-14-76	ENGINEER			ACT. HRS.		

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA06-125 TB-550,	SHEET NO. DLN 678984
QA NO. A427-11A	RESISTANCE 350Ω	LAB. NO. 10609A
WC ORDER A427	GAGE FACTOR 2.07 ± 0.5%	PART NO. 300-010 -417-1
REQUESTED BY: A. VINTNER	LDT NO. Q-A35A D03	SERIAL NO. 005

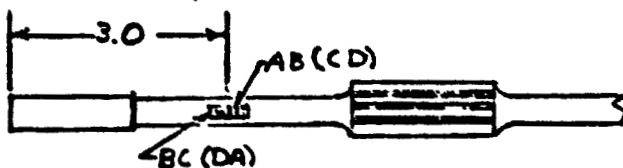
TITLE OF TEST

301 FLIGHT TEST

SKETCH:

ORIGINAL PAGE IS
OF POOR QUALITY

F189
4/4 COLLECTIVE TUBE



947
 Complete
 12-10-76

REMARKS:

INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT. MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER WITH SHELL 9309.

01

BRIDGE	AXIAL						
ANCE	428						
RES. TO GROUND	1.5kΩ						

DATE ASSIGNED

TECHNICIAN

EST. HRS.

APPROVED BY:

DATE COMPLETED

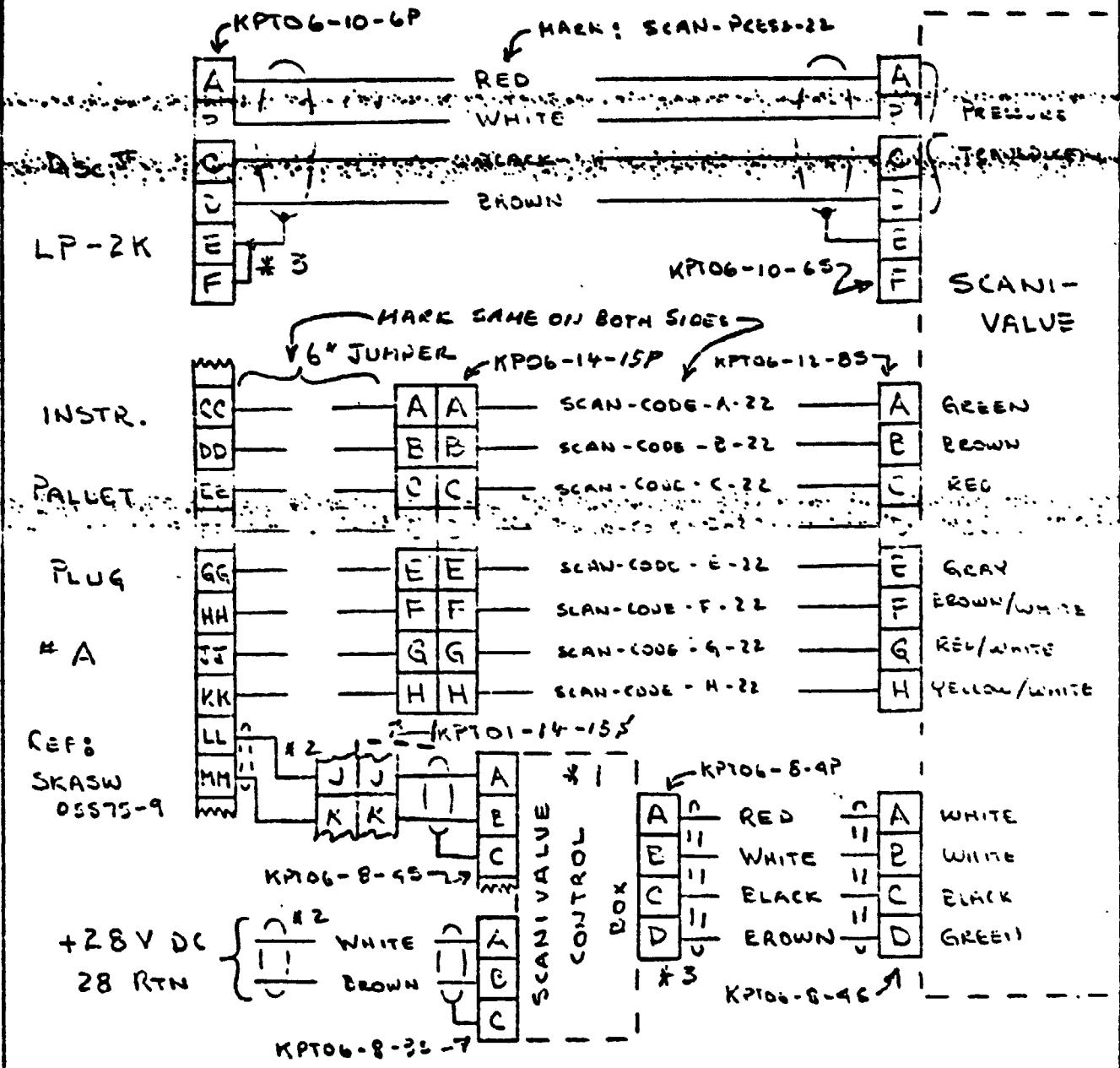
ENGINEER

ACT. HRS.

2-11-76

Hillid - C.C.W.

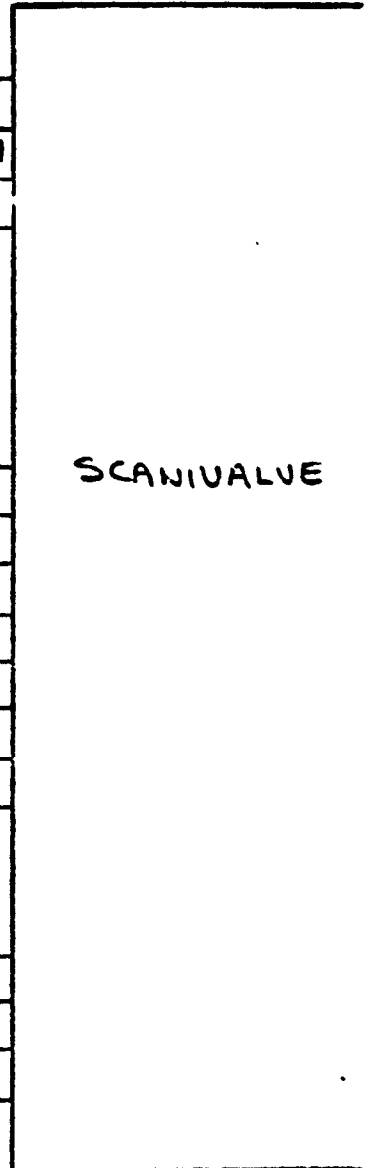
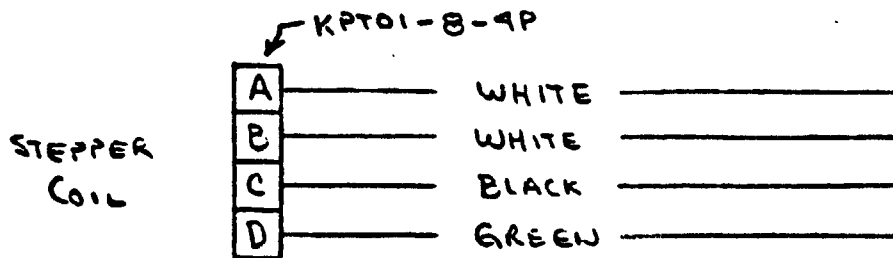
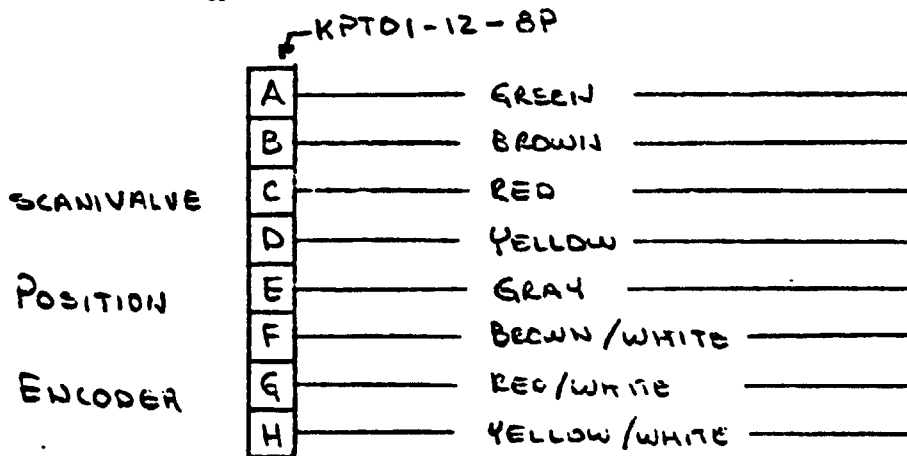
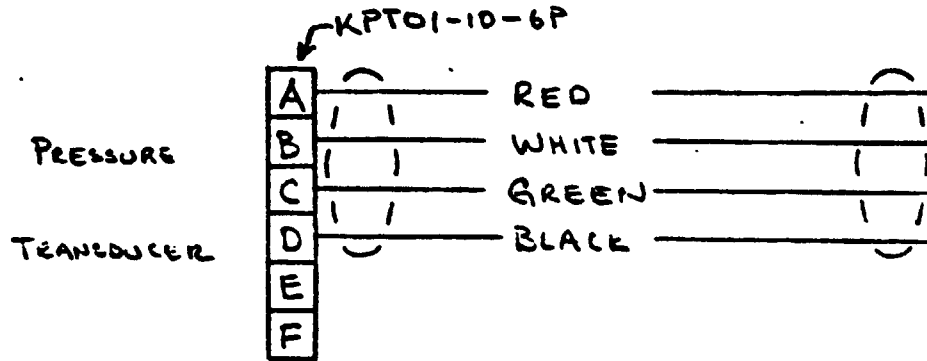
SCANIVALUE CONTROL WIRING ORIGINAL PAGE IS OF POOR QUALITY



- *1- CONTROL BOX MOUNTED ON LEFT Pylon
- *2- USE 2 CONDUCTOR, 20 GAGE ORANGE WIRE
- *3- USE 4 " " " " " "

SCANIVALVE WIRING

ORIGINAL PAGE IS OF POOR QUALITY



BY A. WHITENER

BELL HELICOPTER COMPANY

MODEL 301

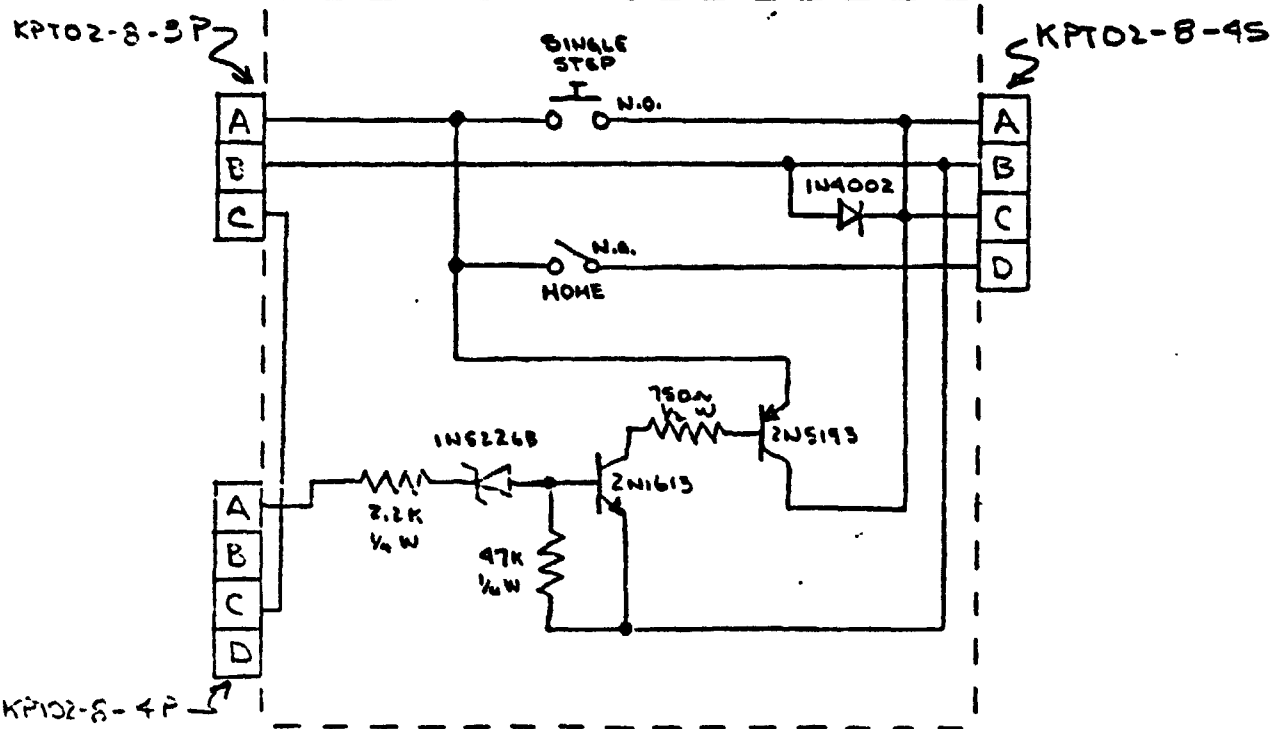
PAGE _____

CHECKED _____

HELI. _____ RPT _____

SCANIVALVE CONTROL BOX

ORIGINAL PAGE IS OF POOR QUALITY.



XV-15 (MODEL 301) SCANNIVALVE SETUP SHEET

Engr. WHITENER/WINNIFORD Ship No. 301[#]1 Date 11-19-76
 Tech. WALKER/HILLIN Flt. No. 1 G/R No. 1
 Test Purpose GN RUN TEST EWA A438 DLN

LEFT ENGINE INLET

PORT NO.	LOCATION
1	ENGINE BELLMOUTH RAEG 0° Pos 1
2	2
3	3
4	4
5	70° 5
6	6
7	7
8	8
9	80° 9
10	10
11	11
12	12
13	120° 13
14	14
15	15
16	16
17	160° 17
18	18
19	19
20	20
21	200° 21
22	22
23	23
24	24

ORIGINAL PAGE IS
OF POOR QUALITY

5 May 1976
 ASWSE 32576-1
 2 of 6

ORIGINAL PAGE IS
 OF POOR QUALITY

XV-15 (MODEL 301) SCANNIVALVE SETUP SHEET

Engr. WHITENER/WINIFORD Ship No. 301#1 Date 11-19-76
 Tech. WACKER/HILLIN Flt. No. 1 G/R No. 1
 Test Purpose GND RUN TEST EWA A438 DLN

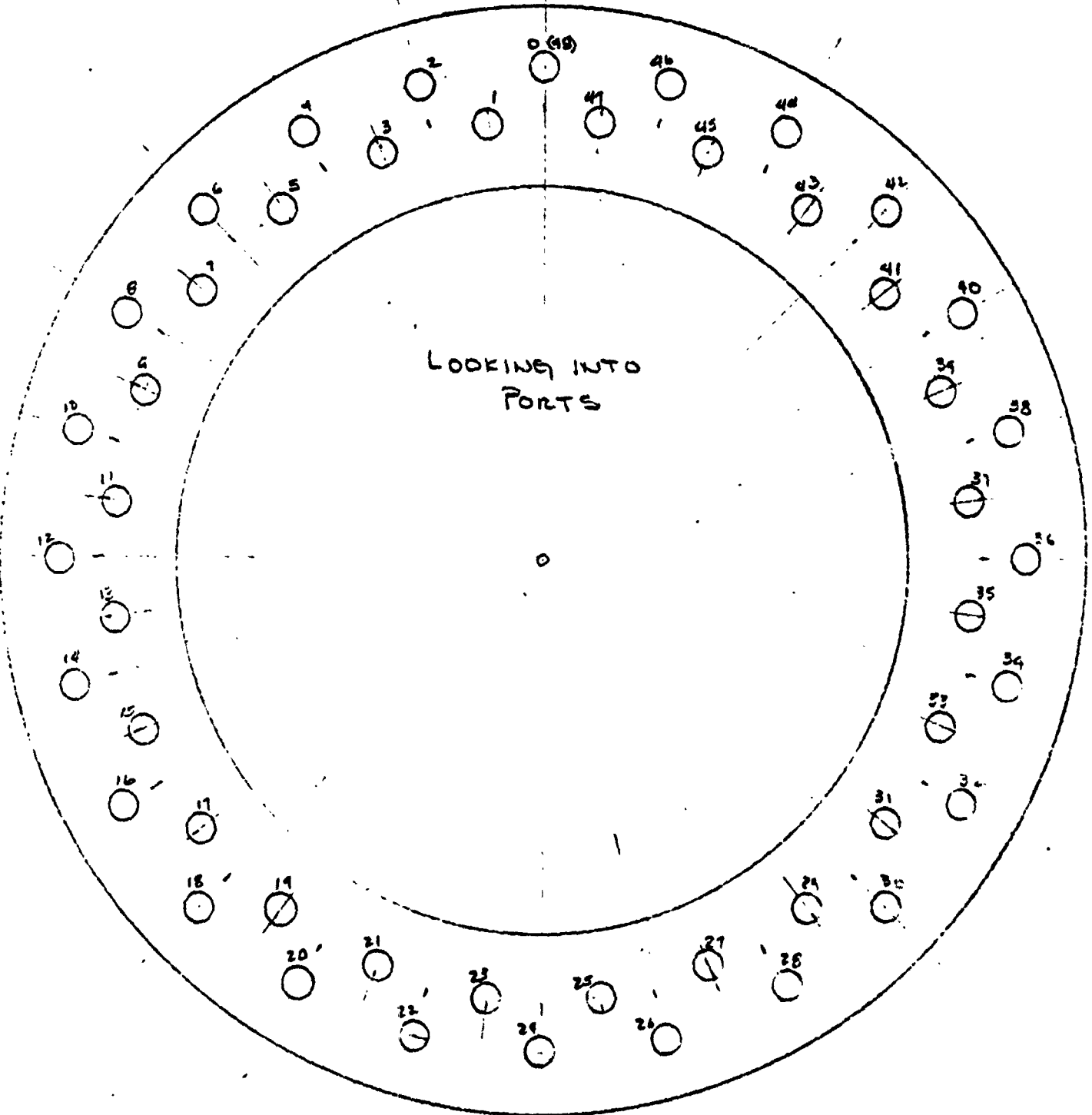
LEFT ENGINE INLET

PORT NO.	LOCATION				
25	ENGINE	BELLMOUTH	RAKE	240°	Pos 25
26					26
27					27
28				Y	28
29				280°	29
30					30
31					31
32				Y	32
33				320°	33
34					34
35					35
36				Y	36
37				Y	STATIC
38					TAIL PIPE STATIC 45° Pos
39					135°
40					225°
41				Y	315° Y
42					COMPARTMENT AIR SCOOP RIGHT OUTBOARD
43					Y INBOARD
44					LEFT OUTBOARD
45					Y INBOARD
46	Y		Y	Y	Y STATIC
47					
48					

BY <u>A. WHITENER</u>	BELL HELICOPTER COMPANY POST OFFICE BOX 632 FORT WORTH, TEXAS	MODEL <u>301</u> PAGE <u>3 of 6</u>
CHECKED _____		RPT <u>ASWSK32576-1</u>

ORIGINAL PAGE IS
OF POOR QUALITY

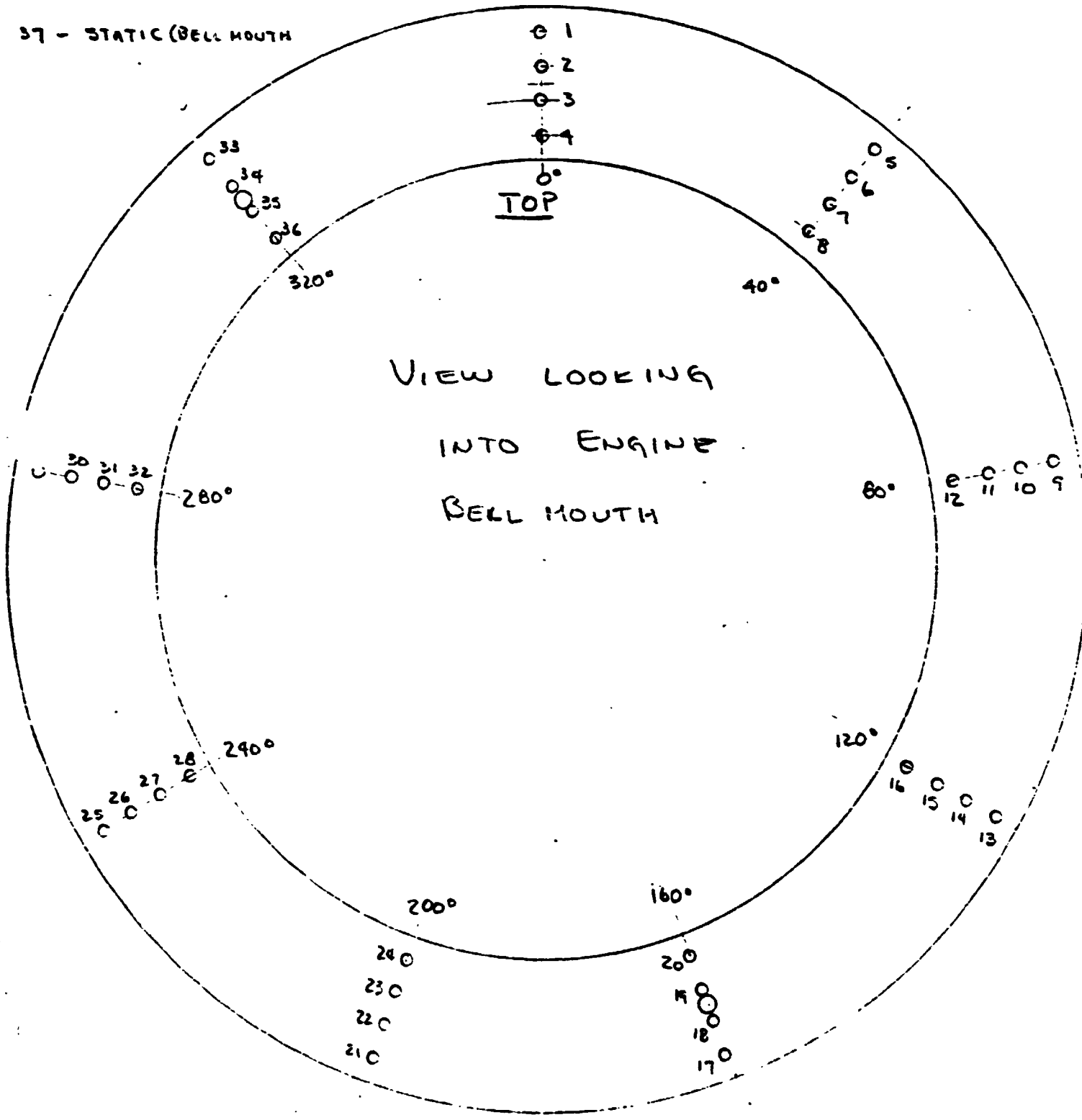
SCAN VALUE.



301 INPUT RAKE
ENGINE (BELL MOUTH)

ORIGINAL PAGE IS
OF POOR QUALITY

37 - STATIC (BELL MOUTH)



BY A. WHITENER

BELL HELICOPTER COMPANY
POST OFFICE BOX 607 POST OFFICE & STORE

MODEL 301 PAGE 5026

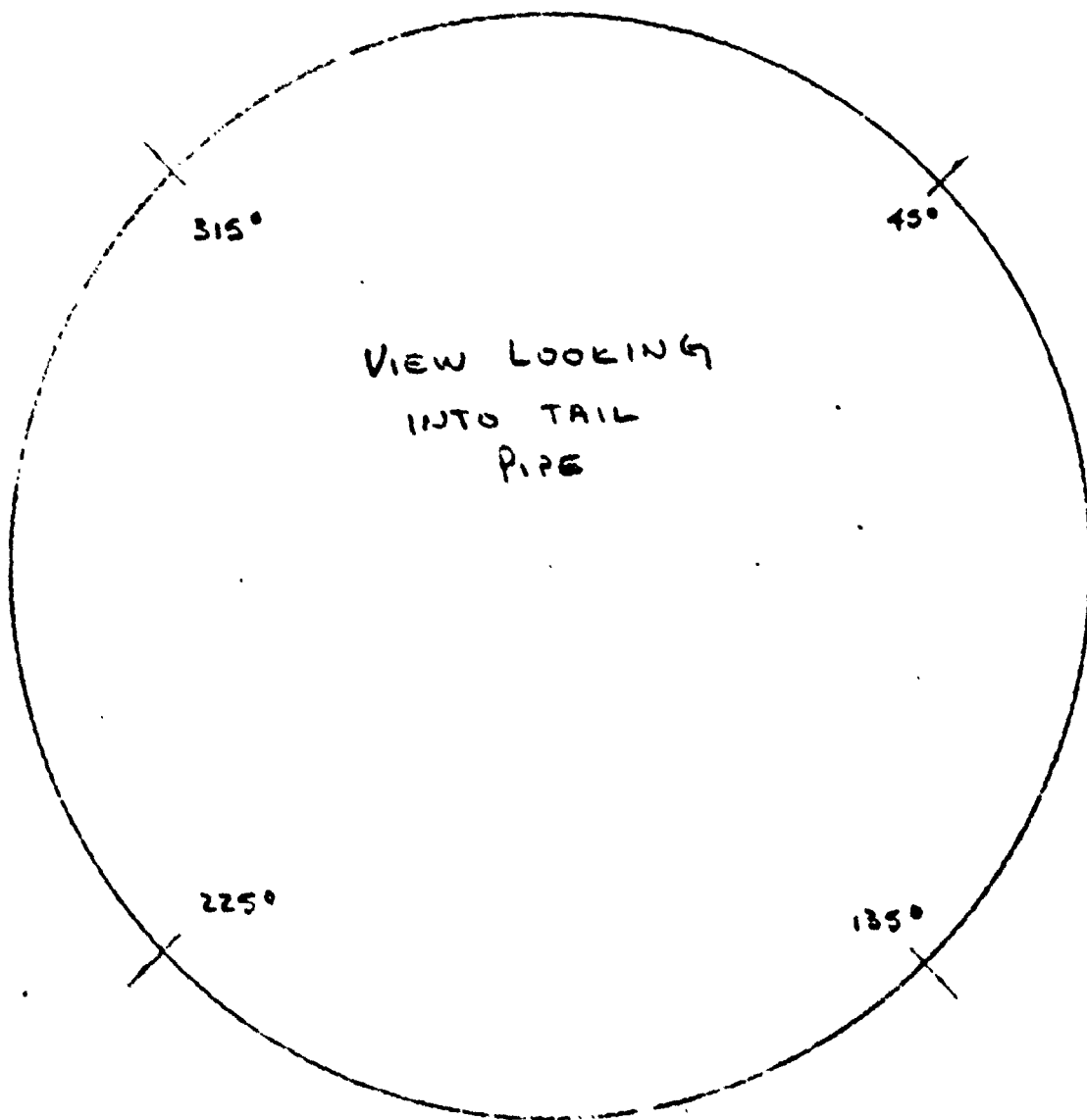
CHECKED _____

RPT ASWSK 22576-1

TAIL PIPE STATIC PRESSURE

TRANSMISSION
↑

ORIGINAL PAGE IS
OF POOR QUALITY



BY _____
CHECKED _____

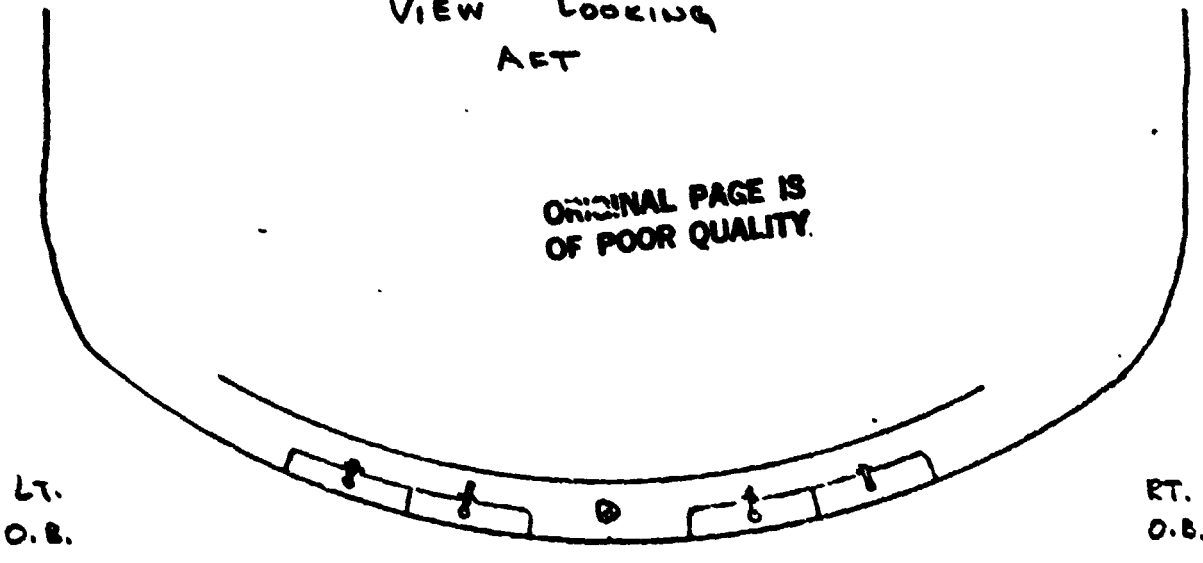
BELL HELICOPTER COMPANY

MODEL 301 PAGE 6 OF 6
HELI. 142 RPT A SWSK 3252-1

ENGINE COWLING TOTAL AND STATIC PRESSURE

VIEW LOOKING
AFT

ORIGINAL PAGE IS
OF POOR QUALITY.



LT.
O.B.

RT.
O.B.



001 A285000 2704

BY A. WHITENER

BELL HELICOPTER COMPANY
POST OFFICE BOX 602 • FORT WORTH, TEXAS

MODEL 301 PAGE 6A OF 6

CHECKED _____

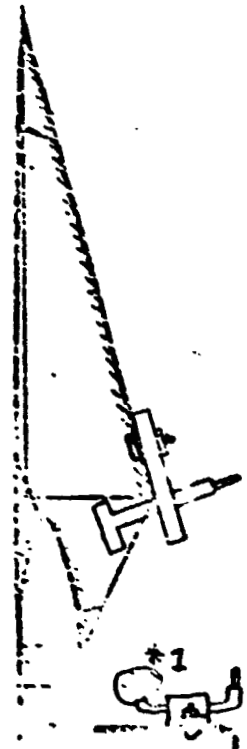
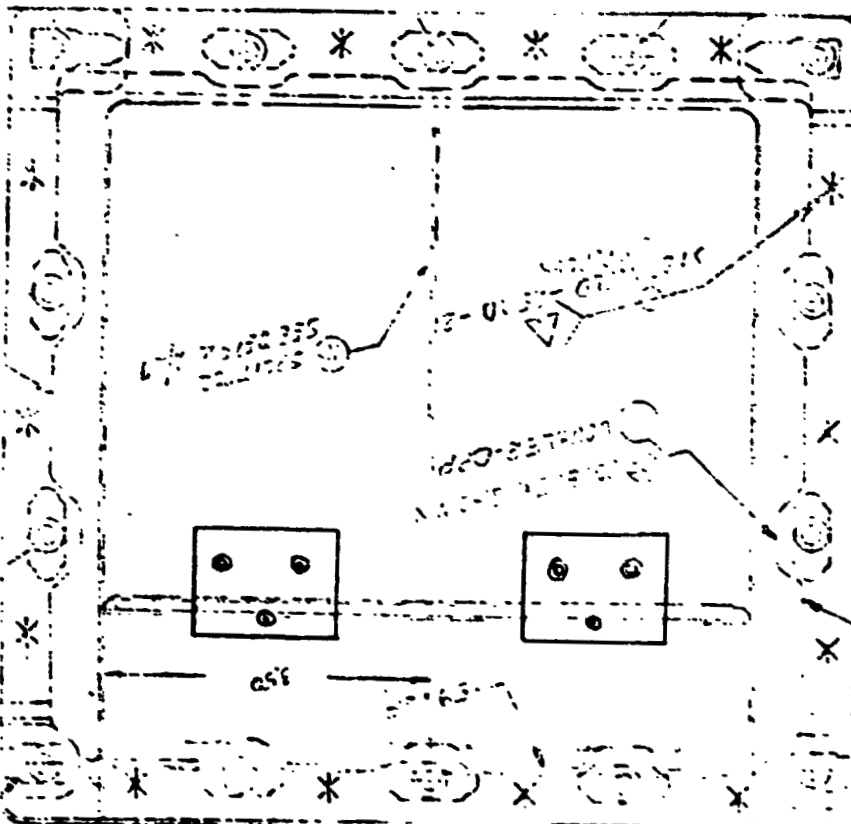
RPT ASW SR 32576-1

ORIGINAL PAGE IS
OF POOR QUALITY

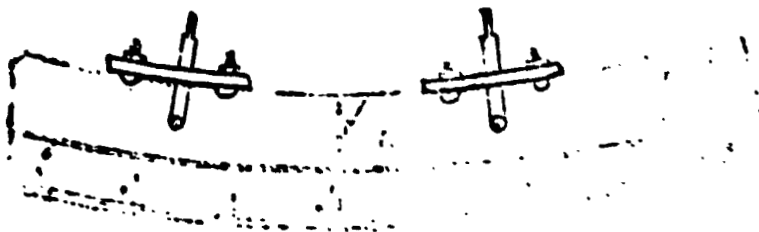
ENGINE COMPARTMENT AIR SCOOP

LEFT ENGINE

TOTAL AND STATIC PRESSURE PROBES



VIEW LOOKING INTO SCOOP



*1

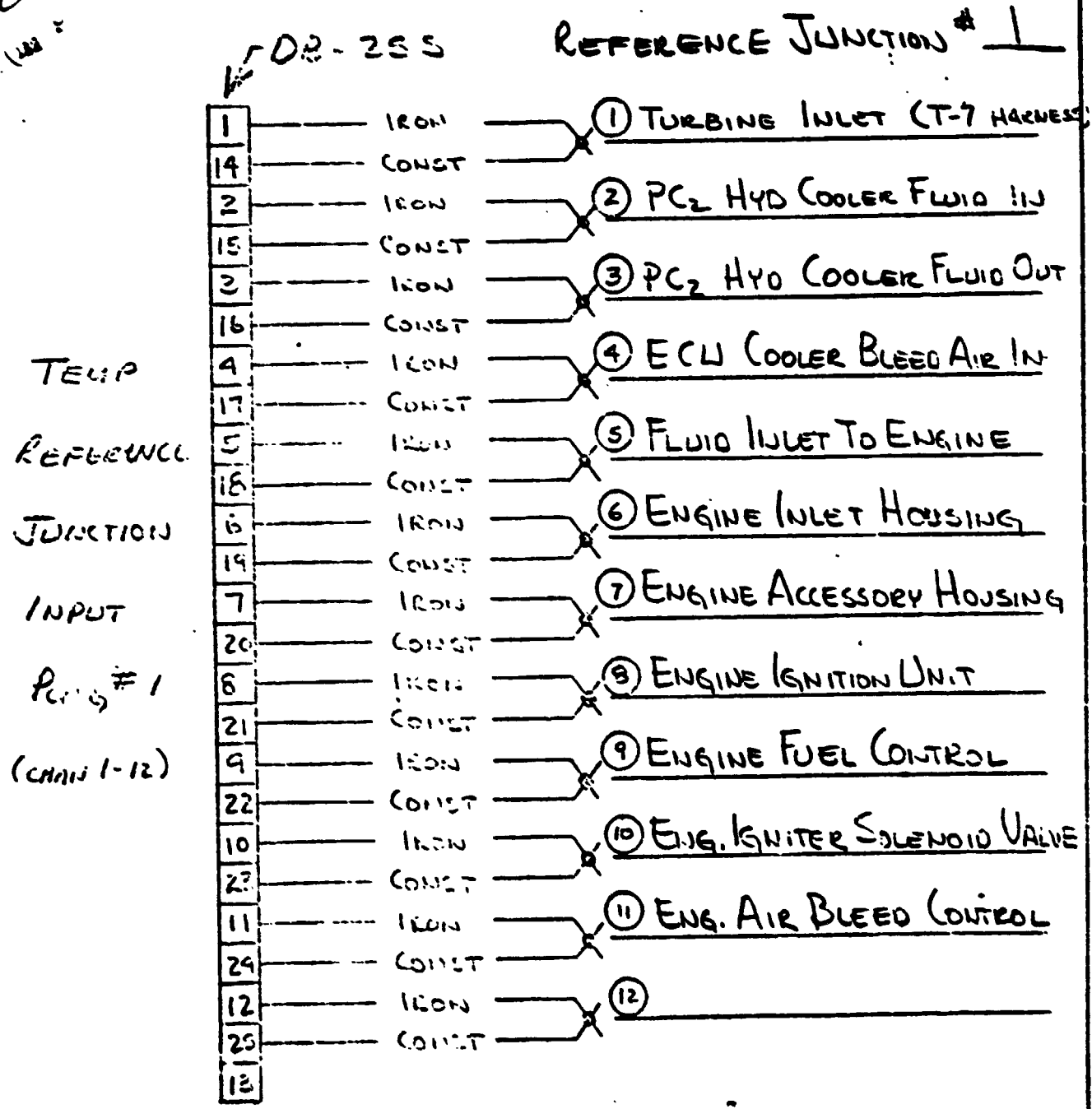
*1 MOUNT STATIC PICKUP AT CENTER LINE BETWEEN THE TWO (2) SCOOPS

JW
Completed
7-25-77
(initials)

T351
T306
T513 } *IS*

TEMP SCANNER

RIGHT PYLON THERMOCOUPLES



ORIGINAL PAGE IS OF POOR QUALITY

1042 95528 2 00

TEMP SCANNER

RIGHT PYLON THERMOCOUPLES

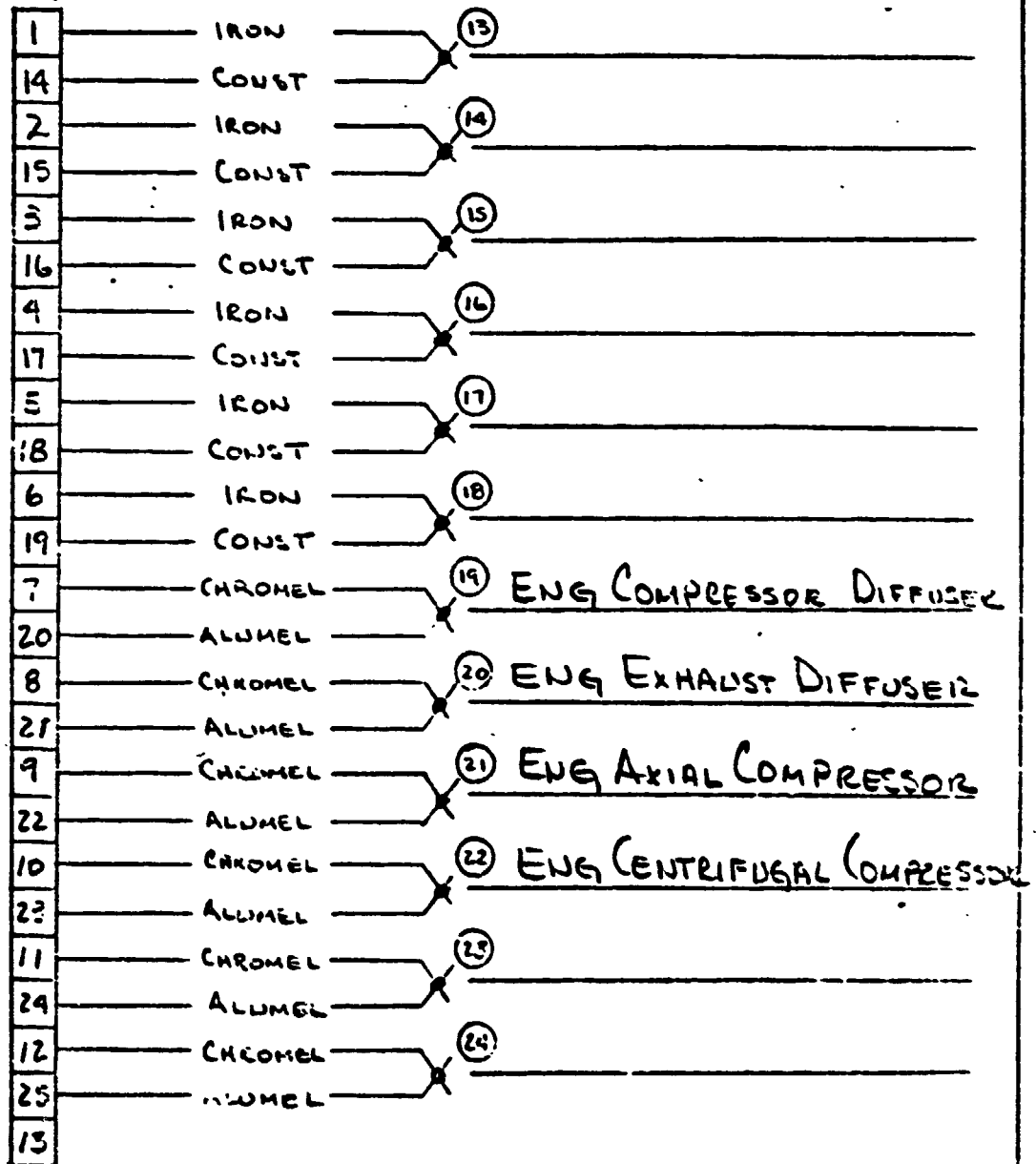
DB-255

REFERENCE JUNCTION # 1

TEMP
REFERENCE
JUNCTION
INPUT

PLUG # 3

(CHAN 13-24)



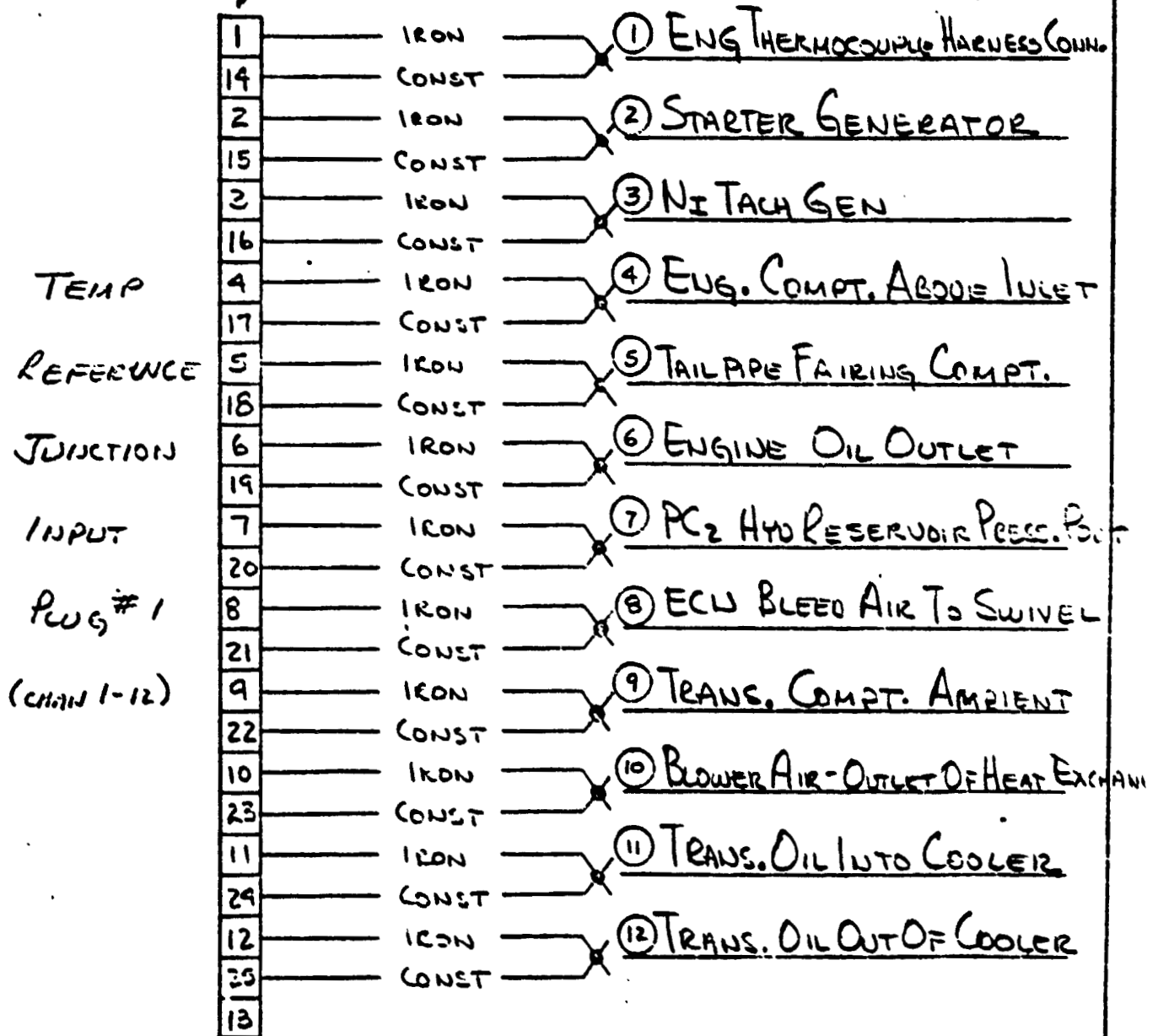
ORIGINAL PAGE IS
OF POOR QUALITY

TEMP SCANNER

RIGHT PYLON THERMOCOUPLES

DB-255

REFERENCE JUNCTION # 2



ORIGINAL PAGE IS
OF POOR QUALITY

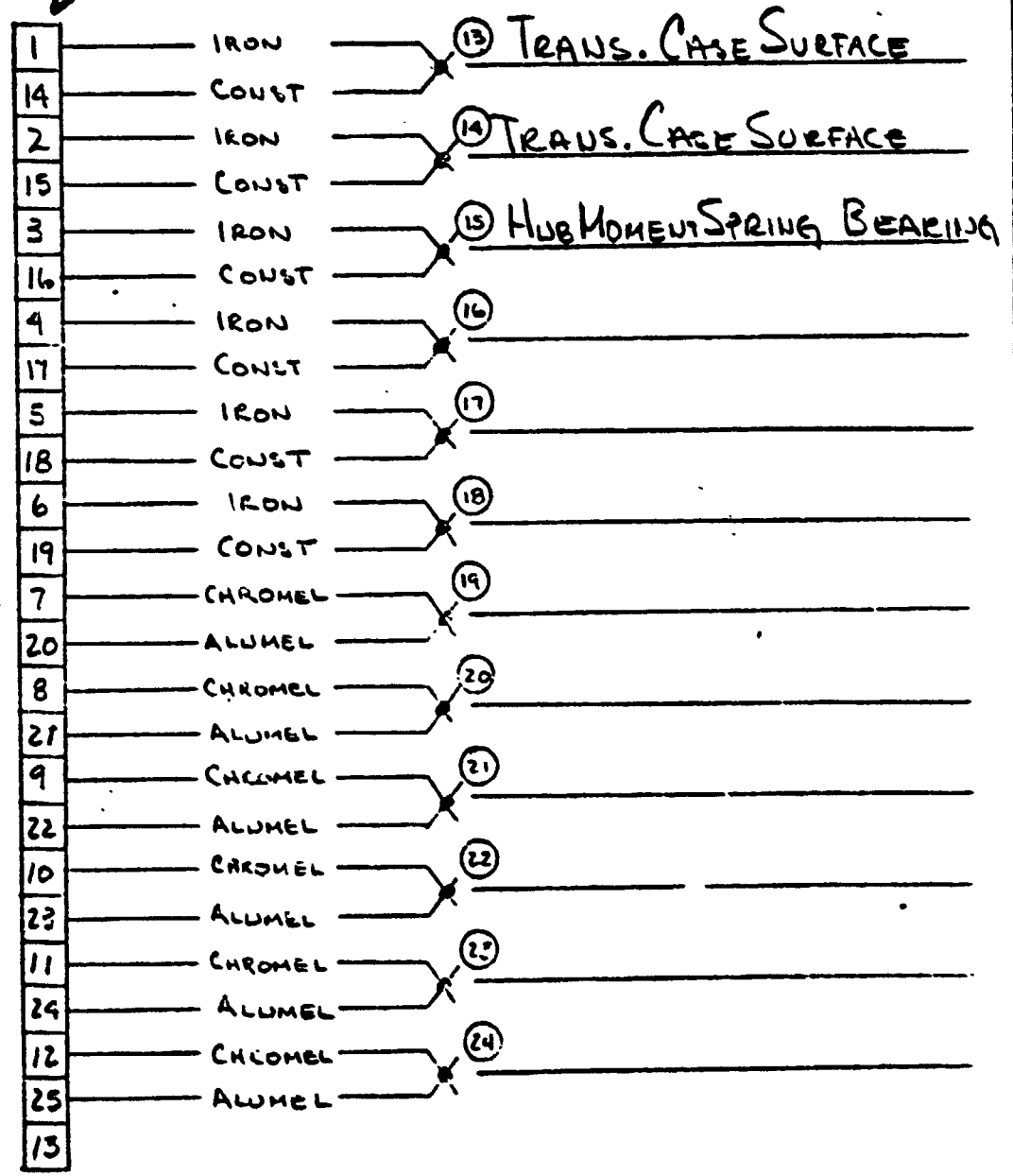
TEMP SCANNER

RIGHT PYLON THERMOCOUPLES

REFERENCE JUNCTION # 2

DB-255

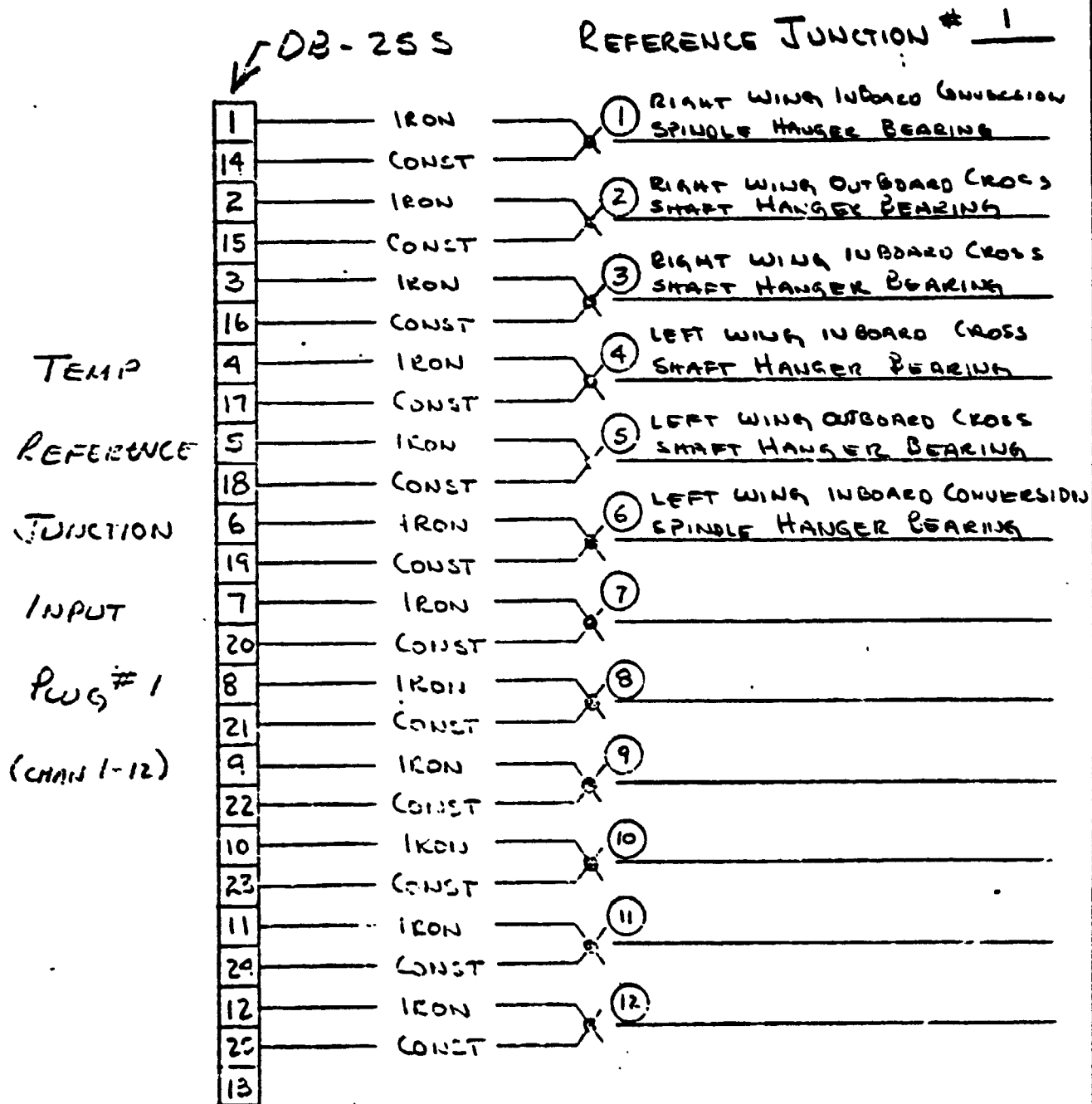
TEMP
REFERENCE
JUNCTION
INPUT
PLUG # 3
(CHAN 13-24)



ORIGINAL PAGE IS
OF POOR QUALITY

TEMP SCANNER

FUSELAGE THERMOCOUPLES



ORIGINAL PAGE IS OF POOR QUALITY

TEMP SCANNER

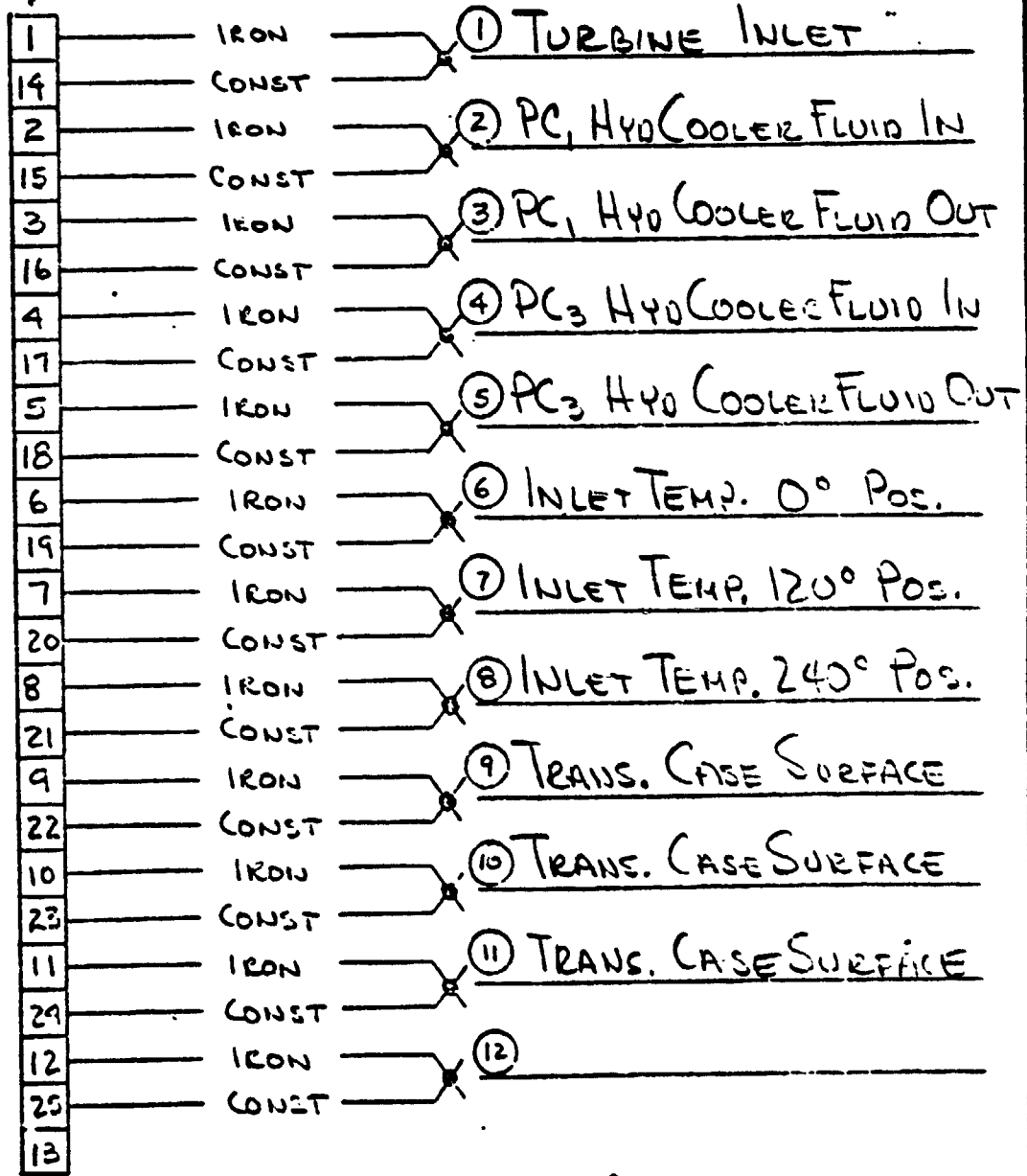
ORIGINAL PAGE IS
 OF POOR QUALITY

LEFT PYLON THERMOCOUPLES

REFERENCE JUNCTION # 1

DB-255

TEMP
 REFERENCE
 JUNCTION
 INPUT
 PLUG # 1
 (LINE 1-12)



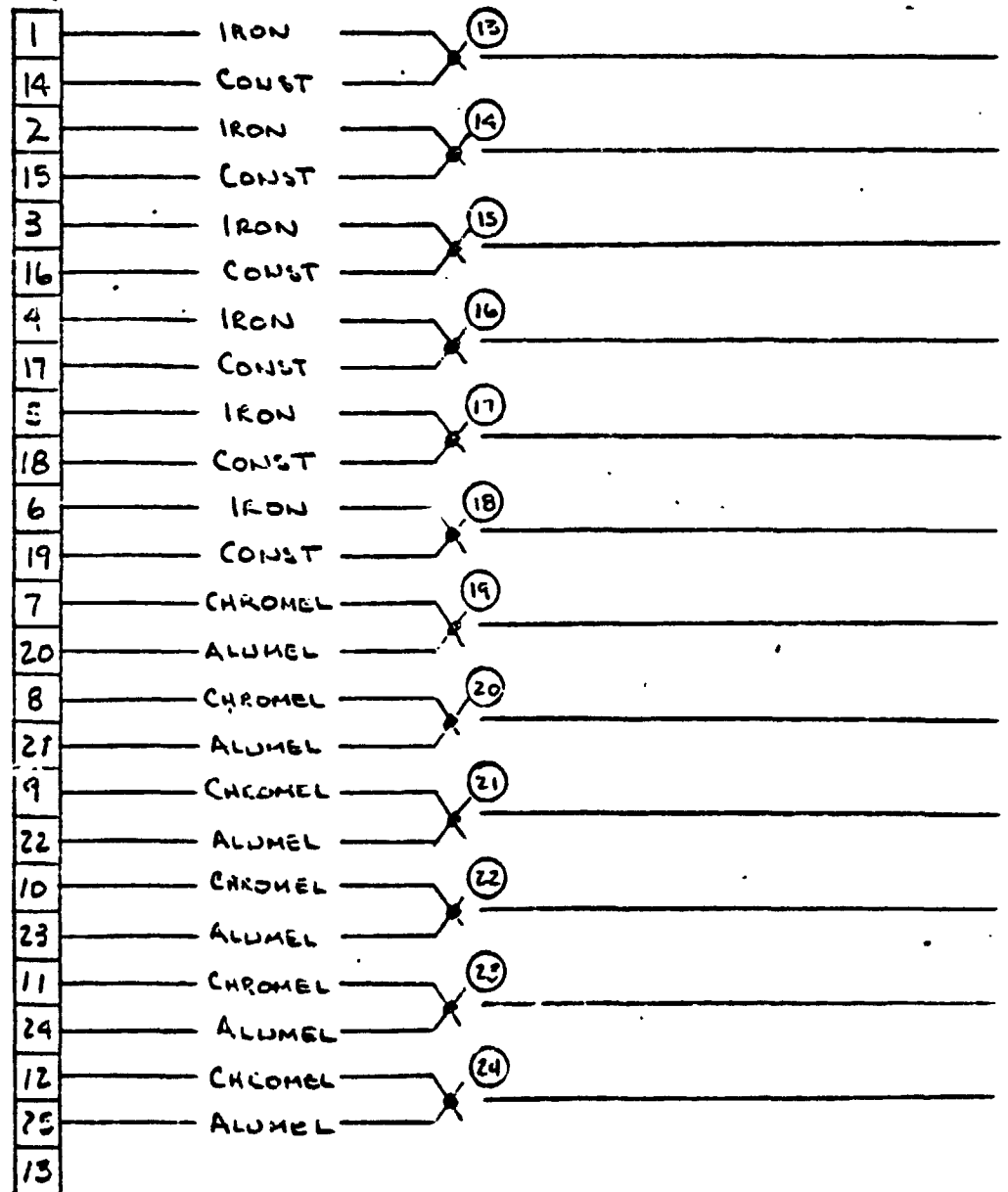
ORIGINAL PAGE IS
OF POOR QUALITY

TEMP SCANNER

LEFT Pylon THERMOCOUPLES

DB-25S REFERENCE JUNCTION # 1

TEMP
REFERENCE
JUNCTION
INPUT
PLUG # 3
(CHAN 13-24)



ORIGINAL PAGE IS
 OF POOR QUALITY

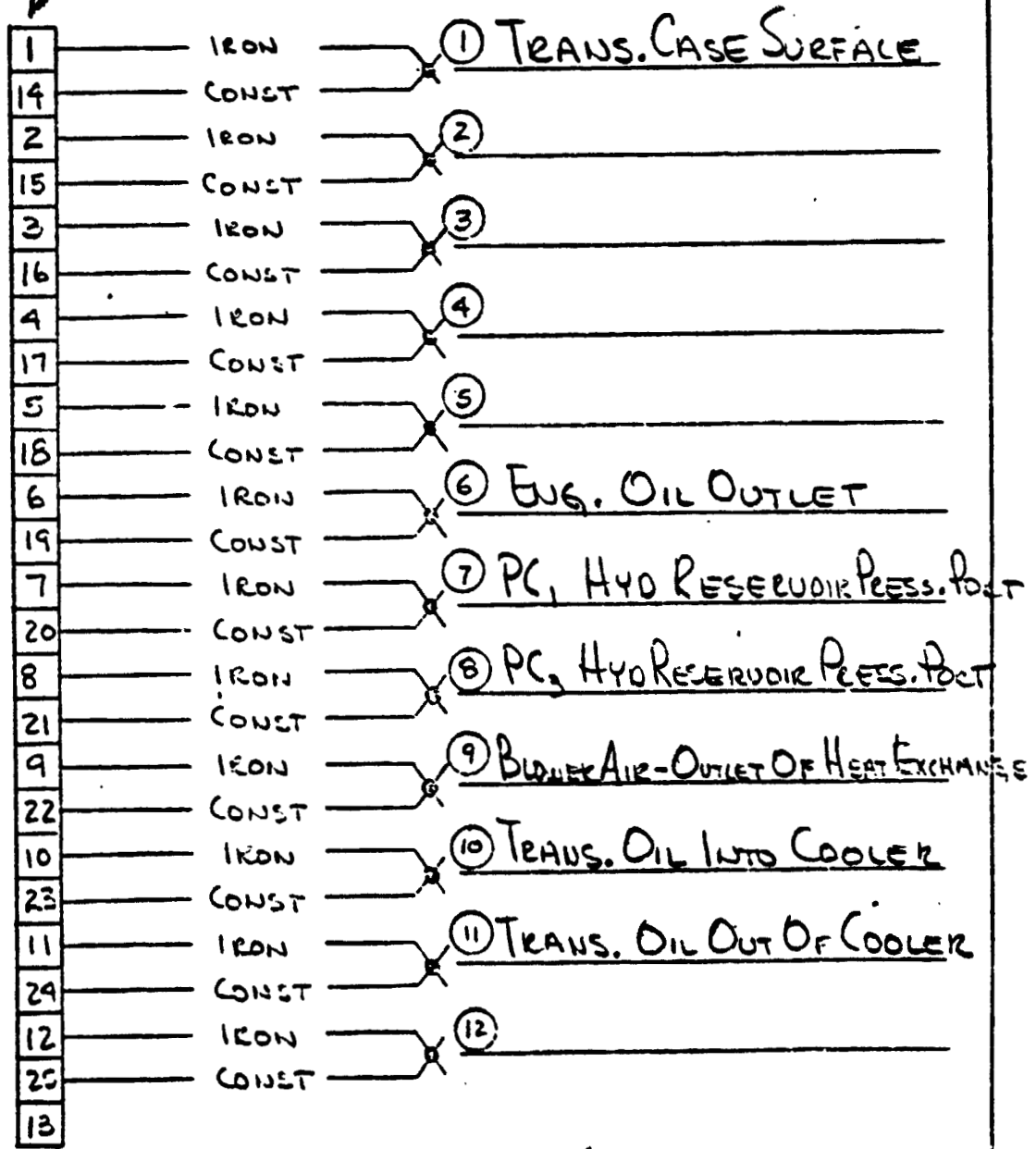
TEMP SCANNER

LEFT PYLON THERMOCOUPLES

REFERENCE JUNCTION # 2

DB-255

TEMP
 REFERENCE
 JUNCTION
 INPUT
 PLUG # 1
 (CHAN 1-12)



TEMP SCANNER

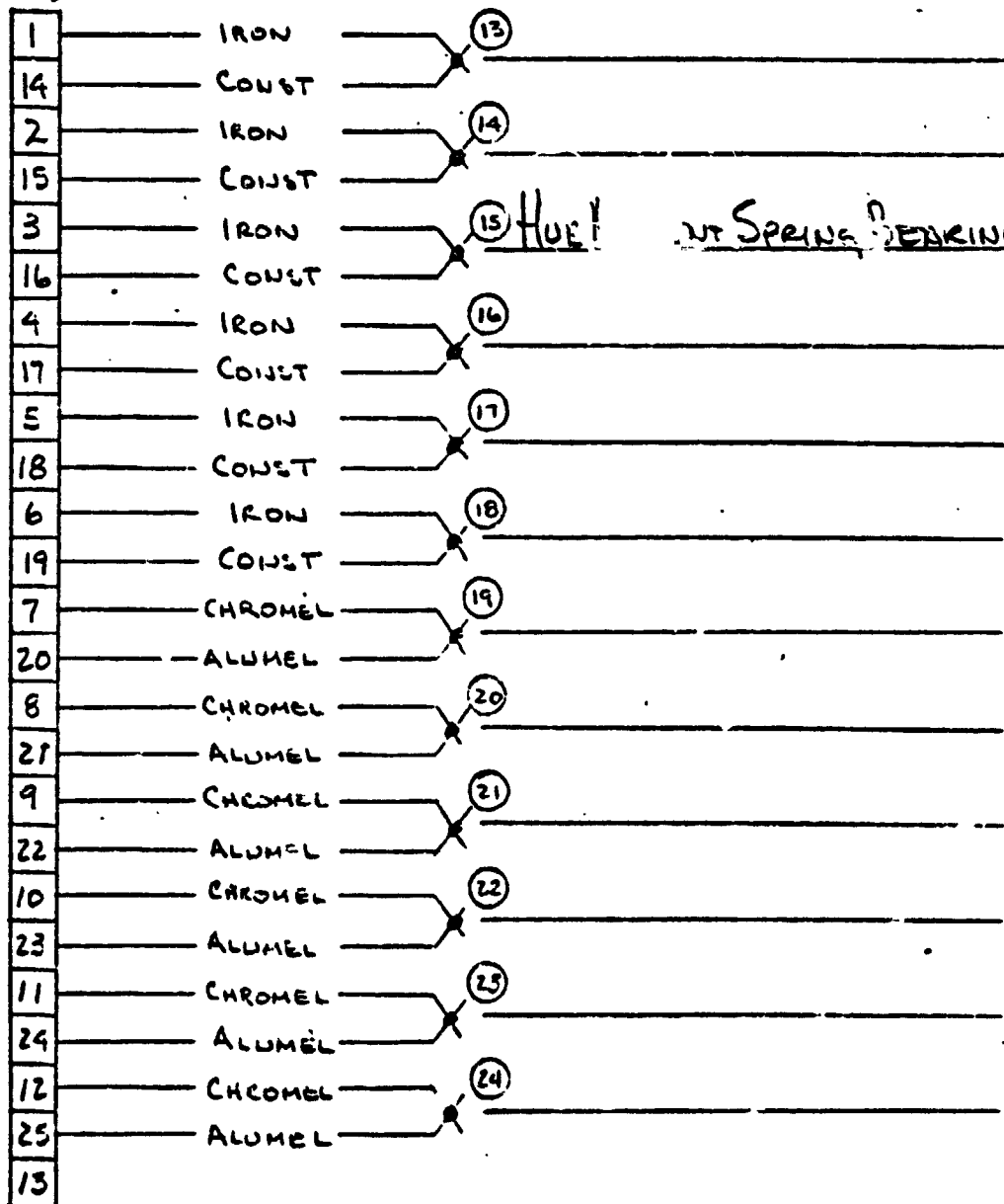
ORIGINAL PAGE IS OF POOR QUALITY

LEFT PYLON THERMOCOUPLES

DB-255

REFERENCE JUNCTION # 2

TEMP
REFERENCE
JUNCTION
INPUT
PLUG # 3
(CHAN 13-24)



HUE! UT SPRING BENDING

TEMP SCANNER

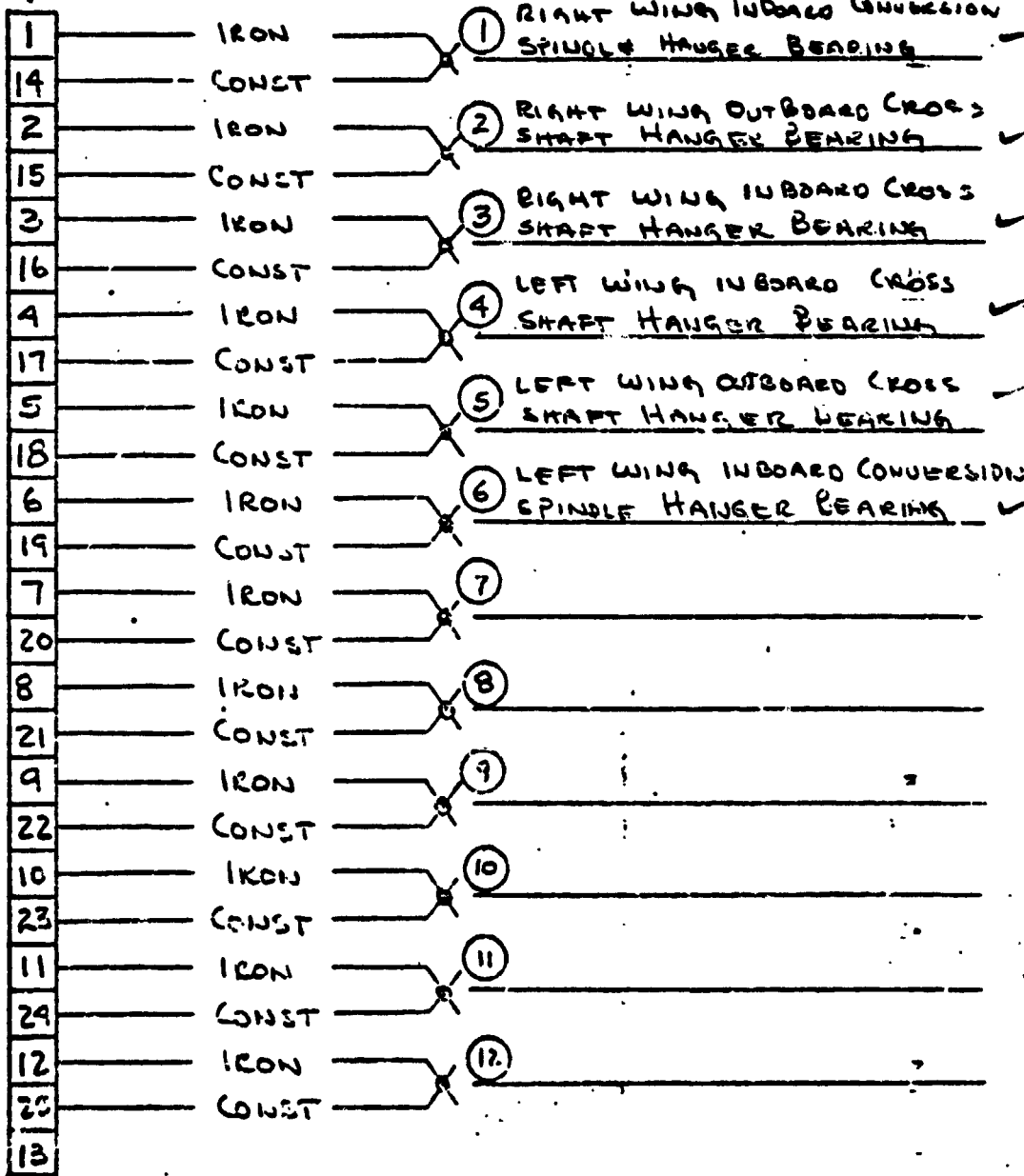
ORIGINAL PAGE IS OF POOR QUALITY

FUSELAGE THERMOCOUPLES

DB-255

REFERENCE JUNCTION # 1

TEMP
REFERENCE
JUNCTION
INPUT
PLUG # 1
(CHAN 1-12)



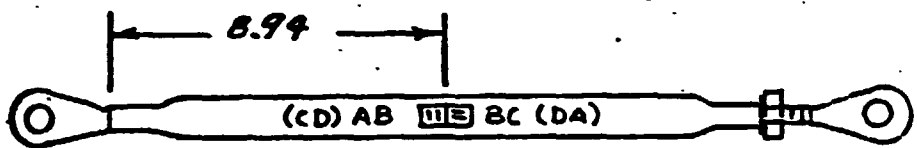
INSTRUMENTATION LABORATORY WORK SHEET

FORM NO. 301	GAGE TYPE F-1-13-125TB-350	SHEET NO. DLN 678994
EWA NO. A427-11A	RESISTANCE 350 \pm 0.4%	LAB. NO. 10661A
DRK ORDER A427	GAGE FACTOR 2.12 \pm 1.0%	PART NO. 301-860-734-3
REQUESTED BY: A. WHITENER.	LOT NO. Q-A 18 AF 48	SERIAL NO.

TITLE OF TEST **301 FLIGHT TEST**

SKETCH: **F-520**
ORIGINAL PAGE IS OF POOR QUALITY **TUBE ASSY - FRAME**

947
 Complete
 RW
 12-10-76



REMARKS:

INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT.

MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER

WITH 9309. ATTACH FOUR WIRE SIX INCH SUPERFLEX

LEADS. ENCASE LEADS IN VINYL SLEEVING AND

TERMINATE WITH M4P PLUG.

BRIDGE	01 AXIAL						
BALANCE	9.64						
RES. TO GROUND	10K \pm 5%						
DATE ASSIGNED	TECHNICIAN			EST. HRS.		APPROVED BY:	
2-19-76	H. H. W -						
DATE COMPLETED	ENGINEER			ACT. HRS.			
2-20-76							

INSTRUMENTATION LABORATORY WORK SHEET

MOD. NO. 301	GAGE TYPE A-13-125TB-350	SHEET NO. DLN 678984
EW. NO. A427-11A	RESISTANCE 358 Ω ± 0.4%	LAB. NO. 10658A
TR. ORDER A427	GAGE FACTOR 2.12 ± 1.0%	PART NO. 301-EGC-934-1
REQUESTED BY: A. WHITENER	LOT NO. Q-A18AF48	SERIAL NO.

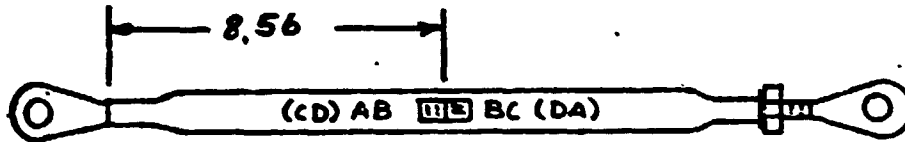
TITLE OF TEST
301 FLIGHT TEST

SKETCH:

848
 Complete
 JHW
 12-10-76

ORIGINAL PAGE IS
OF POOR QUALITY

F521
TUBE ASSY - FRAME



REMARKS:

INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT.
 MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER
 WITH 9309. ATTACH FOUR WIRE SIX INCH SUPERFLEX
 LEADS. ENCASE LEADS IN VINYL SLEEVING AND
 TERMINATE WITH M4P PLUG.

BRIDGE	01	AXIAL					
BALANCE		4.71					
RES. TO GROUND		10K Ω					
DATE ASSIGNED	2-17-76		TECHNICIAN	EST. HRS.		APPROVED BY:	
DATE COMPLETED	2-20-76		ENGINEER	ACT. HRS.			

MODEL 301 ROTATING SLIP RING HARNESS (J-1) LR-1

B130	D066
B132	S147
B133	S148
B134	M139
B135	E074
B136	L058
B137	D059
M138	
B114	
B115	

ORIGINAL PAGE IS
OF POOR QUALITY.

KPT06-22-55P

942
Complete
12-10-76

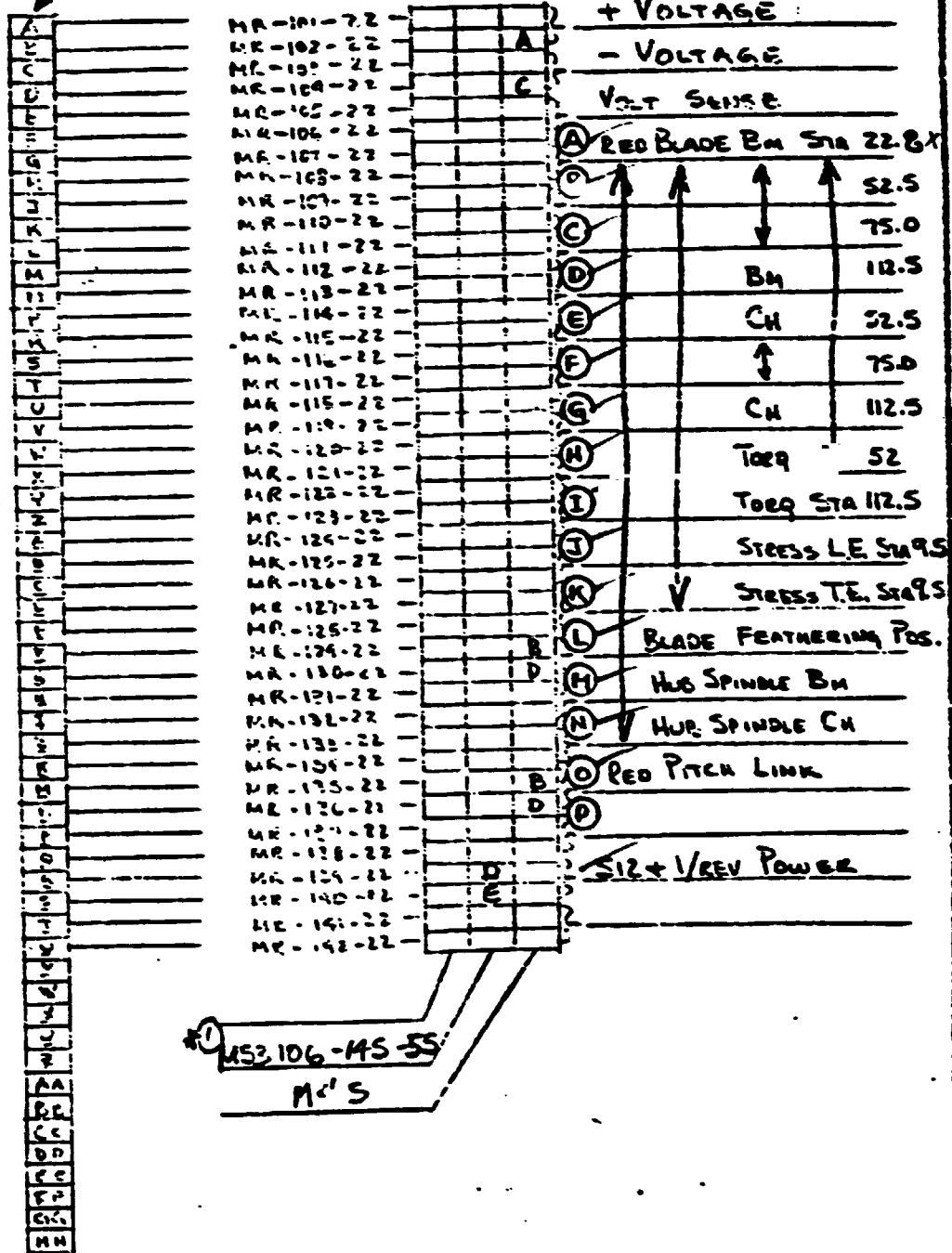
PLUG

J-1

ON

SLIP

RING



*SEE SHEET #2 FOR
REMAINDER OF WIRES

BY A. WHITENER

BELL HELICOPTER COMPANY

MODEL 301 PAGE

CHECKED (Signature)

HELI. 1+2 RPT SKTASWDCI-2

MODEL 301 ROTATING SLIP RING HARNESS (J-2) LR-2

KPT06-22-55P

B140	B12
B141	B193
B143	B194
F060	E075
F06	DO.8
F062	D059
B142	P183
D144	
P185	

ORIGINAL PAGE IS
OF POOR QUALITY

PLUG
J-2
ON
SLIP
RING

A	MR-201-22		A	+ VOLTAGE
B	MR-202-22			- VOLTAGE
C	MR-203-22		E	
D	MR-204-22			VOLT SENSE
E	MR-205-22			(A) MAST PARA BEND
F	MR-206-22			(B) ↑ PEER. BEND
G	MR-207-22			(C) MAST TORQ
H	MR-208-22			(D) SWASH RATE DOWN FORCE
I	MR-209-22			(E) GIMBLE FLAP POS.
J	MR-210-22			(F) TELEVISION TOLN BEND
K	MR-211-22			(G) WHITE PITCH LINE
L	MR-212-22			(H) GREEN PITCH LINE
M	MR-213-22			(I) ROTOR SYSTEM Bn
N	MR-214-22			(J) FLIGHT
O	MR-215-22			(K) WHITE HUB SPINDLE Bn Bn
P	MR-216-22			(L) WHITE ↑ CH ↑
Q	MR-217-22			(M) GREEN ↓ CH ↓
R	MR-218-22			(N) GREEN HUB SPINDLE Cn Bn
S	MR-219-22			(O) COLL. ACT. POS.
T	MR-220-22			(P)
U	MR-221-22			512/REV SIG
V	MR-222-22			1/REV SIG
W	MR-223-22			
X	MR-224-22			
Y	MR-225-22			
Z	MR-226-22			
AA	MR-227-22			
AB	MR-228-22			
AC	MR-229-22			
AD	MR-230-22			
AE	MR-231-22			
AF	MR-232-22			
AG	MR-233-22			
AH	MR-234-22			
AI	MR-235-22			
AJ	MR-236-22			
AK	MR-237-22			
AL	MR-238-22			
AM	MR-239-22			
AN	MR-240-22			
AO	MR-241-22			
AP	MR-242-22			

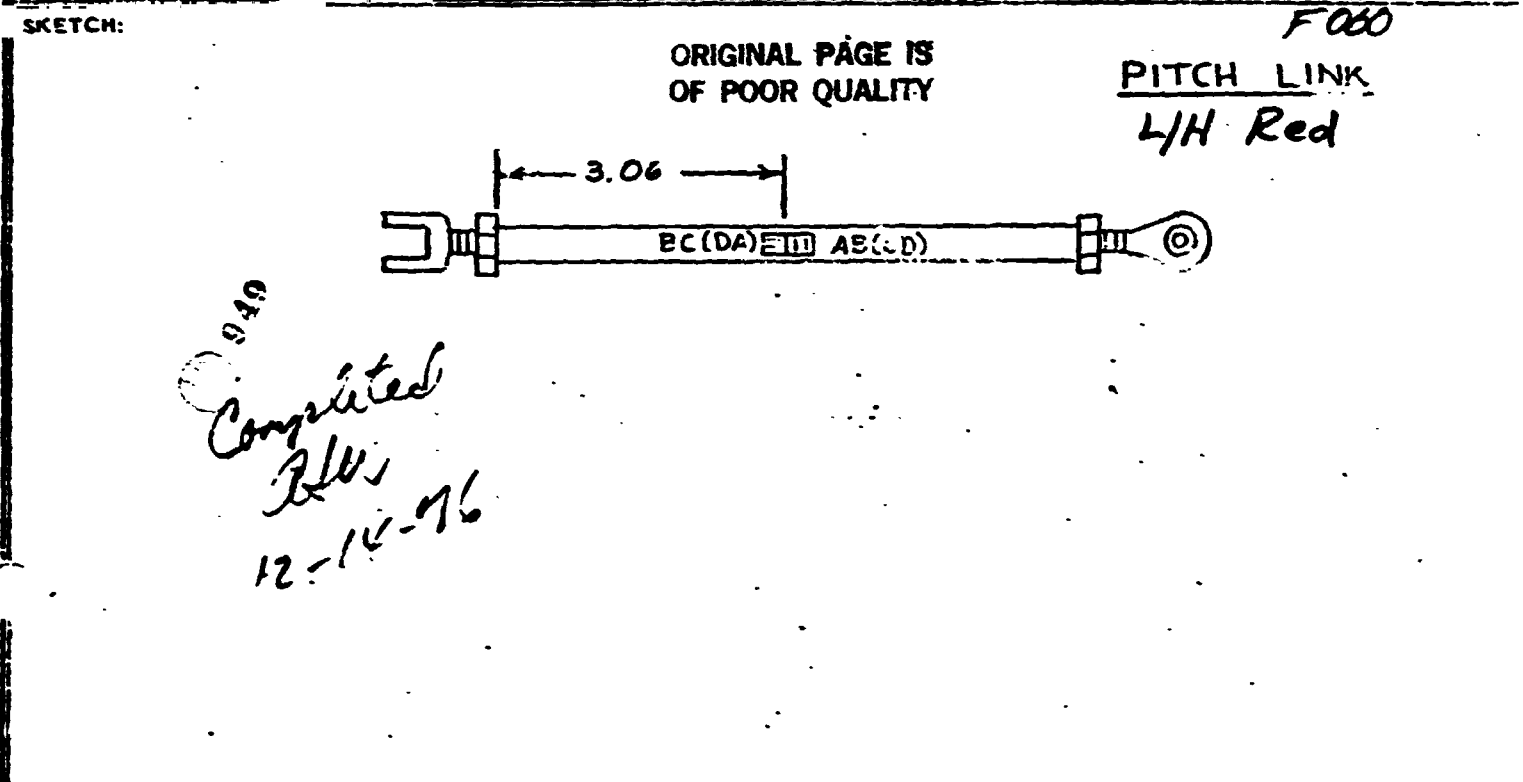
* MS3106-145-55
M95

7802 9808REV 100

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-125TB-350W	SHEET NO. DLN 678764
WAVE NO. A427-11A	RESISTANCE 357.0 ± 0.4%	LAB. NO. 10983A
ORDER A427	GAGE FACTOR 2.12 ± 1.0%	PART NO. 300-010-411-11
REQUESTER BY: A. WHITENER	LOT NO. Q-A1BAF56	SERIAL NO.

TITLE OF TEST **301 FLIGHT TEST**



REMARKS:

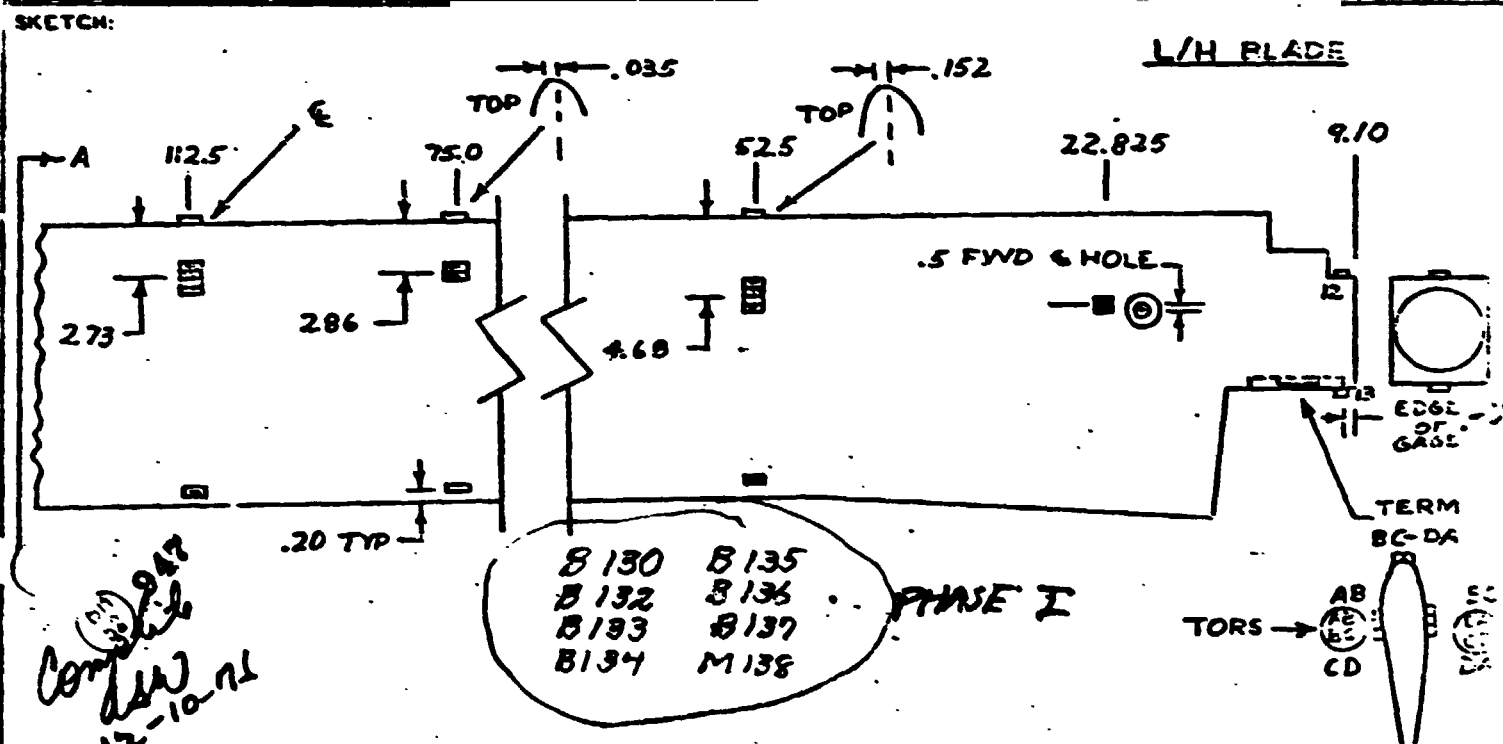
INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT.
 MAKE BRIDGE AT FLAT TERMINAL AS INDICATED.
 COVER WITH 9309. ATTACH FOUR WIRE SIX
 INCH SUPERFLEX LEADS. ENCASE LEADS IN VINYL
 SLEEVING AND TERMINATE WITH M4P PLUG.

BRIDGE	AXIAL						
BALANCE	3.66						
RES. TO GROUND	11k _Ω						
DATE ASSIGNED	6-8-76	TECHNICIAN <i>Wolke</i>			EST. HRS.	APPROVED BY:	
DATE COMPLETED	6-8-76	ENGINEER			ACT. HRS.		

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-66-250, 10-350M 10-350V	EA-28 26	SHEET NO. DLN 67899-1
A427-11A	RESISTANCE 350.0 ± 0.4%	350.0 ± 0.4%	LAB. NO. 10789A
WORK ORDER A427	GAGE FACTOR 2.13 ± 0.5%	2.145 ± 0.5%	PART NO. 300-010-001-005
REQUESTED BY: A. WHITENER	LOT NO. Q-A21AD 195	Q-A35600	SERIAL NO.

TITLE OF TEST **301 FLIGHT TEST** **5147 LA**
514 LA



REMARKS:

- INSTALL CHORD - BEAM & TORSION BRIDGES AS SHOWN.
- USE BR-600 CEMENT. COMPLETE BRIDGE IN GAGE AREA
- USING FLAT TERMINALS. MAIN TERMINAL IS IN AREA
- SHOWN. COVER WITH SHELL 9309.

ORIGINAL PAGE IS OF POOR QUALITY

12	13
9.50	9.50
6.26	5.72
10K	10K

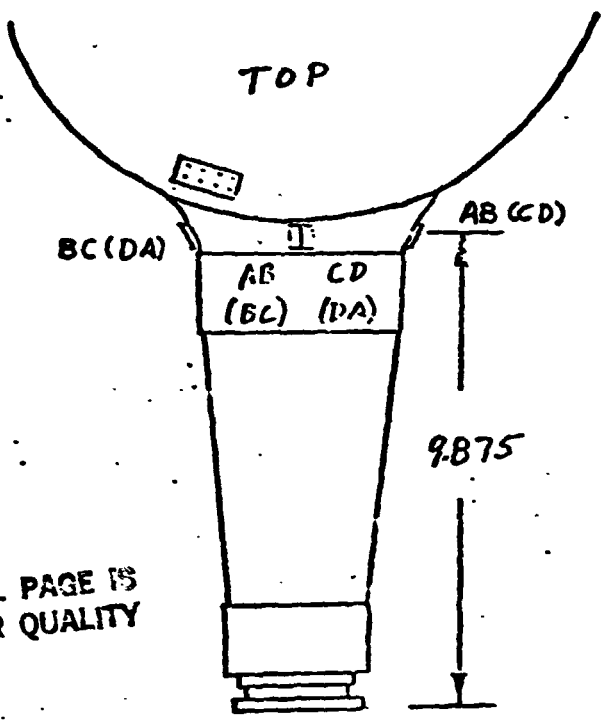
	02	03	04	05	06	07	08	09	10
BRIDGE	BM 22.825	CH 52.5	BM 52.5	CH 75.0	BM 75.0	CH 112.5	BM 112.5	CH 52.5	CH 112.5
BRIDGE	4.99	4.96	5.68	4.61	4.67	4.89	4.49	5.29	5.34
TO GROUND	10K	10K	10K	10K	10K	10K	10K	10K	10K
DATE ASSIGNED	4-6-76			TECHNICIAN E.C.W. - C.C.W.			EST. HRS.		
DATE COMPLETED	4-9-76			ENGINEER			APPROVED BY:		
							ACT. HRS.		

MOULL NO. 301	FA-06-25MM Q-350	DLN
EWA NO. A427-II	RESISTANCE 250.0 ± 0.4%	LAD. NO. 11027A
WORK ORDER A427	GAGE FACTOR 2.08 ± 0.5%	PART NO. 300-010-131-2
TESTED BY: A WHITENER	LOT NO. D-135AD16	SERIAL NO. FM 007

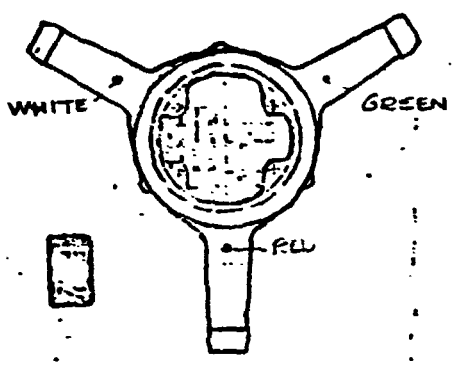
TITLE OF TEST
301 FLIGHT TEST

SKETCH:

947
Complete
12-10-76



H/H YOKE
B113
B114 } PHASE I
B115 }
B192 }
B193 }
B194 } II A
B195 }



ORIGINAL PAGE IS
OF POOR QUALITY

VIEW LOCKING AFT

REMARKS:

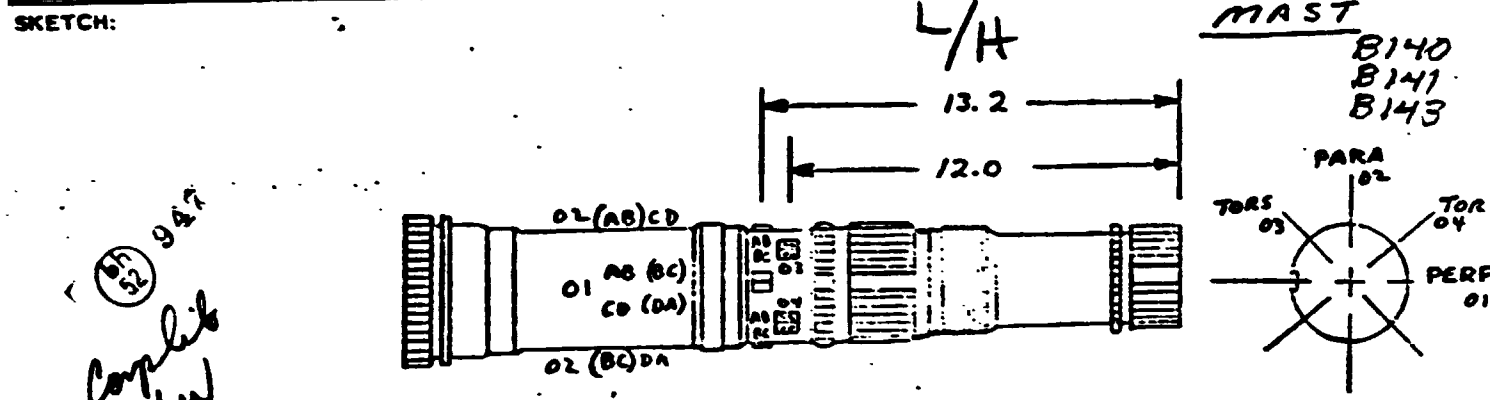
CLEAN GAGE AREA PER TITANIUM INSTRUCTIONS. INSTALL
BEAM AND CHORD BRIDGES ON THREE SPINDLES. USE
BR-600 CEMENT. COMPLETE BRIDGE AT POST TYPE
TERMINALS ON TOP SURFACE. COVER WITH SHELL 9309

	01 RED 02		03 WHITE 04		05 GREEN 06	
BRIDGE	CHORD	BEAM	CHORD	BEAM	CHORD	BEAM
BALANCE	5.26	4.37	6.41	5.05	5.18	4.95
TO GROUND	10K					10K
DATE ASSIGNED	6-22-76		TECHNICIAN Hollis		EST. HRS.	
DATE COMPLETED	6-24-76		ENGINEER		ACT. HRS.	
				APPROV. [Signature]		

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-06-750MD-350	SHEET NO. 678984
FWA NO. A427-11A	RESISTANCE 350~	LAB. NO. 10999A
WO. ORDER A427	GAGE FACTOR 2.13 ± 0.5%	PART NO. 300-040-180
REQUESTED BY: D. GLASS	LOT NO. Q-A21AD196	SERIAL NO. Q-11358D00

TITLE OF TEST: **MODEL 301 FLIGHT TEST SHIP # 1**



(52) 947
 Complete After
 12-10-76

ORIGINAL PAGE IS
OF POOR QUALITY

REMARKS: **INSTALL BENDING AND TORSION BRIDGES AS SHOWN. USE BR-600 CEMENT. MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER WITH 9309.**

BRIDGE	13.2	13.2	12.0	12.0
	PERP-01	PARA-02	TORS-03	TORS-04
ANCE	5.03	5.16	4.32	4.77
RLS. TO GROUND	10K m.m.	10K m.m.	10K m.m.	10K m.m.

DATE ASSIGNED	TECHNICIAN HOLLIS	EST. MRS.	APPROVED BY:
DATE COMPLETED 06-12-76	ENGINEER	ACT. MRS.	

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-250MQ-350	SHEET NO. DLN 679994
EWA NO. A427-11A	RESISTANCE 350Ω ± 0.4%	LAB. NO. 10636A
ORDER A427	GAGE FACTOR 2.11 ± 0.5%	PART NO. 300-010-451-1
REQUESTED BY: A. WHITENCE	LOT NO. Q-A18AF56	SERIAL NO.

TITLE OF TEST **301 FLIGHT TEST**

SKETCH:

DRIVER ASSY.

5742

ORIGINAL PAGE IS
OF POOR QUALITY

942

Complete

12-10-76

REMARKS:

INSTALL BEND. BRIDGE AS SHOWN. USE BR-600 CEMENT. MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER WITH 9309. ATTACH FOUR WIRE SIX INCH SUPERFLEX. LEADS. ENCASE LEADS IN VINYL SLEEVING AND TERMINATE WITH MAP PLUG.

BRIDGE	01	BEND					
LANCE	5.32						
RES. TO GROUND	10KΩ						
DATE ASSIGNED	TECHNICIAN H. Hill		EST. HRS.		APPROVED BY:		
DATE COMPLETED 2-13-76	ENGINEER		ACT. HRS.				

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-1R5TB-350W	SHEET NO. DLN-6789
WA NO. A427-11A	RESISTANCE 350.0 ± 0.4%	LAB. NO. 10629A
WORK ORDER A427	GAGE FACTOR 2.12 ± 1.0%	PART NO. 300-010-411-11
REQUESTED BY: A. WHITENER	LOT NO. Q-A1BAF 4B	SERIAL NO.

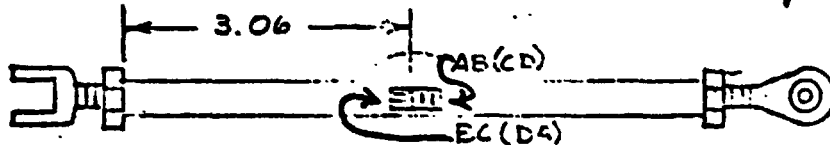
TITLE OF TEST
301 FLIGHT TEST

SKETCH:

ORIGINAL PAGE IS
OF POOR QUALITY

F061
PITCH LINK
L/H ~~GREEN~~
YELLOW

947
 Complete
 AW
 12-10-76



REMARKS:

INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT.
 MAKE BRIDGE AT FLAT TERMINAL AS INDICATED.
 COVER WITH 9309. ATTACH FOUR WIRE SIX
 INCH SUPERFLEX LEADS. ENCASE LEADS IN VINYL
 SLEEVING AND TERMINATE WITH M4P PLUG.

01

BRIDGE	AXIAL						
PLANCE	14.95						
RES. TO GROUND	1.8K						
DATE ASSIGNED	TECHNICIAN			EST. HRS.	APPROVED BY:		
2-12-76	C.C.W. -						
DATE COMPLETED	ENGINEER			ACT. HRS.			
2-16-76							

INSTRUMENTATION LABORATORY WORK SHEET

MODEL NO. 301	GAGE TYPE EA-13-125TB350W	SHEET NO. DLN 678931
NO. A427-11A	RESISTANCE 350.0 ± 0.4%	LAB. NO. 10626A
WORK ORDER A427	GAGE FACTOR 2.12 ± 1.0%	PART NO. 300-010-411-11
REQUESTED BY: A WHITENER	LOT NO. Q-AIBAF48	SERIAL NO.

TITLE OF TEST **301 FLIGHT TEST**

SKETCH:

947
32

*Completed
12-10-76*

ORIGINAL PAGE IS OF POOR QUALITY

F062

PITCH LINK

L/A YELLOW GREEN

REMARKS:

INSTALL AXIAL BRIDGE AS SHOWN. USE BR-600 CEMENT. MAKE BRIDGE AT FLAT TERMINAL AS INDICATED. COVER WITH 9309. ATTACH FOUR WIRE SIX INCH SUPERFLEX LEADS. ENCASE LEADS IN VINYL SLEEVING AND TERMINATE WITH M4P PLUG.

RIDGE	AXIAL						
PLACEMENT	4.28						
RES. TO GROUND	15k Ω						
DATE ASSIGNED	TECHNICIAN			EST. HRS.	APPROVED BY:		
2-12-76	C.C.W. -						
DATE COMPLETED	ENGINEER			ACT. HRS.			
2-12-76							

CALIBRATION SHEET
LAE ENGINEER: WHITENER
DATA ANALYST: MARY LCU WRIGHT
LAB TECHNICIAN: ANDERSON

LAB NO. : 10265A04
CAL DATE: 11-9-76
SERIAL NO: NONE
P/N: 300-028-008

ORIGINAL PAGE IS
OF POOR QUALITY

PROJECT: 301 FLIGHT TEST

PART NAME: ^{RIGHT} ~~LEFT~~ HANO FLAPERON

CHANNEL: 04 - INBOARD BENDING, STATION 24.95

~~B615~~
B615

CALIBRATE EQUIVALENT: 100K = 8617 IN-LBS
UNIT CAL = 9794 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.080
BRIDGE VOLT. : 6.00
PRE CAL. : 5.28
POST CAL. : 5.28

JACK FAC. : NONE
LEVER ARM : 24.200 IN.
CAL RES. : 100

LOADS-POUNDS	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	0.004	7
0.00	0.00	0.000	-0.004	-7
10.00	242.00	0.150	-0.003	-4
20.00	484.00	0.310	0.009	15
30.00	726.00	0.450	0.001	1
40.00	968.00	0.600	0.003	4
50.00	1210.00	0.740	-0.006	-9

MAXIMUM CALIBRATION LOAD: 1210 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 11-13-76

CALIBRATION SHEET
LAB ENGINEER: WHITENER
DATA ANALYST: MARY LCU WRIGHT
LAB TECHNICIAN: JARVIES

LAB NO. : 1026600A
CAL DATE: 11-9-76
SERIAL NO: NONE
P/N: 300-026-068

ORIGINAL PAGE IS
OF POOR QUALITY

PROJECT: 301 FLIGHT TEST

B622

LEFT
PART NAME: RIGHT HAND FLAPERON

CHANNEL: 04 - OUTBOARD ENDING, STATION 24.95

CALIBRATE EQUIVALENT: 100K = 6068 IN-LBS
UNIT CAL = 6930 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.000
BRIDGE VOLT. : 6.00
PRE CAL. : 5.26
POST CAL. : 5.25

JACK FAC. : NONE
LEVER ARM : 24.200 IN.
CAL RES. : 100

LOADS-POUNDS	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.010	-11
2.00	0.00	0.000	0.010	11
20.00	484.00	0.420	0.010	12
40.00	968.00	0.820	-0.009	-10
60.00	1452.00	1.220	-0.028	-32
80.00	1936.00	1.660	-0.007	-8
100.00	2420.00	2.110	0.024	17

MAXIMUM CALIBRATION LOAD: 2420 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 11-13-76

***** END OF JOB *****

***** END OF JOB *****

***** END OF JOB *****

CALIBRATION SHEET
LAB ENGINEER: WHITENER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: JARVIES

LAB NO. : 10313A02
CAL DATE: 11-16-76
SERIAL NO: NONE
P/N: 30-028-067-1

ORIGINAL PAGE IS
OF POOR QUALITY

B618

PROJECT: 301 FLIGHT TEST SHIP #1

PART NAME: LEFT HAND FLAP

CHANNEL: 03 - BENDING, STATION 24.25

CALIBRATE EQUIVALENT: 100K = 5618 IN-LBS
UNIT CAL = 6384 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.110
BRIDGE VOLT. : 6.00
PRE CAL. : 5.28
POST CAL. : 5.28

JACK FAC. : NONE
LEVER ARM : 23.500 IN.

CAL RES. : 100

LOADS-POUNDS	LOADS-IN-LBS	OUTPUT	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.026	-27
0.00	0.00	0.000	0.020	27
50.00	1175.00	1.080	0.001	2
100.00	2350.00	2.160	-0.023	-24
150.00	3525.00	3.260	-0.027	-29
200.00	4700.00	4.380	-0.011	-12
250.00	5875.00	5.530	0.034	36

MAXIMUM CALIBRATION LOAD: 5875 IN-LBS

201.2 IA

CALIBRATION SHEET
LAB ENGINEER: WHITENER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: JARVIES

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10314602
CAL DATE: 11-15-76
SERIAL NO: NONE
P/N: 300-028-067-2

B613

PROJECT: 301 FLIGHT TEST SHIP #1

PART NAME: RIGHT HAND FLAP

CHANNEL: 03 - BENDING, STATION 24.13

CALIBRATE EQUIVALENT: 100K = 6815 IN-LBS
UNIT CAL = 7774 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.110
BRIDGE VOLT. : 6.00
PRE CAL. : 5.26
POST CAL. : 5.26

JACK FAC. : NONE
LEVER ARM : 23.380 IN.
CAL RES. : 100

LOADS-POUNDS	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE X1111VOLT5	IN-LBS
0	0	0.000	-0.009	-12
0.00	0.00	0.000	0.009	12
50.00	1169.00	0.890	-0.003	-4
100.00	2338.00	1.790	-0.006	-7
150.00	3507.00	2.690	-0.008	-10
200.00	4676.00	3.600	-0.000	-0
250.00	5845.00	4.510	0.008	10

MAXIMUM CALIBRATION LOAD: 5845 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 11-18-76

CALIBRATION SHEET
LAB ENGINEER: GLASS
DATA ANALYST: BROGDON
LAB TECHNICIAN: JARVIES

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10495A01
CAL DATE: 1-22-76
SERIAL NO: NONE
P/N: 300-210-186
B108

PROJECT: MODEL 301 FLIGHT TEST

PART NAME: ROTOR MAST *K/H*

CHANNEL: 03 - PERPENDICULAR BENDING STATION 13.2

CALIBRATE EQUIVALENT: 100K = 27160 IN-LBS
UNIT CAL = 30987 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.060
BRIDGE VOLT. : 10.00
PRE CAL. : 8.76
POST CAL. : 8.77

JACK FAC. : 0.6090 PSI/LB
LEVER ARM : 12.250 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.019	-58
0.00	0.00	0.000	0.019	58
300.00	6034.48	1.900	-0.029	-89
600.00	12068.96	3.870	-0.006	-19
900.00	18103.45	5.830	0.006	19
1200.00	24137.93	7.800	0.029	89
1500.00	30172.41	9.700	-0.019	-58

MAXIMUM CALIBRATION LOAD: 30172 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 01-26-76

B108

CALIBRATION SHEET
LAB ENGINEER: GLASS
DATA ANALYST: BROGDON
LAB TECHNICIAN: JARVIES

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10495A02
CAL DATE: 1-22-76
SERIAL NO: NONE
P/N: 300-010-180
B109

PROJECT: MODEL 301 FLIGHT TEST

PART NAME: ROTOR MAST

CHANNEL: 04 - PARALLEL BENDING, STATION 13.2

CALIBRATE EQUIVALENT: 100K = 26613 IN-LBS
UNIT CAL = 30346 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.080
BRIDGE VOLT. : 10.00
PRE CAL. : 8.76
POST CAL. : 8.78

JACK FAC. : 0.6090 PSI/LB
LEVER ARM : 12.250 IN.
CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.038	-116
0.00	0.00	0.000	0.038	116
300.00	6034.48	1.900	-0.050	-153
600.00	12068.96	3.930	-0.009	-27
900.00	19103.45	5.930	0.002	7
1200.00	24137.93	7.950	0.034	103
1500.00	30172.41	9.890	-0.015	-45

MAXIMUM CALIBRATION LOAD: 30172 IN-LBS

DHC PROGRAM FCCR33 - RUN DATE: 01-29-7

B109

CALIBRATION SHEET
LAB ENGINEER: GLASS
DATA ANALYST: BROGDON
LAB TECHNICIAN: JARVIES

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10495602
CAL DATE: 1-22-70
SERIAL NO: NONE
P/N: 300-010-180

ITEM CODE M107

PROJECT: MODEL 301 FLIGHT TEST

PART NAME: ROTOR MAST

CHANNEL: 05 - TORSION. STATION 12.0

CALIBRATE EQUIVALENT: 100K = 49772 IN-LBS
UNIT CAL = 56350 IN-LBS/KV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.045
BRIDGE VOLT. : 10.01
PRE CAL. : 8.84
POST CAL. : 8.84

JACK FAC. : 0.6000 PSI/LB
LEVER ARM : 42.000 IN.
CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.006	-32
0.00	0.00	0.170	0.006	32
435.00	30000.00	5.1	0.017	96
879.00	60000.00	10.6	-0.001	-5
1305.00	90000.00	15.9	-0.019	-100
1740.00	120000.00	21.2	-0.057	-323
2175.00	150000.00	26.65	0.054	306

MAXIMUM CALIBRATION LOAD: 150000 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 01-28-7

M107

10.554A

ORIGINAL PAGE IS
OF POOR QUALITY

$R_1 = \frac{L_1}{A_1} = \frac{1.5}{0.0001} = 15000$

15000

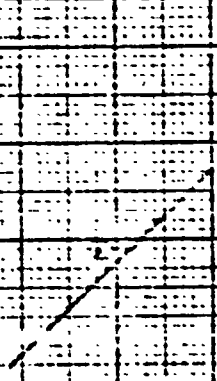
$$R_{20} = \frac{L_2}{A_2} = \frac{1.5}{0.0001} = 15000$$

$$R_{30} = \frac{L_3}{A_3} = \frac{1.5}{0.0001} = 15000$$

$$R_{40} = \frac{L_4}{A_4} = \frac{1.5}{0.0001} = 15000$$

$$R_{50} = \frac{L_5}{A_5} = \frac{1.5}{0.0001} = 15000$$

10000



TENSION
ONLY

BY	BELL HELICOPTERS COMPANY	MODEL	PAGE
CHECKED		111	101

10554A

M. E. P. Mission Log

124 CTS = 119.27 lbs

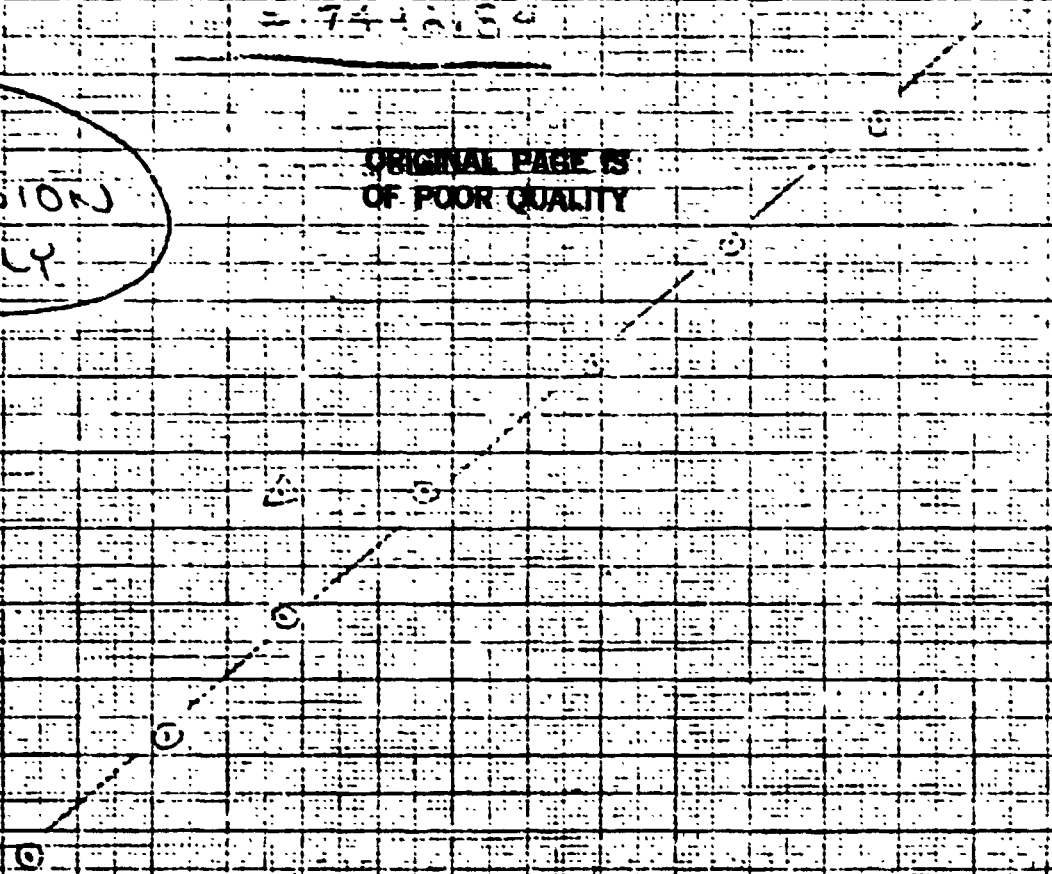
220 lbs = K-CAL

$$220 - 119.27 = 100.73 \left(\frac{100}{100} \right)$$

$$= 74.250$$

TENSION ONLY

ORIGINAL PAGE IS OF POOR QUALITY



CNTS

10554A

ORIGINAL PAGE IS
OF POOR QUALITY

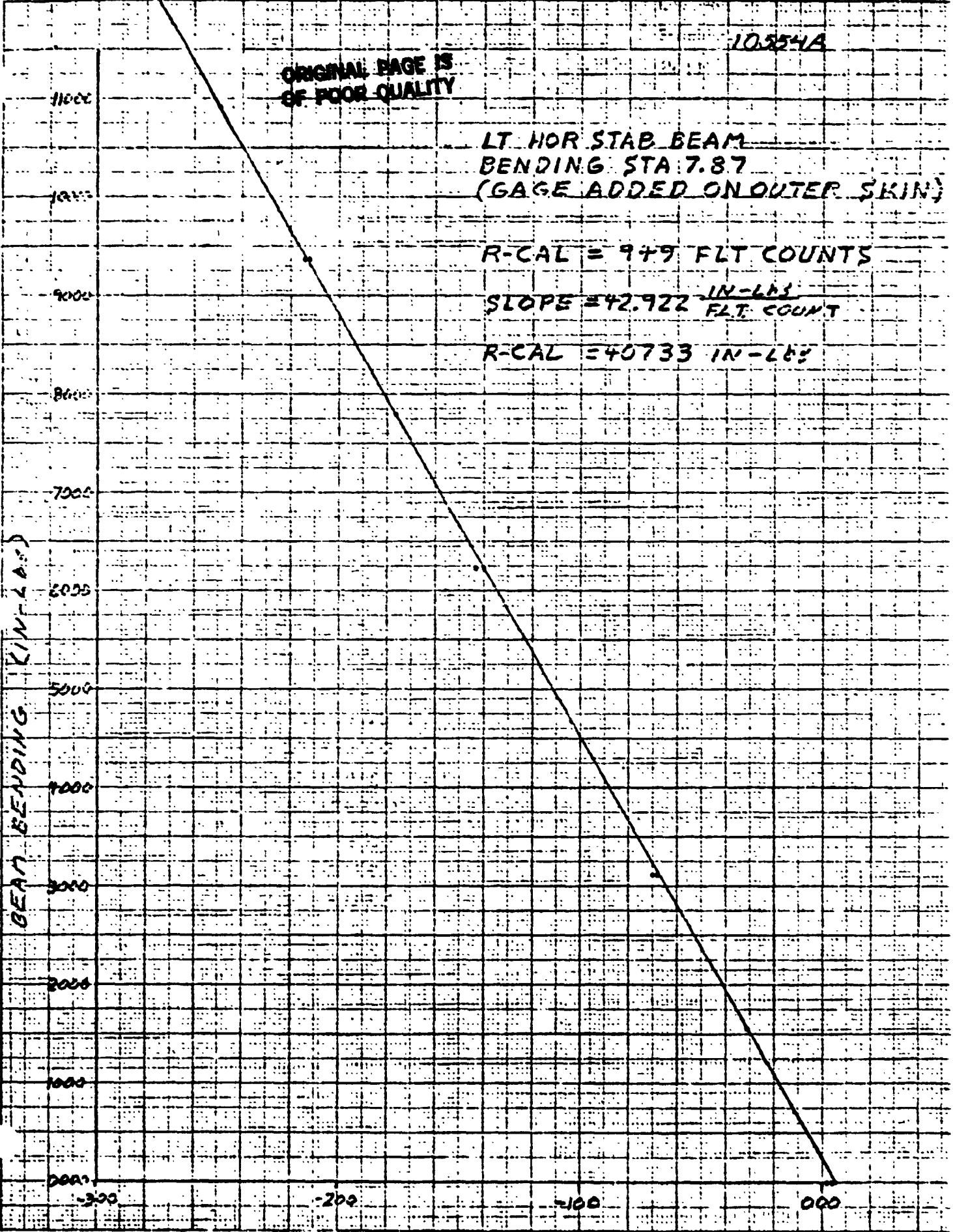
LT HOR STAB BEAM
BENDING STA 7.87
(GAGE ADDED ON OUTER SKIN)

R-CAL = 949 FLT COUNTS

SLOPE = 42.922 $\frac{IN-LBS}{FLT. COUNT}$

R-CAL = 40733 IN-LBS

BEAM BENDING (IN-LBS)



FLT COUNTS

105574

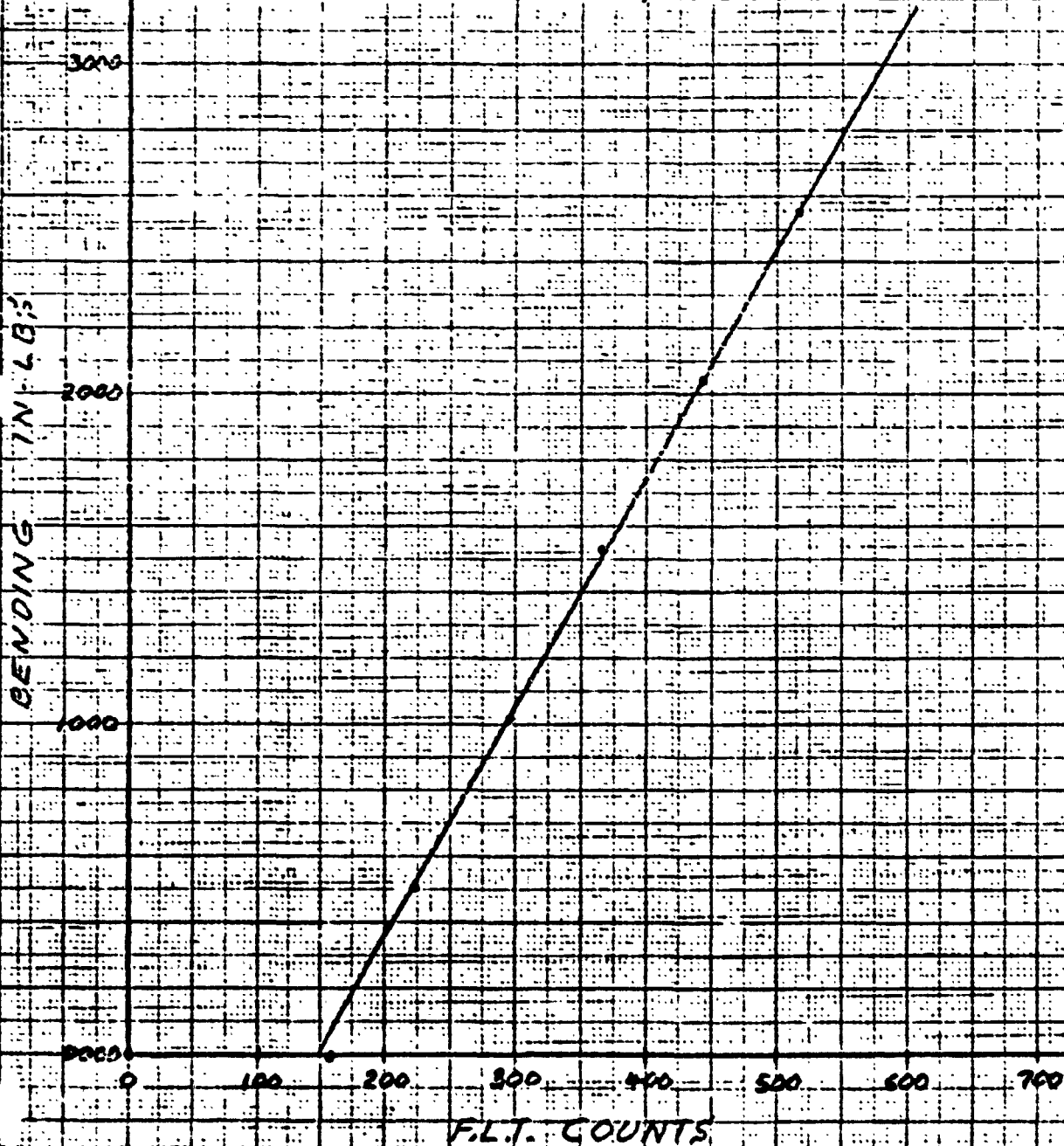
L.H. HOR STAB BEAM BENDING G.L. 65.75
(GAGE ADDED ON OUTER SKIN)

R-CAL = 890 FLT COUNTS

ORIGINAL PAGE IS
OF POOR QUALITY

SLOPE = 6.9444 $\frac{\text{IN-LBS}}{\text{FLT COUNT}}$

R-CAL = 6180.56 IN-LBS



10-3150 (USA) ON "LEADING" INITIAL PAPER NO. 1015
GRAPHIC CORP.

ORIGINAL PAGE IS
OF POOR QUALITY

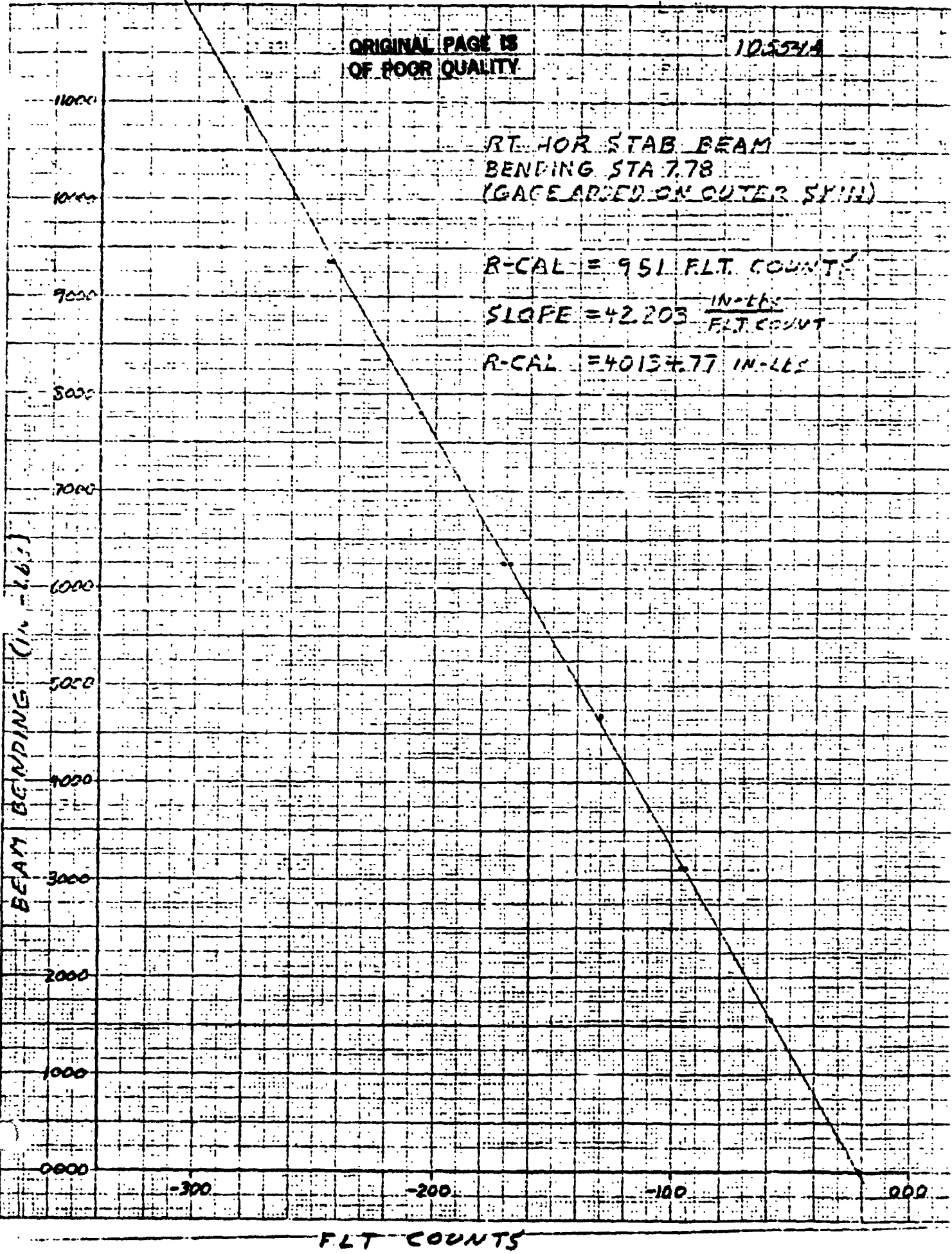
10554A

RT HOR STAB BEAM
BENDING STA 7.78
(GAGE ADDED ON OUTER SIDE)

R-CAL = 951 FLT. COUNT

SLOPE = 42.203 $\frac{\text{IN-LES}}{\text{FLT. COUNT}}$

R-CAL = 4015.77 IN-LES



FLT COUNTS

DELL HELICOPTER COMPANY
 1001 ...
 1001 ...

REF: 11
 REF: 11

10557A

R.H. HOR STAB BEAM BENDING E.L. 65.74
 (GAGE ADDED ON OUTER SKIN)

R-CAL = 872 FLT COUNTS

SLOPE = 6.749 $\frac{\text{IN-LBS}}{\text{FLT COUNT}}$

R-CAL = 5885.27 IN-LBS

3000

2000

1000

0000

-100

0

100

200

300

400

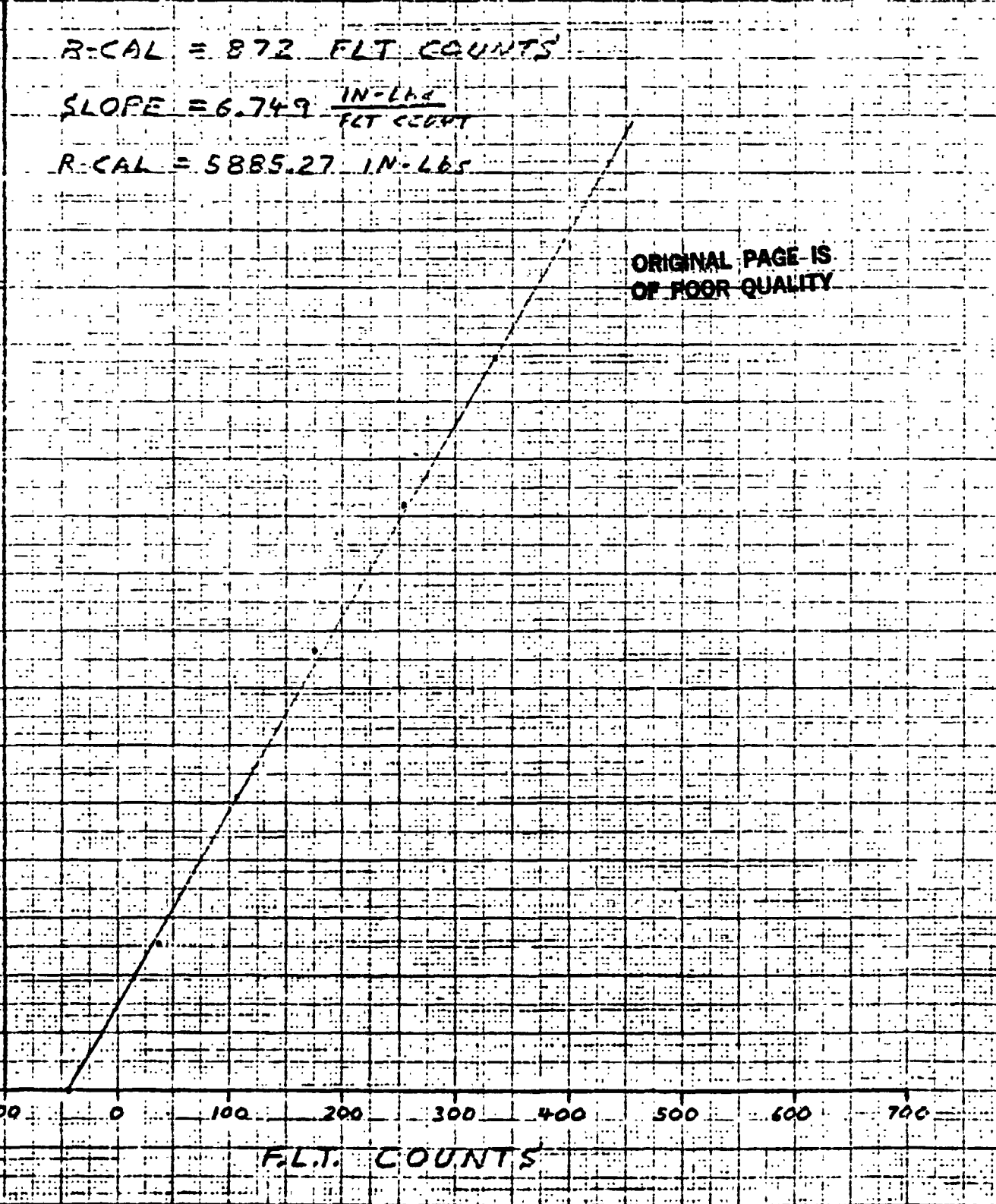
500

600

700

FLT. COUNTS

ORIGINAL PAGE IS
 OF POOR QUALITY



CALIBRATION SHEET
LAB ENGINEER: A. WHITENER
DATA ANALYST: MARY LCU WRIGHT
LAB TECHNICIAN: ANDERSON

LAB NO. : 1055402
CAL DATE: 11-19-76
SERIAL NO: NONE
P/N: NCNE

ORIGINAL PAGE IS
OF POOR QUALITY

B 282

PROJECT: 301 FLIGHT TEST

PART NAME: LEFT HAND ELEVATOR
CHANNEL: 04 - BEAM BENDING, STATION 43.25

CALIBRATE EQUIVALENT: 100K = 3365 IN-LBS
UNIT CAL = 3836 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.110
BRIDGE VOLT. : 6.00
PRE CAL. : 5.30
POST CAL. : 5.29

JACK FAC. : NONE
LEVER ARM : 13.166 IN.

CAL RES. : 100

LOADS-POUNDS	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	MEAN LINE IN-LBS
0	0	0.000	0.004	3
0.00	0.00	0.000	-0.004	-3
10.00	131.50	0.290	-0.011	-7
20.00	253.75	0.450	0.033	21
30.00	395.63	0.610	-0.013	-8
40.00	527.50	0.820	-0.009	-6
50.00	659.33	1.040	0.004	3

MAXIMUM CALIBRATION LOAD: 659 IN-LBS

CHC PROGRAM FCCR33 - RUN DATE: 11-23-76

***** END OF JOB *****

***** END OF JOB *****

***** END OF JOB *****

CALIBRATION SHEET
LAB ENGINEER: WHITENER
DATA ANALYST: MARY LCU WRIGHT
LAB TECHNICIAN: ANDERSON

LAB NO. : 10554A04
CAL DATE: 11-24-70
SERIAL NO: NONE
P/N: NGNE

ORIGINAL PAGE IS
OF POOR QUALITY

PROJECT: 301 FLIGHT TEST

M279

PART NAME: ELEVATOR TORQUE TUBE
CHANNEL: 04 - TORSION. STATION 3.8

CALIBRATE EQUIVALENT: 100K = 4421 IN-LBS
UNIT CAL = 4981 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.000
BRIDGE VOLT. : 6.00
PRE CAL. : 5.33
POST CAL. : 5.32

JACK FAC. : NONE
LEVER ARM : 16.000 IN.
CAL RES. : 100

LOADS-POUNDS	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	0.001	1
0.00	0.00	0.000	-0.001	-1
20.00	320.00	0.390	0.003	3
40.00	640.00	0.770	-0.002	-2
60.00	960.00	1.160	0.002	2
80.00	1280.00	1.540	-0.003	-3
100.00	1600.00	1.930	0.001	1

MAXIMUM CALIBRATION LOAD: 1600 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 11-30-7

CALIBRATION SHEET
LAB ENGINEER: WHITENER
DATA ANALYST: MARY LCU WRIGHT
LAB TECHNICIAN: ANDERSON

LAB NO. : 10554AC6
CAL DATE: 11-24-76
SERIAL NO: NGNE
P/N: NCNE

ORIGINAL PAGE IS
OF POOR QUALITY

PROJECT: 301 FLIGHT TEST

PART NAME: ELEVATOR TORQUE TUBE
CHANNEL: 06 - TORSION. STATION 3.8

4275

CALIBRATE EQUIVALENT: 100K = 4267 IN-LBS
UNIT CAL = 4817 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.000
BRIDGE VOLT. : 6.00
PRE CAL. : 5.32
POST CAL. : 5.31

JACK FAC. : NONE
LEVER ARM : 16.000 IN.
CAL RES. : 100

LOADS-POUNDS	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	0.002	2
0.00	0.00	0.000	-0.002	-2
20.00	320.00	0.400	-0.000	0
40.00	640.00	0.800	0.001	1
60.00	960.00	1.200	0.002	2
80.00	1280.00	1.600	0.004	3
100.00	1600.00	1.990	-0.005	-4

MAXIMUM CALIBRATION LOAD: 1600 IN-LBS

BHC PROGRAM FOCR33 - RUN DATE: 11-30-7

CALIBRATION SHEET
LAB ENGINEER: A. WHITENER
DATA ANALYST: MARY LCU WRIGHT
LAB TECHNICIAN: ANDERSON

LAB NO. : 1055481
CAL DATE: 11-15-61
SERIAL NO: NONE
P/N: NONE

ORIGINAL PAGE IS
OF POOR QUALITY

PROJECT: 301 FLIGHT TEST

B270

PART NAME: RIGHT HAND ELEVATOR
CHANNEL: 04 - BEAM BENDING, STATION 3.25

CALIBRATE EQUIVALENT: 100K = 2859 IN-LBS
UNIT CAL = 3243 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.110
BRIDGE VOLTS : 6.00
PRE CAL. : 5.29
POST CAL. : 7.29

JACK FAC. : NONE
LEVER ARM : 13.168 IN.
CAL RES. : 100

LOADS-POUNDS	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN MILLIVOLTS	MEAN IN-LBS
0	0	0.000	-0.003	-2
0.00	0.00	0.000	0.003	2
10.00	131.88	0.240	-0.001	10
20.00	263.75	0.480	-0.005	20
30.00	395.63	0.730	0.001	30
40.00	527.50	0.970	-0.003	40
50.00	659.38	1.220	0.003	50

MAXIMUM CALIBRATION LOAD: 659 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 11-2

CALIBRATION SHEET
LAB ENGINEER: WHITENER
DATA ANALYST: MARY LCU WRIGHT
LAB TECHNICIAN: ANDERSON

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10554A19
CAL DATE: 11-24-76
SERIAL NO: NONE
P/N: NCNE

PROJECT: 301 FLIGHT TEST

13 278

PART NAME: RIGHT HAND RUDDER

CHANNEL: 03 - BEAM BEENCING

CALIBRATE EQUIVALENT: 100K = 1153 IN-LBS
UNIT CAL = 1312 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.110
BRIDGE VOLT. : 6.00
PRE CAL. : 5.27
POST CAL. : 5.27

JACK FAC. : NONE
LEVER ARM : 8.563 IN.
CAL RES. : 100

LOADS-POUNDS	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.001	-0
0.00	0.00	0.000	0.001	0
5.00	42.81	0.190	-0.004	-1
10.00	85.63	0.390	-0.000	-0
15.00	128.44	0.590	0.004	1
20.00	171.25	0.780	-0.001	-0
25.00	214.06	0.980	0.003	1
30.00	256.88	1.170	-0.003	-1

MAXIMUM CALIBRATION LOAD: 257 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 11-30-76

CALIBRATION SHEET
LAB ENGINEER: WHITENER
DATA ANALYST: MARY LCU WRIGHT
LAB TECHNICIAN: ANDERSON

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10554A21
CAL DATE: 11-23-76
SERIAL NO: NONE
P/N: NCNE

PROJECT: 301 FLIGHT TEST

PART NAME: R/H RUDDER TORQUE TUBE
CHANNEL: 03 - TORSIGN, STATION 2.13

11276

CALIBRATE EQUIVALENT: 100K = 1006 IN-LBS
UNIT CAL = 1135 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.045
BRIDGE VOLT. : 6.00
PRE CAL. : 5.32
POST CAL. : 5.32

JACK FAC. : NONE
LEVER ARM : 30.000 IN.
CAL RES. : 100

LOADS-POUNDS	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	MEAN LINE INCHES
0	0	0.000	0.027	5
0.00	0.00	0.000	-0.027	-5
5.00	150.00	0.820	-0.000	0
10.00	300.00	1.640	0.027	5
15.00	450.00	2.430	0.023	4
20.00	600.00	3.210	0.010	2
25.00	750.00	3.960	-0.033	-6

MAXIMUM CALIBRATION LOAD: 750 IN-LBS

CALIBRATION SHEET
LAB ENGINEER: WHITENER
DATA ANALYST: MARY LCU BRIGHT
LAB TECHNICIAN: ANDERSON

LAB NO. : 10554A20
CAL DATE: 11-24-70
SERIAL NO: NONE
P/N: NCNE

ORIGINAL PAGE IS
OF POOR QUALITY

PROJECT: 301 FLIGHT TEST

B280

PART NAME: LEFT HAND RUDDER
CHANNEL: 04 - BEAM BENDING

CALIBRATE EQUIVALENT: 100K = 1167 IN-LBS
UNIT CAL = 1326 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.110
BRIDGE VOLT. : 6.00
PRE CAL. : 5.28
POST CAL. : 5.28

JACK FAC. : NONE
LEVER ARM : 6.563 IN.
CAL RES. : 100

LOADS-POUNDS	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	0.002	1
0.00	0.00	0.000	-0.002	-1
5.00	42.81	0.200	0.004	1
10.00	85.63	0.390	0.000	0
15.00	128.44	0.580	-0.004	-1
20.00	171.25	0.780	0.003	1
25.00	214.06	0.970	-0.001	-0

MAXIMUM CALIBRATION LOAD: 214 IN-LBS

BMC PROGRAM FCCR33 - RUN DATE: 11-30-70

CALIBRATION SHEET
LAB ENGINEER: WHITENER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: ANDERSON

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10554A26
CAL DATE: 11-23-70
SERIAL NO: NONE
P/N: NCNE

PROJECT: 301 FLIGHT TEST

M 277

PART NAME: L/H RUDDER TORQUE TUBE
CHANNEL: 04 - TORSION. STATION 2.13

CALIBRATE EQUIVALENT: 100K = 963 IN-LBS
UNIT CAL = 1085 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.050
BRIDGE VOLT. : 6.00
PRE CAL. : 5.32
POST CAL. : 5.33

JACK FAC. : NONE
LEVER ARM : 30.000 IN.
CAL RES. : 100

LOADS-POUNDS	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	0.022	4
0.00	0.00	0.000	-0.022	-4
5.00	15.000	0.850	-0.002	-0
10.00	300.00	1.710	0.028	5
15.00	450.00	2.530	0.018	3
20.00	600.00	3.340	-0.001	-0
25.00	750.00	4.150	-0.021	-4

MAXIMUM CALIBRATION LOAD: 750 IN-LBS

CALIBRATION SHEET
LAB ENGINEER: WHITNER
DATA ANALYST: BROGDON
LAB TECHNICIAN: KINSON

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10288601
CAL DATE: 2-18-70
SERIAL NO: NONE
P/N: 300-040-323-1

B191

PROJECT: 301 FLIGHT TEST

PART NAME: L/H SPINDLE ASSEMBLY
CHANNEL: 03 BENDING, BRIDGE 01

CALIBRATE EQUIVALENT: 100K = 142400 IN-LBS
UNIT CAL = 163443 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 10.00
PRE CAL. : 8.71
POST CAL. : 8.71

JACK FAC. : 0.1180 PSI/LB
LEVER ARM : 16.438 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.016	-269
0.00	0.00	0.000	0.016	269
285.00	39700.75	2.400	-0.113	-206
570.00	79401.50	4.850	0.008	137
855.00	119102.25	7.320	0.049	807
1140.00	158803.00	9.790	0.090	1476
1425.00	198503.75	12.250	0.121	1953
285.00	39700.75	2.410	-0.013	-206
570.00	79401.50	4.830	-0.012	-190
855.00	119102.25	7.230	-0.041	-664
1140.00	158803.00	9.620	-0.000	-1302
1425.00	198503.75	12.000	-0.129	-2103

MAXIMUM CALIBRATION LOAD: 198504 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 02-23-

B191

CALIBRATION SHEET
 LAB ENGINEER: WHITNER
 DATA ANALYST: ERGDON
 LAB TECHNICIAN: KINSON

ORIGINAL PAGE IS
 OF POOR QUALITY

LAB NO. : 10598A2
 CAL DATE: 2-18-75
 SERIAL NO: NONE
 P/N: 300-040-323-1
 B190

PROJECT: 301 FLIGHT TEST

PART NAME: L/M SPINDLE ASSEMBLY
 CHANNEL: 04 - BENDING, BRIDGE 02

 CALIBRATE EQUIVALENT: 100K = 141228 IN-LBS
 UNIT CAL = 161012 IN-LBS/MV/V

BRIDGE RES. : 350.00
 GAGE FACTOR : 2.130
 BRIDGE VOLT. : 10.01
 PRE CAL. : 8.78
 POST CAL. : 8.78

JACK FAC. : 0.1180 PSI/LB
 LEVER ARM : 16.438 IN.
 CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	0.018	205
0.00	0.00	0.000	-0.018	-285
285.00	39700.75	2.470	-0.016	-256
570.00	79401.50	4.990	0.036	578
855.00	119102.25	7.490	0.068	1090
1140.00	158803.00	9.940	0.050	748
1425.00	198503.75	12.380	0.021	345
285.00	39700.75	2.470	-0.016	-256
570.00	79401.50	4.940	-0.014	-226
855.00	119102.25	7.420	-0.002	-36
1140.00	158803.00	9.860	-0.030	-489
1425.00	198503.75	12.280	-0.079	-1263

MAXIMUM CALIBRATION LOAD: 198504 IN-LBS

BMC PROGRAM FCCR33 - RUN DATE: 02-23-

B190

Ok

CALIBRATION SHEET
LAB ENGINEER: WHITNER
DATA ANALYST: BRUGGIN
LAB TECHNICIAN: KINSON

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 1000001
CAL DATE: 2-14-70
SERIAL NO: NONE
P/N: 300-040-223-2

B166

PROJECT: 301 FLIGHT TEST

PART NAME: R/H SPINDLE ASSEMBLY

CHANNEL: 03 - BENDING. BRIDGE 01

CALIBRATE EQUIVALENT: 100K = ~~1000~~^{120, 280.} IN-LBS ✓
UNIT CAL = ~~1000~~^{159, 754.} IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.150
BRIDGE VOLTS : 10.01
PRE CAL. : 8.79
POST CAL. : 8.79

JACK FAC. : ~~0.118~~^{0.118}
LEVER ARM : 10.013 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.055	-105
0.00	0.00	0.000	0.055	105
285.00	4645.06	2.360	-0.055	-100
570.00	9298.13	4.850	-0.032	-60
855.00	13947.19	7.360	0.009	18
1140.00	18596.25	9.870	0.051	96
1425.00	23245.31	12.290	0.002	4
185.00	4645.06	2.420	0.007	13
570.00	9298.13	4.850	-0.032	-60
855.00	13947.19	7.360	0.009	18
1140.00	18596.25	9.830	0.011	20
1425.00	23245.31	12.260	-0.028	-53

MAXIMUM CALIBRATION LOAD: 23245 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 02-23-70

B166

OK

CALIBRATION SHEET
 LAB ENGINEER: WHITNER
 DATA ANALYST: BREEDON
 LAB TECHNICIAN: KINSON

ORIGINAL PAGE IS
 OF POOR QUALITY

LAB NO. : 1060002
 CAL DATE: 2-13-76
 SERIAL NO: NONE
 P/N: 300-040-023-2

B165

PROJECT: 3.01 FLIGHT TEST

PART NAME: R/H SPINDLE ASSEMBLY

CHANNEL: 04 - BENDING, BRIDGE 02

 CALIBRATE EQUIVALENT: 100K = ~~100~~ 137,721 IN-LBS ✓
 UNIT CAL = ~~100~~ 156,780 IN-LBS/MV/V

BRIDGE RES. : 350.00
 GAGE FACTOR : 2.130
 BRIDGE VOLT. : 10.00
 PRE CAL. : 0.78
 POST CAL. : 8.79

JACK FAC. : ~~1000~~ .118 PSI
 LEVER ARM : 10.513 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.024	-44
0.00	0.00	0.000	0.024	44
285.00	4649.06	2.430	-0.059	-110
570.00	9298.13	5.010	0.008	14
855.00	13947.19	7.440	-0.075	-139
1140.00	18596.25	9.990	-0.036	-71
1425.00	23245.31	12.390	-0.151	-280
285.00	4649.06	2.450	-0.029	-54
570.00	9298.13	5.030	0.028	51
855.00	13947.19	7.620	0.105	194
1140.00	18596.25	10.140	0.112	207
1425.00	23245.31	12.620	0.079	146

MAXIMUM CALIBRATION LOAD: 23245 IN-LBS

B165

BHC PROGRAM FCCR33 - RUN DATE: 02-23-76

***** END OF JOB *****

***** END OF JOB *****

***** END OF JOB *****

CALIBRATION SHEET
LAB ENGINEER: WHITNER
DATA ANALYST: BROGDON
LAB TECHNICIAN: KINSON

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10606A01
CAL DATE: 2-12-70
SERIAL NO: R/H
P/N: BHV200595-1

F638

PROJECT: 301 FLIGHT TEST

PART NAME: SHAFT TRUNNION LEFT

CHANNEL: 03 - BENDING, BRIDGE 01

CALIBRATE EQUIVALENT: 100K = 11125 IN-LBS
UNIT CAL = 12670 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 10.01
PRE CAL. : 8.79
POST CAL. : 8.78

JACK FAC. : NONE
LEVER ARM : 3.100 IN.

CAL RES. : 100

LOADS-POUNDS	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.051	-65
0.00	0.00	0.000	0.051	65
1600.00	4960.00	3.070	0.002	3
3200.00	9920.00	7.760	-0.026	-33
4800.00	14880.00	11.680	-0.025	-32
6400.00	19840.00	15.610	-0.014	-16
8000.00	24799.99	19.560	0.017	22
1600.00	4960.00	3.080	0.012	16
3200.00	9920.00	7.740	-0.046	-59
4800.00	14880.00	11.680	-0.025	-32
6400.00	19840.00	15.640	0.016	20
8000.00	24799.99	19.580	0.037	47

MAXIMUM CALIBRATION LOAD: 24800 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 02-18-70

F638

1.14

OK

CALIBRATION SHEET
LAB ENGINEER: WHITNER
DATA ANALYST: BROGDON
LAB TECHNICIAN: KINSON

LAB NO. : 10607601
CAL DATE: 2-12-76
SERIAL NO: L/H
P/N: SHV200595-1

ORIGINAL PAGE IS
OF POOR QUALITY

F611

PROJECT: 301 FLIGHT TEST

PART NAME: SHAFT TRUNNION
CHANNEL: 03 - BENDING. BRIDGE 01

CALIBRATE EQUIVALENT: 100K = 11498 IN-LBS
UNIT CAL = 13094 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 10.01
PRE CAL. : 8.79
POST CAL. : 8.79

JACK FAC. : NONE
LEVER ARM : 3.100 IN.
CAL RES. : 100

LOADS-POUNDS	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.038	-50
0.00	0.00	0.000	0.038	50
1600.00	4960.00	3.750	-0.003	-4
3200.00	9920.00	7.540	-0.005	-7
4800.00	14880.00	11.320	-0.017	-22
6400.00	19840.00	15.150	0.021	28
8000.00	24799.99	18.930	0.010	13
1600.00	4960.00	3.760	0.007	9
3200.00	9920.00	7.510	-0.035	-46
4800.00	14880.00	11.310	-0.027	-35
6400.00	19840.00	15.110	-0.019	-24
8000.00	24799.99	18.950	0.030	39

MAXIMUM CALIBRATION LOAD: 24800 IN-LBS

F611

BHC PROGRAM FCCR33 - RUN DATE: 02-16-76

END OF JOB *****

END OF JOB *****

END OF JOB *****

LECT NEXT TASK

IAN 1

TYPE PULL = AXIAL
BRIDGE TYPE = AXIAL
LAB NUMBER = 10608A
BRIDGE VOLT = 10
BRIDGE STA. = 0
BRIDGE NUMBER = 1
CURVE QUALITY = 99.8

DATA
UC(0) = -9524.4
UC(1) = 9253.9
F164

F164
LAB#10608A

WDL(LBS)	OUTPUT(MV)	LINEARITY(UC1)
0.0	10.330	0.0
1219.5	11.580	0.0
2439.0	12.910	0.2
3658.5	14.230	0.1
4878.0	15.580	0.0
6097.5	16.900	0.0
7317.0	18.240	0.1
8536.5	19.580	0.5
9756.0	20.910	0.0
10975.5	22.230	0.0

100K CE = 8097.2

6.57 M.V. MAX output

LECT NEXT TASK

F164

ORIGINAL PAGE IS
OF POOR QUALITY

SELECT NEXT TASK

CHAN 1

TYPE PULL =ANIAL
BRIDGE TYPE=ANIAL
LAB NUMBER= 10609A
BRIDGE VOLT= 10
BRIDGE STA.= 0
BRIDGE NUMBER= 1
CURVE QUALITY= 99.8

DATA
UC(0)= -3029.0
UC(1)= 8938.6
F189
LAB#10609A

100K CE= 7821.3

LOAD (LBS)	OUTPUT (MV)	LINEARITY (XUC1)
0.0	3.419	0.0
1219.5	4.720	0.0
2439.0	6.116	0.1
3658.5	7.500	0.0
4878.0	8.870	-0.0
6097.5	10.200	0.0
7317.0	11.480	0.1
8536.5	12.700	0.6
9756.0	13.930	0.0

6.79 M.V. MAX OUTPUT

SELECT NEXT TASK

F 189

ORIGINAL PAGE IS
OF POOR QUALITY

OK

CALIBRATION SHEET
LAB ENGINEER: WHITNER
DATA ANALYST: BROGDON
LAB TECHNICIAN: KINSON

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10623A01
CAL DATE: 2-19-76
SERIAL NO: NONE
P/N: BHF50622

PROJECT: 301 FLIGHT TEST

M612

PART NAME: R/H FLAP DRIVE TUBE
CHANNEL: 03 - TORSION

CALIBRATE EQUIVALENT: 100K = 171 IN-LBS
UNIT CAL = 193 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.375
BRIDGE VOLT.: 10.01
PRE CAL. : 8.84
POST CAL. : 8.85

JACK FAC. : NONE
LEVER ARM : 20.125 IN.
CAL RES. : .00

LOADS-POUNDS	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.071	-1
0.00	0.00	0.000	0.071	1
5.00	100.63	5.090	-0.000	-1
10.00	201.25	10.260	-0.000	-2
15.00	301.88	15.560	0.004	0
20.00	402.50	20.810	0.045	1
25.00	503.13	26.030	0.056	1
30.00	603.75	31.140	-0.043	-1

MAXIMUM CALIBRATION LOAD: 604 IN-LBS

BMC PROGRAM FCCR33 - RUN DATE: 02-26-

CALIBRATION SHEET
LAB ENGINEER: WHITNER
DATA ANALYST: BROGDON
LAB TECHNICIAN: KINSON

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10624A01
CAL DATE: 2-23-70
SERIAL NO: 101
P/N: BHP50624

PROJECT: 301 FLIGHT TEST

M619

PART NAME: L/H FLAP DRIVE TUBE
CHANNEL: 03 - TORSION

CALIBRATE EQUIVALENT: 100K = 173 IN-LBS
UNIT CAL = 196 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.075
BRIDGE VOLT.: 10.01
PRE CAL. : 8.84
POST CAL. : 8.84

JACK FAC. : NONE
LEVER ARM : 20.125 IN.
CAL RES. : 100

LOADS-POUNDS	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	0.104	2
0.00	0.00	0.000	-0.104	-2
5.00	100.63	5.210	-0.031	-1
10.00	201.25	10.420	0.041	1
15.00	301.88	15.630	0.114	2
20.00	402.50	20.760	0.107	2
25.00	503.13	25.850	0.060	1
30.00	603.75	30.740	-0.187	-4

MAXIMUM CALIBRATION LOAD: 604 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 02-26-

2

TYPE PULL = AXIAL
BRIDGE TYPE = AXIAL
LAB NUMBER = 10626A
BRIDGE VOLT = 10
BRIDGE STA. = 0
BRIDGE NUMBER = 1

DATA
~~BRIDGE~~
UC(0) = -519.3
UC(1) = 907.9V

F062
LAB# 10626A

100K CE = 794.4 ✓

LOAD(LBS)	OUTPUT(MV)	LINEARITY(%UC1)
0.0	5.760	0.0
150.0	7.380	0.0
300.0	9.000	0.2
450.0	10.620	0.2
600.0	12.240	0.1
750.0	14.020	-0.0
900.0	15.680	-0.0
600.0	12.310	0.1
300.0	9.000	0.2
150.0	7.330	0.5
0.0	5.780	0.0

9.92

F062

ORIGINAL PAGE IS
OF POOR QUALITY

OK

ORIGINAL PAGE IS
OF POOR QUALITY

F104

DATA
~~CROSS TALK~~

CHAN 3

TYPE PULL = AXIAL
BRIDGE TYPE = AXIAL
LRE N. MEAS = 10627A
BRIDGE VOLT = 10
BRIDGE STA. = 0
BRIDGE NUMBER = 1

UC(0) = -610.2
UC(1) = 910.3 ✓

100K CE = 796.5 ✓

LOAD (LBS)	OUTPUT (MV)	LINEARITY (UC1)
0.0	6.786	0.0
150.0	9.950	0.0
300.0	9.960	0.2
450.0	11.500	0.1
600.0	10.280	0.1
750.0	14.090	-0.0
900.0	16.600	-0.0
670.0	18.270	0.1
300.0	9.960	0.2
150.0	8.830	0.3
0.0	6.786	0.0

9.90

FOSS

OK

TYPE PULL = AXIAL
BRIDGE TYPE = AXIAL
LAB NUMBER = 10630A
BRIDGE VOLT = 10
BRIDGE STA. = 0
BRIDGE NUMBER = 1

DATA
~~CROSS TILL~~

UC(0) = -688.4
UC(1) = 910.0 ✓

100K CE- 796.3 ✓

LOAD (LBS)	OUTPUT (MV)	LINEARITY (UC1)
0.0	7.600	0.0
150.0	9.200	0.0
300.0	10.810	0.3
450.0	12.480	0.1
600.0	14.130	0.1
750.0	15.860	-0.0
900.0	17.490	-0.0
600.0	14.130	0.1
300.0	10.830	0.2
150.0	9.200	0.3
0.0	7.630	0.0

9.89

ORIGINAL PAGE IS
OF POOR QUALITY

CALIBRATION SHEET
LAB ENGINEER: WHITNER
DATA ANALYST: BROGDON
LAB TECHNICIAN: KINSON

ORIGINAL PAGE IS
OF POOR QUALITY

311 I A
LAB NO. : 10632AD
CAL DATE: 2-25-76
SERIAL NO: NONE
P/N: 300-001-615-1

F 6 2 1

PROJECT: 301 FLIGHT TEST

PART NAME: CONTROL TUBE ASSEMBLY
CHANNEL: 03 - AXIAL LOADING

CALIBRATE EQUIVALENT: 100K = 2021 POUNDS
UNIT CAL = 2302 POUNDS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.120
BRIDGE VOLT. : 10.00
PRE CAL. : 8.78
POST CAL. : 8.78

JACK FAC. : 0.6090 PSI/LB
LEVER ARM : NONE
CAL RES. : 100

LOADS-PSI	LOADS-POUNDS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	POUNDS
0	0	0.000	-0.024	-6
0.00	0.00	0.000	0.024	6
400.00	656.81	2.810	-0.019	-4
800.00	1123.63	5.670	-0.013	-3
1200.00	1970.44	8.530	-0.007	-2
1600.00	2827.26	11.400	0.009	2
2000.00	3284.07	14.250	0.006	1

MAXIMUM CALIBRATION LOAD: 3284 POUNDS

SBC PROGRAM FCCR33 - RUN DATE: 03-01-

CALIBRATION SHEET
LAB ENGINEER: WHITNER
DATA ANALYST: BRGGDON
LAB TECHNICIAN: KINSON

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10633A01
CAL DATE: 2-25-76
SERIAL NO: NONE
P/N: 300-001-615-1

PROJECT: 301 FLIGHT TEST

~~10633A01~~
F614

PART NAME: CONTROL TUBE ASSEMBLY
CHANNEL: 04 - AXIAL LOADING

CALIBRATE EQUIVALENT: 100K = 2016 POUNDS
UNIT CAL = 2289 POUNDS/NV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.120
BRIDGE VOLT.: 10.00
PRE CAL. : 6.61
POST CAL. : 6.81

JACK FAC. : 0.6090 PSI/LB
LEVER ARM : NONE
CAL RES. : 100

LOADS-PSI	LOADS-POUNDS	OUTPUT-NV	VARIATION FROM MEAN LINE MILLIVOLTS	POUNDS
0	0	0.000	-0.010	-2
500.00	0.00	0.000	0.010	2
400.00	656.81	2.850	-0.010	-2
800.00	1313.63	5.720	-0.010	-2
1200.00	1970.44	8.600	0.000	0
1600.00	2627.26	11.490	0.020	5
2000.00	3284.07	14.330	-0.010	-2

MAXIMUM CALIBRATION LOAD: 3284 POUNDS

BHC PROGRAM FCCR33 - RUN DATE: 03-01-

SELECT NEXT TASK

CHAN 1 TYPE PULL =BEND-POS.
BRIDGE TYPE=BENDING
LAB NUMBER= 10635A
BRIDGE VOLT= 10
BRIDGE STA.= 0
BRIDGE NUMBER= 1

DATA
UC(0)= -411.4
UC(1)= 779.7
B052
LAB#10635A

LOAD(LBS)	OUTPUT(MV)	LINEARITY(UC1)
0.0	5.300	0.0
40.0	5.780	0.0
80.0	6.280	0.5
120.0	6.800	0.3
160.0	7.330	0.1
200.0	7.870	-0.0
120.0	6.800	0.3
40.0	5.770	0.9
0.0	5.300	0.0

100K CE= 682.3

2.57 M.V. MAX OUTPUT

SELECT NEXT TASK

CHAN 1 TYPE PULL =BEND-NEG
BRIDGE TYPE=BENDING
LAB NUMBER= 10635A
BRIDGE VOLT= 10
BRIDGE STA.= 0
BRIDGE NUMBER= 1

DATA
UC(0)= 369.7
UC(1)= -810.0

LOAD(LBS)	OUTPUT(MV)	LINEARITY(UC1)
0.0	4.560	0.0
40.0	4.090	0.0
80.0	3.600	0.3
-120.0	3.110	0.2
160.0	2.580	-0.0
200.0	2.100	0.0
120.0	3.040	-0.2
40.0	4.080	0.3
0.0	4.540	0.0

100K CE= -708.7

2.46 M.V. MAX OUTPUT

ORIGINAL PAGE IS
OF POOR QUALITY

B052

SELECT NEXT TASK

CHAN 1

TYPE PULL =BEND-POS.
BRIDGE TYPE=BENDING
LAB NUMBER= 10636A
BRIDGE VOLT= 10
BRIDGE STA.= 0
BRIDGE NUMBER= 1

DATA
~~OF TEST TALK~~

B142
LAB# 10636A

UC(0)= 260.1
UC(1)= 851.0
B142

100K CE= 744.6

LOAD(LBS)	OUTPUT(MV)	LINEARITY(%UC1)
0.0	-3.060	0.0
40.0	-2.600	0.0
80.0	-2.130	0.1
120.0	-1.670	0.1
160.0	-1.180	-0.0
200.0	-0.700	-0.0
120.0	-1.620	-0.2
40.0	-2.580	-0.2
0.0	-3.040	0.0

2.36 M.V. MAX output

SELECT NEXT TASK

CHAN 1

TYPE PULL =BEND-NEG
BRIDGE TYPE=BENDING
LAB NUMBER= 10636A
BRIDGE VOLT= 10
BRIDGE STA.= 0
BRIDGE NUMBER= 1

DATA

UC(0)= -278.9
UC(1)= -851.2

100K CE= -744.8

LOAD(LBS)	OUTPUT(MV)	LINEARITY(%UC1)
0.0	-3.280	0.0
40.0	-3.710	0.0
80.0	-4.230	-0.1
120.0	-4.690	0.0
160.0	-5.150	0.1
200.0	-5.630	0.0
120.0	-4.690	0.0
40.0	-3.740	0.2
0.0	-3.300	0.0

-2.35 MV. Max output

B142

ORIGINAL PAGE IS
OF POOR QUALITY

CALIBRATION SHEET
LAB ENGINEER: WHITNER
DATA ANALYST: BROGDON
LAB TECHNICIAN: KINSON

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10637A01
CAL DATE: 2-25-76
SERIAL NO: NONE
P/N: 301-053-013-13
F 333

PROJECT: 301 FLIGHT TEST

PART NAME: PEDAL FORCE TUBE ASSEMBLY
CHANNEL: 03 - AXIAL LOADING

*****: *****

CALIBRATE EQUIVALENT: 100K = 536 POUNDS
UNIT CAL = 610 POUNDS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.120
BRIDGE VOLT. : 10.01
PRE CAL. : 8.80
POST CAL. : 8.79

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : NONE

CAL RES. : 100

LOADS-PSI	LOADS-POUNDS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	POUNDS
0	0	0.000	0.501	40
0.00	0.00	0.000	-0.801	-40
225.00	150.00	2.540	-0.722	-44
450.00	300.00	5.120	-0.603	-37
375.00	425.00	7.640	2.737	167
225.00	600.00	10.220	-0.425	-25
1125.00	750.00	12.920	-0.187	-11

MAXIMUM CALIBRATION LOAD: 750 POUNDS

bad card input
check - calib. ch
JWB

F 333

CALIBRATION SHEET
LAB ENGINEER: WHITNER
DATA ANALYST: BROGDON
LAB TECHNICIAN: KINSON

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10638A01
CAL DATE: 2-25-76
SERIAL NO: NONE
P/N: 301-053-013-13

F 334

PROJECT: 301 FLIGHT TEST

PART NAME: PEDAL FORCE TUBE ASSEMBLY
CHANNEL: 04 - AXIAL LOADING

CALIBRATE EQUIVALENT: 100K = 531 POUNDS
UNIT CAL = 605 POUNDS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.120
BRIDGE VOLT. : 10.01
PRE CAL. : 8.80
POST CAL. : 8.78

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : NONE

CAL RES. : 100

LOADS-PSI	LOADS-POUNDS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	MEAN LINE POUNDS
0	0	0.000	-0.033	-2
0.00	0.00	0.000	0.033	2
225.00	150.00	2.450	0.001	0
450.00	300.00	4.939	-0.001	-0
675.00	450.00	7.350	-0.063	-4
900.00	600.00	9.850	-0.045	-3
1125.00	750.00	12.450	0.073	4

MAXIMUM CALIBRATION LOAD: 750 POUNDS

F 334

BHC PROGRAM FCCR33 - RUN DATE: 03-01-7

OK

PHENOMENON TASK

SPAN 1

TYPE PULL = AXIAL
BRIDGE TYPE = AXIAL
LAB NUMBER = 10639A
BRIDGE VOLT = 10
BRIDGE STA. = 0
BRIDGE NUMBER = 1
CURVE QUALITY = 99.5

DATA
UC(0) = -361.0
UC(1) = 1107.8 ✓

F162
LAB# 10639A

100K CE = 969.3 ✓

LOAD(LBS)	OUTPUT(MV)	LINEARITY(%UC1)
0.0	3.320	0.0
366.7	6.520	0.0
733.3	9.820	0.2
1100.0	13.160	0.1
1466.7	16.460	0.1
1833.3	19.900	-0.0
1100.0	13.180	0.1
366.7	6.540	0.3
0.0	3.320	0.0

16.58 M.V. MAX OUTPUT

F162

ORIGINAL PAGE IS
OF POOR QUALITY

TYPE PULL = AXIAL
BRIDGE TYPE = AXIAL
LAB NUMBER = 10640A
BRIDGE VOLT = 10
BRIDGE STA. = 0
BRIDGE NUMBER = 1
CURVE QUALITY = 99.5

DATA
UC(0) = -215.8
UC(1) = 1112.8 ✓

F187
LAB# 10640A

100K CE = 973.7 ✓

W(LBS)	OUTPUT(MV)	LINEARITY(%UC1)
0.0	2.000	0.0
366.7	5.180	0.0
733.3	8.480	0.2
1100.0	11.780	0.1
1466.7	15.080	0.1
1833.3	18.510	-0.0
1100.0	11.820	0.1
366.7	5.210	0.3
0.0	2.000	0.0

16.51 MV. MAX OUTPUT

F187

SELECT NEXT TASK

ORIGINAL PAGE IS
OF POOR QUALITY

CALIBRATION SHEET
LAB ENGINEER: WHITNER
DATA ANALYST: BROGDON
LAB TECHNICIAN: KINSON

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10657A51
CAL DATE: 2-25-76
SERIAL NO: NONE
P/N: 301-301-055-41

F331

PROJECT: 301 FLIGHT TEST

PART NAME: LAT CYC STICK TUBE ASSY

CHANNEL: 03 - AXIAL LOADING

CALIBRATE EQUIVALENT: 100K = 537 POUNDS
UNIT CAL = 611 POUNDS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.120
BRIDGE VOLT. : 10.01
PRE CAL. : 6.79
POST CAL. : 8.80

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : NONE

CAL RES. : 100

LOADS-PSI	LOADS-POUNDS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	MEAN LINE POUNDS
0	0	0.000	-0.033	-2
0.00	0.00	0.000	0.033	2
100.00	66.67	1.040	-0.019	-1
200.00	133.33	2.140	-0.010	-1
300.00	200.00	3.230	-0.011	-1
400.00	266.67	4.320	-0.013	-1
500.00	333.33	5.420	-0.004	-0
600.00	400.00	6.540	0.024	1

MAXIMUM CALIBRATION LOAD: 400 POUNDS

F331

BMC PROGRAM FCCR33 - RUN DATE: 03-01-76

***** END OF JOB *****

***** END OF JOB *****

***** END OF JOB *****

OK

10028401
FS21

ORIGINAL PAGE IS
OF POOR QUALITY

ID 7 = 9980
ID 8 = 9800
ID = 9900
ID 10 = 9150
ID 1 = 90

	600.0 LBS	400.0 LBS	200.0 LBS	100.0 LBS	0.0 LBS	0.0
1	10.4	7.9	5.5	4.3	3.1	0.0

LECT NEXT TASK

AN 1 TYPE FULL = AXIAL Pos. DATA
 BRIDGE TYPE = AXIAL UC(0) = -255.3
 LRB NUMBER = 13552A UC(1) = 829.1
 BRIDGE VOLT = 10
 BRIDGE STR. = 0
 BRIDGE NUMBER = 1

100K CE = 725.5

RB (LBS)	OUTPUT (MV)	LINEARITY (AUC1)
0.0	3.120	0.0
100.0	4.260	0.0
200.0	5.500	0.1
300.0	6.700	0.1
400.0	7.900	0.1
500.0	9.030	0.1
600.0	10.350	0.0
400.0	7.900	0.1
200.0	5.450	0.3
100.0	4.280	0.4
0.0	3.090	0.0

7.2^{MV} max output

FS21

OK

ORIGINAL PAGE IS
OF POOR QUALITY

FS23

10 1 =20
10 2 =2150
10 3 =2300
10 4 =2450
10 5 =2600
10 6 =2750

	0.0	100.0	200.0	300.0	400.0	500.0
	LBS	LBS	LBS	LBS	LBS	LBS
	6.0	7.1	8.3	9.5	10.7	11.9

10 7 =2900
10 8 =2600
10 9 =2300
10 10 =2150
10 11 =20

10 11	500.0	400.0	200.0	100.0	0.0	0.0
	LBS	LBS	LBS	LBS	LBS	LBS
	13.1	10.7	8.3	7.1	6.0	0.0

LECT NEXT TASK

TYPE PULL =AXIAL
BRIDGE TYPE=AXIAL
LAB NUMBER= 10659A
BRIDGE VOLT= 10
BRIDGE STA.= 0
BRIDGE NUMBER= 1

DATA
UC(0)= -501.4
UC(1)= 843.1

100K CE= 737.7

AD(LBS)	OUTPUT(MV)	LINEARITY(CAL)
0.0	5.990	0.0
1.0	7.110	0.0
200.0	8.320	0.2
300.0	9.490	0.2
400.0	10.690	0.1
500.0	11.880	0.1
600.0	13.100	0.0
400.0	10.520	0.1
200.0	8.300	0.2
100.0	7.090	0.3
0.0	5.990	0.0

7, 11 MV. MAX output,

F 522

α

ID 2 = 90
 ID 3 = 9150
 ID 4 = 9300
 ID 5 = 9450
 ID 6 = 9600
 ID 7 = 9750

0.0 LBS	100.0 LBS	200.0 LBS	300.0 LBS	400.0 LBS	500.0 LBS
6.5	7.6	8.8	10.1	11.3	12.5

ID 7 = 9900
 ID 8 = 9600
 ID 9 = 9300
 ID 10 = 9150
 ID 11 = 90

600.0 LBS	400.0 LBS	200.0 LBS	100.0 LBS	0.0 LBS	0.0
13.7	11.3	8.8	7.7	6.5	0.0

LECT NEXT TASK

TYPE PULL = AXIAL
 BRIDGE TYPE = AXIAL
 LAG NUMBER = 10550A
 BRIDGE VOLT = 10
 BRIDGE STP. = 0
 BRIDGE NO. = 1

DRTP
 UC(0) = -535.8
 UC(1) = 839.0

100K CE = 726.2

IN (LBS)	OUTPUT (mV)	LINEARITY (MUC)
0.0	6.490	0.0
100.0	7.643	0.0
200.0	8.830	0.3
300.0	10.060	0.1
400.0	11.280	0.1
500.0	12.490	0.0
600.0	13.710	0.0
400.0	11.270	0.1
200.0	8.830	0.3
100.0	7.650	0.4
0.0	6.500	0.0

7.22 ^{max} m.v. output

ORIGINAL PAGE IS
OF PCJR QUALITY

F520
LAB# 10661A

ORIGINAL PAGE IS
OF POOR QUALITY

0 1 =90
0 2 =9150
0 3 =9300
0 4 =9450
0 5 =9600
0 6 =9750

0	0.0	100.0	200.0	300.0	400.0	500.0
	LBS	LBS	LBS	LBS	LBS	LBS
	3.8	5.0	6.2	7.3	8.6	9.8

0 7 =9900
0 8 =9600
0 9 =9300
0 10 =9150
0 11 =90

0	600.0	400.0	200.0	100.0	0.0	0.0
	LBS	LBS	LBS	LBS	LBS	LBS
	11.1	8.6	6.2	4.9	3.8	0.0

ECT NEXT TASK

IN 1 TYPE PULL =AXIAL Pos. DATA
 BRIDGE TYPE=AXIAL UC(0)= -310.3
 LAB NUMBER= 10661A UC(1)= 825.9
 BRIDGE VOLTS= 10
 BRIDGE STR.= 0
 BRIDGE NUMBER= 1
 100K CE= 722.7

W(LBS)	OUTPUT(MV)	LINEARITY(UC(1))
0.0	3.780	0.0
100.0	4.990	0.0
200.0	6.160	0.2
300.0	7.280	0.4
400.0	8.000	0.0
500.0	9.620	0.0
600.0	11.000	-0.0
400.0	8.520	0.0
200.0	6.180	0.1
100.0	4.940	0.4
0.0	3.800	0.0

7.28 max output
m.v.

F520

OK

CALIBRATION SHEET
LAB ENGINEER: WHITNER
DATA ANALYST: BROGDON
LAB TECHNICIAN: KINSON

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10663A01
CAL DATE: 2-25-76
SERIAL NO: NONE
P/N: 301-301-055-21

PROJECT: 301 FLIGHT TEST

F 286

PART NAME: FITTING-ADJ HORIZ STAB
CHANNEL: 03 - AXIAL LOADING

CALIBRATE EQUIVALENT: 100K = 5294 POUNDS
UNIT CAL = 6008 POUNDS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 10.01
PRE CAL. : 8.82
POST CAL. : 8.82

JACK FAC. : 0.6090 PSI/LB
LEVER ARM : NONE
CAL RES. : 100

LOADS-PSI	LOADS-POUNDS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	POUNDS
0	0	0.000	-0.010	-6
0.00	0.00	0.000	0.010	6
450.00	738.12	1.220	-0.002	-1
900.00	1477.83	2.440	-0.013	-8
1350.00	2216.75	3.690	0.006	4
1800.00	2955.67	4.900	-0.015	-9
2250.00	3694.59	6.160	0.014	8

MAXIMUM CALIBRATION LOAD: 3695 POUNDS

BHC PROGRAM FCCR33 - RUN DATE: 02-26-

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LCU WRIGHT
LAB TECHNICIAN: PROVOST/JARVIES

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO.: 1078402
CAL DATE: 9-23-76
SERIAL NO: A2-51001
P/N: 300-010-001-006

PROJECT: 301 FLIGHT TEST

PART NAME: RIGHT HAND BLADE

CHANNEL: 06 - BEAM BENDING, STATION 22.825

B/20

CALIBRATE EQUIVALENT: 100K = 59756 IN-LBS
UNIT CAL = 68033 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 6.00
PRE CAL. : 5.27
POST CAL. : 5.27

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 123.675 IN.
CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.043	-486
0.00	0.00	0.000	0.043	486
100.00	8245.00	0.650	-0.034	-389
200.00	16490.00	1.390	-0.021	-243
300.00	24735.00	2.130	-0.009	-97
400.00	32979.99	2.870	0.004	49
500.00	41224.99	3.610	0.017	194

MAXIMUM CALIBRATION LOAD: 41225 IN-LBS

BHQ PROGRAM FCCR33 - RUN DATE: 09-30-

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: PROVOST/JARVIES

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10788A03
CAL DATE: 9-23-76
SERIAL NO: A2-51001
P/N: 300-010-001-000

PROJECT: 301 FLIGHT TEST

PART NAME: RIGHT HAND BLADE
CHANNEL: 03 - CHORD BENDING, STATION 52.5

B 123

CALIBRATE EQUIVALENT: 100K = 34152 IN-LBS
UNIT CAL = 38815 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.150
BRIDGE VOLT. : 6.00
PRE CAL. : 5.28
POST CAL. : 5.28

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 94.000 IN.
CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.020	-132
0.00	0.00	0.000	0.020	132
100.00	6266.66	0.920	-0.028	-184
200.00	12533.33	1.920	0.003	18
300.00	18800.00	2.890	0.004	25
400.00	25066.66	3.850	-0.005	-32
500.00	31333.33	4.830	0.006	40

MAXIMUM CALIBRATION LOAD: 31333 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 09-30-7

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LCU WRIGHT
LAB TECHNICIAN: PROVUST/JARVIES

LAB NO. : 10788A04
CAL DATE: 9-23-76
SERIAL NO: A2-51001
P/N: 300-010-001-006

ORIGINAL PAGE IS
OF POOR QUALITY

PROJECT: 301 FLIGHT TEST

PART NAME: RIGHT HAND BLADE
CHANNEL: 07 - BEAM BENDING. STATION 52.5

B122

CALIBRATE EQUIVALENT: 100K = 14075 IN-LBS
UNIT CAL = 16012 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 6.00
PRE CAL. : 5.27
POST CAL. : 5.28

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 94.000 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.065	-173
0.00	0.00	0.000	0.065	173
100.00	6266.66	2.200	-0.034	-224
200.00	12533.33	4.620	-0.012	-33
300.00	18800.00	7.000	0.019	51
400.00	25066.66	9.340	0.010	28
500.00	31333.33	11.680	0.002	5

MAXIMUM CALIBRATION LOAD: 31333 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 09-30-

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: PROVOST/JARVIES

LAB NO. : 10789A05
CAL DATE: 9-23-70
SERIAL NO: A2-51001
P/N: 300-010-001-006

ORIGINAL PAGE IS
OF POOR QUALITY

PROJECT: 301 FLIGHT TEST

PART NAME: RIGHT HAND BLADE

CHANNEL: 04 - CHORD BENDING, STATION 75.0

B125

CALIBRATE EQUIVALENT: 100K = 35678 IN-LBS
UNIT CAL = 40435 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT.: 6.00
PRE CAL. : 5.30
POST CAL. : 5.29

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 71.500 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.009	-58
0.00	0.00	0.000	0.009	98
100.00	4766.66	0.690	-0.009	-60
200.00	9533.33	1.400	-0.006	-42
300.00	14300.00	2.120	0.006	42
400.00	19066.66	2.820	-0.001	-8
500.00	23833.33	3.530	0.001	10

MAXIMUM CALIBRATION LOAD: 23833 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 09-30-

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LCU WRIGHT
LAB TECHNICIAN: PROVOST/JARVIES

LAB NO. : 10789A06
CAL DATE: 9-23-76
SERIAL NO: A2-51001
P/N: 300-010-001-006

ORIGINAL PAGE IS
OF POOR QUALITY

PROJECT: 301 FLIGHT TEST

PART NAME: RIGHT HAND BLADE

CHANNEL: 08 - BEAM BENDING, STATION 75.0

B124

CALIBRATE EQUIVALENT: 100K = 12039 IN-LBS
UNIT CAL = 13657 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 6.00
PRE CAL. : 5.29
POST CAL. : 5.29

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 71.500 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE	
			MILLIVOLTS	IN-LBS
0	0	0.000	-0.068	-155
0.00	0.00	0.000	0.068	155
100.00	4766.66	1.970	-0.056	-129
200.00	9533.33	4.100	-0.021	-48
300.00	14300.00	6.190	-0.026	-58
400.00	19066.66	8.310	-0.000	-0
500.00	23833.33	10.440	0.035	80

MAXIMUM CALIBRATION LOAD: 23833 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 09-30-

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LCU WRIGHT
LAB TECHNICIAN: PRUVOST/JARVIES

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10788A07
CAL DATE: 9-23-76
SERIAL NO: A2-51001
P/N: 300-010-001-006

PROJECT: 301 FLIGHT TEST

PART NAME: RIGHT HAND BLADE

CHANNEL: 05 - CHORD BENDING, STATION 112.5

B127

CALIBRATE EQUIVALENT: 100K = 27761 IN-LBS
UNIT CAL = 31198 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT.: 6.00
PRE CAL. : 5.34
POST CAL. : 5.34

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 34.000 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	0.003	17
0.00	0.00	0.000	-0.003	-17
100.00	2266.67	0.440	0.001	3
200.00	4533.33	0.880	0.005	24
300.00	6800.00	1.310	-0.001	-7
400.00	9066.66	1.750	0.003	14
500.00	11333.33	2.180	-0.003	-17

MAXIMUM CALIBRATION LOAD: 11333 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 09-30-7

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: PROVOST/JARVIES

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10788A08
CAL DATE: 9-23-76
SERIAL NO: A2-51001
P/N: 300-010-001-006

PROJECT: 301 FLIGHT TEST

PART NAME: RIGHT HAND BLADE
CHANNEL: 09 - BEAM BENDING, STATION 112.5

B126

CALIBRATE EQUIVALENT: 100K = 6019 IN-LBS
UNIT CAL = 6783 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 6.00
PRE CAL. : 5.32
POST CAL. : 5.33

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 34.000 IN.
CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.045	-51
0.00	0.00	0.000	0.045	51
100.00	2266.67	1.920	-0.040	-45
200.00	4533.33	3.950	-0.016	-18
300.00	6800.00	5.980	-0.011	-12
400.00	9066.66	7.980	0.004	4
500.00	11333.33	10.000	0.018	20

MAXIMUM CALIBRATION LOAD: 11333 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 09-30-

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIANS: JARVIES/EUBANKS

LAB NO. : 10789A02
CAL DATE: 9-18-76
SERIAL NO: A2-09018
P/N: 300-010-031-005

ORIGINAL PAGE IS
OF POOR QUALITY

B130 OK

PROJECT: 301 FLIGHT TEST

PART NAME: LEFT HAND BLADE
CHANNEL: 06 - BEAM BENDING. STATION 22.825

CALIBRATE EQUIVALENT: 100K = 62803 IN-LBS
UNIT CAL = 71177 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 6.00
PRE CAL. : 5.29
POST CAL. : 5.30

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 123.675 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.016	-192
0.00	0.00	0.000	0.016	192
100.00	8245.00	0.670	-0.009	-106
200.00	16490.00	1.360	-0.014	-167
300.00	24735.00	2.060	-0.009	-110
400.00	32979.99	2.780	0.016	185
500.00	41224.99	3.460	0.000	6

MAXIMUM CALIBRATION LOAD: 41225 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 09-27-

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIANS: JARVIES/EUBANKS

LAB NO. : 10789A02
CAL DATE: 9-18-77
SERIAL NOS: A2-0901R
P/N: 300-010-001-005

ORIGINAL PAGE IS
OF POOR QUALITY

B 180

PROJECT: 301 FLIGHT TEST

PART NAME: LEFT HAND BLADE

CHANNEL: 06 - BEAM BENDING, STATION 22.825

CALIBRATE EQUIVALENTS: 100K = 62803 IN-LBS
UNIT CAL = 71177 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 6.00
PRE CAL. : 5.29
POST CAL. : 5.30

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 123.6.5 IN.

CAL PES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	MEAN LINE IN-LBS
0	0	0.000	-0.016	-192
0.00	0.00	0.000	0.016	192
100.00	8245.00	0.670	-0.009	-106
200.00	16490.00	1.360	-0.014	-167
300.00	24735.00	2.060	-0.009	-110
400.00	32979.99	2.780	0.016	185
500.00	41224.99	3.460	0.000	6

MAXIMUM CALIBRATION LOAD: 41225 IN-LBS

BMC PROGRAM FCCR33 - RUN DATE: 09-27-77

B 130

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: JARVIES/EUBANKS

LAB NO. : 107R9A03
CAL DATE: 9-18-75
SERIAL NO: A2-09C:8
P/N: 300-010-001-005

ORIGINAL PAGE IS
OF POOR QUALITY

B123

PROJECT: 301 FLIGHT TEST

PART NAME: LEFT HAND BLADE

CHANNEL: 03 - CHORD BENDING, STATION 52.5

CALIBRATE EQUIVALENT: 10K = 32148 IN-LBS
UNIT CAL = 36400 IN-LBS MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 6.00
PRE CAL. : 5.30
POST CAL. : 5.30

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 94.000 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	MEAN LINE IN-LBS
0	0	0.000	-0.053	-321
0.00	0.00	0.000	0.053	321
100.00	6266.66	0.940	-0.040	-244
200.00	12533.33	1.980	-0.033	-203
300.00	18800.00	3.040	-0.007	-40
400.00	25066.66	4.090	0.010	62
500.00	31333.33	5.130	0.017	104

MAXIMUM CALIBRATION LOAD: 31333 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 09-27-75

B133

OK

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: JARVIES/EUBANKS

LAB NO. : 10789A03
CAL DATE: 6-18-76
SERIAL NO: A2-09018
P/N: 000-010-001-00

D/33

ORIGINAL PAGE IS
OF POOR QUALITY

PROJECT: 301 FLIGHT TEST

PART NAME: LEFT HAND BLADE

CHANNEL: 03 - CHORD BENDING, STATION 52.5

CALIBRATE EQUIVALENT: 100K = 32148 IN-LBS
UNIT CAL = 32400 IN-LBS/M/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 6.00
PRE CAL. : 5.30
POST CAL. : 5.30

SCALE FAC. : 1.5000 PSI/LB
LEVER ARM : 55.000 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.053	-321
0.00	0.00	0.000	0.053	321
100.00	6265.66	0.940	-0.040	-244
200.00	12533.33	1.980	-0.033	-203
300.00	18800.00	3.040	-0.007	-40
400.00	25066.66	4.090	0.010	62
500.00	31333.33	5.130	0.017	104

MAXIMUM CALIBRATION LOAD: 31333 IN-LBS

SHC PROGRAM FCCR33 - RUN DATE: 09-27-

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: JARVIES/EUBANKS

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10789A04
CAL DATE: 9-18-76
SERIAL NO: A2-09018
P/N: 300-010-001-005
B132

PROJECT: 301 FLIGHT TEST

PART NAME: LEFT HAND BLADE
CHANNEL: 07 - BEAM BENDING, STATION 52.5

ORIGINAL PAGE IS
OF POOR QUALITY

CALIBRATE EQUIVALENT: 100K = 14025 IN-LBS
UNIT CAL = 15835 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 6.00
PRE CAL. : 5.31
POST CAL. : 5.32

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 94.000 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	MEAN LINE IN-LBS
0	0	0.000	-0.050	-133
0.00	0.00	0.000	0.050	133
100.00	6266.66	2.280	-0.044	-117
200.00	12533.33	4.660	-0.039	-104
300.00	18800.00	7.080	0.006	16
400.00	25066.66	9.480	0.031	82
500.00	31333.33	11.820	-0.004	-10

MAXIMUM CALIBRATION LOAD: 31333 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 09-27-7

B132

C-4

01

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: JARVIES/EUBANKS

LAB NO. : 10789A04
CAL DATE: 9-18-76
SERIAL NO: A2-09018
P/N: 300-010-001-005

B132 OK

PROJECT: 301 FLIGHT TEST

PART NAME: LEFT HAND BLADE

CHANNEL: 07 - BEAM BENDING, STATION 52.5

CALIBRATE EQUIVALENT: 100K = 14025 IN-LBS
UNIT CAL = 15835 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 6.00
PRE CAL. : 5.31
POST CAL. : 5.32

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 94.000 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.050	-133
0.00	0.00	0.000	0.050	133
100.00	6266.66	2.280	-0.044	-117
200.00	12533.33	4.660	-0.039	-104
300.00	18800.00	7.080	0.006	16
400.00	25066.66	9.480	0.031	82
500.00	31333.33	11.820	-0.004	-10

MAXIMUM CALIBRATION LOAD: 31333 IN-LBS

ORIGINAL PAGE IS
OF POOR QUALITY

BMC PROGRAM FCCR33 - RUN DATE: 09-27-

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: JARVIES/EUBANKS

LAB NO. : 10789A05
CAL DATE: 9-16-76
SERIAL NO: A2-09016
P/N: 300-010-001-005

B 135

PROJECT: 301 FLIGHT TEST

PART NAME: LEFT HAND BLADE

CHANNEL: 04 - CHORD BENDING. STATION 75.0

CALIBRATE EQUIVALENT: 100K = 34641 IN-LBS
UNIT CAL = 39001 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.120
BRIDGE VOLT. : 6.00
PRE CAL. : 5.33
POST CAL. : 5.33

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 71.500 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.009	-56
0.00	0.00	0.000	0.009	56
100.00	4766.66	0.720	-0.005	-32
200.00	9533.33	1.450	-0.008	-54
300.00	14300.00	2.190	-0.002	-11
400.00	19066.66	2.930	0.005	32
500.00	23833.33	3.660	0.001	9

MAXIMUM CALIBRATION LOAD: 23833 IN-LBS

ORIGINAL PAGE IS
OF POOR QUALITY

BHC PROGRAM FCCR33 - RUN DATE: 09-27-71

B 135

01

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: JARVIES/EUBANKS

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10789A05
CAL DATE: 9-16-76
SERIAL NO: A2-09018
P/N: 300-010-001-005
B135 GR

PROJECT: 301 FLIGHT TEST

PART NAME: LEFT HAND BLADE

CHANNEL: 04 - CHORD BENDING, STATION 75.0

CALIBRATE EQUIVALENT: 100K = 34641 IN-LBS
UNIT CAL = 39001 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 6.00
PRE CAL. : 5.33
POST CAL. : 5.33

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 71.500 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.009	-56
0.00	0.00	0.000	0.009	56
100.00	4766.66	0.720	-0.005	-32
200.00	9533.33	1.450	-0.008	-54
300.00	14300.00	2.190	-0.002	-11
400.00	19066.66	2.930	0.005	32
500.00	23833.33	3.660	0.001	9

MAXIMUM CALIBRATION LOAD: 23833 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 09-27-

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: JARVIES/EUBANKS

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10789A06
CAL DATE: 9-18-76
SERIAL NO: A2-09018
P/N: 300-010-001-005

B134 OK

PROJECT: 301 FLIGHT TEST

PART NAME: LEFT HAND BLADE

CHANNEL: 08 - BEAM BENDING. STATION 75.0

CALIBRATE EQUIVALENT: 100K = 11580 IN-LBS
UNIT CAL = 13087 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 6.00
PRE CAL. : 5.31
POST CAL. : 5.31

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 71.500 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	MEAN LINE IN-LBS
0	0	0.000	-0.031	-67
0.00	0.00	0.000	-0.031	67
100.00	4766.66	2.120	-0.035	-76
200.00	9533.33	4.330	-0.010	-23
300.00	14300.00	6.530	0.004	8
400.00	19066.66	8.720	0.008	18
500.00	23833.33	10.900	0.002	5

MAXIMUM CALIBRATION LOAD: 23833 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 09-27-7

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: JARVIES/EUBANKS

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10789A06
CAL DATE: 9-12-76
SERIAL NO: A2-C9C12
P/N: 300-010-001-005
B134

PROJECT: 301 FLIGHT TEST

PART NAME: LEFT HAND BLADE

CHANNEL: 08 - BEAM BENDING, STATION 75.0

CALIBRATE EQUIVALENT: 100K = 11580 IN-LBS
UNIT CAL = 13087 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 6.00
PRE CAL. : 5.31
POST CAL. : 5.31

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 71.500 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.031	-67
0.00	0.00	0.000	-0.021	67
100.00	4766.66	2.120	-0.035	-76
200.00	9533.33	4.330	-0.010	-23
300.00	14300.00	6.530	0.034	8
400.00	19066.66	8.720	0.008	18
500.00	23833.33	10.900	0.002	5

MAXIMUM CALIBRATION LOAD: 23833 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 09-27-7

B134

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: JARVIES/EUBANKS

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10789A07
CAL DATE: 9-18-76
SERIAL NO: A2-09018
P/N: 300-010-001-005

B 137 OK

PROJECT: 301 FLIGHT TEST

PART NAME: LEFT HAND BLADE

CHANNEL: 05 - CHORD BENDING, STATION 112.5

CALIBRATE EQUIVALENTS: 100K = 26950 IN-LBS
UNIT CAL = 30338 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 6.00
PRE CAL. : 5.33
POST CAL. : 5.33

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 34.000 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	MEAN LINE IN-LBS
0	0	0.000	-0.012	-63
0.00	0.00	0.000	0.012	63
100.00	2266.67	0.420	-0.016	-80
200.00	4533.33	0.880	-0.004	-21
300.00	6800.00	1.340	0.008	38
400.00	9066.66	1.780	-0.001	-4
500.00	11333.33	2.230	0.001	5

MAXIMUM CALIBRATION LOAD: 11333 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 09-27-7

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: JARVIES/EUBANKS

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10785627
CAL DATE: 9-18-76
SERIAL NO: A2-09018
P/N: 300-010-001-005

B137

PROJECT: 301 FLIGHT TEST

PART NAME: LEFT HAND BLADE

CHANNEL: 05 - CHORD BENDING. STATION 112.5

CALIBRATE EQUIVALENT: 100K = 26950 IN-LBS
UNIT CAL = 30338 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 6.00
PRE CAL. : 5.23
POST CAL. : 5.33

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 34.000 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.012	-53
0.00	0.00	0.000	0.012	63
100.00	2266.67	0.420	-0.016	-80
200.00	4533.33	0.680	-0.004	-21
300.00	6800.00	1.340	0.006	38
400.00	9066.66	1.780	-0.001	-4
500.00	11333.33	2.230	0.001	5

MAXIMUM CALIBRATION LOAD: 11333 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 09-27-76

B137

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: JARVIES/EUBANKS

LAS NO. : 10789A08
CAL DATE: 9-18-76
SERIAL NO: A2-09018
P/N: 300-010-001-005

ORIGINAL PAGE IS
OF POOR QUALITY

B136 ok

PROJECT: 301 FLIGHT TEST

PART NAME: LEFT HAND BLADE

CHANNEL: 09 - BEAM BENDING, STATION 112.5

CALIBRATE EQUIVALENT: 100K = 5976 IN-LBS
UNIT CAL = 6747 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 6.00
PRE CAL. : 5.31
POST CAL. : 5.32

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 34.000 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.027	-30
0.00	0.00	0.000	0.027	30
100.00	2266.67	1.960	-0.029	-33
200.00	4533.33	3.990	-0.015	-17
300.00	6800.00	6.030	0.009	10
400.00	9066.66	8.050	0.013	14
500.00	11333.33	10.050	-0.003	-4

MAXIMUM CALIBRATION LOAD: 11333 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 09-27-7

CALIBRATION SHEET
LAB ENGINEER: A. WHITNER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: JARVIES/EUBANKS

LAB NO. : 10789A02
CAL DATE: 9-18-73
SERIAL NO: A2-090:6
P/N: 300-010-001-005

ORIGINAL PAGE IS
OF POOR QUALITY

B136

PROJECT: 301 FLIGHT TEST

PART NAME: LEFT HAND BLADE

CHANNEL: 09 - BEAM BENDING, STATION 112.5

CALIBRATE EQUIVALENT: 100K = 5976 IN-LBS
UNIT CAL = 6747 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 6.00
PRE CAL. : 5.31
POST CAL. : 5.32

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : 34.000 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	MEAN LINE IN-LBS
0	0	0.000	-0.027	-30
0.00	0.00	0.000	0.027	30
100.00	2266.67	1.960	-0.029	-33
200.00	4533.33	3.990	-0.015	-17
300.00	6800.00	6.030	0.009	10
400.00	9066.66	8.050	0.013	14
500.00	11333.33	10.050	-0.003	-4

MAXIMUM CALIBRATION LOAD: 11333 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 09-27-7

B136

CALIBRATION SHEET
LAB ENGINEER: WHITENER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: ANDERSON

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO.: 10983A01
CAL DATE: 6-16-76
SERIAL NO: NONE
P/N: 300-010-411-11

F060

PROJECT: 301 FLIGHT TEST

PART NAME: PITCH LINK

4H Red

CHANNEL: 03 - AXIAL LOADING

CALIBRATE EQUIVALENT: 100K = 781 POUNDS
UNIT CAL = 890 POUNDS/MV/V

BRIDGE RES.: 350.00
GAGE FACTOR: 2.120
BRIDGE VOLT.: 10.00
PRE CAL.: 8.78
POST CAL.: 8.78

JACK FAC.: 1.5000 PSI/LB
LEVER ARM: NONE
CAL RES.: 100

LOADS-PSI	LOADS-POUNDS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	POUNDS
0	0	0.000	-0.040	-4
0.00	0.00	0.000	0.040	4
270.00	180.00	1.960	-0.024	-2
540.00	360.00	3.980	-0.027	-2
610.00	540.00	6.020	-0.010	-1
1080.00	720.00	8.050	-0.003	-0
1350.00	900.00	10.100	0.024	2

MAXIMUM CALIBRATION LOAD: 900 POUNDS

F060

BHC PROGRAM TCCR33 - RUN DATE: 06-18-76

FORSHAME, YOU FORGOT THE CAL RESIST. FOR CHANNEL04 LAB NO.10985A01
HOWEVER I WILL SET IT TO 100 OHMS AND CONTINUE.

CALIBRATION SHEET
LAB ENGINEER: WHITENER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: KINSON

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10988ACI
CAL DATE: 6-16-76
SERIAL NO: NONE
P/N: 300-010-411-11
F103

PROJECT: 301 FLIGHT TEST

PART NAME: PITCH LINK R/H RED
CHANNEL: 03 - AXIAL LOADING

CALIBRATE EQUIVALENT: 100K σ 789 POUNDS
UNIT CAL = 697 POUNDS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.120
BRIDGE VOLT. : 10.00
PRE CAL. : 8.79
POST CAL. : 8.79

JACK FAC. : 1.5000 PSI/LB
LEVER ARM : NONE

CAL RES. : 100

LOADS-PSI	LOADS-POUNDS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	POUNDS
0	0	0.000	-0.031	-3
0.00	0.00	0.000	0.031	3
270.00	180.00	1.960	-0.015	-1
540.00	360.00	3.950	-0.032	-3
810.00	540.00	5.990	0.002	0
1080.00	720.00	7.990	-0.005	-0
1350.00	900.00	10.020	0.019	2

F103

MAXIMUM CALIBRATION LOAD: 900 POUNDS

BHC PROGRAM FCCR33 - RUN DATE: 06-21-76

***** END OF JOB *****

***** END OF JOB *****

***** END OF JOB *****

CALIBRATION SHEET
LAB ENGINEER: DAVID GLASS
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: JARVIES/BLISS

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10929AG1
CAL DATE: 6-12-76
SERIAL NO: B12-100
P/N: 300-040-180
B140

PROJECT: 301 ROTOR MAST

L/H

PART NAME: ROTOR MAST

CHANNE : 03 - PERPENDICULAR BENDING, STATION 13.2

CALIBRATE EQUIVALENT: 100K = 26152 IN-LBS
UNIT CAL = 29785 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT. : 10.00
PRE CAL. : 8.78
POST CAL. : 8.78

JACK FAC. : 0.6090 PSI/LB
LEVER ARM : 12.000 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	IN-LBS
0	0	0.000	-0.031	-92
0.00	0.00	0.000	0.031	92
305.00	6009.85	1.980	-0.007	-20
610.00	12019.70	3.970	-0.034	-103
915.00	18029.55	6.000	-0.022	-66
1220.00	24039.41	8.060	0.020	60
1525.00	30049.26	10.070	0.012	37

MAXIMUM CALIBRATION LOAD: 30049 IN-LBS

BMC PROGRAM FCCR33 - RUN DATE: 76-16-

B 140

CALIBRATION SHEET
LAB ENGINEER: DAVID GLASS
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: JARVIES/BLISS

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10999A02
CAL DATE: 6-12-75
SERIAL NO: B12-100
P/N: 300-040-100

B141

PROJECT: 301 ROTOR MAST

PART NAME: ROTOR MAST

CHANNEL: 04 - PARALLEL BENDING, STATION 13.2

CALIBRATE EQUIVALENT: 100K = 26565 IN-LBS
UNIT CAL = 30205 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.130
BRIDGE VOLT.: 10.00
PRE CAL. : 8.79
POST CAL. : 8.80

JACK FAC. : 0.6090 PSI/LB
LEVER ARM : 12.000 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FRC.1 MILLIVOLTS	MEAN LINE IN-LBS
0	0	0.000	-0.021	-65
0.00	0.00	0.000	0.021	63
305.00	6009.85	1.980	0.011	34
610.00	12019.70	3.920	-0.038	-116
915.00	18029.55	5.920	-0.028	-85
1220.00	24039.41	7.960	0.022	67
1525.00	30049.20	9.940	0.012	37

MAXIMUM CALIBRATION LOAD: 30049 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 06-16-

B141

C

CALIBRATION SHEET
LAB ENGINEER: DAVID GLASS
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: JARVIES/BLISS

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 10999A03
CAL DATE: 6-12-76
SERIAL NO: B12-106
P/N: 300-040-160

M/73

PROJECT: 301 ROTOR MAST

PART NAME: ROTOR MAST

CHANNEL: 05 - TORSION, STATION 12.0

CALIBRATE EQUIVALENTS: 100K = 48612 IN-LBS
UNIT CAL = 54737 IN-LBS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.040
BRIDGE VOLT. : 10.01
PRE CAL. : 6.88
POST CAL. : 8.90

JACK FAC. : 0.6090 PSI/LB
LEVER ARM : 42.000 IN.

CAL RES. : 100

LOADS-PSI	LOADS-IN-LBS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	MEAN LINE IN-LBS
0	0	0.000	0.046	260
0.00	0.00	0.000	-0.048	-260
435.00	30000.00	5.540	0.006	33
870.00	60000.00	11.070	0.050	272
1305.00	90000.00	16.540	0.034	183
1740.00	120000.00	21.990	-0.003	-15
2175.00	150000.00	27.440	-0.039	-213

MAXIMUM CALIBRATION LOAD: 150000 IN-LBS

BHC PROGRAM FCCR33 - RUN DATE: 03-16-

M143

CALIBRATION SHEET
 LAB ENGINEER: WHITENER
 DATA ANALYST: MARY LOU WRIGHT
 LAB TECHNICIAN: GRESAK

ORIGINAL PAGE IS
 OF POOR QUALITY

LAB NO. : 11021801
 CAL DATE: 8-12-70
 SERIAL NO: FM 0.4
 P/N: 300-310-101-23

B113

PROJECT: 301 FLIGHT TEST

PART NAME: RIGHT HAND YOKE

CHANFLL: 03 - RED CHORD BENDING, STATION 9.875

CALIBRATE EQUIVALENT: 100K = 18507 POUNDS
 UNIT CAL = 21099 POUNDS/MV/V

BRIDGE RES. : 350.00
 GAGE FACTOR : 2.080
 BRIDGE VOLT. : 10.01
 PRE CAL. : 8.78
 POST CAL. : 8.78

JACK FAC. : 0.2670 PSI/I
 LEVER ARM : 8.500 IN.

CAL RES. : 100

LOADS-PSI	LOADS-POUNDS	OUTPUT-MV	VARIATION FROM MEAN LINE	
			MILLIVOLTS	POUNDS
0	0	0.000	-0.005	-10
0.00	0.00	0.000	0.005	10
325.00	9625.44	4.530	-0.032	-67
650.00	19250.38	9.120	-0.008	-18
975.00	28876.31	13.740	0.045	95
1300.00	38501.75	18.300	0.038	81
1625.00	48127.19	22.780	-0.048	-101

MAXIMUM CALIBRATION LOAD: 48127 POUNDS

BHC PROGRAM FCCR33 - RUN DATE: 08-23-

B113

OK

CALIBRATION SHEET
LAB ENGINEER: WHITENER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: GRESAK

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 11021A
CAL DATE: 8-12-75
SERIAL NO: FM 004
P/N: 300-010-101-23

B112

PROJECT: 301 FLIGHT TEST

PART NAME: RIGHT HAND YOKE

CHANNEL: 06 - RED BEAM BENDING, STATION 9.875

CALIBRATE EQUIVALENT: 100K = 26108 POUNDS
UNIT CAL = 29681 PCUNDS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.080
BRIDGE VOLT. : 10.01
PRE CAL. : 8.81
POST CAL. : 8.89

JACK FAC. : 0.6090 PSI/LB
LEVER ARM : 8.500 IN.

CAL RES. : 100

LOADS-PSI	LOADS-POUNDS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	POUNDS
0	0	0.000	0.015	44
0.00	0.00	0.000	-0.015	-44
300.00	4187.19	1.420	-0.007	-21
600.00	8374.38	2.860	0.021	61
900.00	12561.57	4.270	0.019	55
1200.00	16748.77	5.650	-0.004	-11
1500.00	20935.96	7.070	-0.005	-17
1800.00	25123.15	8.480	-0.008	-23

MAXIMUM CALIBRATION LOAD: 25123 POUNDS

BHC PROGRAM FCCR33 - RUN DATE: 08-23-

B112

OK

CALIBRATION SHEET
LAB ENGINEER: WHITENER
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: GRESAK

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 11221403
CAL DATE: 8-12-79
SERIAL NO: FM 004
P/N: 300-010-101-03

PROJECT: 301 FLIGHT TEST

B 172

PART NAME: RIGHT HAND YOKE

CHANNEL: 18 - WHT CHORD BENDING, STATION: 0.875

CALIBRATE EQUIVALENT: 100K = 1856 POUNDS
UNIT CAL = 2115 POUNDS/PV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.0000
BRIDGE VOLT. : 10.00
PPT. CAL. : 0.73
POST CAL. : 8.70

JACK FAC. : 0.0070 PSI/LB
LEVER ARM : 8.500 IN.

CAL RES. : 100

LOADS-PSI	LOADS-POUNDS	OUTPUT-MV	VARIATION FROM MILLIVOLTS	MEAN LINE POUNDS
0	0	0.000	-0.000	-47
0.01	0.01	0.000	0.002	17
300.00	5625.44	4.510	-0.032	-37
600.00	1025.89	9.070	-0.010	-36
900.00	2870.21	13.600	0.000	41
1300.00	3801.75	18.200	0.020	53
1625.00	45127.19	22.750	-0.019	-40

MAXIMUM CALIBRATION LOAD: 46127 POUNDS

ENC PROGRAM FCCF03 - RUN DATE: 08-03-

ORIGINAL PAGE IS
OF POOR QUALITY

CALIBRATION SHEET
LAB ENGINEER: WHITENER
DATA ANALYST: MARY LGU WRIGHT
LAB TECHNICIAN: GRESAK

LAB NO. : 1102144
CAL DATE: 6-17-72
SERIAL NO: FM 104
P/N: 300-010-101-23

B171

PROJECT: 301 FLIGHT TEST

PART NAME: RIGHT HAND YOKE

CHANNEL: 07 - HT BEAM BENDJG. STATION 9.875

CALIBRATE EQUIVALENT: 100K = 31118 POUNDS
UNIT CAL = 35477 POUNDS/MV/V

BRIDGE RES. : 350.00
GAGE FACTOR : 2.069
BRIDGE VOLT. : 10.01
PRE CAL. : 8.79
POST CAL. : 8.77

JACK FAC. : 0.6000 PSI/LD
LEVER ARM : 8.500 IN.
CAL RES. : 100

LOADS-PSI	LOADS-POUNDS	OUTPUT-MV	VARIATION FROM MILLIVOLTS	FROM LINE POUNDS
0	0	0.000	0.007	0
0	0.00	0.000	-0.007	-300
300.00	4187.19	1.260	0.011	41
600.00	8374.38	2.520	0.070	240
900.00	12561.57	3.780	0.049	172
1200.00	16748.77	5.040	0.027	90
1500.00	20935.96	6.300	-0.014	-44
1800.00	25123.15	7.560	-0.036	-117

MAXIMUM CALIBRATION LOAD: 25123 POUNDS

BMC PROGRAM FCCK33 - RUN DATE: 06-28-

CALIBRATION SHEET
 LAB ENGINEER: WHITENER
 DATA ANALYST: MARY LOU WRIGHT
 LAB TECHNICIAN: GRESAK

LAB NO.: 11021A03
 CAL DATE: 8-12-78
 SERIAL NO: FM 004
 P/N: 300-010-101-23

ORIGINAL PAGE IS
 OF POOR QUALITY

PROJECT: 301 FLIGHT TEST

B174

PART NAME: RIGHT HAND YUKE
 CHANNEL: 15 - GRN CHORD BENDING, STATION 9.875

 CALIBRATE EQUIVALENT: 10"K = 18882 POUNDS
 UNIT CAL = 21481 POUNDS/MV/V

BRIDGE RES.: 30.00
 GAGE FACTOR: 2.000
 BRIDGE VOLT.: 1.000
 PRE CAL.: 8.00
 POST CAL.: 8.75

JACK FAC.: 0.2870 PSI/LB
 LEVER ARM: 8.500 IN.
 CAL RES.: 100

LOADS-PSI	LOADS-POUNDS	OUTPUT-KV	VARIATION FROM MEAN LINE MILLIVOLTS	POUNDS
0.00	0.00	0.000	0.043	00
1.00	1.00	0.000	-0.043	-00
320.00	320.00	4.540	0.116	30
637.00	637.00	9.030	0.025	00
975.00	975.00	13.510	0.025	00
1312.00	1312.00	17.990	0.024	00
1625.00	1625.00	22.460	-0.047	-100

MAXIMUM CALIBRATION LOAD: 1625.00 POUNDS

BHC PROGRAM FCCR33 - RUN DATE: 08-20-

CALIBRATION SHEET
 L&E ENGINEER: WHITENER
 DATA ANALYST: MARY LCU WRIGHT
 LAB TECHNICIAN: GRESAK

ORIGINAL PAGE IS
 OF POOR QUALITY

LAB NO. : 11021476
 CAL DATE: 8-12-76
 SERIAL NO: FM 004
 P/N: 300-010-111-23

PROJECT: 301 FLIGHT TEST

B173

PART NAME: RIGHT HAND YOKE
 CHANNEL: 08 - GRN BEAM BENDING, STATION 9.875

CALIBRATE EQUIVALENT: 100K = 29394 POUNDS
 UNIT CAL = 33569 POUNDS/MV/V

UNIT CAL. : 350.0
 JACK FAC. : 2.000
 EXCITE VOLTS: 10.1
 UNIT CAL. : 6.77
 UNIT CAL. : 2.70

JACK FAC. : 0.6095 PSI/LL
 LEVER ARM : 8.500 IN.
 CAL RES. : 100

LOADS-PSI	LOADS-POUNDS	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	POUNDS
	0	0.000	-0.000	-100
	2.00	0.000	0.000	100
	4187.19	1.210	0.000	0
	8374.38	2.420	-0.007	-100
	12561.57	3.630	-0.000	0
	16748.77	4.840	-0.000	0
	20935.96	6.050	0.007	100
	25123.15	7.260	0.000	0

MINIMUM CALIBRATION LOAD: 25123 POUNDS

BHC PROGRAM FCCR33 - RUN DATE: 08-12-76

ELECTRONIC TASK

LAB # 11027A-01

CHAN 1
 TYPE PULL =CH.RED *pas*
 BRIDGE TYPE=CH.RED
 LAB-BR NUMBER=11027A-01
 BRIDGE VOLT= 6
 BRIDGE STR.= 9.875

DATA
 (CMV) OFFSET= 5130.5
 UNITY CAL= 21261.02234 ✓
 100K CE= 18576.0 ✓

LOAD (IN LB)	OUTPUT (MV)	LINEARITY (%UC1)
0.0	-1.410	0.0
9625.4	1.230	0.1
19250.8	3.950	0.0
28876.2	6.670	0.0
38501.7	9.480	-0.0
48127.2	12.120	0.0
57752.6	6.710	0.0
67378.0	1.270	0.0
0.0	-1.430	0.0

13.53

ORIGINAL PAGE IS OF POOR QUALITY

12.12
9.48
2.64

1.41
1.23
2.63
3.95
1.27
2.73
6.67
2.95
2.72
9.48
6.62
2.81

CHAN 2
 TYPE PULL =CH.WHITE *pas*
 BRIDGE TYPE=CH.WHITE
 LAB-BR NUMBER=11027A-03
 BRIDGE VOLT= 6
 BRIDGE STR.= 9.875

DATA
 (CMV) OFFSET= 30266.9
 UNITY CAL= 21022.02560 ✓
 100K CE= 18367.2 ✓

LOAD (IN LB)	OUTPUT (MV)	LINEARITY (%UC1)
0.0	-3.590	0.0
9625.4	-5.980	-0.1
19250.8	-3.110	0.0
28876.2	-0.400	0.0
38501.7	2.090	0.0
48127.2	5.090	0.0
57752.6	-0.410	0.0
67378.0	-5.950	0.1
0.0	-3.530	0.0

21108

13.68
8193

5.69
5.98
2.61
3.95
3.11
2.57
3.11
3.10
2.71
2.39
2.79

CHAN 3
 TYPE PULL =CH.GREEN
 BRIDGE TYPE=CH.GREEN
 LAB-BR NUMBER=11027A-05
 BRIDGE VOLT= 6
 BRIDGE STR.= 9.875

DATA
 (CMV) OFFSET= 3472.7
 UNITY CAL= 21843.22855 ✓
 100K CE= 19084.6 ✓

LOAD (IN LB)	OUTPUT (MV)	LINEARITY (%UC1)
0.0	-0.950	0.0
9625.4	1.720	-0.0
19250.8	4.310	0.0
28876.2	6.950	0.0
38501.7	9.680	-0.0
48127.2	12.230	0.0
57752.6	7.000	-0.0
67378.0	1.670	0.0
0.0	-0.960	0.0

B195

12.23
9.68
2.55

1.72
-0.95
2.67
4.31
1.72
2.54
6.95
4.31
2.64
9.68
6.95

SECRET REPORT TASK

CHAN 1

TYPE PULL =CH.RED *pas*
BRIDGE TYPE=CH.RED
LAB-BR NUMBER=11027A-01
BRIDGE VOLT= 6
BRIDGE STA.= 9.875

DATA
0(MV) OFFSET= 5130.5
UNITY CAL= 21261.02234

B115
LAB#11027A-

100K CE= 18576.0

LOAD(IN/LB)	OUTPUT(MV)	LINEARITY(%UC1)
0.0	-1.410	0.0
9625.4	1.220	0.1
19250.8	3.950	0.0
28876.3	-6.670	0.0
38501.7	9.480	-0.0
48127.2	12.120	0.0
28876.3	6.710	0.0
9625.4	1.270	0.0
0.0	-1.430	0.0

$\frac{1.41}{1.22} = 1.156$
 $\frac{1.22}{2.63} = 0.464$
 $\frac{3.95}{2.73} = 1.447$
 $\frac{1.22}{2.72} = 0.449$
 $\frac{6.67}{2.95} = 2.261$
 $\frac{9.48}{2.72} = 3.485$
 $\frac{12.12}{2.62} = 4.626$
 $\frac{6.71}{2.71} = 2.476$

13.53 B115

CHAN 2

TYPE PULL =CH.WHITE *pas*
BRIDGE TYPE=CH.WHITE
LAB-BR NUMBER=11027A-03
BRIDGE VOLT= 6
BRIDGE STA.= 9.875

DATA
0(MV) OFFSET= 30266.9
UNITY CAL= 21022.02566

100K CE= 18367.2

LOAD(IN/LB)	OUTPUT(MV)	LINEARITY(%UC1)
0.0	-8.590	0.0
9625.4	-5.980	-0.1
19250.8	-3.110	0.0
28876.3	-0.400	0.0
38501.7	2.390	0.0
48127.2	5.090	0.0
28876.3	-0.410	0.0
9625.4	-5.950	0.1
0.0	-8.590	0.0

$\frac{8.59}{5.98} = 1.436$
 $\frac{5.98}{2.61} = 2.291$
 $\frac{3.11}{2.57} = 1.209$
 $\frac{3.11}{2.71} = 1.147$
 $\frac{2.39}{2.79} = 0.857$

13.68

21108
0.4%

CHAN 3

TYPE PULL =CH.GREEN
BRIDGE TYPE=CH.GREEN
LAB-BR NUMBER=11027A-05
BRIDGE VOLT= 6
BRIDGE STA.= 9.875

DATA
0(MV) OFFSET= 9472.7
UNITY CAL= 21843.22855

100K CE= 19084.6

LOAD(IN/LB)	OUTPUT(MV)	LINEARITY(%UC1)
0.0	-0.950	0.0
9625.4	1.720	-0.0
19250.8	4.310	0.0
28876.3	6.950	0.0
38501.7	9.680	-0.0
48127.2	12.230	0.0
28876.3	7.000	-0.0
9625.4	1.670	0.0
0.0	-0.960	0.0

$\frac{1.72}{0.95} = 1.811$
 $\frac{4.31}{2.67} = 1.614$
 $\frac{4.31}{1.72} = 2.506$
 $\frac{1.72}{2.64} = 0.651$
 $\frac{6.95}{4.31} = 1.612$
 $\frac{4.31}{2.64} = 1.632$
 $\frac{9.68}{2.64} = 3.667$
 $\frac{7.00}{2.64} = 2.651$

12.23
9.68
2.55

ORIGINAL PAGE IS
OF POOR QUALITY

C

CHAN 1

TYPE PULL = BM. RED DATA
BRIDGE TYPE = BM. RED 0(MV) OFFSET = -18746.8
LAB-BR NUMBER = 11027A-02 UNITY CAL = 30625.45583
BRIDGE VOLT = 6
BRIDGE STA. = 9.875

B114
LAB# 11027A02

100K CE = 26757.8 ✓

IN/LB)	OUTPUT (MV)	LINEARITY (%UC1)
0.0	3.690	0.0
4187.2	4.470	0.1
8374.4	5.320	0.0
12561.6	6.130	0.0
16748.7	6.980	-0.0
20935.9	7.740	0.0
25123.1	8.620	-0.0
16748.7	6.940	0.0
8374.4	5.320	0.0
4187.2	4.470	0.1
0.0	3.690	0.0

4.93

B114

ORIGINAL PAGE IS
OF POOR QUALITY

CHAN 6

TYPE PULL = BM. GREEN Pos DATA
BRIDGE TYPE = BM. GREEN 0(MV) OFFSET = -5676.0
LAB-BR NUMBER = 11027A-06 UNITY CAL = 33752.69972
BRIDGE VOLT = 6
BRIDGE STA. = 9.875

100K CE = 29490.1 ✓

ORD (IN/LB)	OUTPUT (MV)	LINEARITY (%UC1)
0.0	1.640	0.0
4187.2	1.750	0.1
8374.4	2.500	0.0
12561.6	3.310	0.1
16748.7	3.980	0.0
20935.9	4.740	0.0
25123.1	5.490	0.0
16748.7	3.980	0.0
8374.4	2.500	0.0
4187.2	1.710	0.2
0.0	1.630	0.0

33873.9
35%

4.45

CHAN 5

TYPE PULL = BM. WHITE Pos DATA
BRIDGE TYPE = BM. WHITE 0(MV) OFFSET = 2339.3
LAB-BR NUMBER = 11027A-04 UNITY CAL = 33336.63017
BRIDGE VOLT = 6
BRIDGE STA. = 9.875

100K CE = 29126.5 ✓

ORD (IN/LB)	OUTPUT (MV)	LINEARITY (%UC1)
0.0	-0.290	0.0
4187.2	0.320	0.1
8374.4	1.100	0.0
12561.6	1.820	0.0
16748.7	2.550	0.0
20935.9	3.360	0.0
25123.1	4.120	0.0
16748.7	2.550	0.0
8374.4	1.090	0.0
4187.2	0.290	0.2
0.0	-0.290	0.0

4.51

33423.2
26%

CHAN 4 TYPE PULL = BM, RED DATA
 BRIDGE TYPE = BM, RED ---(0(MV) OFFSET= -18746.8
 LAB-BR NUMBER = 11027A-02 UNITY CAL = 30625.45583
 BRIDGE VOLT = 6
 BRIDGE STA. = 9.875
 100K CE = 26757.8 ✓

LAB# 11027A 01

LOAD (LB)	OUTPUT (MV)	LINEARITY (%UC1)
0.0	3.690	0.0
4187.2	4.470	0.1
8374.4	5.320	0.0
12561.6	6.190	0.0
16748.7	6.980	-0.0
20935.9	7.740	0.0
25123.1	8.620	-0.0
16748.7	6.940	0.0
8374.4	5.320	0.0
4187.2	4.470	0.1
0.0	3.690	0.0

4.93 ORIGINAL PAGE IS OF POOR QUALITY

CHAN 6 TYPE PULL = BM, GREEN POS DATA
 BRIDGE TYPE = BM, GREEN ---(0(MV) OFFSET= 5076.0
 LAB-BR NUMBER = 11027A-06 UNITY CAL = 33752.699
 BRIDGE VOLT = 6
 BRIDGE STA. = 9.875
 100K CE = 29499.1 ✓

LOAD (IN/LB)	OUTPUT (MV)	LINEARITY (%UC1)
-0.0	1.040	0.0
4187.2	1.750	0.1
8374.4	2.500	0.0
12561.6	3.210	0.1
16748.7	3.980	0.0
20935.9	4.740	0.0
25123.1	5.490	0.0
16748.7	3.990	0.0
8374.4	2.500	-0.0
4187.2	1.710	0.2
0.0	1.030	0.0

B194 33873.9 35%

CHAN 5 TYPE PULL = BM, WHITE POS DATA
 BRIDGE TYPE = BM, WHITE ---(0(MV) OFFSET= 2309.3
 LAB-BR NUMBER = 11027A-04 UNITY CAL = 33336.6301
 BRIDGE VOLT = 6
 BRIDGE STA. = 9.875
 100K CE = 29126.5 ✓

LOAD (IN/LB)	OUTPUT (MV)	LINEARITY (%UC1)
0.0	-0.320	0.0
4187.2	0.320	0.1
8374.4	1.100	0.0
12561.6	1.820	0.0
16748.7	2.580	0.0
20935.9	3.360	0.0
25123.1	4.120	0.0
16748.7	2.580	0.0
8374.4	1.090	0.0
4187.2	0.290	0.2
0.0	-0.300	0.0

B192-1 32423.2 26%

Rt. Wing Chord BENDING

B603
LAB. #11092A-11

STA. 22.5

ORIGINAL PAGE IS
OF POOR QUALITY

CHAN 1 TYPE PULL =CHORD DATA
BRIDGE TYPE=CHORD (CMV) OFFSET = -32565.1
LAB-BR NUMBER=11092A-11 UNITY = 577763.4167
BRIDGE VOLT= 10
BRIDGE STA.= 22

100K CE= 504797.7

LOAD (IN/LBS)	OUTPUT (MV)	LINEARITY (%UC1)
0.0	1.680	0.0
216998.3	5.360	0.0
173598.5	4.630	0.0
130198.7	3.830	0.0
86798.9	3.110	0.0
43399.7	2.330	0.0
21654.0	1.920	0.1
0.0	1.680	0.0

CHAN 1 TYPE PULL =CHORD DATA
BRIDGE TYPE=CHORD (CMV) OFFSET = -119704.0
LAB-BR NUMBER=11092A-11 UNITY CAL= 590775.4131
BRIDGE VOLT= 10
BRIDGE STA.= 22

100K CE= 518166.4

LOAD (IN/LBS)	OUTPUT (MV)	LINEARITY (%UC1)
0.0	2.080	0.0
21094.0	2.340	0.1
43399.7	2.730	0.0
65098.0	3.120	0.0
86798.9	3.510	0.0
108498.2	3.880	0.0
130198.7	4.240	0.0
151898.0	4.600	0.0
173598.5	4.990	0.0
195298.0	5.330	0.0
216998.3	5.670	0.0

217.033
3.7/10

OK
R33
8-1-76

B603

OK

B600
LAB # 11092A-12

RT. WING BEAM BENDING

STA. 22.5

ORIGINAL PAGE IS
OF POOR QUALITY

CHAN 3 TYPE PULL = BEAM DATA
 BRIDGE TYPE = BEAM O(MV) OFFSET = 717297.4
 LAB-BR NUMBER = 11092A-12 UNITY CAL = 266069.7430
 BRIDGE VOLT = 6
 BRIDGE STA. = 48.175

100K CE = 232467.8

LOAD (IN/LB)	OUTPUT (MV)	LINEARITY (%UC1)
1488250.0	16.530	0.0
1190600.0	11.110	0.0
892950.0	4.520	0.0
595300.0	-2.350	0.0
297650.0	-9.440	0.0
148825.0	-13.190	0.0
0.0	-16.360	0.0

*45 23 =
30 = 16*

CHAN 3 TYPE PULL = BEAM DATA
 BRIDGE TYPE = BEAM O(MV) OFFSET = 735075.5
 LAB-BR NUMBER = 11092A-12 UNITY CAL = 262075.95
 BRIDGE VOLT = 6
 BRIDGE STA. = 48.175

100K CE = 229675.5

LOAD (IN/LB)	OUTPUT (MV)	LINEARITY (%UC1)
0.0	-16.650	0.0
148825.0	-13.690	0.0
297650.0	-10.170	0.0
446475.0	-6.600	0.0
595300.0	-3.170	0.0
744125.0	0.430	-0.0
892950.0	3.730	-0.0
1041775.0	7.000	0.0
1190600.0	10.000	0.0
1339425.0	13.490	0.0
1488250.0	16.900	0.0

OK
9-16

B600

Rt. WING TORSION
STA. 22.5

ORIGINAL PAGE IS
OF POOR QUALITY

CH-11 4 TYPE FULL = TORSION Pos DATA
BRIDGE TYPE = TORSION OHM/OFFSET = -75148.8
LADDER NUMBER = 11092A-13 UNITY ORL = -1157301.005
BRIDGE VOLTS = 6
BRIDGE STR. = 49.175
100% CE = -1343.63.8

LOADING LB	OUTPUT MV	LINEARITY (NOISE)
475221.8	-1.708	0.0
333434.8	-2.308	0.0
287024.5	-1.840	0.0
191581.9	-1.350	0.0
95705.4	-0.658	0.0
47897.7	-0.328	-1.0
0.0	-0.130	0.0

SIGN REVERSED

CH 4 TYPE FULL = TORSION Pos DATA
BRIDGE TYPE = TORSION OHM/OFFSET = -65135.0
LADDER NUMBER = 11092A-13 UNITY ORL = -1190178.005
BRIDGE VOLTS = 6
BRIDGE STR. = 49.175
100% CE = -1032751.9

LOADING LB	OUTPUT MV	LINEARITY (NOISE)
0.0	-0.347	0.0
47897.7	-0.678	0.0
95705.4	-0.700	0.0
143513.1	-1.017	0.0
191320.8	-1.331	0.0
239128.5	-1.670	0.0
286936.2	-1.992	-0.5
334743.9	-2.308	0.0
382551.6	-2.621	0.0
430359.3	-2.934	0.0
478167.0	-3.250	0.0

SIGN REVERSED

OK
M606

M606

ENTER CHANNEL # PROJECT=2301^{LH} LAT. ACTUATOR FLIGHT TEST
 PROJECT=301^{LH} LAT. ACTUATOR FLIGHT TEST
 DATE=12-15-76
 DATE=12-15-76
 PART TITLE=2301^{R/H} LAT ACTUATOR
 PART TITLE=301^{R/H} LAT ACTUATOR
 PART NUMBER=241002590
 PART NUMBER=41002590
 SERIAL NUMBER=001
 SERIAL NUMBER=001
 BRIDGE VOLTAGE =26.0

F188
 LAB#11366A-01

ORIGINAL PAGE IS
 OF POOR QUALITY

CH # BRIDGE TYPE LAB-EP # BR.V BR. STA
 INPUT CHAN #01
 CH 1 : BRIDGE TYPE=AXIAL Pos
 CH 1 : BRIDGE STATION=00
 CH 1 LAB-EP NUMBER=0011366A-01
 1 AXIAL 11366A-01 6 0
 INPUT CHAN #ENTER CHANNEL # 0BY
 ENTER CHANNEL # 01
 1 4.6

ENTER CHANNEL # LOAD NUMBER =00
 PRESS THE "PRT ALL" KEY
 TYPE FULL/AXIAL
 IS THIS A COUPLE?NO
 WILL LOAD BE READ FROM LOAD CELL?NO
 LOAD STATION=00
 INPUT LOAD UNITS=LBS
 # OF LOADS =09
 INPUT JACK FACTOR=1.5

LOAD	1	2	3	4	5	6
LOAD 1	=00					
LOAD 2	=0500					
LOAD 3	=01200					
LOAD 4	=01800					
LOAD 5	=02400					
LOAD 6	=03000					
CHAN	0.0	400.0	800.0	1200.0	1600.0	2000.0
	LBS	LBS	LBS	LBS	LBS	LBS
1	4.6	5.1	5.6	6.1	6.6	7.0

LOAD	7	8	9
LOAD 7	=01800		
LOAD 8	=02600		
LOAD 9	=00		
CHAN	1200.0	400.0	0.0
	LBS	LBS	LBS
1	6.1	5.1	4.6

SELECT NEXT TASK

BY
 ERROR 6
 LOAD NUMBER =0 TYPE FULL =AXIAL Pos DATA
 CHAN 1 BRIDGE TYPE=AXIAL (CMV) OFFSET= -3819.4
 LAB-EP NUMBER=11366A-01 UNITY CAL= 4957.67992
 BRIDGE VOLT= 6
 BRIDGE STA.= 0

100K CE= 4331.6

LOAD(LBS)	OUTPUT(MV)	LINEARITY
0.0	4.600	OK
400.0	5.120	OK
800.0	5.600	OK
1200.0	6.080	OK
1600.0	6.570	OK
2000.0	7.020	OK
1200.0	6.080	OK
400.0	5.110	OK
0.0	4.620	OK

+2.42 F188

SELECT NEXT TASK

ENTER CHANNEL # 01
 1 4.63

3015A LAT. ACTUATOR FLIGHT TEST

2-15-76

TITLE=301 LATERAL ACTUATOR

PART NUMBER=41002120

SERIAL NUMBER=001

CH # BRIDGE TYPE

LAB-BR #
11367A-01

BR.V
6

BR.STA
0

LOAD NUMBER = 00

PRESS THE 'PRT ALL' KEY

TYPE PULL=AXIAL

IS THIS A COUPLE?NO

WILL LOAD BE READ FROM LOAD CELL?NO

LOAD STATION=00

INPUT LOAD UNITS=?LBS

OF LOADS = 00

INPUT JACK FACTOR?1.5

ORIGINAL PAGE IS
OF POOR QUALITY

LOAD	1	2	3	4	5	6
LOAD 1	=00					
LOAD 2	=0000					
LOAD 3	=01200					
LOAD 4	=01800					
LOAD 5	=02400					
LOAD 6	=03000					
CHAN	0.0	400.0	800.0	1200.0	1600.0	2000.0
	LBS	LBS	LBS	LBS	LBS	LBS
1	3.7	4.1	4.5	4.9	5.3	5.8

LOAD 7	=01800					
LOAD 8	=0600					
LOAD 9	=00					
CHAN	1200.0	400.0	0.0	0.0	0.0	0.0
	LBS	LBS	LBS	LBS	LBS	LBS
1	4.9	4.1	3.7	0.0	0.0	0.0

SELECT NEXT TASK

CHAN 1 TYPE PULL = AXIAL *Pos*
 BRIDGE TYPE=AXIAL DATA
 LAB-BR NUMBER=11367A-01 0(MV) OFFSET= -3510.3
 BRIDGE VOLT= 6 UNITY CAL= 5748.083149
 BRIDGE STA.= 0

100K CE= 5022.2

LOAD(LBS)	OUTPUT(MV)	LINEARITY
0.0	3.670	OK
400.0	4.110	OK
800.0	4.530	OK
1200.0	4.930	OK
1600.0	5.330	OK
2000.0	5.760	OK
1200.0	4.890	OK
400.0	4.050	OK
0.0	3.660	OK

2.09

F163

SELECT NEXT TASK

ENTER CHANNEL # 00V
 ENTER CHANNEL # 01
 1 3.65

ENTER CHANNEL # ?1
1 5.26

What does *linearity* or *mean*
within 3% **F330**
LAB#11378A-01

ENTER CHANNEL # PROJECT=2301
PROJECT=301 *TUBE ASSY (CYCLIC) F/A FLIGHT TEST*
DATE=712-15-76
DATE=12-15-76
PART TITLE=2301
PART TITLE=301
PART NUMBER=2301-301-053-49
PART NUMBER=301-301-053-49
SERIAL NUMBER=H A
SERIAL NUMBER=N/A
BRIDGE VOLTAGE =96.0

ORIGINAL PAGE IS
OF FOUR QUALITY

CH # BRIDGE TYPE LAB-BR # BR.V BR.STA
INPUT CHAN #?1
CH 1 :BRIDGE TYPE=AXIAL
CH 1 :BRIDGE STATION=00
CH 1 LAB-BR NUMBER=211378A-01
1 AXIAL 11378A-01 6 0
INPUT CHAN #?ENTER CHANNEL #
ENTER CHANNEL # ?1
1 4.29

ENTER CHANNEL # ?LOAD NUMBER =?0
PRESS THE 'PRT ALL' KEY
TYPE PULL/AXIAL
IS THIS A COUPLE?NO
WILL LOAD BE READ FROM LOAD CELL?NO
LOAD STATION=00
INPUT LOAD UNITS=LBS
OF LOADS =09
INPUT JACK FACTOR=1.5

LOAD	1	2	3	4	5	6
LOAD 1	=00					
LOAD 2	=2275					
LOAD 3	=2550					
LOAD 4	=2825					
LOAD 5	=21100					
LOAD 6	=21375					
CHAN	0.0	183.3	366.7	550.0	733.3	916.7
	LBS	LBS	LBS	LBS	LBS	LBS
1	4.3	5.2	6.2	7.2	8.2	9.3

LOAD 7	=2825					
LOAD 8	=2275					
LOAD 9	=20					
CHAN	550.0	183.3	0.0	0.0	0.0	0.0
	LBS	LBS	LBS	LBS	LBS	LBS
1	7.2	5.2	4.3	0.0	0.0	0.0

SELECT NEXT TASK

CHAN 1 TYPE PULL =AXIAL *Pos* DATA
BRIDGE TYPE=AXIAL (CMV) OFFSET= -781.4
LAB-BR NUMBER=11378A-01 UNITY CAL= 1105.403070
BRIDGE VOLT= 6
BRIDGE STA. = 0

LOAD(LBS)	OUTPUT(CMV)	LINEARITY
0.0	4.270	OK
183.3	5.180	OK
366.7	6.240	OK
550.0	7.220	OK
733.3	8.200	OK
916.7	9.250	OK
550.0	7.200	OK
183.3	5.200	OK
0.0	4.290	OK

100K CE= 965.8

4.98
F330

SELECT NEXT TASK
BY
ERPOP 6
ENTER CHANNEL # ?

PROJECT=9901 FLIGHT TEST
 PROJECT=9901 FLIGHT TEST
 DATE=93-3-77
 DATE=3-3-77
 PART TITLE=MAIN LANDING GEAR ACT L/H
 PART TITLE=MAIN LANDING GEAR ACT L/H
 PART NUMBER=9349-100-1
 I NUMBER=349-100-1

F 313 LAB# 11493A-0

SERIAL NUMBER=PH-101
 SERIAL NUMBER=H-101
 BRIDGE VOLTAGE =96.0

CH # BRIDGE TYPE LAB-BF # BF.V BF.STA
 INPUT CHAN #91
 CH 1 : BRIDGE TYPE=ANIAL
 CH 1 : BRIDGE STATION=90
 CH 1 LAB-BF NUMBER=9911493A-01
 1 ANIAL 11493A-01 E 0

INPUT CHAN #ENTER CHANNEL # 98V
 ENTER CHANNEL # LOAD NUMBER =90
 PRESS THE 'F01 ALL' KEY

TYPE FULLANIAL
 IS THIS A COUPLEAND
 WILL LOAD BE READ FROM LOAD CELL?YES
 LOAD CELL'S UNIT-CAL=#12291
 INPUT 2ND LOAD CELL'S UNIT-CAL#0
 LOAD STATION=#0
 INPUT LOAD UNITS=#LBS
 # OF LOADS =97
 IS THE LOAD CONDITION ZERO?
 ?YES

ORIGINAL PAGE IS
 OF PCR QUALITY

LOAD 1	= -20.485	LBS91				
LOAD 2	= 20.485	LBS92				
LOAD 3	= 2376.77	LBS93				
LOAD 4	= 4875.4	LBS94				
LOAD 5	= 7333.6	LBS95				
LOAD 6	= 9914.7	LBS96				
CHAN	0.0	2376.8	4875.4	7333.6	9914.7	12372.9
	LBS	LBS	LBS	LBS	LBS	LBS
1	3.3	4.2	5.0	5.9	6.6	7.5

LOAD 7	= 12372.9	LBS97				
CHAN	81.9	0.0	244.1	275.5	305.2	1.8
	LBS	LBS	LBS	LBS	LBS	LBS
1	3.4	4.5	2.2	2.2	2.1	2.3

SELECT NEXT TAP

CHAN 1 TYPE FULL =ANIAL
 BRIDGE TYPE=ANIAL
 LAB-BF NUMBER=11493A-01
 BRIDGE VOLT= E
 BRIDGE STA.= 0

DATA
 0 MV OFFSET= -10061.3 uV
 UNITY CAL= 19832.57523

100K OE= 15755.2

LOAD(LBS)	OUTPUT MV	LINEARITY
0.0	3.330	OK
2376.8	4.150	OK
4875.4	4.980	OK
7333.6	5.810	OK
9914.7	6.620	OK
12372.9	7.450	OK
81.9	3.250	OK

4.13
 (4.1189)

LT.

$$N.C. = \left[\frac{(12372.9 - (-10061.3)) \times 6.0}{7.96} \right] = 18043.6$$

PROJECT=311 FLIGHT 161
 DATE=3-3-77
 PART TITLE=MAIN LAMP GEN. AUT. R-11
 PART NUMBER=310-100-2
 SERIAL NUMBER=H-101

F303 LAB# 11494A-

CH # BRIDGE TYPE LAB-BR # BR.V BR.STA
 1 AXIAL 11494A-01 6 9

AL
 IS THIS A COUPLE? NO
 WILL LOAD BE READ FROM LOAD CELL? YES
 LOAD CELL'S UNIT-CAL=12291
 INPUT 2ND LOAD CELL'S UNIT-CAL=0
 LOAD STATION=00
 INPUT LOAD UNITS=?LBS
 # OF LOADS =27
 IS THE LOAD CONDITION ZERO? YES

ORIGINAL PAGE IS
 OF POOR QUALITY

LOAD 1 = 28.485 LBS91
 LOAD 2 = 0 LBS92
 LOAD 3 = 2273.23 LBS93
 LOAD 4 = 4814.0 LBS94
 LOAD 5 = 7272.2 LBS95
 LOAD 6 = 9853.3 LBS96
 LOAD 7 = 12311.4 LBS97
 LOAD 8 = 81.9 LBS98
 LOAD 9 = 0.0 LBS99
 LOAD 10 = 244.1 LBS00
 LOAD 11 = 375.5 LBS01
 LOAD 12 = 305.2 LBS02
 LOAD 13 = 1.8 LBS03
 LOAD 14 = 3.0 LBS04
 LOAD 15 = 4.5 LBS05
 LOAD 16 = 2.2 LBS06
 LOAD 17 = 2.2 LBS07
 LOAD 18 = 2.1 LBS08
 LOAD 19 = 2.3 LBS09

CHAN	-61.5 LBS	2273.2 LBS	4814.0 LBS	7272.2 LBS	9853.3 LBS	12311.4 LBS
1	3.1	3.6	4.6	5.4	6.3	7.9

CHAN	-81.9 LBS	0.0 LBS	244.1 LBS	375.5 LBS	305.2 LBS	1.8 LBS
1	3.0	4.5	2.2	2.2	2.1	2.3

SELECT NEXT TASK

CHAN 1 TYPE FULL =AXIAL DATA
 BRIDGE TYPE=AXIAL Q.M.V. OFFSET= -9571.2
 LAB-BR NUMBER=11494A-01 UNITY CAL= 18626.99375
 BRIDGE VOLT= 6
 BRIDGE STA.= 0

JIP
3/11/77

100% CE= 16274.6

LOAD (LBS)	OUTPUT (MV)	LINEARITY
-61.5	3.876	OK
2273.2	3.828	OK
4814.0	4.649	OK
7272.2	5.459	OK
9853.3	6.260	OK
12311.4	7.040	OK
-81.9	3.840	OK

3.97

RT

(3.9657)

CALIBRATION SHEET
 LAB ENGINEER: DARDEN
 DATA ANALYST: MARY LOU WRIGHT
 LAB TECHNICIAN: GOSCINSKI

LAB NO. : 00000000
 CAL DATE: 11812
 SERIAL NO: ~~11072~~
 P/N: PL722TC150-350
 10-14-76

ORIGINAL PAGE IS
 OF POOR QUALITY

PROJECT: GENERAL USE

11812

P 324^{OK}

PART NAME: PRESSURE TRANSDUCER

CHANNEL: 01 - STATHAM 150 P.S.I.

CALIBRATE EQUIVALENT: 100K = 34078 PSI
 UNIT CAL = 36998 PSI /MV/V

BRIDGE RES. : 329.70
 GAGE FACTOR : N/A
 BRIDGE VOLTS : 5.02
 PRE CAL. : 4.37
 POST CAL. : 4.40

JACK FAC. : NONE
 LEVER ARM : 000.000 IN.

CAL RES. : 100

LOADS-PSI	LOADS-PSI	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	PSI
0	0	0.000	0.023	178
10.00	10000.00	1.290	-0.020	-150
20.00	20000.00	2.590	-0.006	-50
30.00	30000.00	3.890	0.007	53
40.00	40000.00	5.190	0.020	156
50.00	50000.00	6.480	0.023	182
60.00	60000.00	7.780	0.037	285
70.00	70000.00	9.070	0.040	310
80.00	80000.00	10.360	0.043	335
90.00	90000.00	11.640	0.056	283
100.00	100000.00	12.920	0.030	231
110.00	110000.00	14.200	0.023	178
120.00	120000.00	15.480	0.016	126
140.00	140000.00	18.920	-0.017	-134
150.00	150000.00	19.280	-0.044	-342
140.00	140000.00	18.010	-0.027	-212
120.00	120000.00	15.450	-0.014	-107
100.00	100000.00	12.880	-0.010	-80
80.00	80000.00	10.310	-0.017	-121
60.00	60000.00	7.720	-0.023	-182
40.00	40000.00	5.130	-0.040	-310
20.00	20000.00	2.540	-0.056	-433

CALIBRATION SHEET
 LAB ENGINEER: DARDEN
 DATA ANALYST: MARY LOU WRIGHT
 LAB TECHNICIAN: GOSCINSKI

LAB NO. : 00000000
 CAL DATE:
 SERIAL NO: 11813
 P/N: PL722TC150-350
 10-14-76

ORIGINAL PAGE IS
 OF POOR QUALITY,

PROJECT: GENERAL USE

P 326 OK

PART NAME: PRESSURE TRANSDUCER

CHANNEL: 01 - STATHAM 150 P.S.I.

CALIBRATE EQUIVALENT: 100K = 42801 PSI
 UNIT CAL = 40755 PSI /MV/V

BRIDGE RES. : 330.00
 GAGE FACTOR : N/A
 BRIDGE VOLT. : 5.02
 PRE CAL. : 5.25
 POST CAL. : 5.29

JACK FAC. : NONE
 LEVER ARM : 000.000 IN.
 CAL RES. : 100

LOADS-PSI	LOADS-PSI	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	PSI
0	0	0.000	-0.013	-100
10.00	10000.00	1.220	0.002	17
20.00	20000.00	2.450	0.001	6
30.00	30000.00	3.680	-0.000	-4
40.00	40000.00	4.920	0.008	67
50.00	50000.00	6.150	0.007	57
60.00	60000.00	7.400	0.026	209
70.00	70000.00	8.630	0.024	199
80.00	80000.00	9.860	0.023	188
90.00	90000.00	11.090	0.022	178
100.00	100000.00	12.320	0.021	168
110.00	110000.00	13.560	0.029	233
120.00	120000.00	14.780	0.018	147
130.00	130000.00	16.000	0.007	55
140.00	140000.00	17.210	-0.014	-117
150.00	150000.00	18.430	-0.026	-209
141.00	140000.00	17.200	-0.024	-199
120.00	120000.00	14.750	-0.012	-97
101.00	100000.00	12.290	-0.009	-76
80.00	80000.00	9.820	-0.017	-137
60.00	60000.00	7.350	-0.024	-197
40.00	40000.00	4.890	-0.022	-177
20.00	20000.00	2.410	-0.039	-315

CALIBRATION SHEET
LAB ENGINEER: GARDEN
DATA ANALYST: LINDA
LAB TECHNICIAN: T. GOSCINSKI

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : NONE
CAL DATE: 4-18-76
SERIAL NO: 11814
P/N: PL722TC-150-350

10-14-76

PROJECT: GENERAL USE

P 323

PART NAME: PRESSURE TRANSDUCER
CHANNEL: 01 - STATHAM 0-150 P.S.I.D.

CALIBRATE EQUIVALENT: 100K = 38148 PSI
UNIT CAL = 39194 PSI /MV/V

BRIDGE RES. : 344.10
GAGE FACTOR : N/A
BRIDGE VOLT. : 5.02
PRE CAL. : 4.95
POST CAL. : 4.92

JACK FAC. : NONE
LEVER ARM : 300.000 IN.
CAL RES. : 100

LOADS-PSI	LOADS-PSI	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	PSI
0	0	0.000	-0.108	-1075
10.00	10000.00	1.220	0.077	602
20.00	20000.00	2.470	0.046	353
30.00	30000.00	3.720	0.026	203
40.00	40000.00	5.000	0.015	150
50.00	50000.00	6.250	0.015	116
60.00	60000.00	7.560	0.014	112
70.00	70000.00	8.850	0.024	155
80.00	80000.00	10.130	0.023	151
90.00	90000.00	11.420	0.033	255
100.00	100000.00	12.700	0.052	250
110.00	110000.00	13.950	0.052	246
120.00	120000.00	15.270	0.041	320
130.00	130000.00	16.540	0.030	287
140.00	140000.00	17.810	0.020	155
150.00	150000.00	19.050	0.000	72
140.00	140000.00	17.760	-0.010	-79
130.00	130000.00	15.700	-0.029	-305
120.00	120000.00	12.400	-0.075	-609
110.00	110000.00	10.020	-0.057	-677
100.00	100000.00	7.450	-0.018	-747
90.00	90000.00	6.000	-0.015	-661
80.00	80000.00	2.300	-0.044	-340

CALIBRATION SHEET
LAB ENGINEER: DARDEN
DATA ANALYST: MARY LOU WRIGHT
LAB TECHNICIAN: GOSCINSKI

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : 00000000
CAL DATE:
SERIAL NO: 11815
P/N: PLT22TC150-35C
10-14-76

PROJECT: GENERAL USE

P 325

PART NAME: PRESSURE TRANSDUCER
CHANNEL: 01 - STATHAN 150 P.S.I.

CALIBRATE EQUIVALENT: 100K = 33298 PSI
UNIT CAL = 39116 PSI /MV/V

BRIDGE RES. : 334.50
GAGE FACTOR : N/A
BRIDGE VOLT. : 5.02
PRE CAL. : 4.24
POST CAL. : 4.30

JACK FAC. : NONE
LEVER ARM : 600.000 IN.
CAL RES. : 100

LOADS-PSI	LOADS-PSI	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	PSI
0	0	0.000	0.009	70
10.00	10000.00	1.290	-0.001	-10
20.00	20000.00	2.580	0.006	49
30.00	30000.00	3.870	0.014	109
40.00	40000.00	5.160	0.022	169
50.00	50000.00	6.450	0.029	228
60.00	60000.00	7.740	0.037	288
70.00	70000.00	9.030	0.045	348
80.00	80000.00	10.320	0.042	300
90.00	90000.00	11.610	0.040	311
100.00	100000.00	12.900	0.038	292
110.00	110000.00	14.190	0.035	275
120.00	120000.00	15.480	0.023	179
130.00	130000.00	16.770	0.011	62
140.00	140000.00	17.960	-0.012	-92
150.00	150000.00	19.210	-0.034	-266
140.00	140000.00	17.960	-0.032	-248
120.00	120000.00	15.480	-0.027	-211
100.00	100000.00	12.900	-0.032	-253
80.00	80000.00	10.320	-0.033	-294
60.00	60000.00	7.740	-0.043	-335
40.00	40000.00	5.160	-0.058	-401
20.00	20000.00	2.580	-0.064	-497

CALIBRATION SHEET
LAB ENGINEER: GARDEN
DATA ANALYST: LINDA
LAB TECHNICIAN: T. GOSCINSKI

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : NONE
CAL DATE: ~~5-16-75~~
SERIAL NO: 11520
P/N: PL722TC-1

10-14-76

D178

PROJECT: GENERAL USE

PART NAME: PRESSURE TRANSDUCER
CHANNEL: 01 - STATHAM 0-250 P.S.I.D.

CALIBRATE EQUIVALENT: 100K = 1241.068 PSI
UNIT CAL = 1303966 PSI /MV/V

BRIDGE RES. : 320.40
GAGE FACTOR : N/A
BRIDGE VOLT. : 5.00
PRE CAL. : 4.78
POST CAL. : 4.79

JACK FAC. : NONE
LEVER ARM : 1000.000 IN.
CAL RES. : 100

LOADS-PSI	LOADS-PSI	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	PSI
0	0	0.000	0.000	10206
500.00	500000.00	1.980	-0.002	-525
1000.00	1000000.00	3.910	0.004	1040
1500.00	1500000.00	5.850	0.020	5265
2000.00	2000000.00	7.790	0.027	6291
2500.00	2500000.00	9.710	0.053	6516
3000.00	3000000.00	11.550	0.029	7543
3500.00	3500000.00	13.450	0.025	6559
4000.00	4000000.00	15.370	0.022	5596
4500.00	4500000.00	17.270	-0.002	-577
5000.00	5000000.00	19.200	-0.016	-4149
4000.00	4000000.00	15.410	-0.038	-6000
3000.00	3000000.00	11.570	-0.031	-3052
2000.00	2000000.00	7.720	-0.023	-6105
1000.00	1000000.00	3.860	-0.046	-11555

MAXIMUM CALIBRATION LOAD: 5000000 PSI

RMC PROGRAM FCCR33 - RUN DATE: 04-22-76

*RMC Files
Serial #1*

CALIBRATION SHEET
LAB ENGINEER: GARDEN
DATA ANALYST: LINDA
LAB TECHNICIAN: T. GUSCINSKY

ORIGINAL PAGE IS
OF POOR QUALITY

LAB NO. : NONE
CAL DATE: ~~4-22-75~~
SERIAL NO: 11821
P/N: PL72TC-1
10.14.76

PROJECT: GENERAL USE

P153

PART NAME: PRESSURE TRANSDUCER
CHANNEL: 01 - STATHAM 0-150 P.S.I.D.

CALIBRATION EQUIVALENT: 100K = 1251462 PSI
UNIT CAL = 1291603 PSI /MV/V

BRIDGE RES. : 322.10
GAGE FACTOR : 17.1
BRIDGE VOLTS : 5.602
PRE CAL. : 4.7
POST CAL. : 4.98

JACK FAC. : NONE
LEVER ARM : 1000.000 IN.
CAL RES. : 100

LOADS-PSI	LOADS-PSI	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	MEAN LINE PSI
0	0	0.000	0.000	25155
500.00	500.00	2.010	-0.008	-7601
1000.00	1000.00	3.990	-0.002	-523
1500.00	1500.00	5.950	0.026	6044
2000.00	2000.00	7.910	0.044	11237
2500.00	2500.00	9.860	0.051	13256
3000.00	3000.00	11.810	0.059	15274
3500.00	3500.00	13.770	0.037	9569
4000.00	4000.00	15.730	0.015	3355
4500.00	4500.00	17.690	-0.027	-6982
5000.00	5000.00	19.650	-0.009	-10120
4000.00	4000.00	15.600	-0.035	-6000
3000.00	3000.00	11.550	-0.011	-1717
2000.00	2000.00	7.500	-0.020	-6784
1000.00	1000.00	3.450	-0.052	-15970

MAXIMUM CALIBRATION LOAD: 1000000 PSI

BNC PROGRAM FCCR33 - RUN DATE: 04-22-75

Handwritten notes:
H...
S...

CALIBRATION SHEET
 LAB ENGINEER: GARDEN
 DATA ANALYST: LINDA
 LAB TECHNICIAN: T. GOSCINSKI

ORIGINAL PAGE IS
 OF POOR QUALITY

LAB NO. : NONE
 CAL DATE: 4-18-75
 SERIAL NO: ~~14022~~
 P/N: PL722TC-1

10-14-76
 11822

PROJECT: GENERAL USE

PART NAME: PRESSURE TRANSDUCER
 CHANNEL: 01 - STATHAM 0-⁵⁰⁰⁰150 P.S.I.D.

P149

 CALIBRATE EQUIVALENT: 100K = 1191890 PSI
 UNIT CAL = 1307041 PSI /MV/V

BRIDGE RES. : 321.90
 GAIN FACTOR : N/A
 BRIDGE VOLTY.: 5.02
 PRE CAL. : 4.55
 POST CAL. : 4.60

JACK FAC. : NONE
 LEVER ARM : 800.000 IN.
 CAL RES. : 100

LOADS-PSI	LOADS-PSI	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	MEAN LINE PSI
0	0	0.000	0.134	34957
500.00	500000.00	2.000	-0.053	-13411
1000.00	1000000.00	3.970	-0.033	-602
1500.00	1500000.00	5.940	0.048	17546
2000.00	2000000.00	7.880	0.009	17901
2500.00	2500000.00	9.820	0.050	23375
3000.00	3000000.00	11.730	0.051	20973
3500.00	3500000.00	13.660	0.091	23782
4000.00	4000000.00	15.530	0.042	10959
4500.00	4500000.00	17.390	-0.017	-4469
5000.00	5000000.00	19.240	-0.036	-2204
5500.00	5000000.00	19.400	-0.063	-22909
6000.00	5000000.00	11.630	-0.019	-5070
6500.00	5000000.00	7.750	-0.001	-10901
7000.00	1000000.00	3.880	-0.032	-24129

MAXIMUM CALIBRATION LOAD: 5000,000 PSI

BHC PROGRAM FCCR03 - RUN DATE: 04-22-75

Handwritten:
 11/10 P. 1029
 S. 11/10 R. 3

CALIBRATION SHEET
 LAB ENGINEER: DARDEN
 DATA ANALYST: MARY LOU WRIGHT
 LAB TECHNICIAN: GOSCINSKI

ORIGINAL PAGE IS
 OF POOR QUALITY

LAB NO. : 000000000
 CAL DATE:
 SERIAL NO: 15934
 P/N: PM6TC-2.5-350
 13-14-76

PS04

PROJECT: GENERAL USE

PART NAME: PRESSURE TRANSDUCER
 CHANNEL: 01 - STATHAM 2.5 P.S.I.D.

STATIC PRESS
 INSIDE MANIFOLD

CALIBRATE EQUIVALENT: 100K = .498 PSI
 UNIT CAL = .565 PSI /MV/V

PHASE RES. : 353.40
 GAGE FACTOR : N/A
 BRIDGE VOLT. : 5.04
 PRE CAL. : 4.44
 POST CAL. : 4.44

JACK FAC. : NONE
 LEVER ARM : 1000.000 IN.

CAL RES. : 100

LOADS-PSI	LOADS-PSI	OUTPUT-MV	VARIATION FROM MILLIVOLTS	FROM LINE PSI
0	0	0.000	-0.010	-2
0.50	500.00	4.430	-0.012	-1
1.00	1000.00	8.870	-0.050	-3
1.50	1500.00	13.220	-0.057	-4
2.00	2000.00	17.700	-0.055	-6
2.50	2500.00	22.200	-0.073	-6
2.00	2000.00	17.750	-0.065	-7
1.50	1500.00	13.310	-0.047	-5
1.00	1000.00	8.860	-0.040	-4
0.50	500.00	4.430	-0.012	-1
0.00	0.00	4.450	0.008	1
1.00	1000.00	8.910	0.010	1
1.50	1500.00	13.350	0.033	4
2.00	2000.00	17.870	0.055	6
2.50	2500.00	22.350	0.077	9
2.00	2000.00	17.880	0.065	7
1.50	1500.00	13.410	0.053	6
1.00	1000.00	8.940	0.040	5
0.50	500.00	4.470	0.028	3

OK

CALIBRATION SHEET
 LAB ENGINEER: DARDEN
 DATA ANALYST: MARY LOU WRIGHT
 LAB TECHNICIAN: GOSCINSKI

ORIGINAL PAGE IS
 OF POOR QUALITY

LAB NO. : 0000003000
 CAL DATE:
 SERIAL NO: 15935
 P/N: PM6TC-2.5-350

10-14-76

PS05

PROJECT: GENERAL USE

PART NAME: PRESSURE TRANSDUCER

CHANNEL: 01 - STATRAM 2.5 P.S.I.D.

CALIBRATE EQUIVALENT: 100K = .459 PSI
 UNIT CAL = .557 PSI /MV/V

BRIDGE RES. : 354.40
 GAGE FACTOR : N/A
 BRIDGE VOLT. : 5.04
 PRE CAL. : 4.43
 POST CAL. : 4.43

JACK FAC. : NONE
 LEVER ARM : 800.000 IN.

CAL RES. : 100

LOADS-PSI	LOADS-PSI	OUTPUT-MV	VARIATION FROM MEAN LINE MILLIVOLTS	PSI
0	0	0.000	-0.037	-4
0.50	500.00	4.480	-0.010	-1
1.00	1000.00	9.000	-0.017	-2
1.50	1500.00	13.500	-0.044	-5
2.00	2000.00	18.010	-0.061	-7
2.50	2500.00	22.520	-0.078	-9
2.00	2000.00	18.020	-0.051	-6
1.50	1500.00	13.510	-0.034	-4
1.00	1000.00	9.010	-0.007	-1
0.50	500.00	4.490	-0.000	0
0.50	500.00	4.490	-0.000	0
1.00	1000.00	9.000	0.013	1
1.50	1500.00	13.570	0.028	3
2.00	2000.00	18.120	0.049	5
2.50	2500.00	22.600	0.082	9
2.00	2000.00	18.130	0.059	6
1.50	1500.00	13.580	0.046	5
1.00	1000.00	9.000	0.003	4
0.50	500.00	4.490	-0.000	-0

Calibration Data Sheet

P002

Description <i>TORQUE DRIVER AIR SPEED</i>		Date Calibrated:
Model Type <i>542K-2</i>		<i>10-14-76</i>
Range <i>75 TO 350 KLAS</i>		Calibration Period:
Mfg. <i>ROSEMOUNT INC</i>		<i>6 M.</i>
Serial No. <i>10</i>		REP No. <i>11-01-01</i>
Lab No.	Cal. brated by: <i>T. GASCINI</i>	

Remarks: *D.M. RESPONSE BASED ON ERROR CLIPPED 542-2*

Q.M.	STD.	OUT PUT	OUT PUT	Q.M.	STD.	OUT PUT	OUT PUT
	KNOTS	KNOTS	VOLETS		KNOTS	INCH	INCH
<i>.841</i>	<i>75</i>	<i>1.523</i>	<i>—</i>	<i>9.632</i>	<i>250</i>	<i>3.20</i>	<i>11.25</i>
<i>.957</i>	<i>80</i>	<i>1.641</i>	<i>1.625</i>	<i>9.632</i>	<i>250</i>	<i>3.20</i>	<i>5.16</i>
<i>1.212</i>	<i>90</i>	<i>1.825</i>	<i>—</i>				
<i>1.529</i>	<i>100</i>	<i>2.029</i>	<i>2.026</i>				
<i>1.815</i>	<i>110</i>	<i>2.226</i>	<i>—</i>				
<i>2.163</i>	<i>120</i>	<i>2.422</i>	<i>2.420</i>				
<i>2.542</i>	<i>130</i>	<i>2.619</i>	<i>—</i>				
<i>2.873</i>	<i>140</i>	<i>2.816</i>	<i>2.815</i>				
<i>3.325</i>	<i>150</i>	<i>3.017</i>	<i>—</i>				
<i>3.868</i>	<i>160</i>	<i>3.214</i>	<i>3.208</i>				
<i>4.325</i>	<i>170</i>	<i>3.416</i>	<i>—</i>				
<i>4.912</i>	<i>180</i>	<i>3.603</i>	<i>3.603</i>				
<i>5.485</i>	<i>190</i>	<i>3.800</i>	<i>—</i>				
<i>6.071</i>	<i>200</i>	<i>3.999</i>	<i>3.999</i>				
<i>6.730</i>	<i>210</i>	<i>4.197</i>	<i>—</i>				
<i>7.403</i>	<i>220</i>	<i>4.395</i>	<i>4.395</i>				
<i>8.111</i>	<i>230</i>	<i>4.593</i>	<i>—</i>				
<i>8.854</i>	<i>240</i>	<i>4.791</i>	<i>4.791</i>				
<i>9.632</i>	<i>250</i>	<i>4.991</i>	<i>—</i>				

ORIGINAL PAGE IS OF POOR QUALITY

7862 5 1 Rev 665

Issue Date

18-14-76

To

APPROX

S/N

15797

1000
9
8
7
6
5
4
3
2

1000
9
8
7
6
5
4
3
2
10
9
8
7
6
5
4
3
2
1

ACCELEROMETER CALIBRATION

TYPE 1000 RANGE 100 DATE 5-3-75

EXCITATION (V) 6.00 NOMINAL SENS (S) 4.500 (mv/G)

RESISTANCE, A-C 1000 ohm, B-D 220 ohm, Tech. ---

2G INVERSION (REF ONLY)

+1 4.5 mv

-1 4.5 mv

AVG 4.5 (mv/G)

SHUNT CAL

100K C.E. = $\frac{1000 \text{ mv}}{S}$

100K C.E. = 1.123 G

UNITY CAL

U.C. = $\frac{V}{S}$

U.C. = 1.33 / G (mv/V)

PERCENTAGE DEVIATION FROM NOMINAL SENSITIVITY

A/C VERT
A.005

A.005

THE # OF FOUR QUALITY

FREQUENCY (HERTZ)

OK 1000

100

10

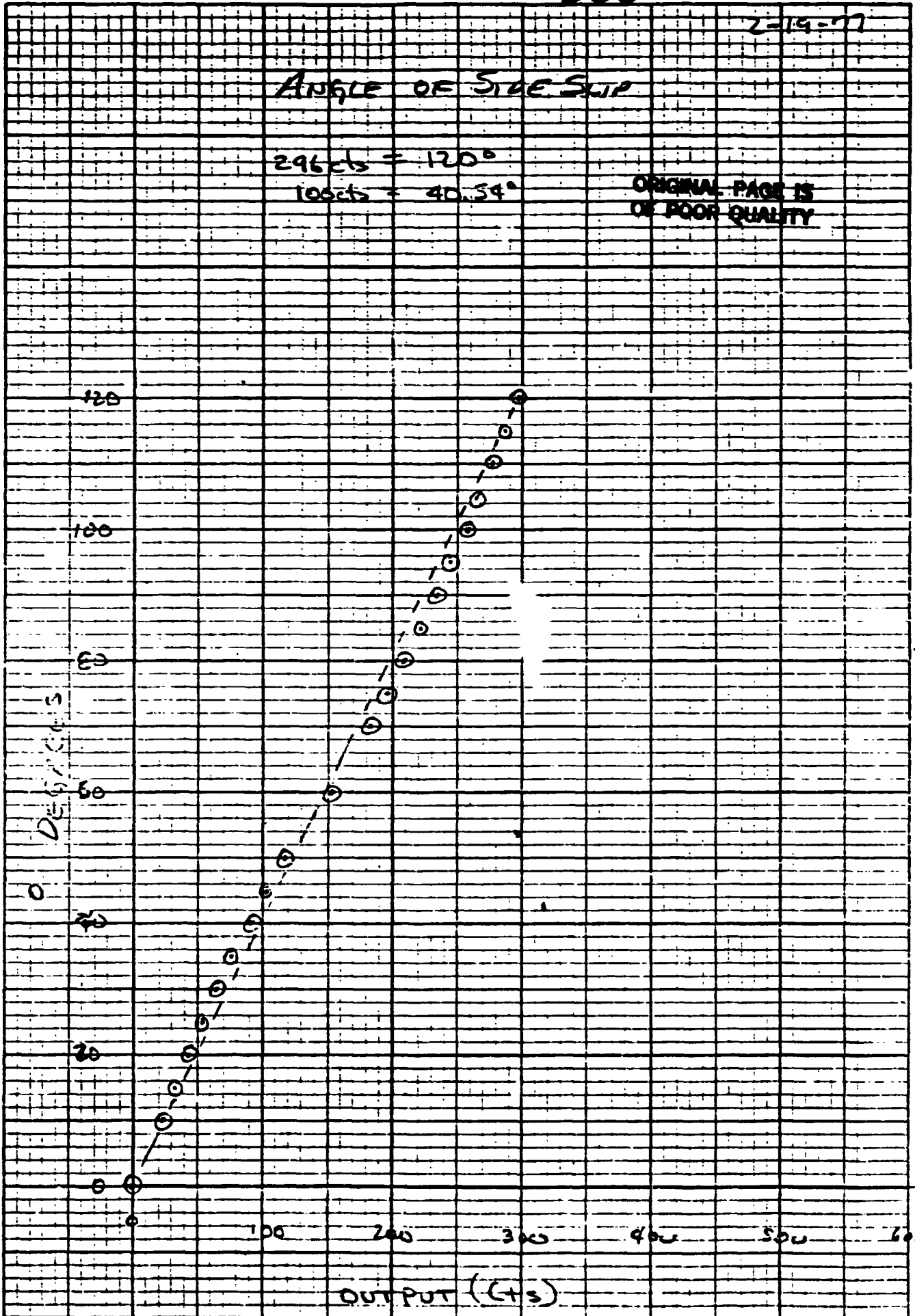
2-19-77

ANGLE OF SIDE SLIP

$$296 \text{ cts} = 120^\circ$$

$$105 \text{ cts} = 40.54^\circ$$

ORIGINAL PAGE IS OF POOR QUALITY



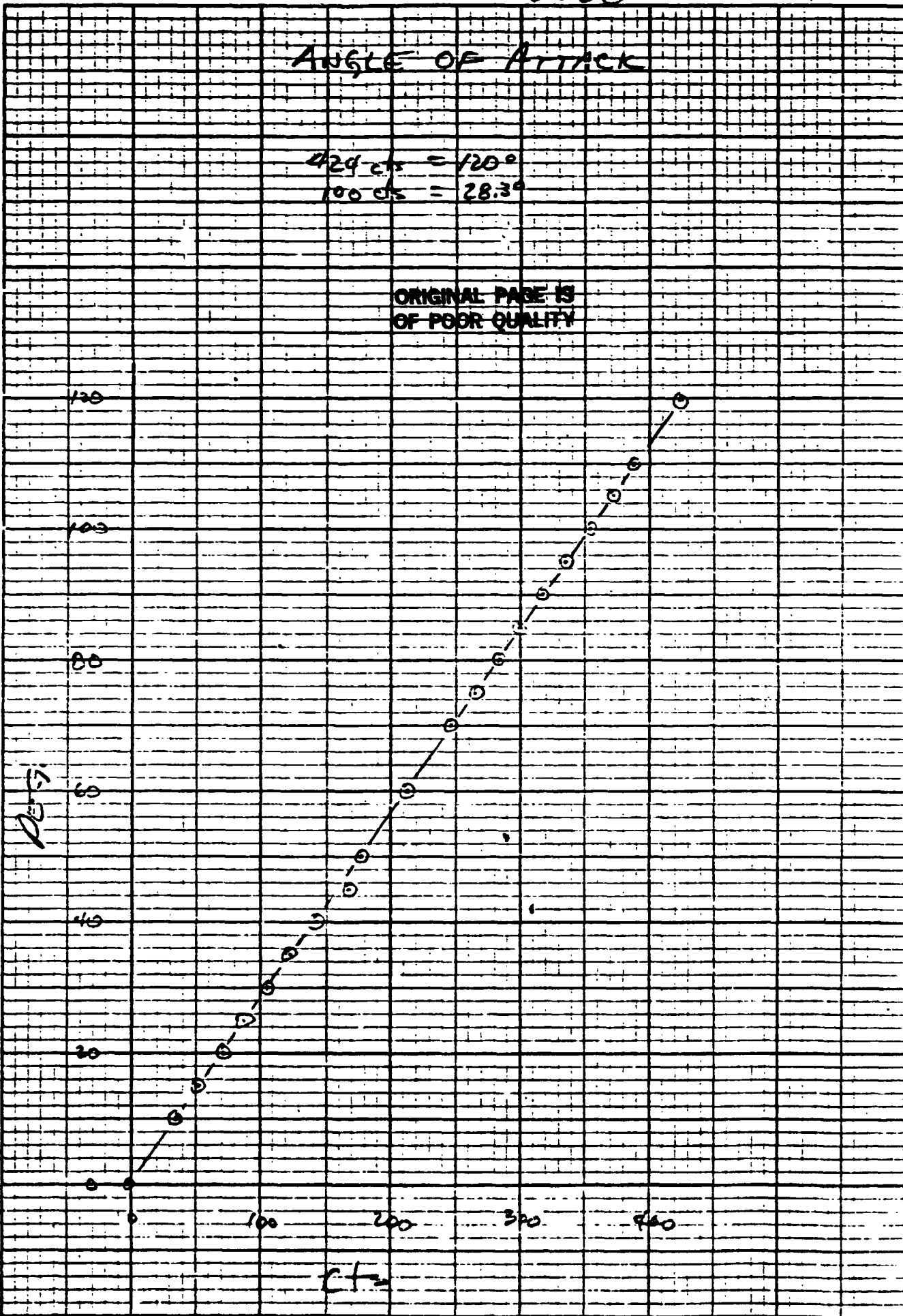
HEWLETT-PACKARD 82701J06

ANGLE OF ATTACK

$$429 \text{ ct} = 120^\circ$$

$$100 \text{ ct} = 28.3^\circ$$

ORIGINAL PAGE IS OF POOR QUALITY



D009

D009
3-1-77

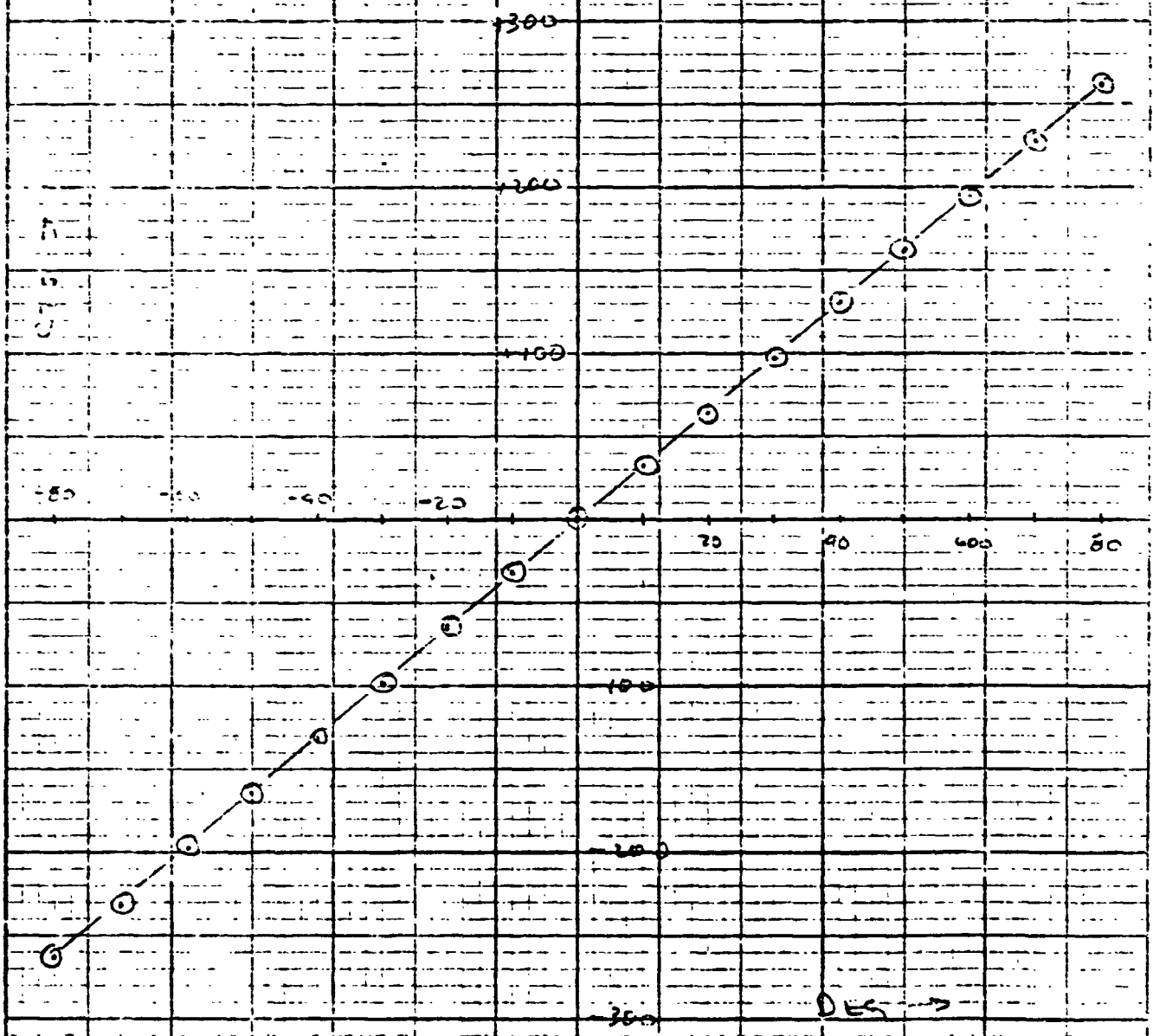
Roll A.T. 64.20

ORIGINAL PAGE IS
OF POOR QUALITY

$$525 \text{ cts} = 160^\circ$$

$$100 \text{ cts} = 30.48^\circ$$

Rt. Roll



Lt. Roll

DES →

11/11/13 FAX MAIL 9279 1006

IE

0010

0010
3-3-77

OK

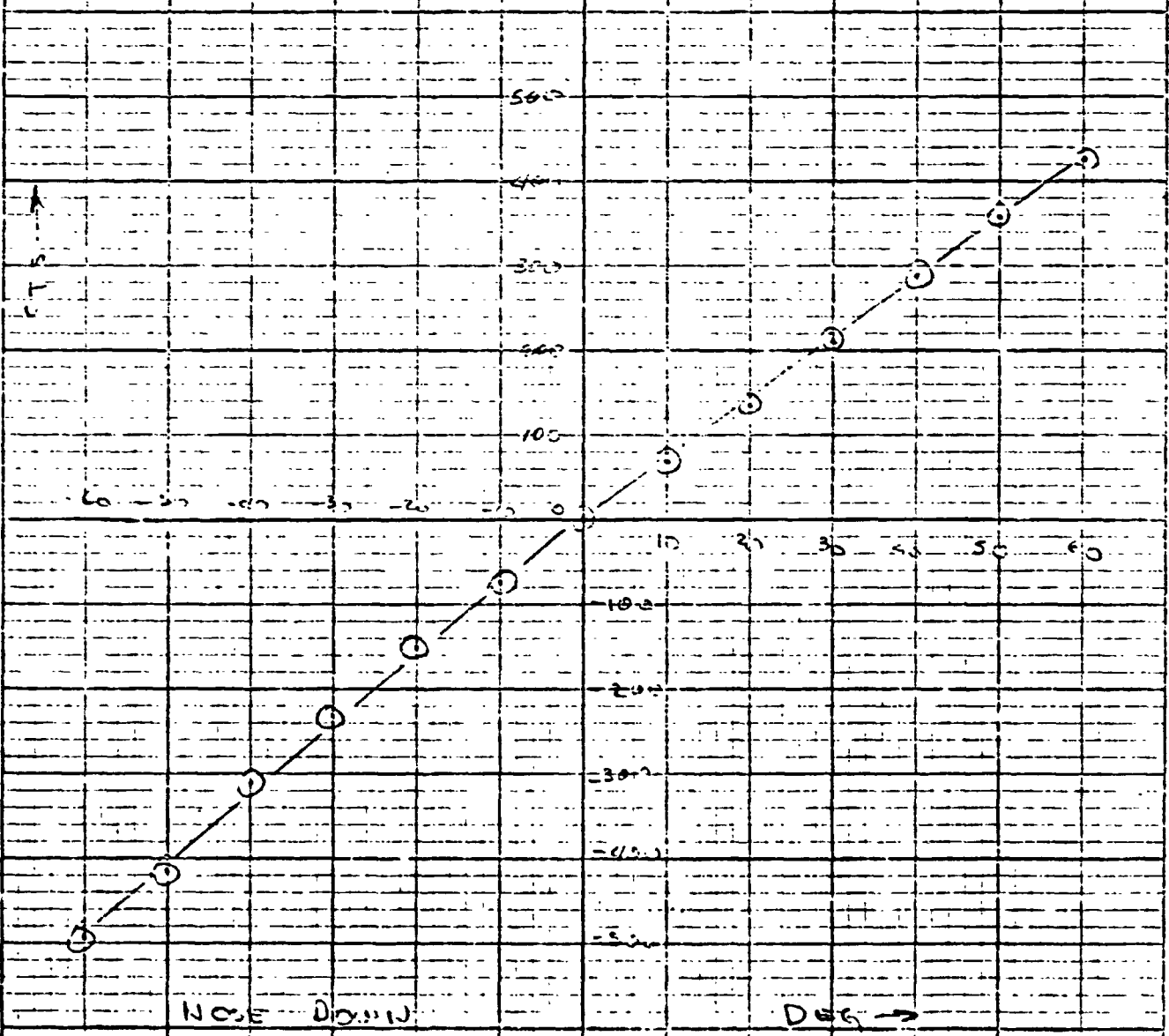
Pitch Att Given

$$923 \text{ cts} = 120^\circ$$

$$100 \text{ cts} = 13^\circ$$

ORIGINAL PAGE IS
OF POOR QUALITY

NOSE UP



II E

D011

3-3-77 D011

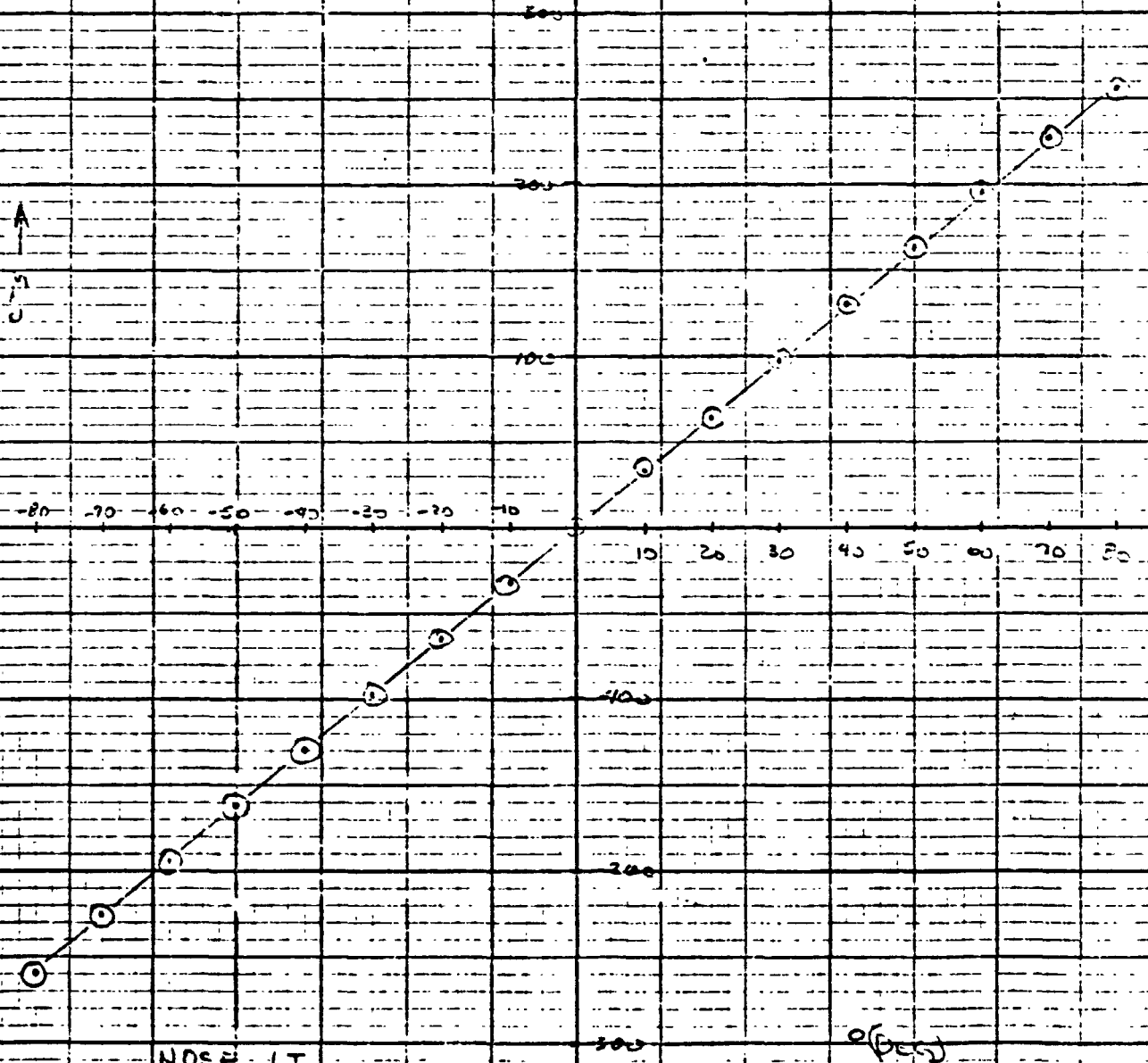
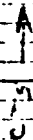
YAW ATT. 5420

ORIGINAL PAGE IS OF POOR QUALITY

$\sin \alpha = 1600$

$100.0 = 30.9$

NOSE RT



NOSE LT.

0 (FEET)

10 W x 11 P x 14 H x 1/2" 16000

TTE

ACCELEROMETER CALIBRATION

TYPE 069TC-10-350 RANGE 10G DATE 4-12-75
 EXCITATION (V) 6.01 NOMINAL SENS (S) 2.727 (mv/G)
 RESISTANCE, A-C 363.9 ohm, B-D 333.7 ohm, Tech. TC

2G INVERSION
 (REF ONLY)

+1 2.61 mv
 -1 2.78 mv

Avg 2.695 (mv/G)

SHUNT CAL

100K C.E. = $\frac{498 \text{ mv}}{S}$

100K C.E. = 1.826 G

UNITY CAL

U.C. = $\frac{V}{S}$

U.C. = 2.204 G (mv/V)

1000
9
8
7
6
5
4
3
2
10
9
8
7
6
5
4
3
2
10
9
8
7
6
5
4
3
2
1

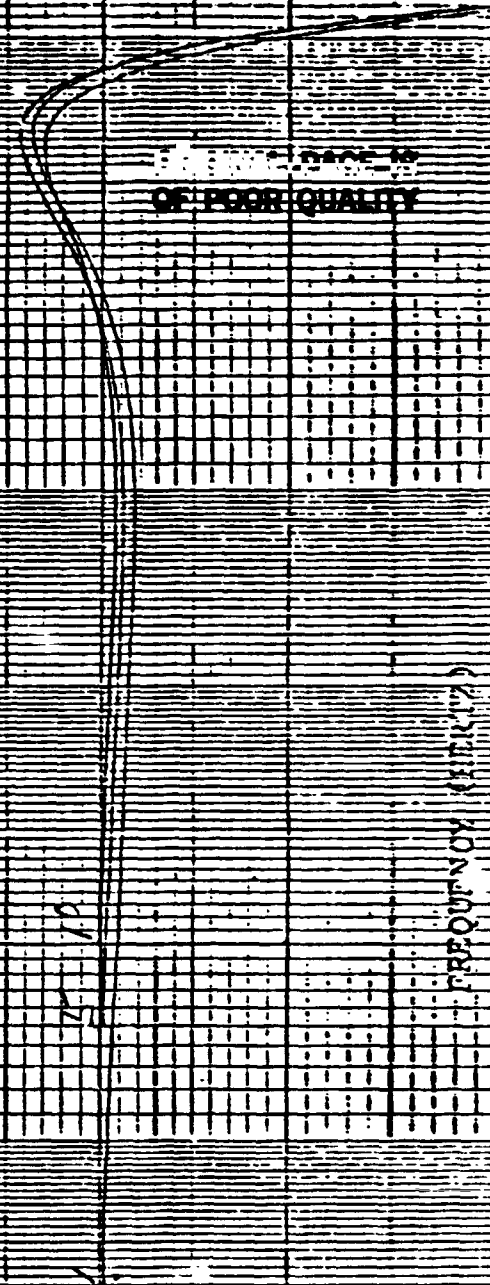
PERCENTAGE DEVIATION FROM NOMINAL SENSITIVITY

-10
-5
0
+5
+10

A019

PRINTING DONE IN
 OF POOR QUALITY

FREQUENCY (Hz)



A020

Issue Date 10-14-76 To AARON S/N 15853

ACCELEROMETER CALIBRATION

TYPE A607C-10-350 RANGE 10 G DATE 10-11-76
 EXCITATION (V) 5.98 NOMINAL SENS (S) 2.248 (mv/G)
 RESISTANCE, A-C 37.5 ohm, B-D 325.8 ohm, Tech. 7C

2G INVERSION
(REF ONLY)

+1 2.43 mv
 -1 2.05 mv

SHUNT CAL

100K C.E. = $\frac{4.89 \text{ mv}}{S}$

100K C.E. = 2.175 G

UNITY CAL

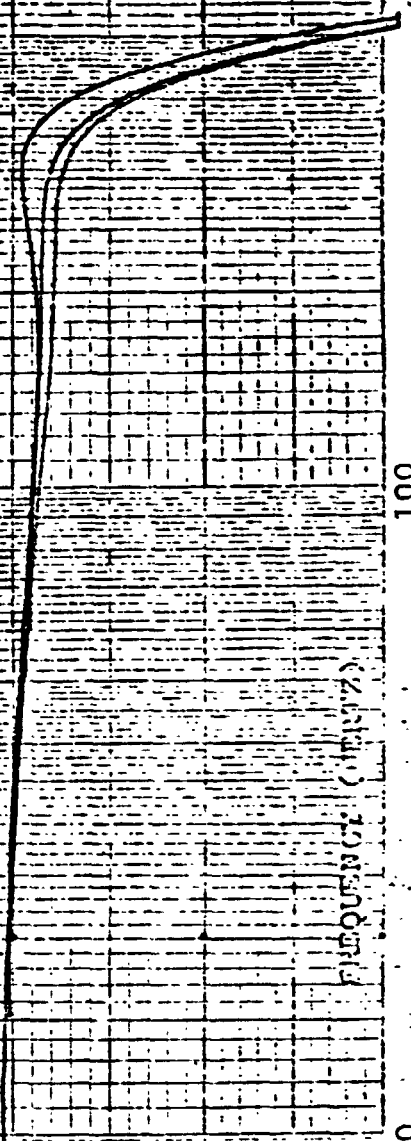
U.C. = $\frac{V}{S}$

U.C. = 2.660 G (mv/V)

PERCENTAGE DEVIATION FROM NOMINAL SENSITIVITY

ORIGINAL PAGE IS
OF POOR QUALITY

~~CO PILOTS SEAT VIB~~
A020



OK 1000

100

10

F/A CYCLIC STICK POS

100 COUNTS = 4.0691

Item Code D021

ORIGINAL PAGE IS
OF POOR QUALITY

600

500

400

300

200

100

0

5

10

15

20

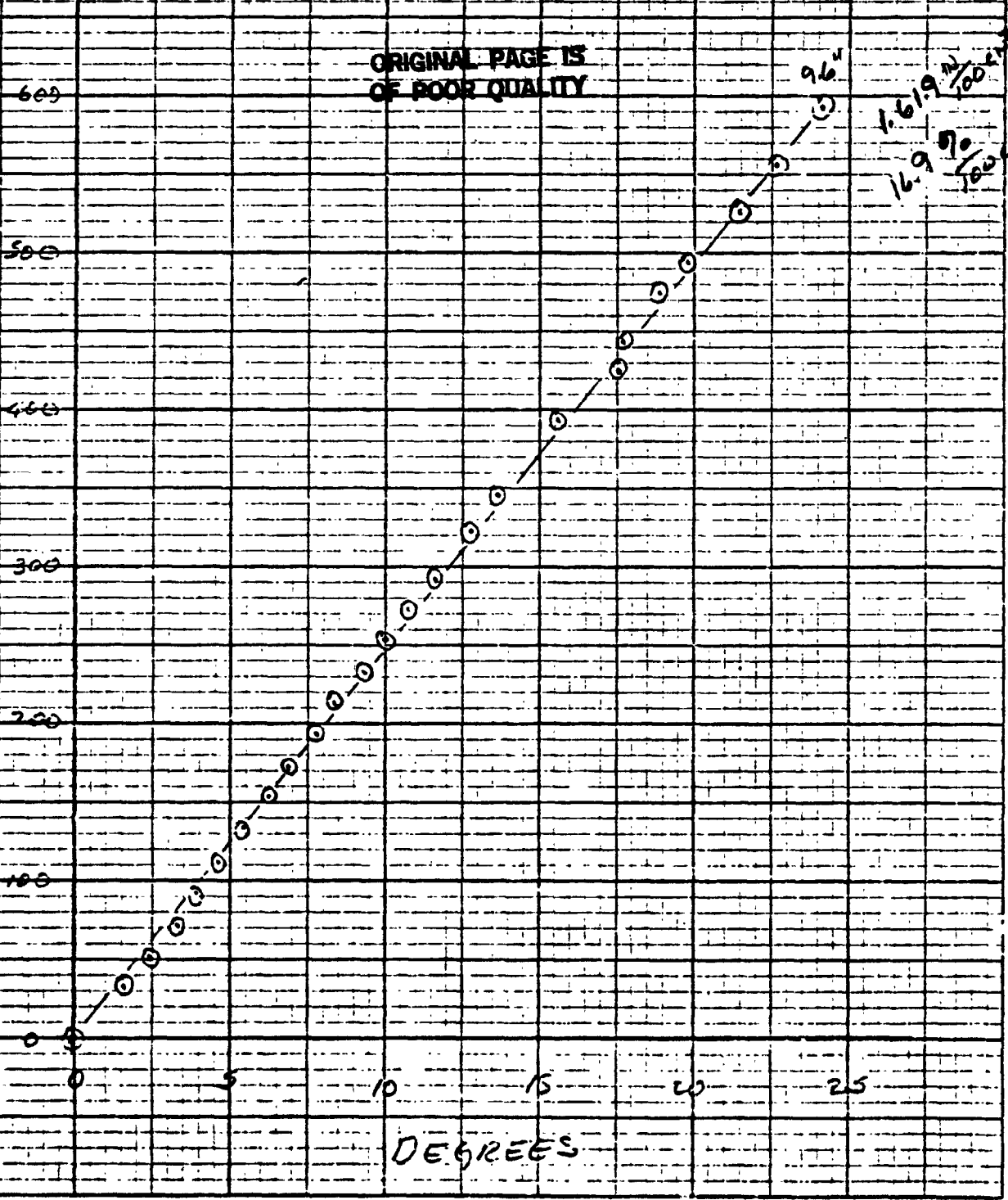
25

DEGREES

96"

1.619 $\frac{IN}{100 COUNTS}$

16.9 $\frac{IN}{100 COUNTS}$



CALIBRATION DATA SHEET

Date 1-14-71

Model 301 Project _____
 Title F/A CYCLE POSITION
 W _____ L. T. R. _____ EWA _____

Lab. No. _____
 Serial No. _____
 Part No. _____
 Engineer WINNIFORD

Technician	Lab. Notebook No.	Instruments	Serial No.	Res.	Galvo.

Volts					
Gage Type					
Gage Fac.					
Gage Res.					
Lot. No.					
Act. Arm					
Chan.					
Bridge					
Config.					
Cal. Res.					
Lever Arm					

**ORIGINAL PAGE IS
OF POOR QUALITY**

Load	Output				
Full AFT			0	0	0
			1°35'	1.58	31
			2°25'	2.42	51
			3°10'	3.17	71
			3°58'	3.97	93
			4°35'	4.58	114
			5°28'	5.47	134
			6°10'	6.17	153
			6°54'	6.90	173
			7°44'	7.73	193
			8°25'	8.42	213
			9°20'	9.33	233
			10° 0'	10.0	253
			10°45'	10.75	273
			11°35'	11.58	293
			12°49'	12.82	323
			13°35'	13.58	347
			15°35'	15.58	393
			17°32'	17.53	423
			17°35'	17.58	443
			18°50'	18.85	473
			19°52'	19.87	495
			21°30'	21.50	528
			22°39'	22.65	558
		Full FORWARD	24° 8'	24.12	593

LAT. CYCLIC STAGE POS

100 COUNTS = 2.885 DEG

Item Code DD22

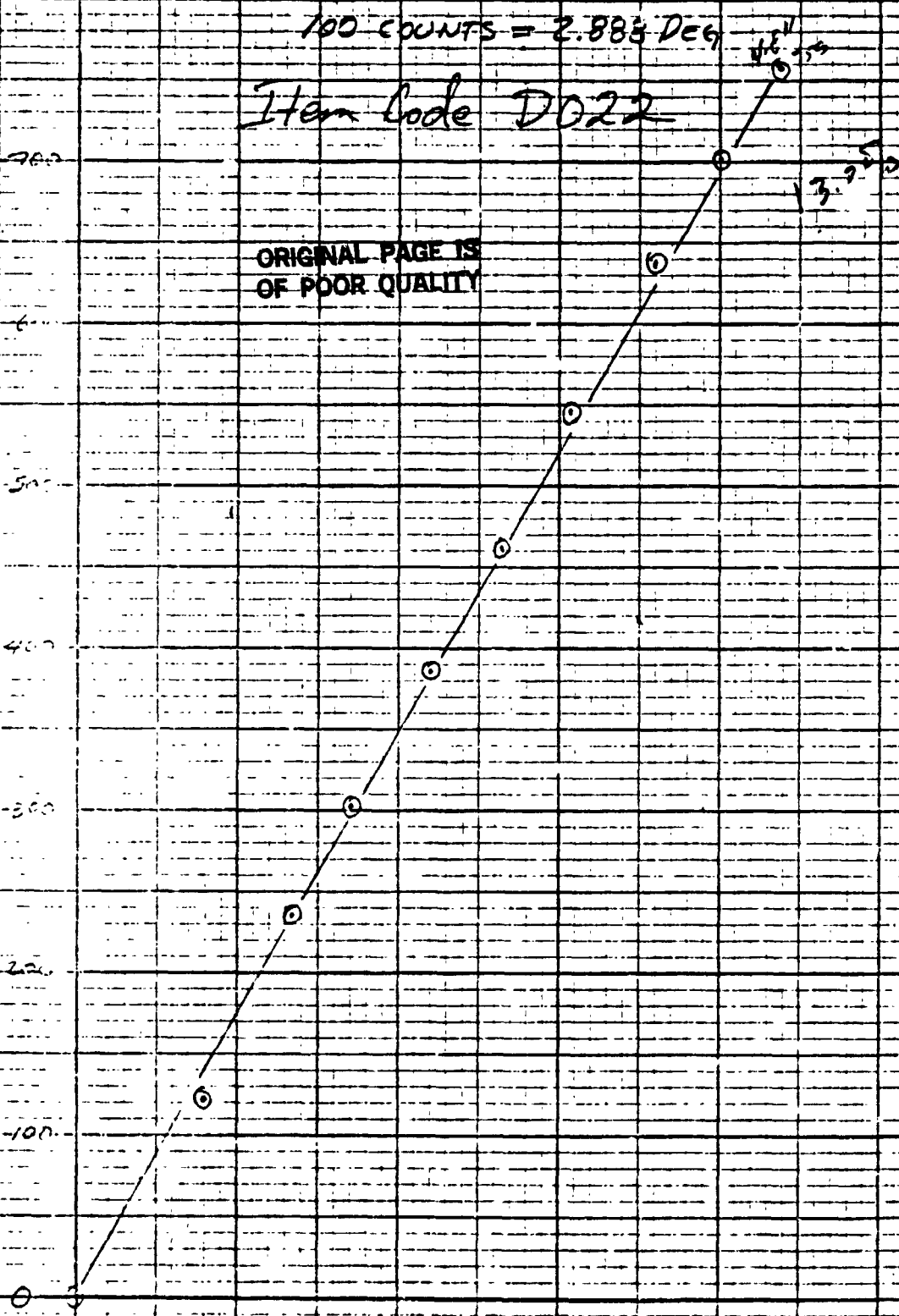
ORIGINAL PAGE IS OF POOR QUALITY

COUNTS

700
600
500
400
300
200
100
0

5 10 15 20 25

DEGREES



301

SHIP #1

1-11-77 D023

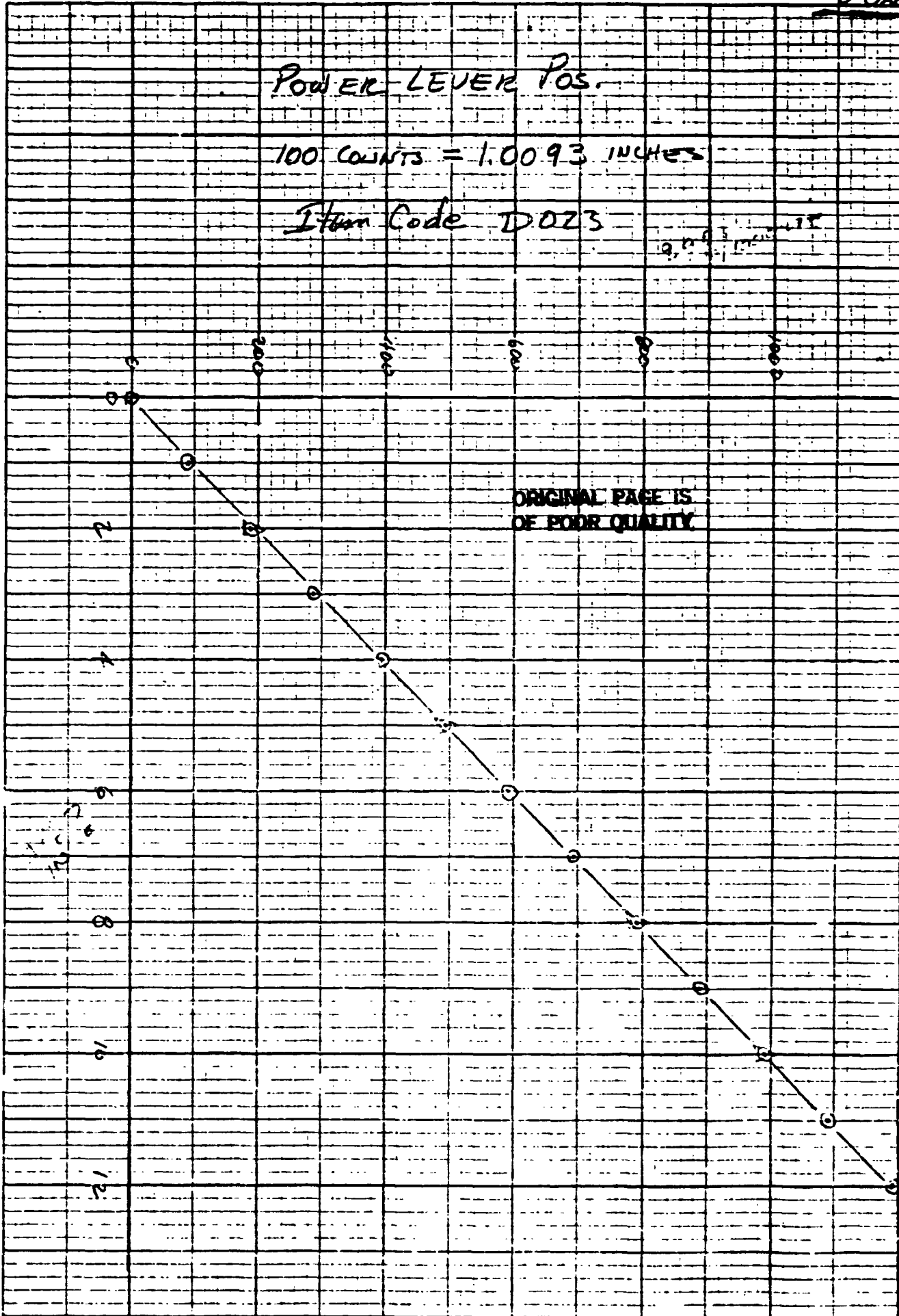
POWER LEVER POS.

100 COUNTS = 1.0093 INCHES

Item Code D023

9, 10, 11, 12

ORIGINAL PAGE IS OF POOR QUALITY



301

SHP #1

1-11-77

D024

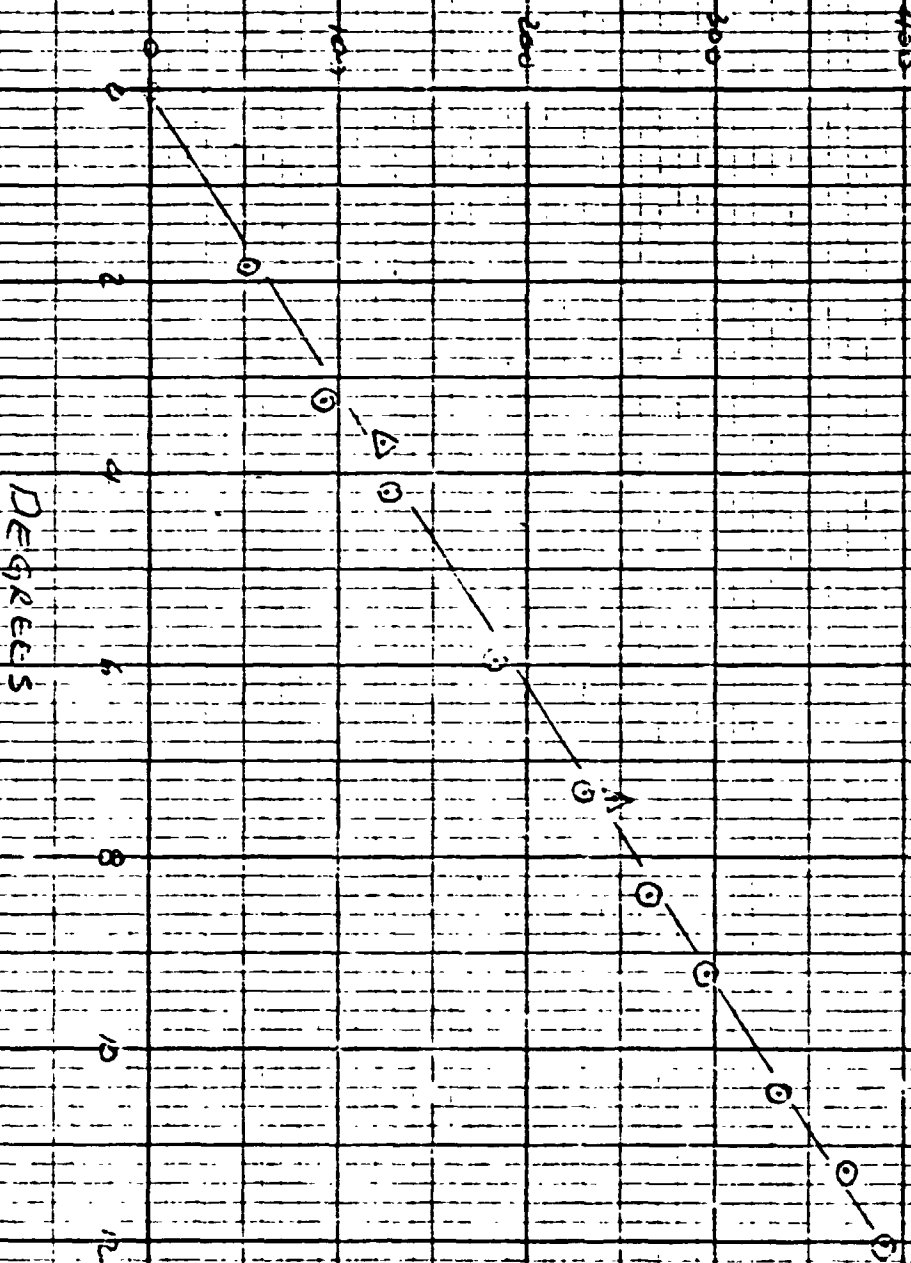
ORIGINAL PAGE IS
OF POOR QUALITY

RUDER PEDAL POS

100 COUNTS = 3.089 DEG.

Item code D024

OUTPUT COUNTS



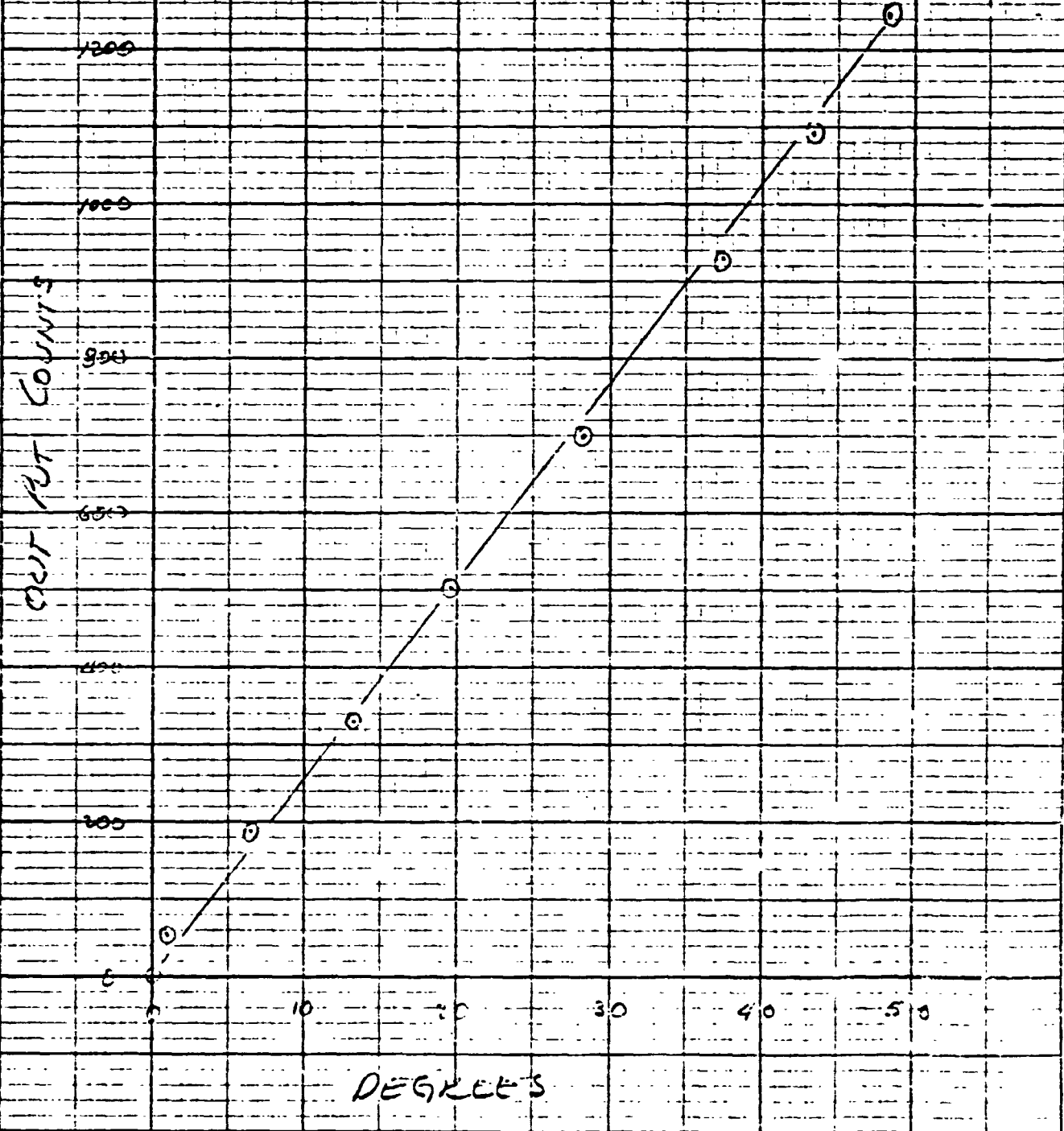
10 WITTEACKARD 02701000

LEFT ROTOR FEATHERING POS

100 COUNTS = 3.90 DEGREES

Item Code D066

ORIGINAL PAGE IS OF POOR QUALITY



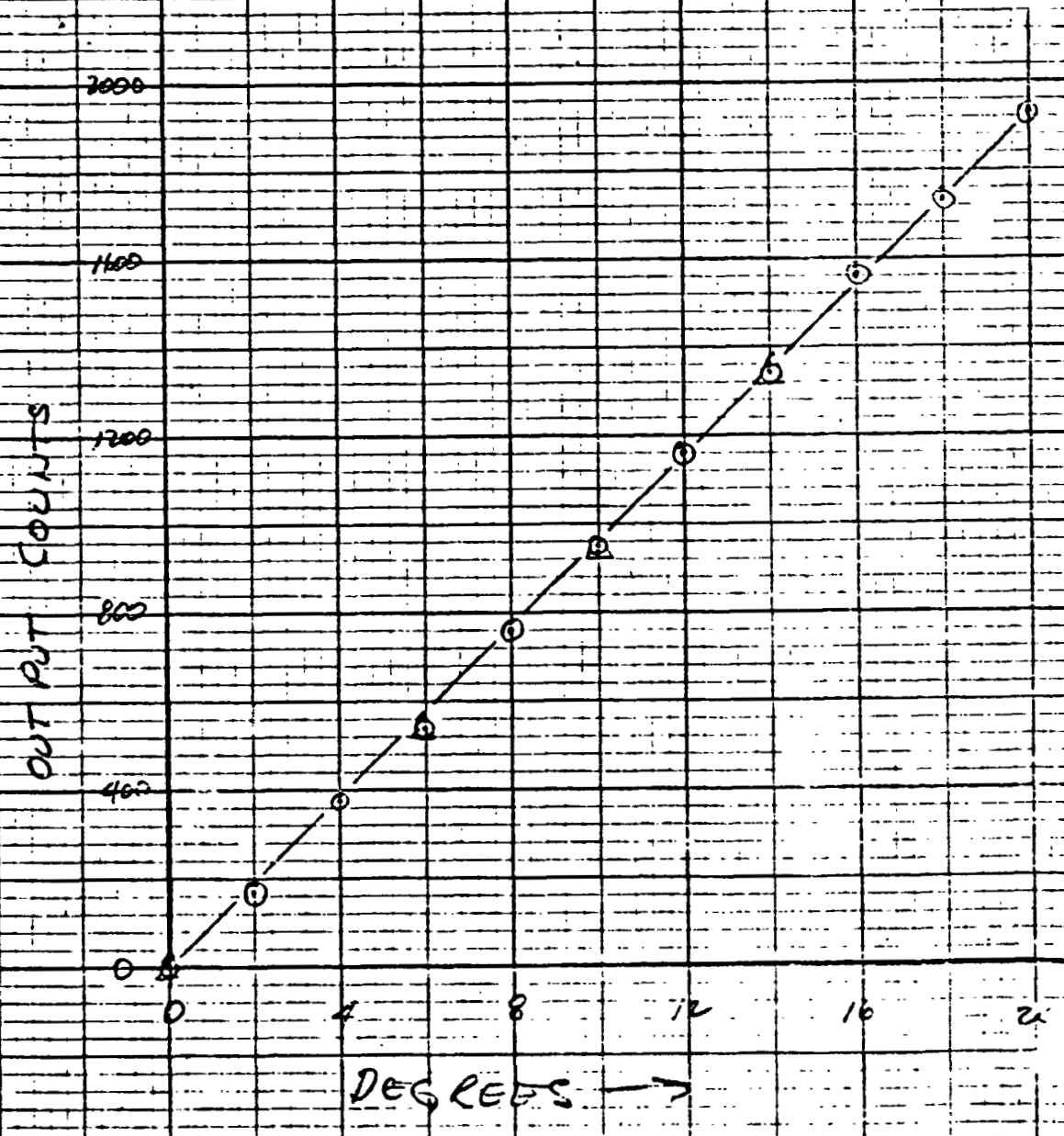
HONEYWELL PACKARD 4270 10/64

RIGHT MOTOR FLAPPING

100 COUNTS = 1.0363 DEGREES

Item Code D110

ORIGINAL PAGE 1.
OF POOR QUALITY



HEWLETT-PACKARD 9270-1071A

301

SHIP #1

1-11-77

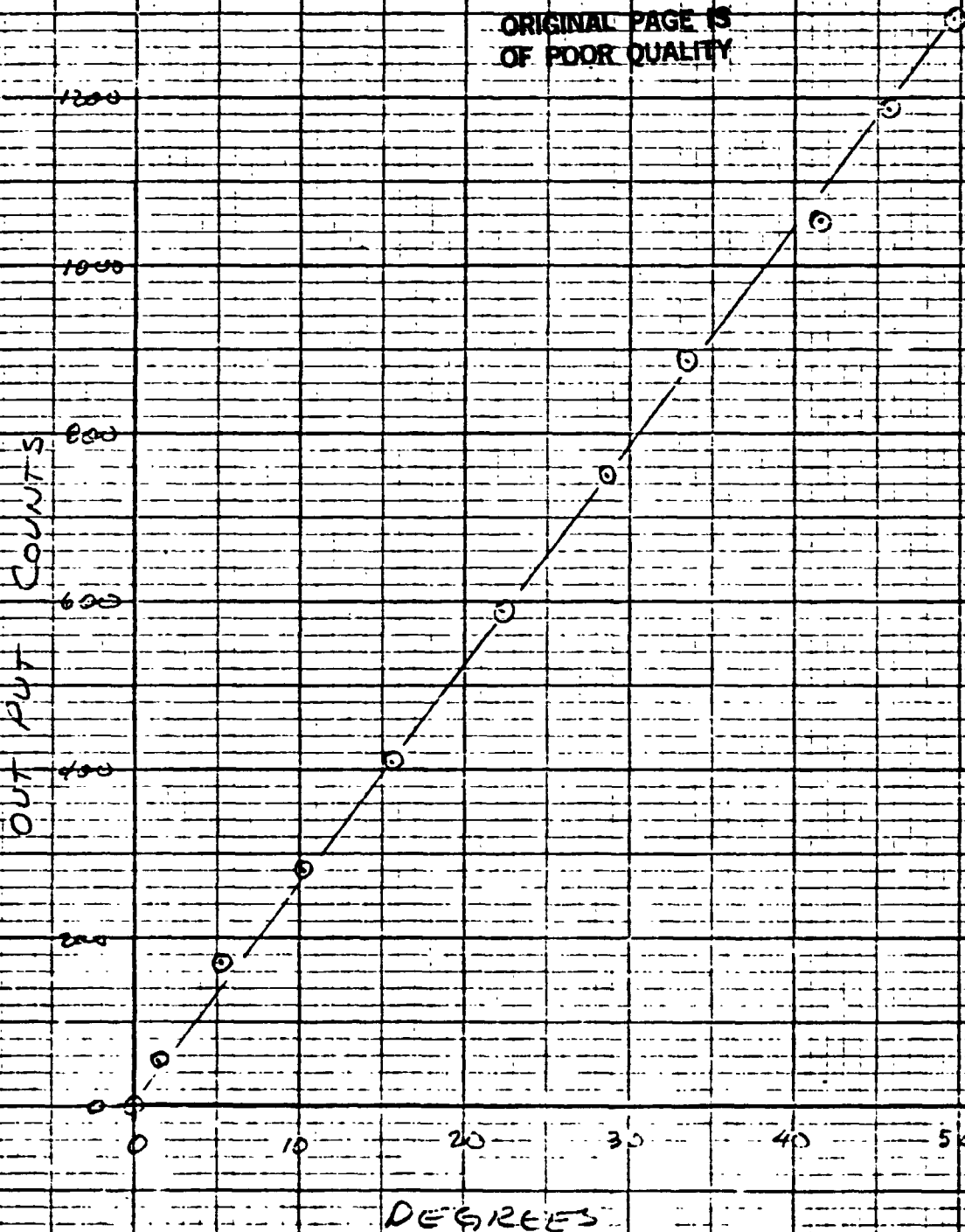
D11

RIGHT ROTOR FEATHERING POS

100 COUNTS = 3.833 DEGREES

Item Code D11

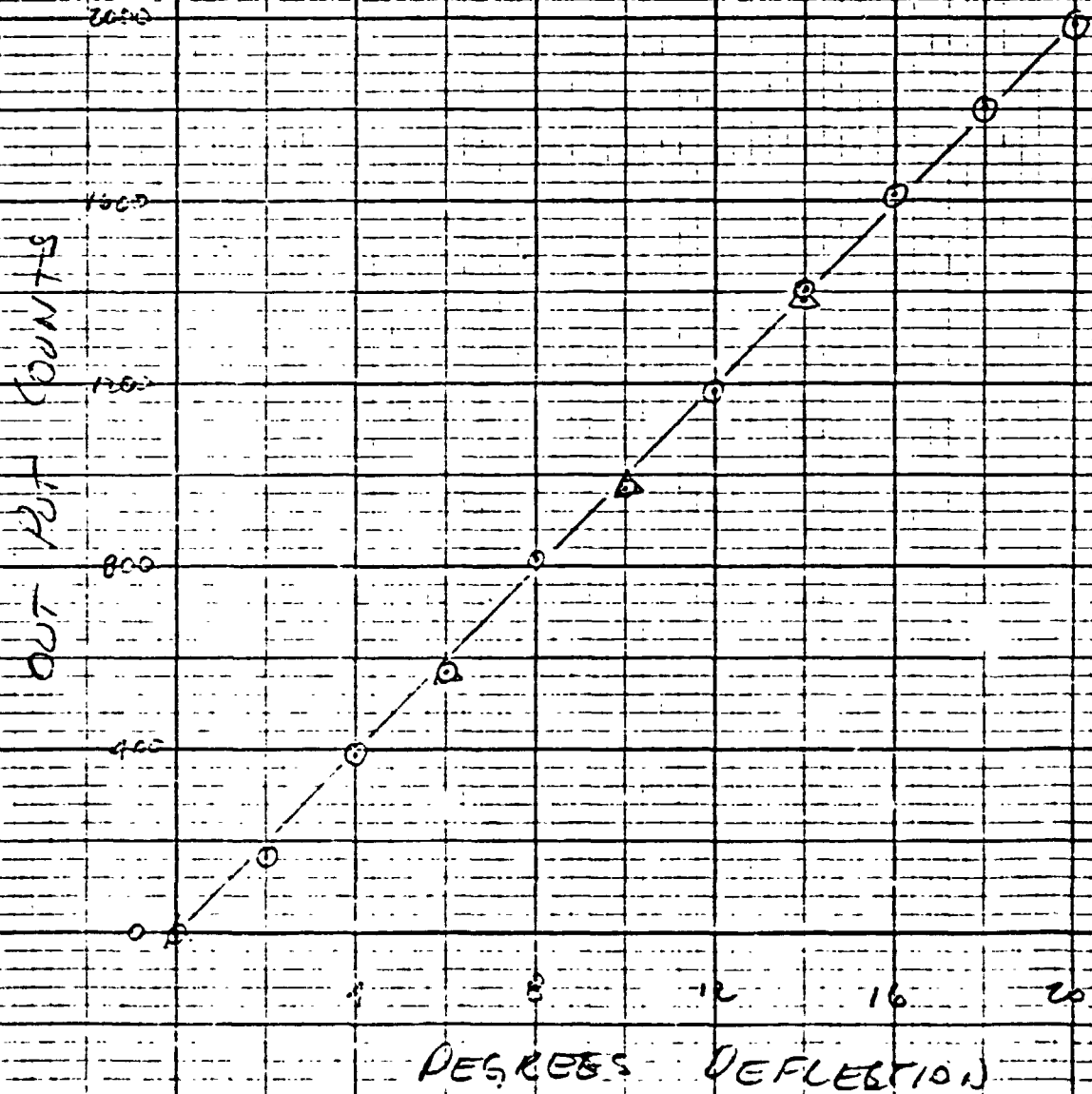
ORIGINAL PAGE IS
OF POOR QUALITY



LEFT ROTOR FLAPPING
100 COUNTS = 1.0076 DEGREES

Item Code D144

ORIGINAL PAGE IS
OF POOR QUALITY



BLADE STRESS (RIGHT)

^{RM}
5145
5146

ORIGINAL PAGE IS
OF POOR QUALITY

$$\begin{aligned}\text{STRESS} &= \frac{R_4}{(N)(GF)(R + R_{SH})} \\ &= \frac{(350)(29.5 \times 10^6)}{(1)(2.08)(350 + 100,000)} \\ &= \frac{(350)(29.5)(10^6)}{(2.08)(100,350)} \\ &= \frac{10325}{2.08728} \\ &= \frac{103250}{2.08728}\end{aligned}$$

$$100K = 49966.3 \text{ PSI}$$

$$\underline{\text{UNITY}_{AL} = 56,597.6 \text{ PSI} / \mu\text{S}/V}$$

BLADE STRESS (LEFT)

ORIGINAL PAGE IS
OF POOR QUALITY.

S147

S148

$$\text{STRESS} = \frac{RY}{(N)(GF)(R+R_{\text{eff}})}$$
$$= \frac{(350)(29.5 \times 10^6)}{(1)(2.13)(350+100,000)}$$

$$= \frac{(350)(29.5)(10)}{(2.13)(1.0035)}$$

$$= \frac{103,250}{2.1375}$$

$$10010 = 48,304 \text{ PSI}$$

$$\text{UNITY CAL} = \underline{\underline{55,268 \text{ PSI}/\mu\text{V}}}$$

(A 150)

Issue Date 10-14-76

To AARON

SN NR63

A150

ACCELEROMETER CALIBRATION

TYPE 2697C-25-257 RANGE 25G DATE 4-14-75
 EXCITATION (V) 6.21 NOMINAL SENS (S) -.890 (mv/G)
 RESISTANCE, A-C 402.7 ohm, B-D 223.5 ohm, Tech. ZD

2G INVERSION
(REF ONLY)

+1 +.88 mv
 -1 -.84 mv

SHUNT CAL

100K C.E. = $\frac{4.76 \text{ mv}}{S}$

Avg - .86 (mv/G)

UNITY CAL

U.C. = $\frac{V}{S}$

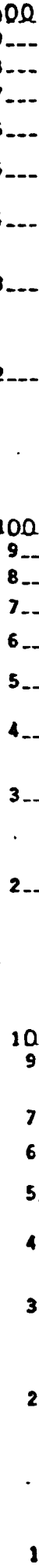
U.C. = 6.753 G (mv/V)

PERCENTAGE DEVIATION FROM NOMINAL SENSITIVITY

ORIGINAL PAGE IS OF POOR QUALITY

R11 PYLEON F/A
A 150

FREQUENCY (HERTZ)



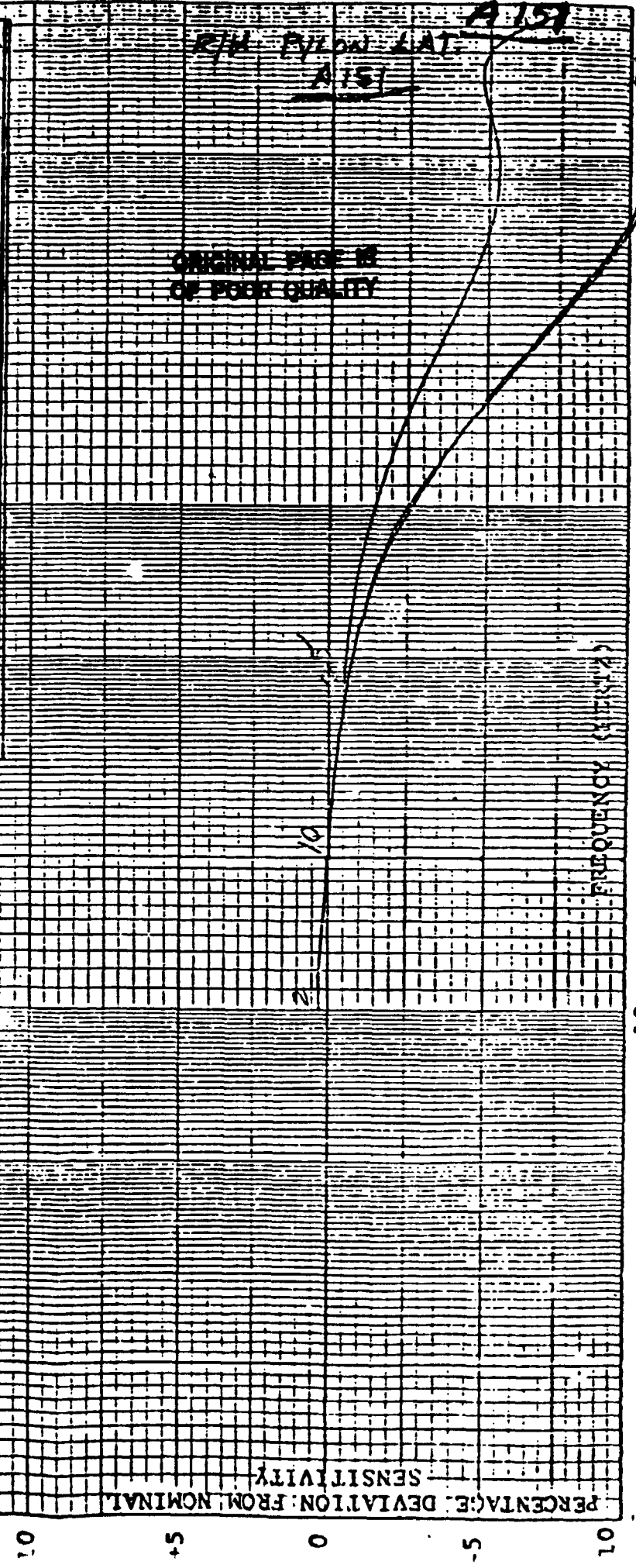
Issue Date 10-14-76 To BARON SN 15864

1000
9
8
7
6
5
4
3
2
100
9
8
7
6
5
4
3
2
10
9
8
7
6
5
4
3
2
1

ACCELEROMETER CALIBRATION

TYPE AG9TC-25-R50 RANGE 25G DATE 10-14-76 (mv/G)
 EXCITATION (V) 6.01 NOMINAL SENS (S) .907
 RESISTANCE, A-C 421.6 ohm, B-D 332.3 ohm, Tech. Z.G.

2G INVERSION (REF ONLY)	SHUNT CAL	UNITY CAL
+1 <u>+.72</u> mv	100K C.E. = $\frac{4.96}{S}$ mv	U.C. = $\frac{V}{S}$
-1 <u>-1.08</u> mv	100K C.E. = <u>5.468</u> G	U.C. = <u>6.626</u> G
Avg <u>.9</u> (mv/G)		(mv/V)



A152

ACCELEROMETER CALIBRATION

TYPE 150-1000 RANGE 1000 DATE 12-14-76

EXCITATION (V) 5.00 NOMINAL SENS (S) 0.501 (mv/G)

RESISTANCE, A-C 1000 ohm, B-D 32500 ohm, Tech. ...

2G INVERSION (REF ONLY)

+1.000 mv
-1.000 mv

AVG .975 (mv/G)

SHUNT CAL

100K C.E. = $\frac{2.64 \text{ mv}}{S}$

100K C.E. = 5.207 G

UNITY CAL

U.C. = $\frac{V}{S}$

U.C. = 6.734 G

ORIGINAL PAGE IS OF POOR QUALITY

PERCENTAGE DEVIATION FROM NOMINAL SENSITIVITY

FREQUENCY (HERTZ)

A152
R/H PYLEO VERT
A152

OK 1000

1.00

1.0

301 Site #1

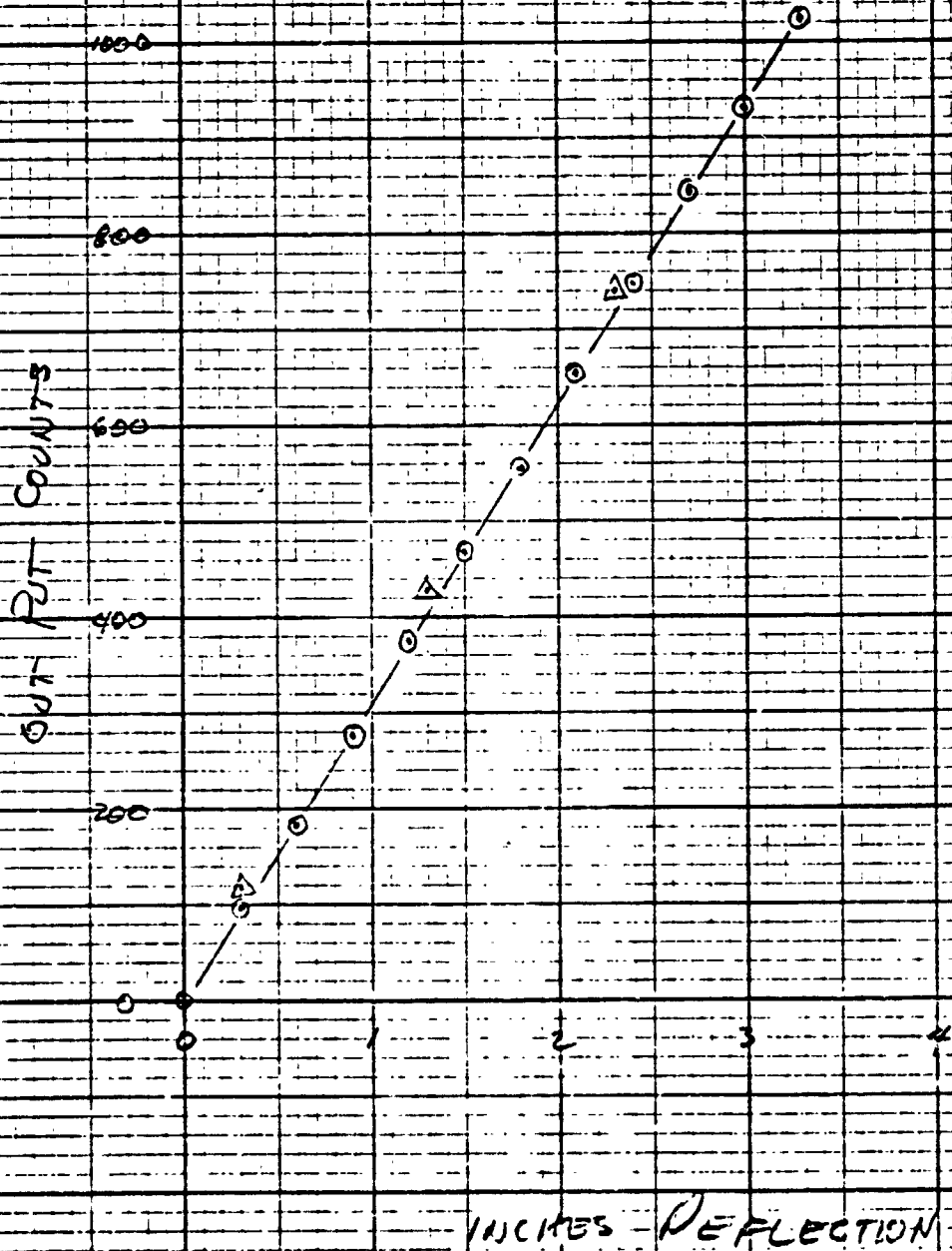
1-10-77 ^{on} D152

RIGHT F/A HUB SPRING MOTION

100 COUNTS = 0.322 INCHES

Item Code D156

ORIGINAL PWC #
OF POOR QUALITY

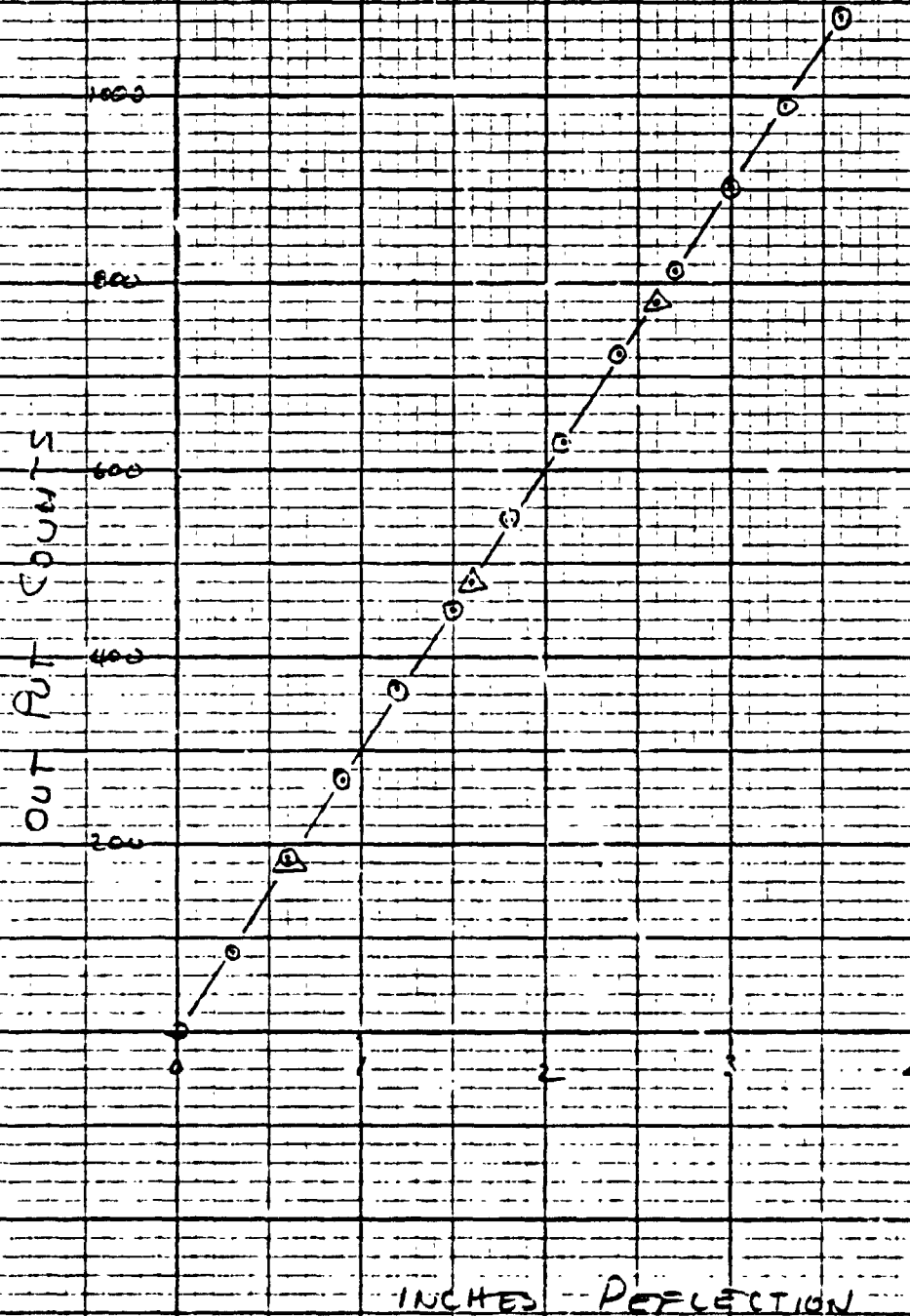


RIGHT LAT HUB SPRING MOTION

ORIGINAL PAGE IS
OF POOR QUALITY

100 COUNTS = 0.3318 INCHES

Item Code D157



301 SHIP #1

1-10-77

OK
D158

RIGHT COLLECTIVE TDS

100 COUNTS = 0.5608 INCHES

Item Code D158

ORIGINAL PAGE IS
OF POOR QUALITY

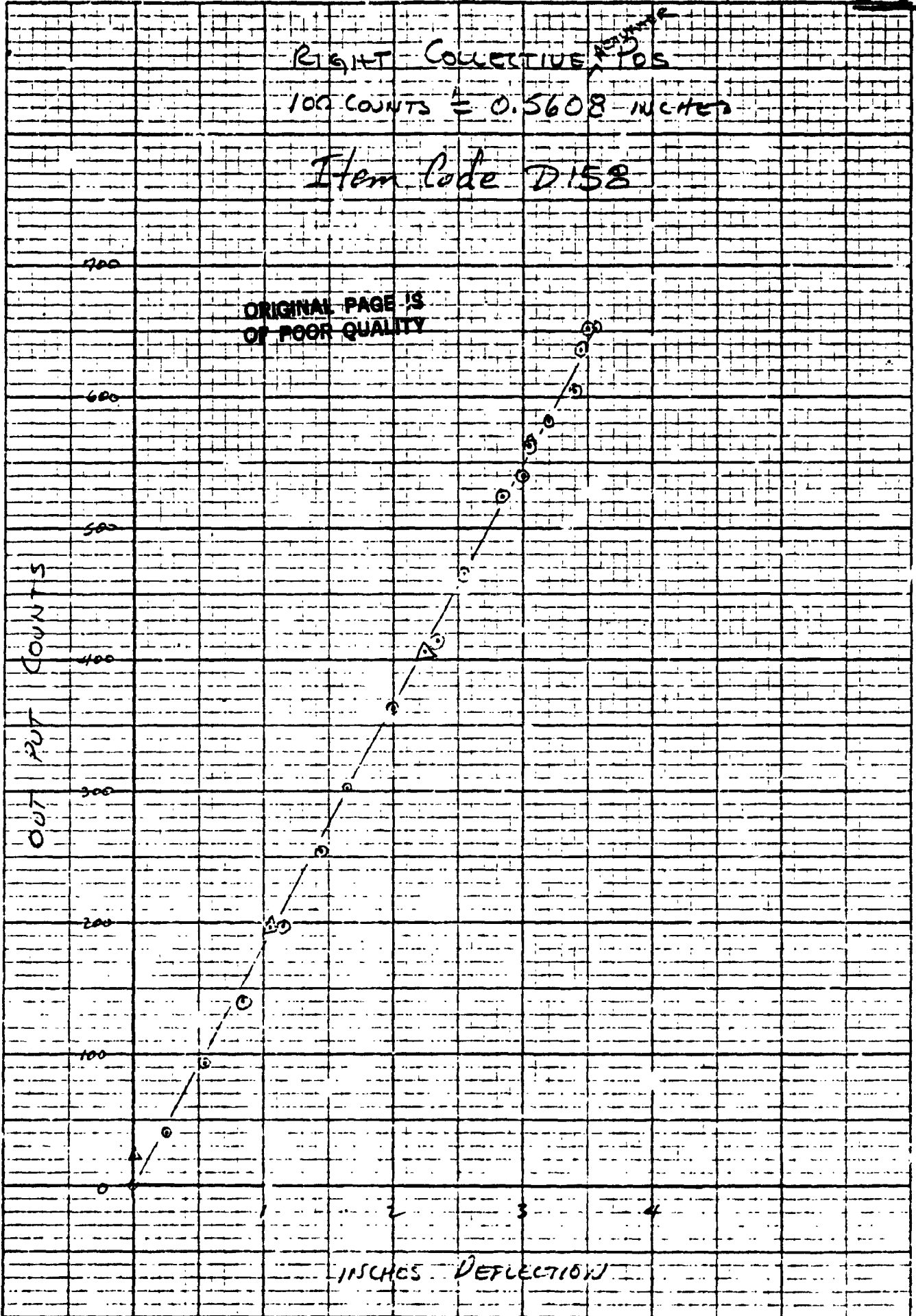
OUT PUT COUNTS

700
600
500
400
300
200
100

INCHES DEFLECTION

1 2 3 4

10. MIFIT PACKARD 270-1006



RIGHT F/A CYCLIC PDS

100 COUNTS = 0.552 INCHES

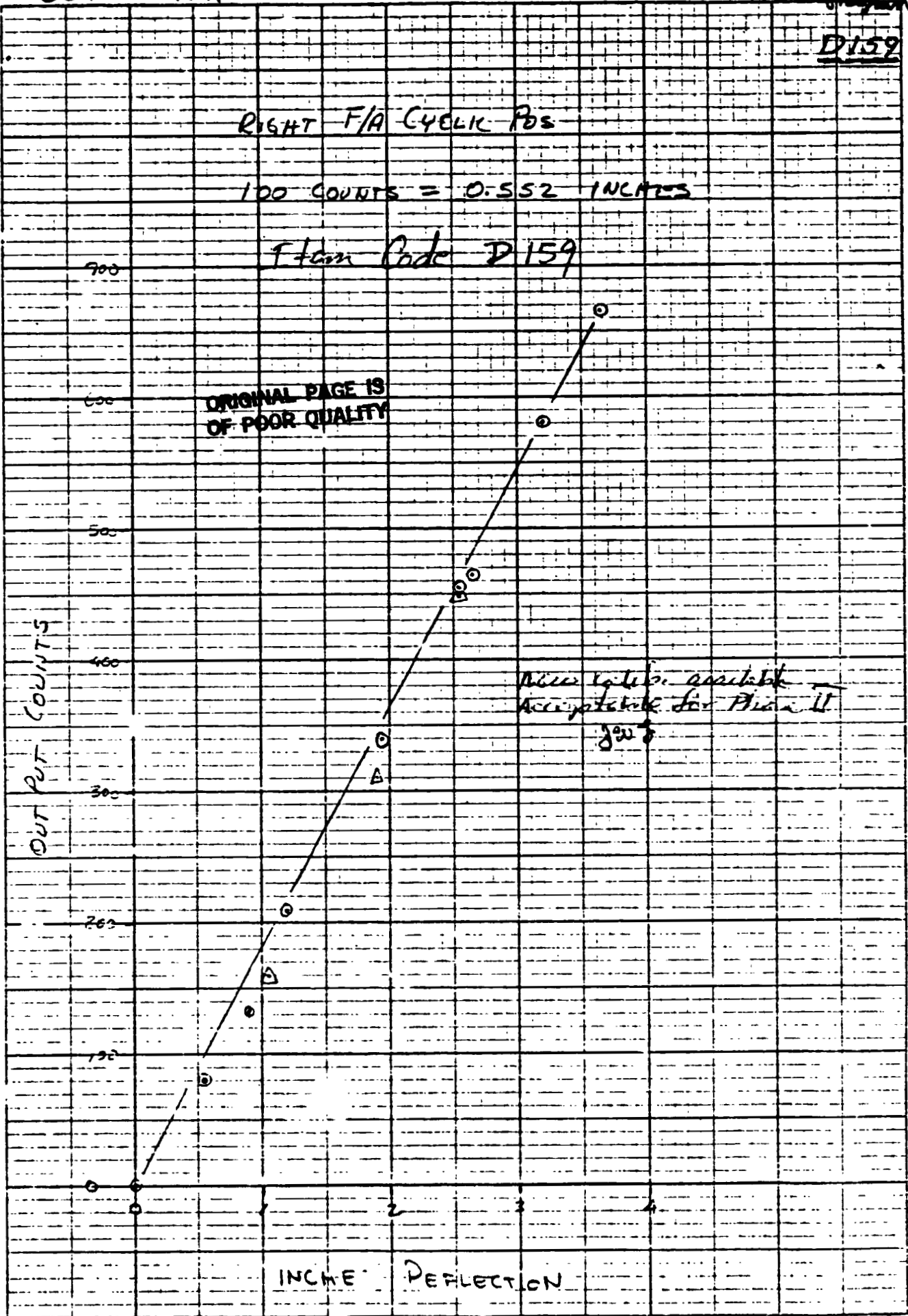
Film Code D159

ORIGINAL PAGE IS OF POOR QUALITY

OUT PUT COUNTS

More values available
Acceptable for Phase II
gws

INCH DEFLECTION



301 SHIP # 1

ORIGINAL PAGE IS
OF POOR QUALITY

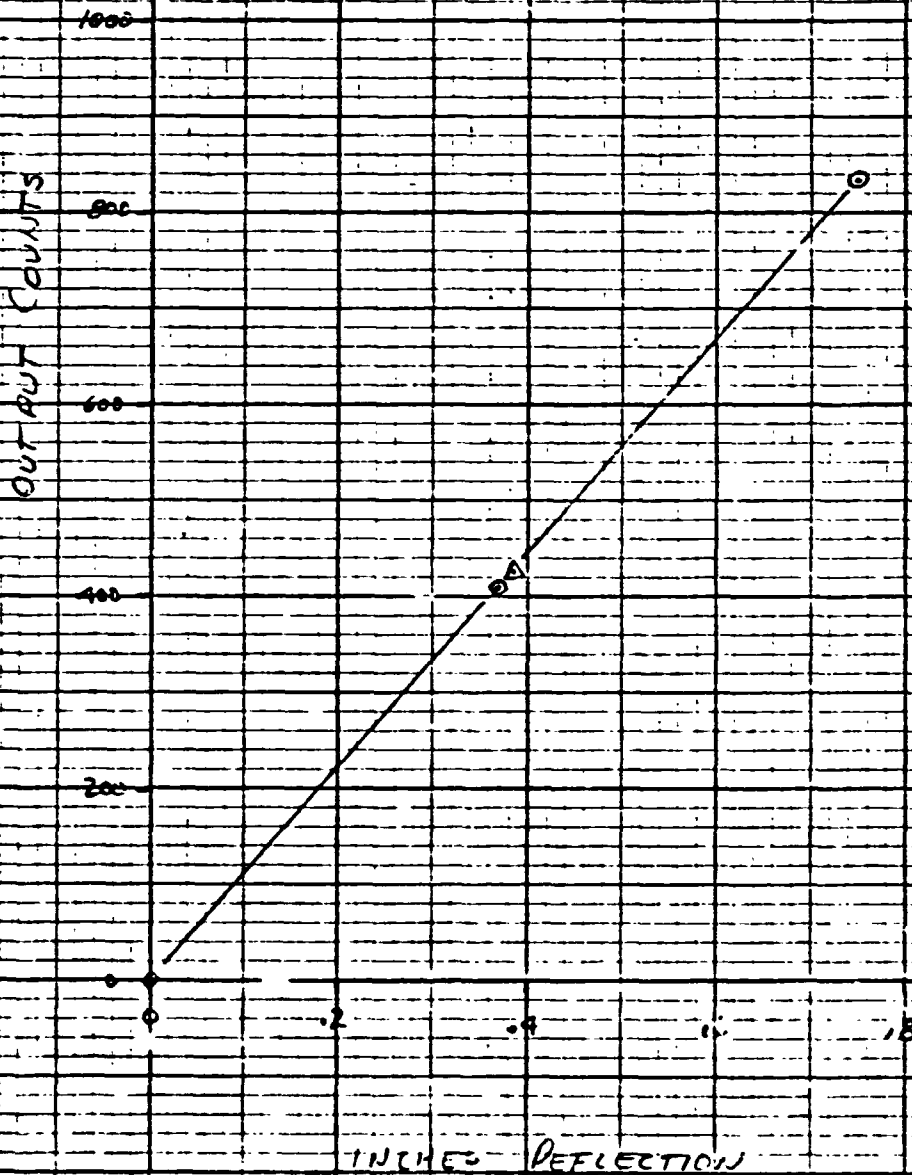
1-7-77

OK
D160

RIGHT-LAT CYCLIC POS.

100 COUNTS = 0.0898 IN.

Item Code D160



301

SHIP #1

1-12-77

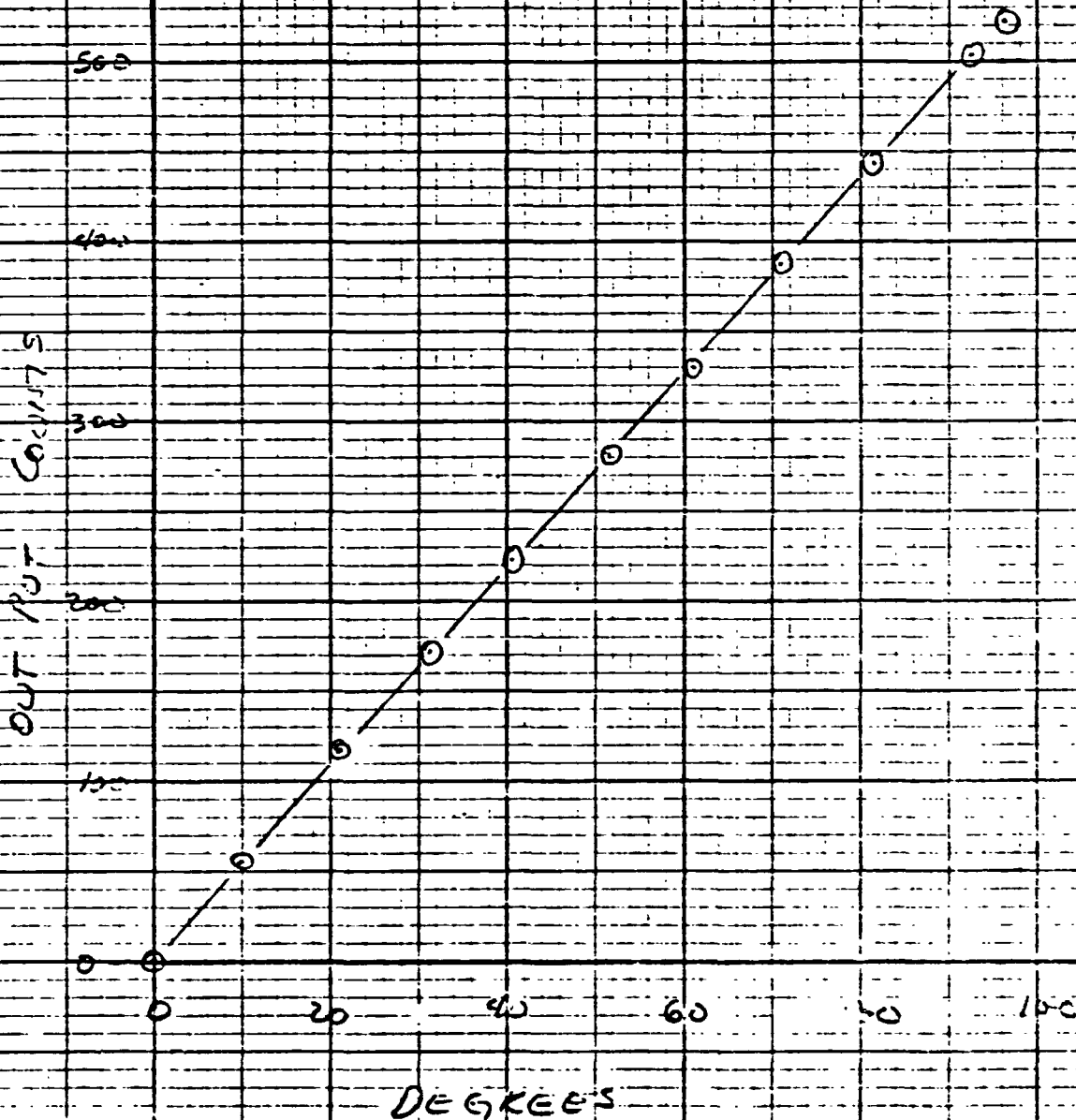
D161

RIGHT PYLON CONVERSION Pgs

100 COUNTS = 18.358 DEG.

Item Code D161

ORIGINAL PAGE IS
CONTINUATION



HEWLETT PACKARD 9270 1006

1000
9
8
7
6
5
4
3
2
100
9
8
7
6
5
4
3
2
10
9
8
7
6
5
4
3
2
1

ACCELEROMETER CALIBRATION

TYPE AG 977C-25-35-0 RANGE 25-35 DATE 4-12-75
 EXCITATION (V) 6.01 NOMINAL SENS (S) .807 (mv/G)
 RESISTANCE, A-C 437.3 ohm, B-D 324.0 ohm, Tech. TG

2G INVERSION
 (REF ONLY)

+1 +.64 mv
 -1 -.72 mv

SHUNT CAL

100K C.E. = $\frac{4.58 \text{ mv}}{S}$

100K C.E. = 5.711 G

UNITY CAL

U.C. = $\frac{V}{S}$

U.C. = 2.494 G (mv/V)

AVG .78 (mv/G)

PERCENTAGE DEVIATION FROM NOMINAL SENSITIVITY

10 +5 0 -5 -10

ORIGINAL PART OF POOR QUALITY

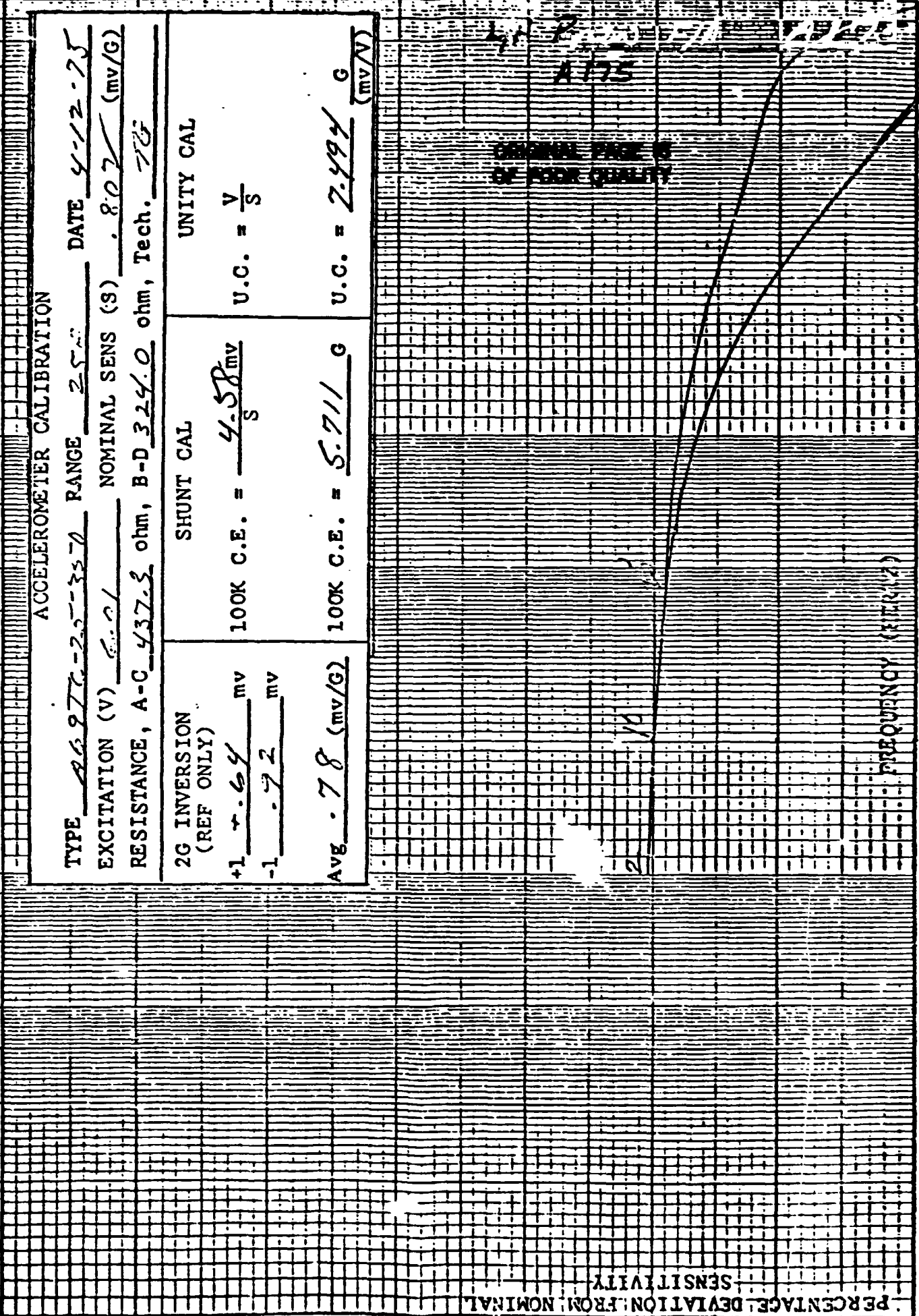
A 175

2 1/2

FREQUENCY (Hz)

100

201000



A176

Issue Date 10-14-76 To BARON SN 15861

ACCELEROMETER CALIBRATION

TYPE AE-TC-25550 RANGE 2-50 G DATE 4-12-75
 EXCITATION (V) 6.01 NOMINAL SENS (S) .878 (mv/G)
 RESISTANCE, A-C 418.7 ohm, B-D 328.6 ohm, Tech. TC

2G INVERSION
 (REF ONLY)

+1 1.75 mv
 -1 -.96 mv

SHUNT CAL

100K C.E. = $\frac{4.86 \text{ mv}}{S}$

AVG. 855 (mv/G) 100K C.E. = 5535 G

UNITY CAL

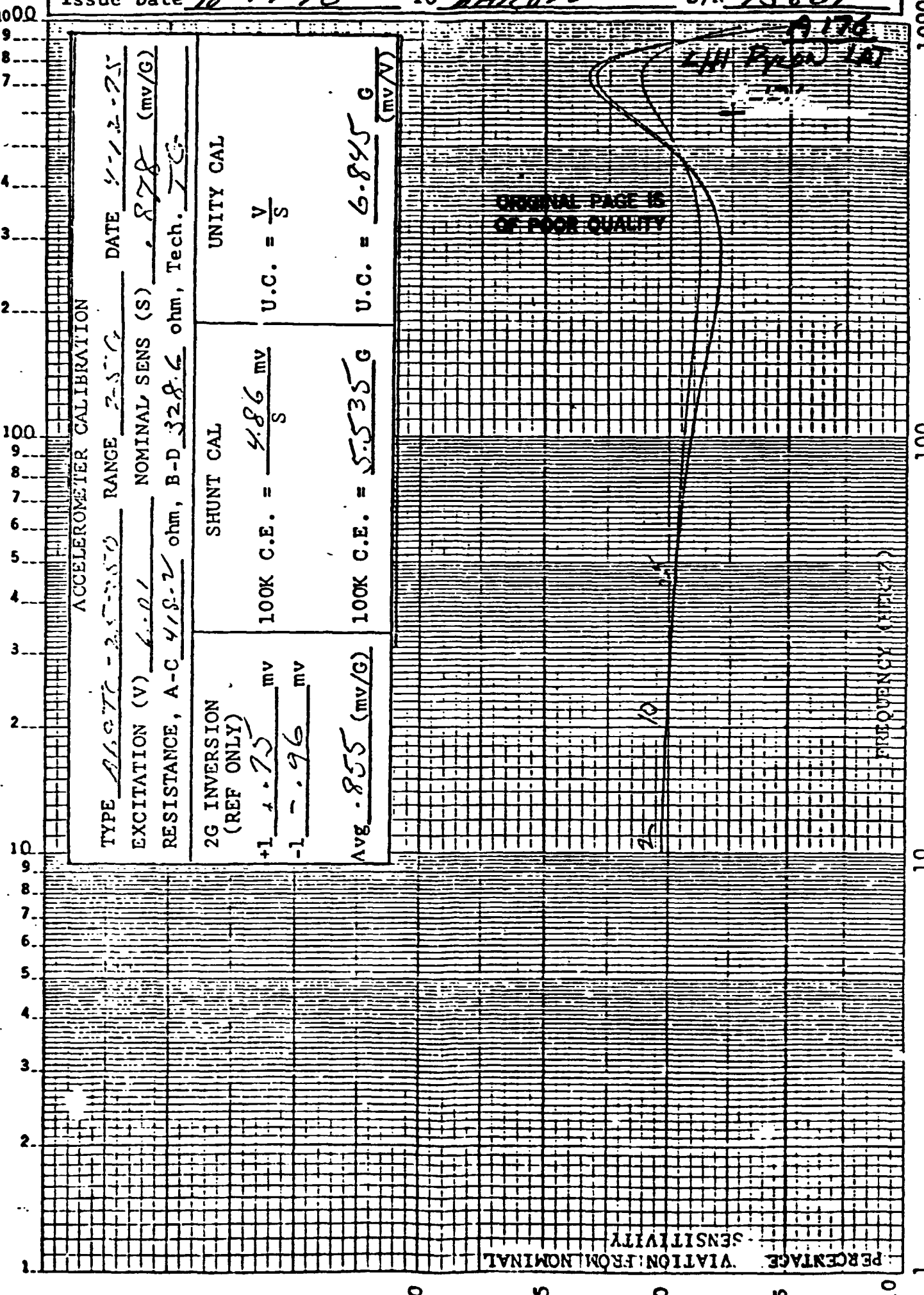
U.C. = $\frac{V}{S}$

U.C. = 6.845 G (mv/V)

PERCENTAGE VARIATION FROM NOMINAL SENSITIVITY

ORIGINAL PAGE IS OF POOR QUALITY

FREQUENCY (Hz)



46 5492

(A 177)

Issue Date 10-14-76 To BARON SN 15860

ACCELEROMETER CALIBRATION

TYPE 8697C-2.55-3.50 RANGE 2.5 G DATE 4-14-75
 EXCITATION (V) 6.01 NOMINAL SENS (S) 0.832 (mv/G)
 RESISTANCE, A-C 422.4 ohm, B-D 326.1 ohm, Tech. 7-6.

2G INVERSION
 (REF ONLY)

+1 0.81 mv
 -1 0.80 mv

Avg. 0.805 (mv/G)

SHUNT CAL

100K C.E. = $\frac{4.86 \text{ mv}}{S}$

100K C.E. = 5.600 G

UNITY CAL

U.C. = $\frac{V}{S}$

U.C. = 7.223 G (mv/V)

PERCENTAGE DEVIATION FROM NOMINAL SENSITIVITY

+10 0 -10

FREQUENCY (HERTZ)

100

10

1000

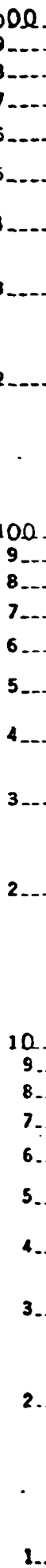
ORIGINAL PAGE IS
 OF POOR QUALITY

L/W PYLEON VER
 A177

A177

10

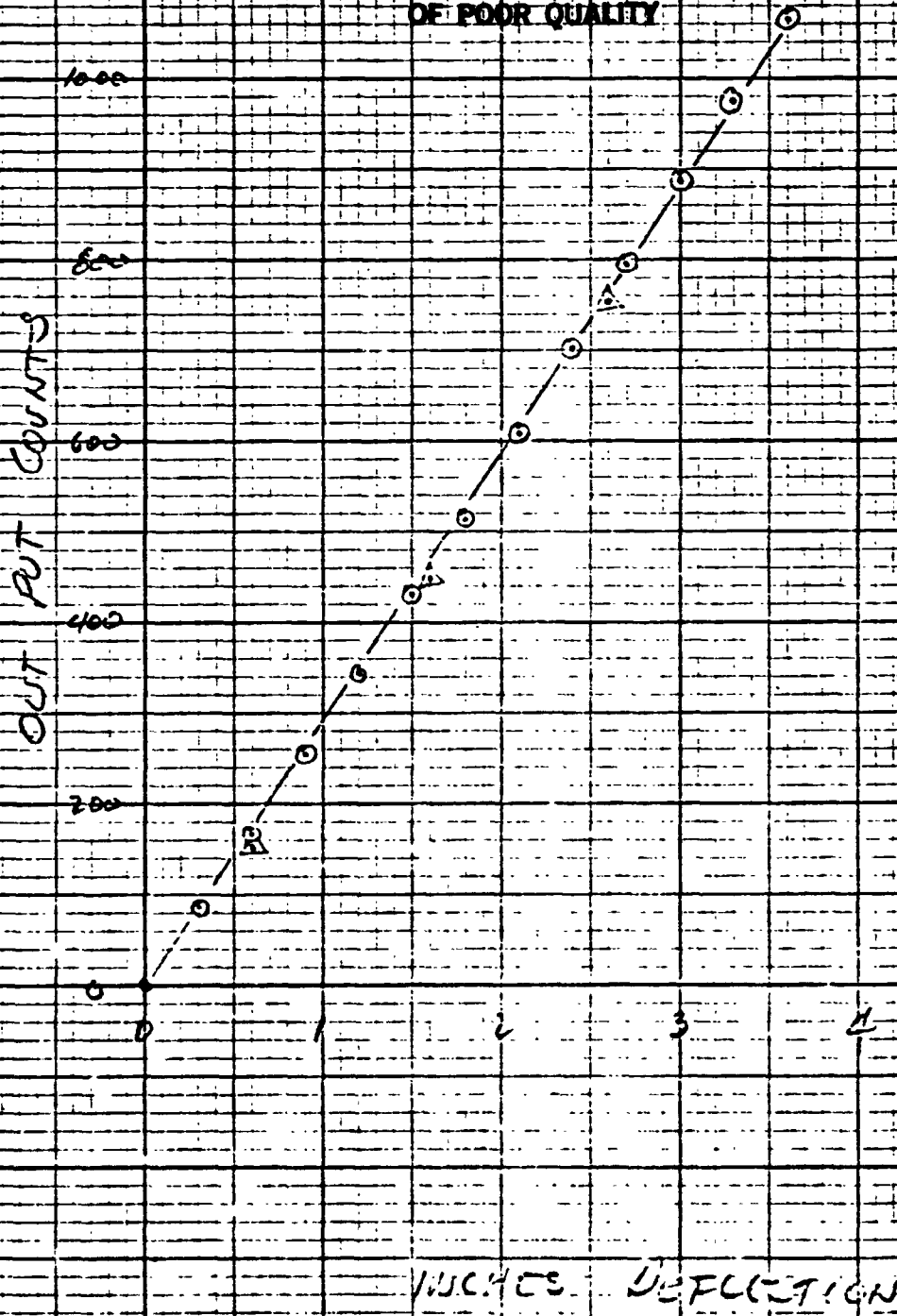
10



LEFT F/A HUB SPRING MOTION
100-COUNTS = 0.338 INCHES

Item code D181

ORIGINAL PAGE IS
OF POOR QUALITY



HILLIETT PACKARD 9270 1008

301

Sheet #1

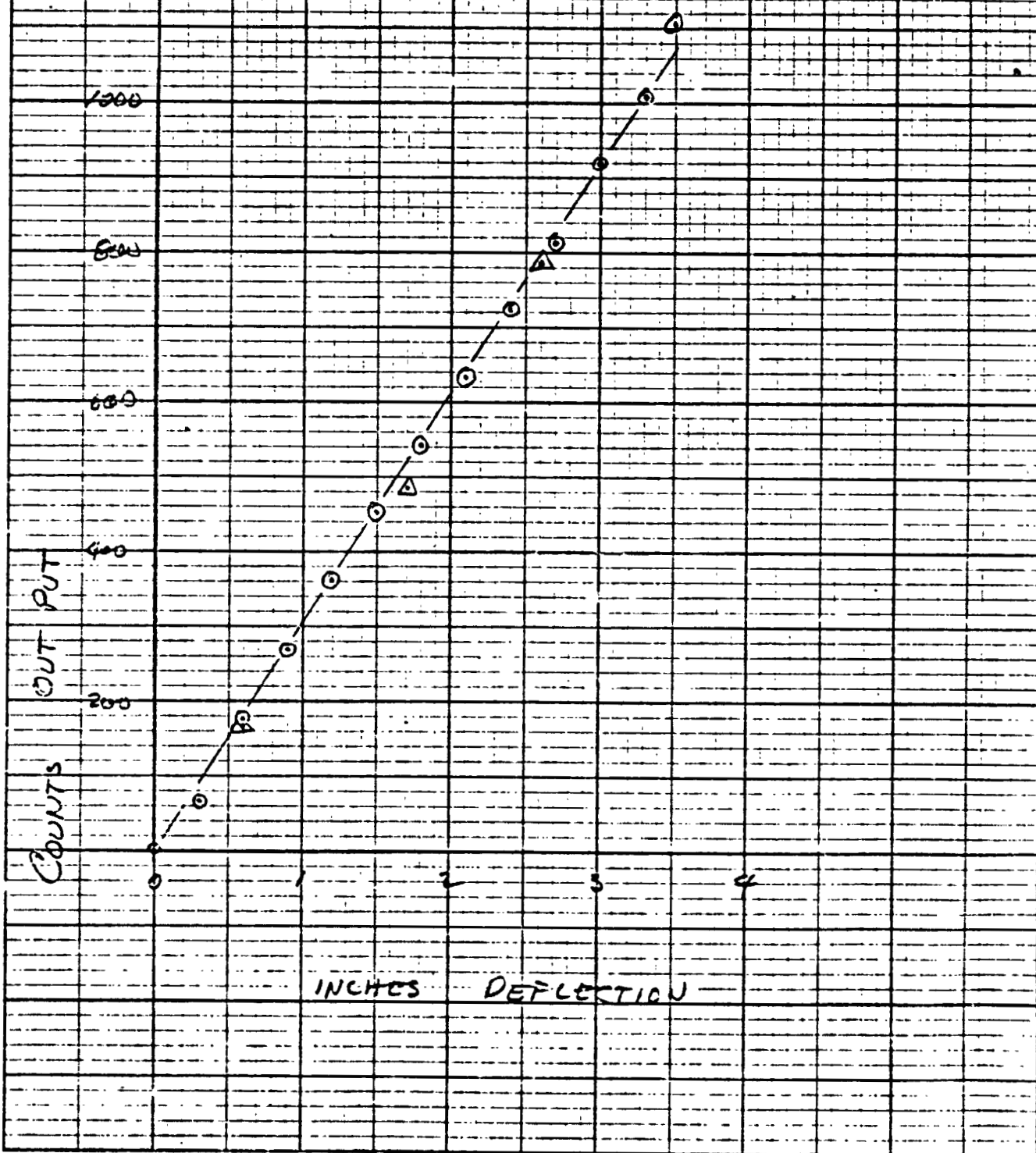
1-10-77 D18

ORIGINAL PAGE IS
OF POOR QUALITY

LEFT LAT HUB SPRING MOTION

100 COUNTS = 0.3249 INCHES

Item Code D182



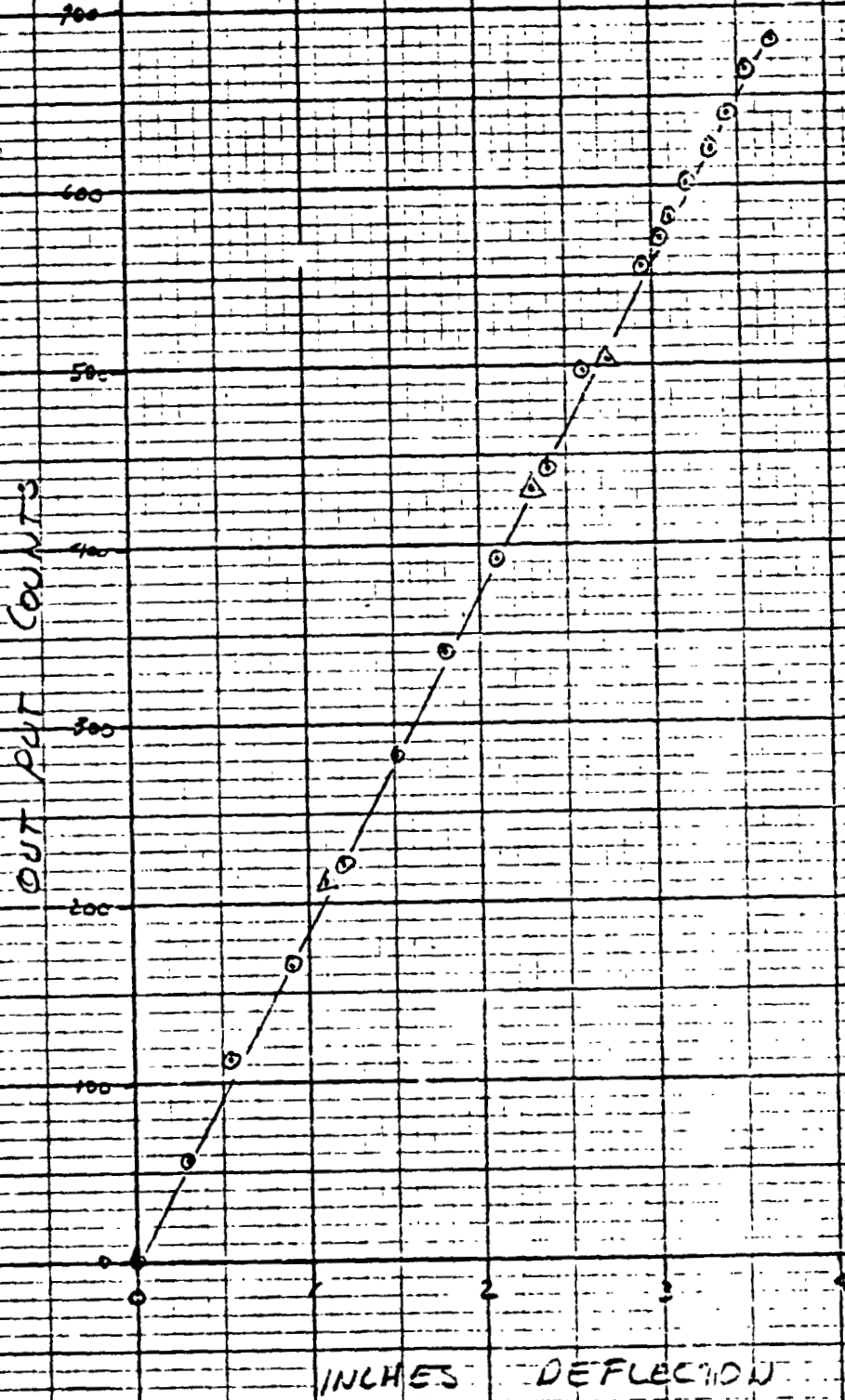
HEWLETT PACKARD 9270 10004

ORIGINAL PAGE IS
OF POOR QUALITY

LEFT COLLECTIVE POS

100 COUNTS = 0.5425 INCHES

Item Code D183



HULL # 1 PACKARD 9-70 1006

ORIGINAL PAGE IS
OF POOR QUALITY

LEFT F/A CYCLIC PDS.

100 COUNTS = 0.5546 INCHES

Item Code D184

700

600

500

OUT PUT
COUNTS

400

300

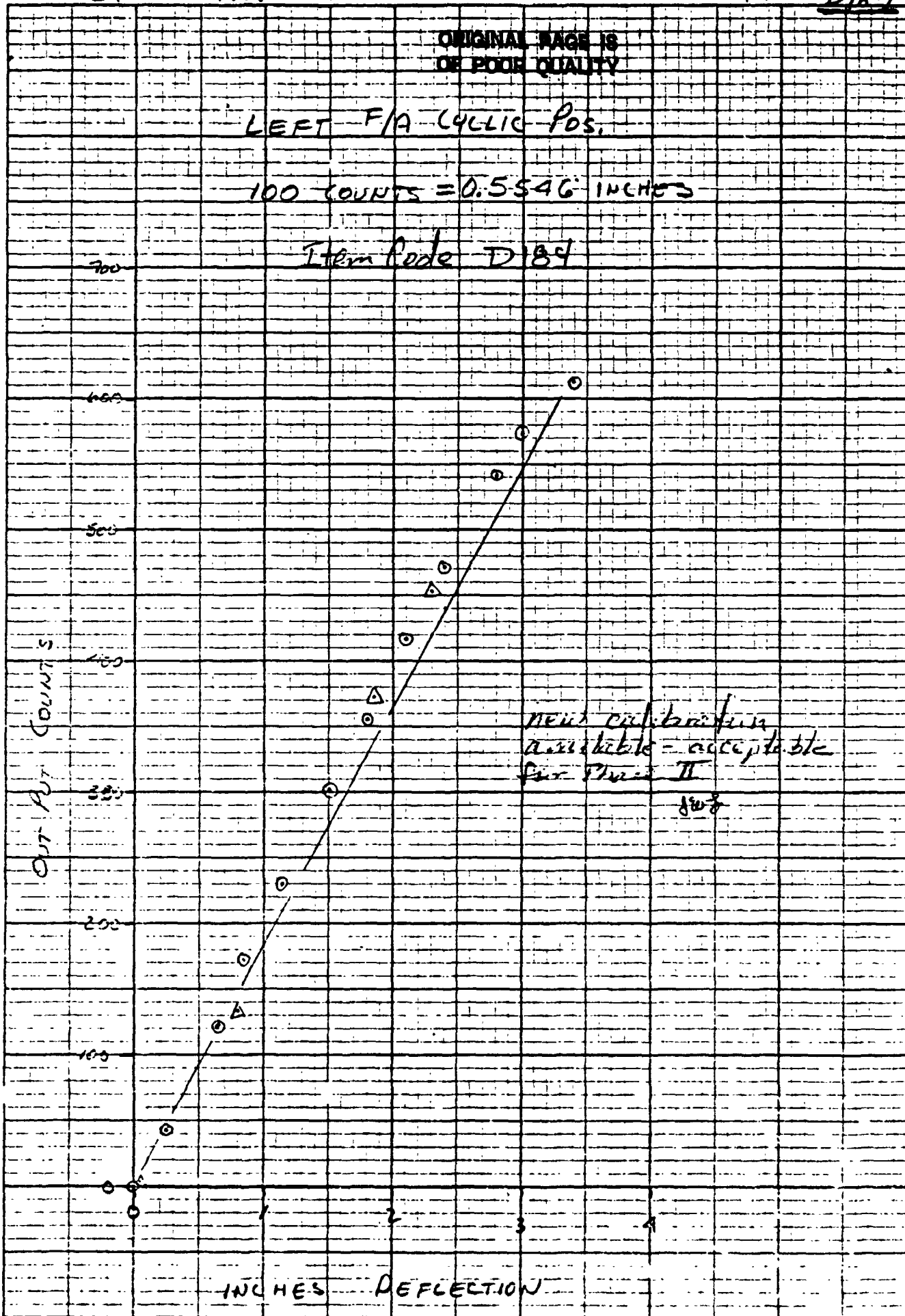
200

100

new calibration
available - acceptable
for Phase II

8/27

INCHES DEFLECTION



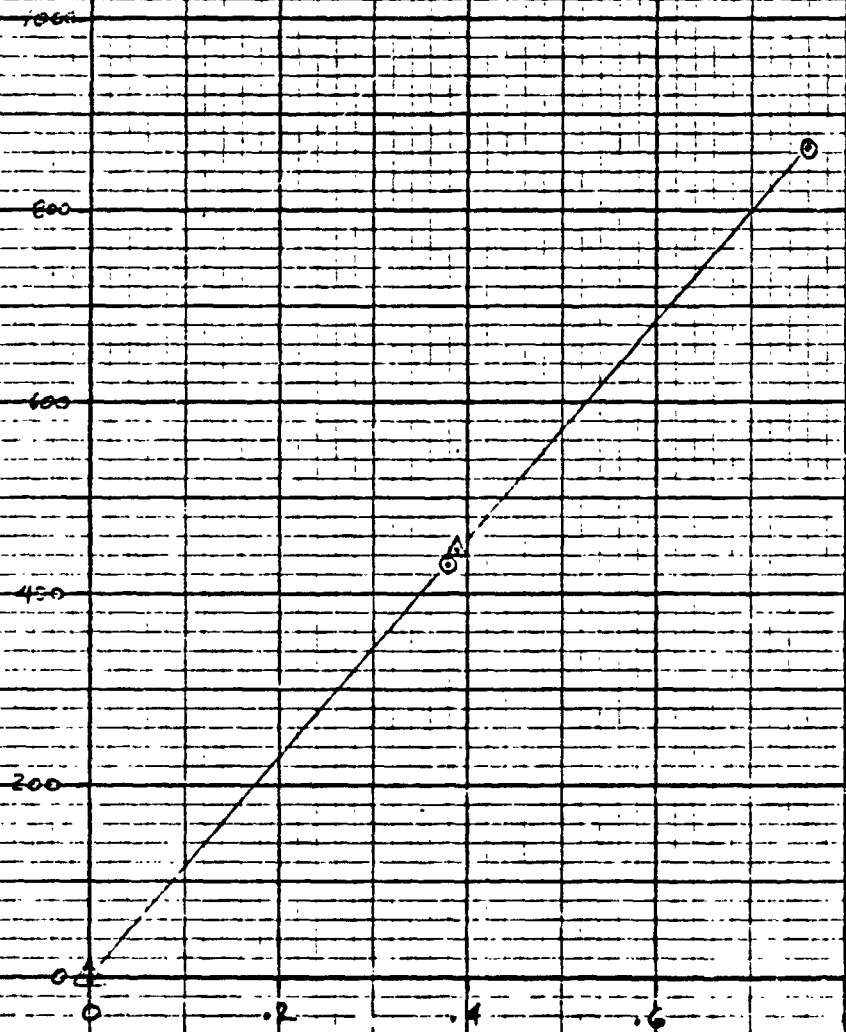
LEFT LAT. CYCLIC POS

100 COUNTS = 0.0882 IN.

Item Code D185

ORIGINAL PAGE IS
OF POOR QUALITY

OUT PUT COUNTS



INCHES DEFLECTION

301

SHIP # 1

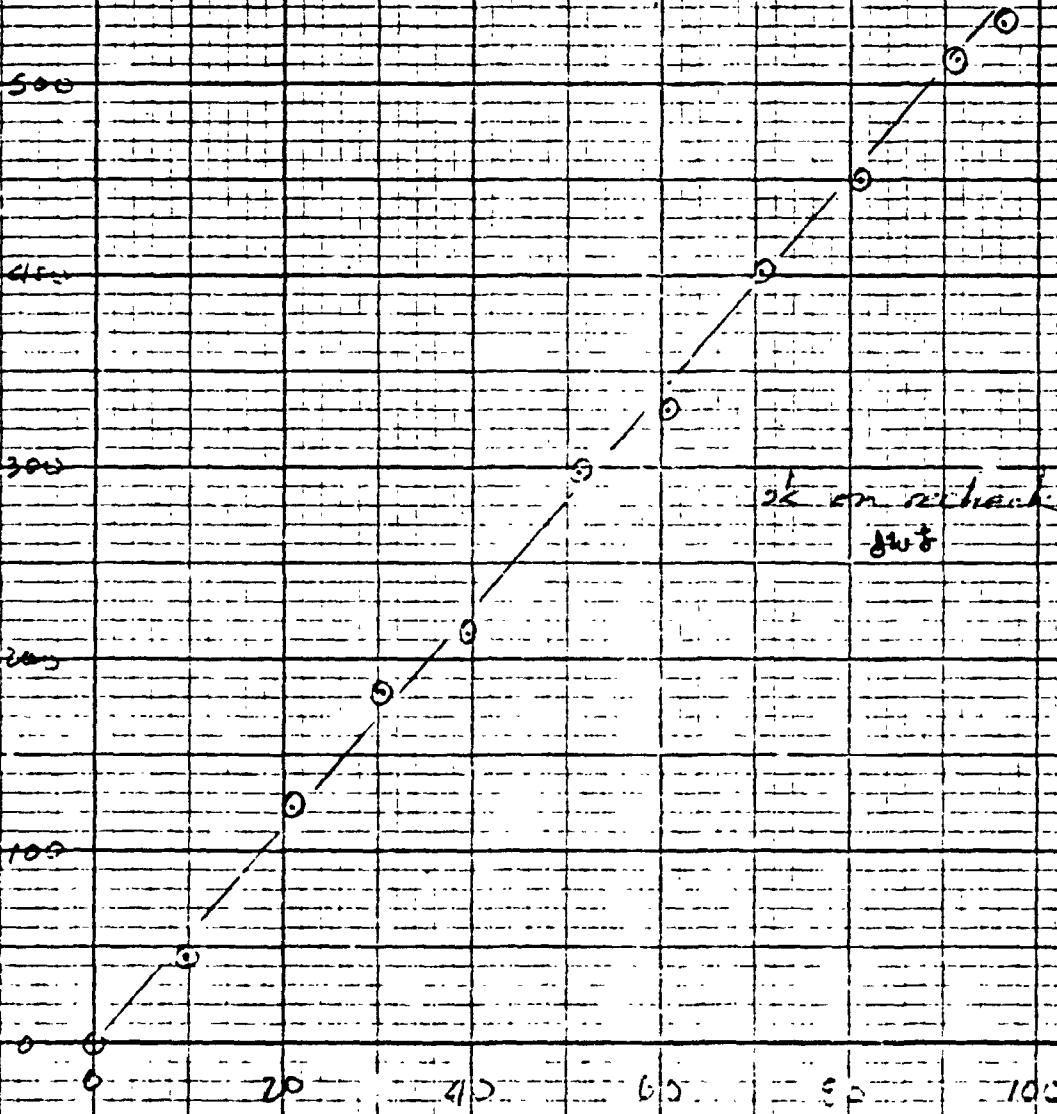
1-12-77 ^{Comp Program}
DIR6

LEFT Pylon Conversion Pos

100 COUNTS = 18.096 DEG

Item Code DIR6

ORIGINAL PAGE IS
OF POOR QUALITY



BUWELL PACKARD 9275 1006

B262

BEAM BEND HORIZ. STR.

UNITY CAL = 57,553 IN-IL./M/V

Item Code B262

ORIGINAL PAGE IS
OF POOR QUALITY

150

135

100

75

50

25

0

0

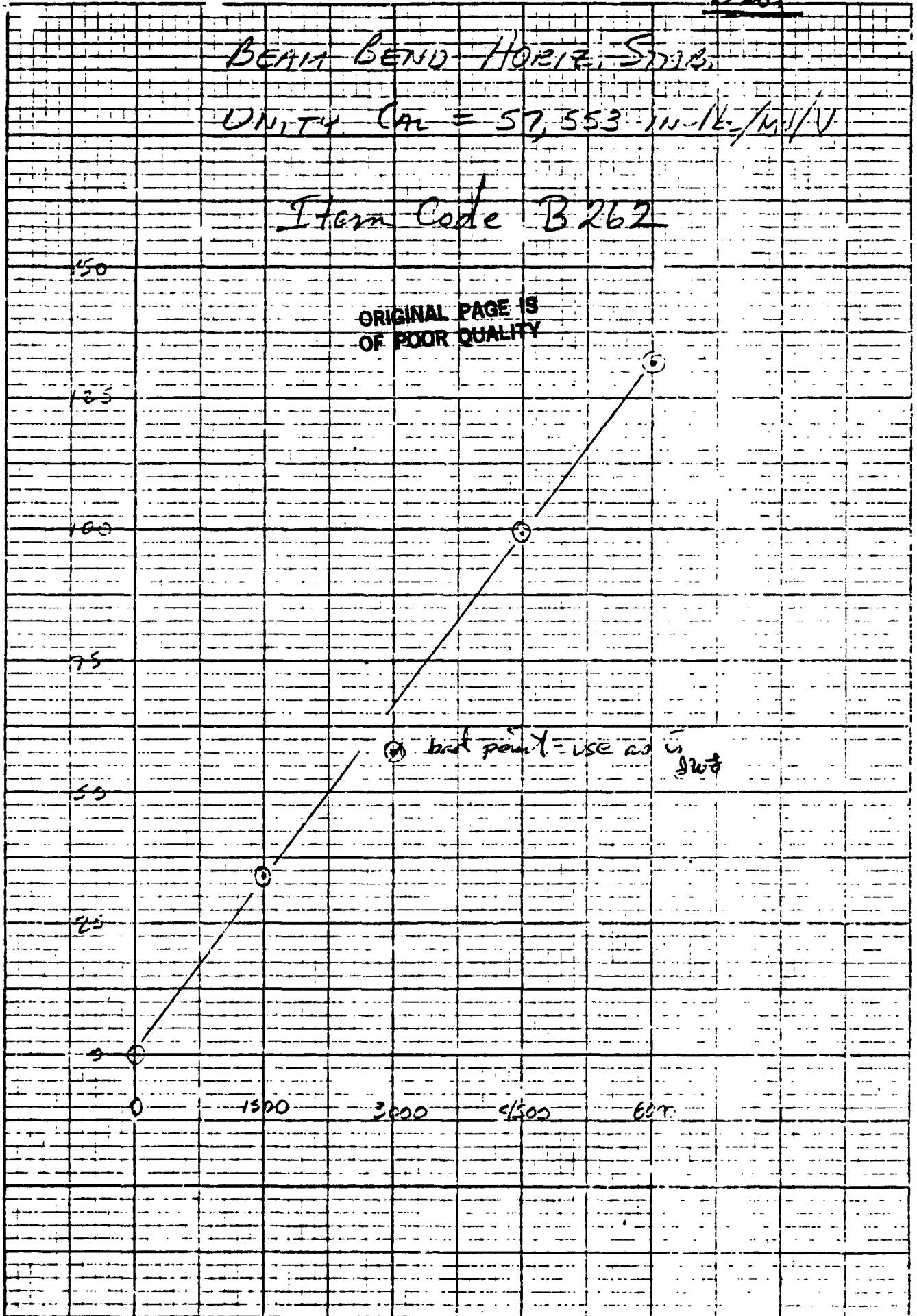
1500

3000

4500

6000

bad point = use as 0



ORIGINAL PAGE IS
OF POOR QUALITY

$$500K = 22\frac{2}{3} \text{ cts}$$

$$6000 \text{ in-lbs} = 13\frac{2}{3} \text{ cts}$$

$$500K = \frac{22\frac{2}{3}}{13\frac{2}{3}} (6000) \text{ in-lbs}$$

$$= 10,060.2 \text{ in-lbs}$$

$$100K = 5(500K)$$

$$= 5(10,060.2 \text{ in-lbs})$$

$$100K = 50,301 \text{ in-lbs}$$

$$\text{UNITY CAL} = \frac{100K}{.874}$$

$$= \frac{50,301}{.874} \text{ in-lbs/MU/V}$$

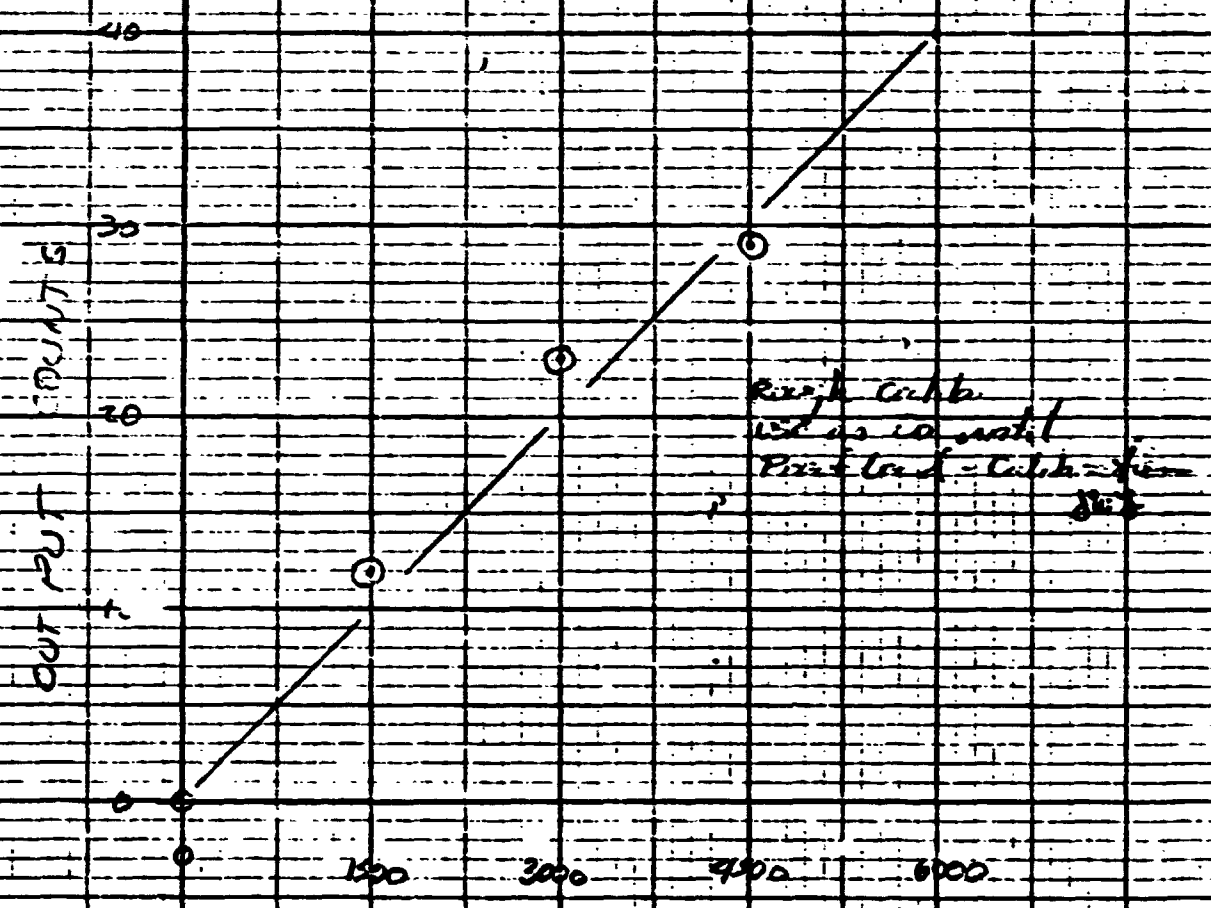
$$= 57,552.6 \text{ in-lbs/MU/V}$$

CHORD BEND HORIZ. STAG.

INITIAL CAL = 1939.36 IN-LBS/IN/IN

~~Item Code 312~~

ORIGINAL PAGE IS OF POOR QUALITY



Rec'd Calc
Use as constant
Print load = Calc = 1939.36

IN-LBS

ORIGINAL PAGE IS
OF POOR QUALITY

$$500 \text{ K} = 226 \text{ COUNTS}$$

$$6000 \text{ IN-LBS} = 90 \text{ COUNTS}$$

$$\begin{aligned} \therefore 500 \text{ K} = \Delta C_{AL} &= \frac{226}{90} (6000) \text{ IN-LBS} \\ &= 33,900 \text{ IN-LBS} \end{aligned}$$

$$100 \text{ K} = \frac{1}{5} (500 \text{ K})$$

$$\therefore 100 \text{ K} = 16,950 \text{ IN-LBS}$$

$$\text{UNITY CAL} = \frac{100 \text{ K}}{.574}$$

$$\begin{aligned} \therefore \text{UNITY CAL} &= \frac{169500 \text{ IN-LBS}}{.874} \text{ /MS/V} \\ &= 193935.9 \text{ IN-LBS/MS/V} \end{aligned}$$

ORIGINAL PAGE IS
OF POOR QUALITY

M266

~~B 262~~ Rough calibration
~~B 263~~ for ground men
M 266 MDHE

B268

3-4-77

OK

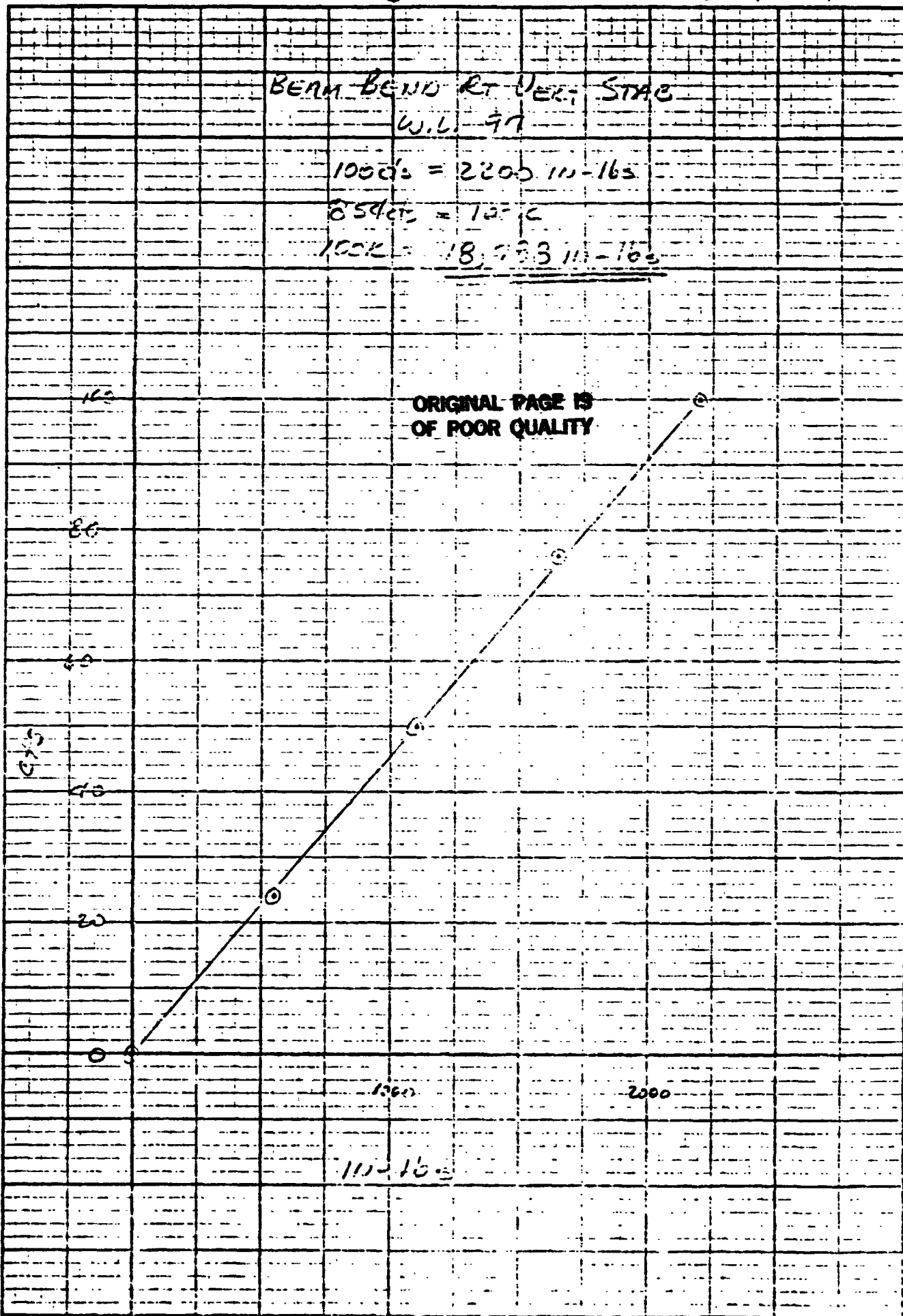
BEAM BEND RT VERT STAB
W.L. 97

$1000' = 2200 \text{ in} - 163$

$854' = 105' - 12$

$1000' = 18,753 \text{ in} - 163$

ORIGINAL PAGE IS
OF POOR QUALITY



WILLET PACKARD 9-770-000

1500
2000
111-163

J A

B 269

3-4-77 B269

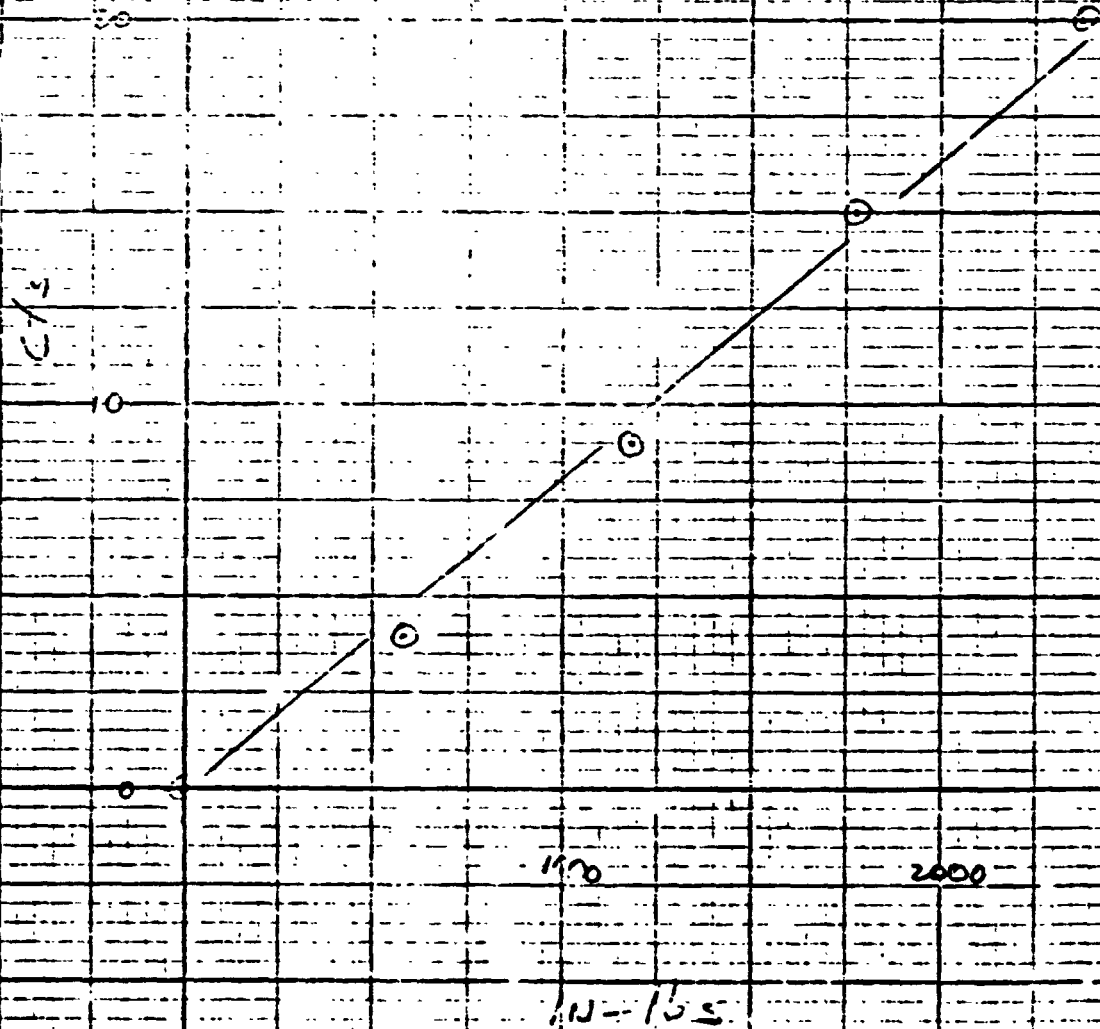
CHORD BEND RT. VERT STAB
W.L. 97

$$20 \text{ ft} = 2375 \text{ in} = 165$$

$$964 \text{ ft} = 100 \text{ K}$$

$$100 \text{ K} = \underline{\underline{119,475 \text{ in} = 165}}$$

ORIGINAL PAGE IS
OF POOR QUALITY



TLA

B270

3-4-77

BEAM BEND FT. OVER STAIRS

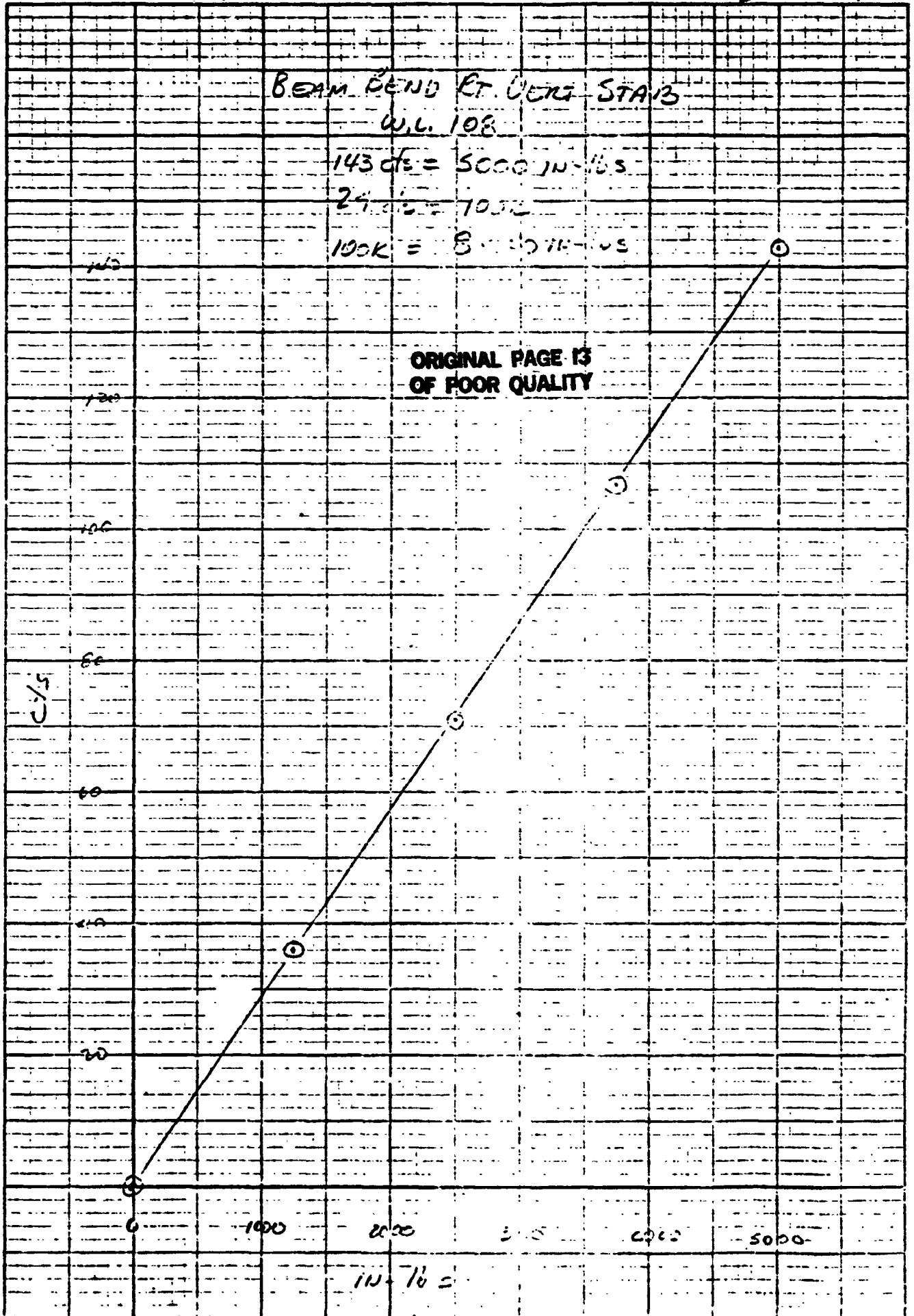
W.L. 108

$143 \text{ cfs} = 5000 \text{ IN} \cdot \text{LB} \cdot \text{S}$

$24 \text{ cfs} = 1000$

$100K = 8 \cdot 10^7 \text{ IN} \cdot \text{LB} \cdot \text{S}$

ORIGINAL PAGE 13
OF FOUR QUALITY



30 WILLY-PACKARD 9270 10000

IE

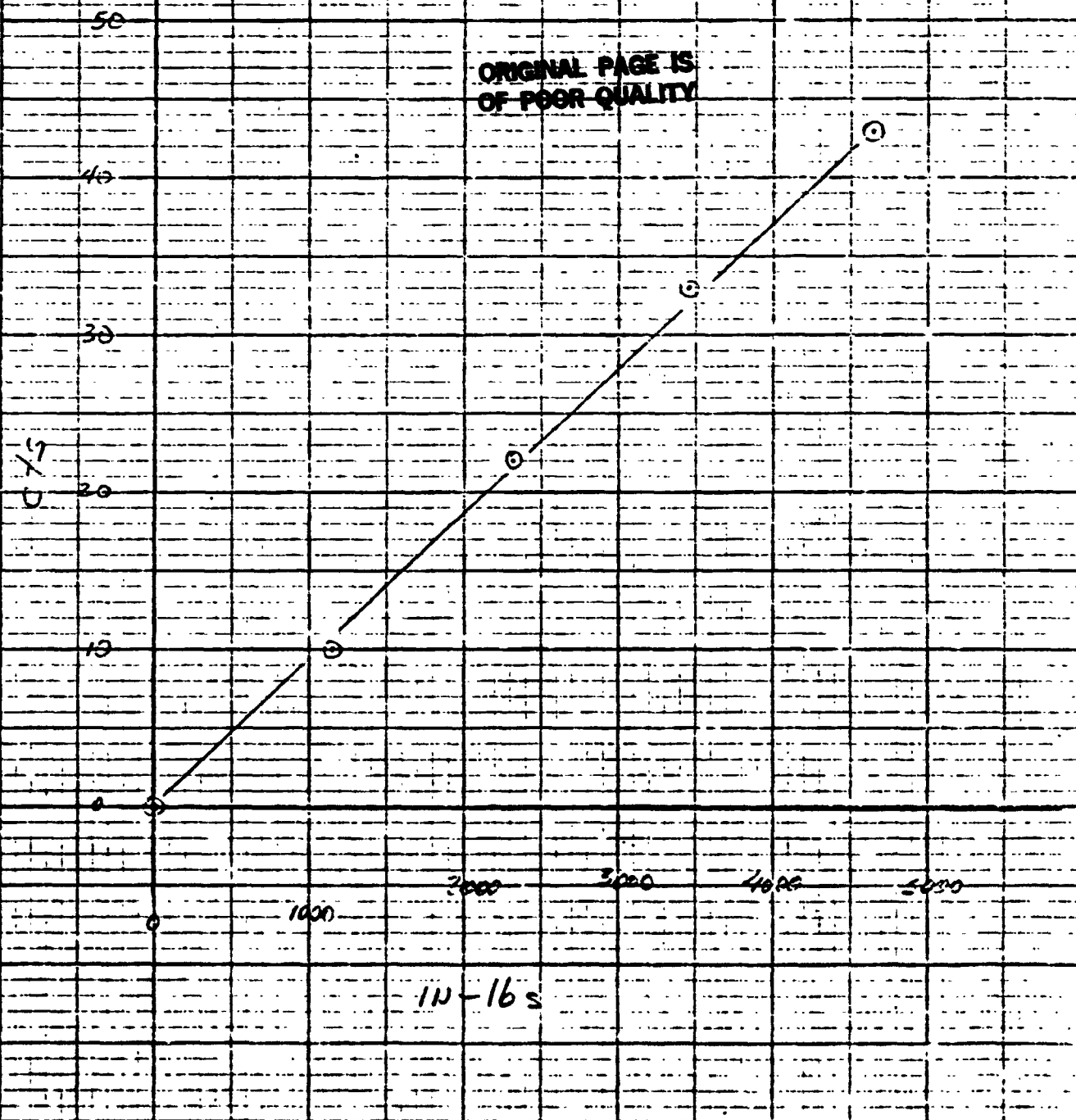
CHORO PENO REVERT STAG
W.L. 10B

43 cts = 4650 IN-lbs

98 cts = 100K

∴ 100K = 106,299 IN-lbs

ORIGINAL PAGE IS
OF POOR QUALITY



HEWLETT PACKARD 9270 0016

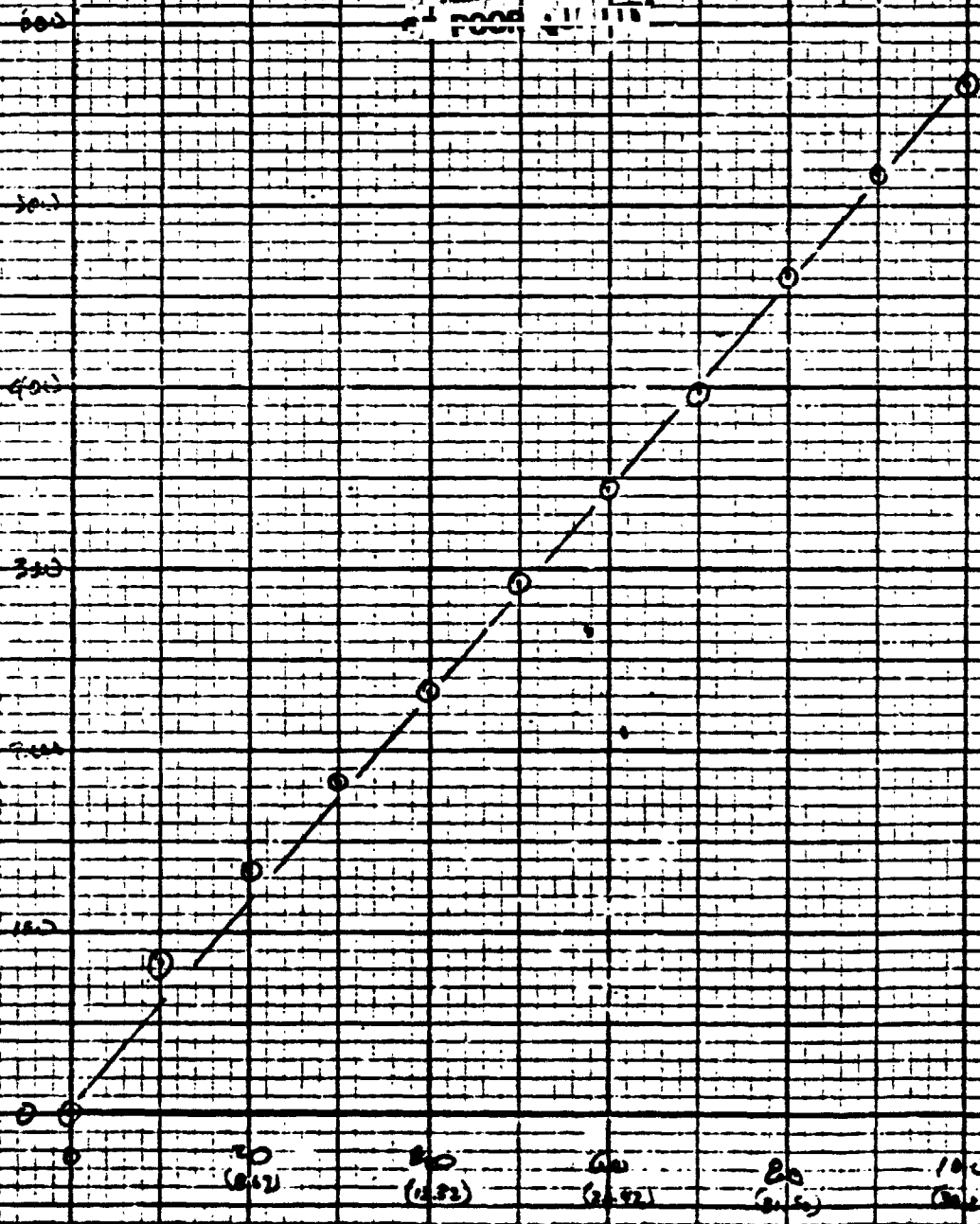
ELEVATION P_0

$56.526 = 59.25^\circ$

$1.727 = 6.77^\circ$

ORIGINAL
FLOOR
PLAN

17
D



20
(0.12)

40
(0.32)

60
(0.52)

80
(0.72)

100
(0.92)

Dist

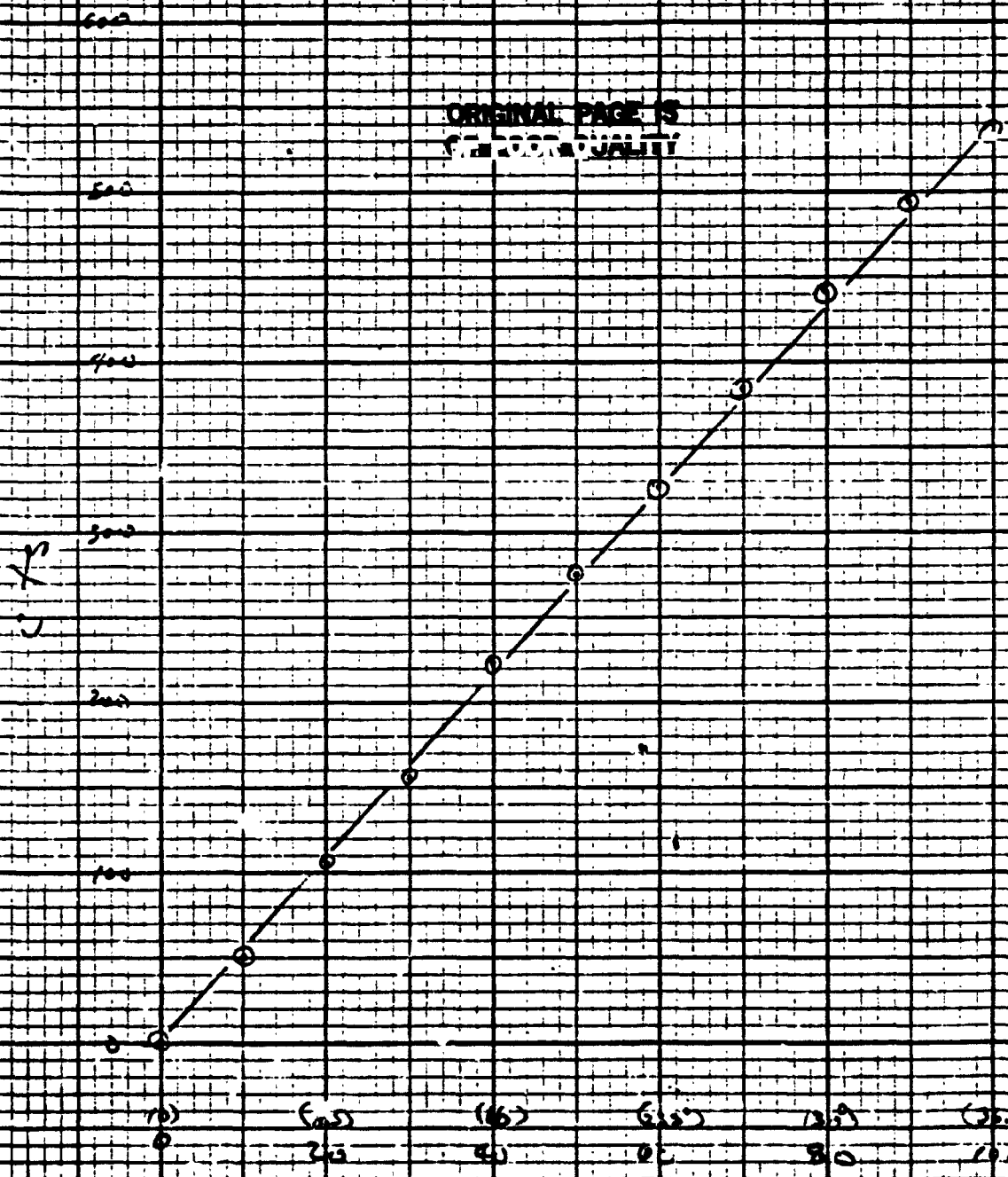
D794 2-25-77

KROON PDS

$$532.45 = 36.5^\circ$$

$$100.45 = 6.86^\circ$$

ORIGINAL PAGE IS
OF POOR QUALITY



HEWLETT-PACKARD 0270-1008

DEG

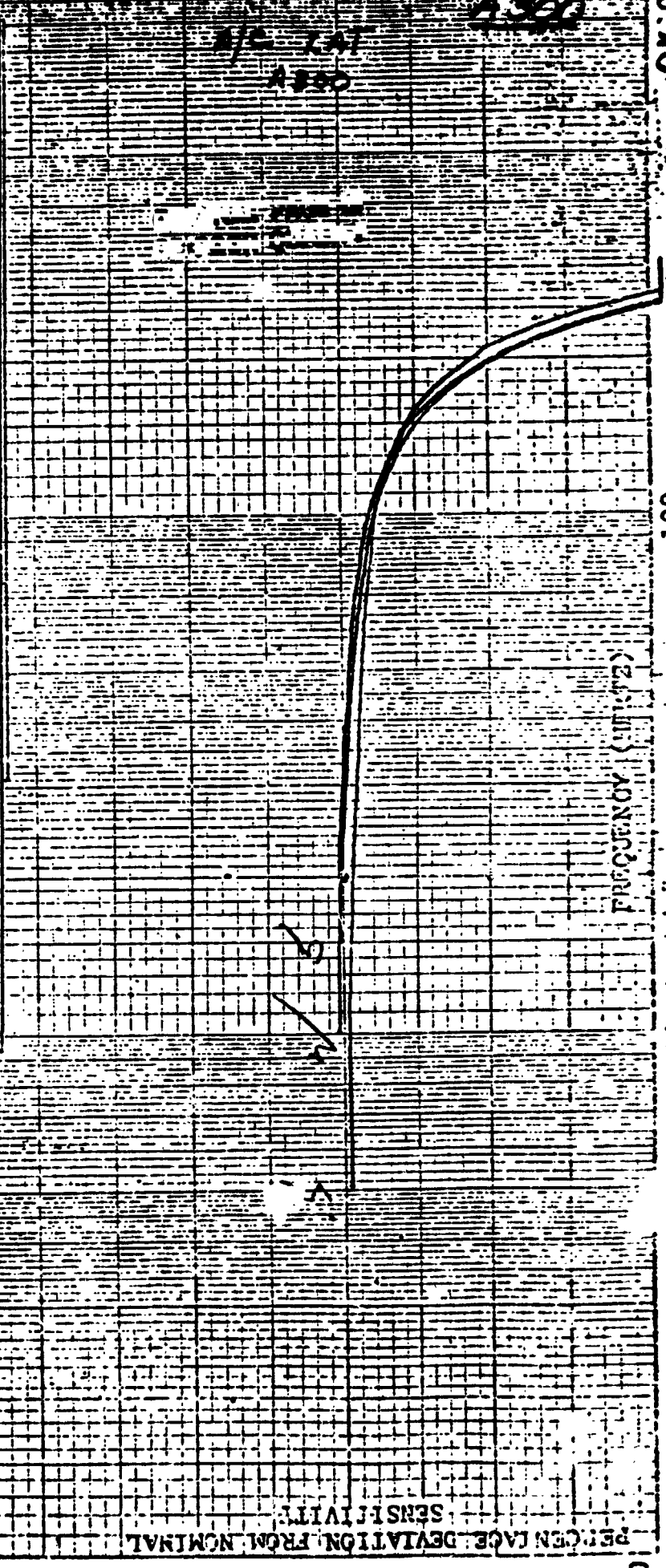
OK ↗

Issue Date 10-14-76 To PARSON SN 15846

1000
9
8
7
6
5
4
3
2
100
90
80
70
60
50
40
30
20
10
1
2
3
4
5
6
7
8
9
10

ACCELEROMETER CALIBRATION

TYPE 8697C-5-350 RANGE 5G DATE 10-9-76
 EXCITATION (V) 4.78 NOMINAL SENS (S) 4.661 (mv/G)
 RESISTANCE, A-C 232-8ohm, B-D 323.9 ohm, Tech. TR
 2G INVERSION (REF ONLY)
+14.73 mv
-14.58 mv
 SHUNT CAL
 100K C.E. = 4.81 mv
 100K C.E. = 1.032 G
 UNITY CAL
 U.C. = $\frac{V}{S}$
 U.C. = 1.283 G (mv/V)
 AVE 4.655 (mv/G)



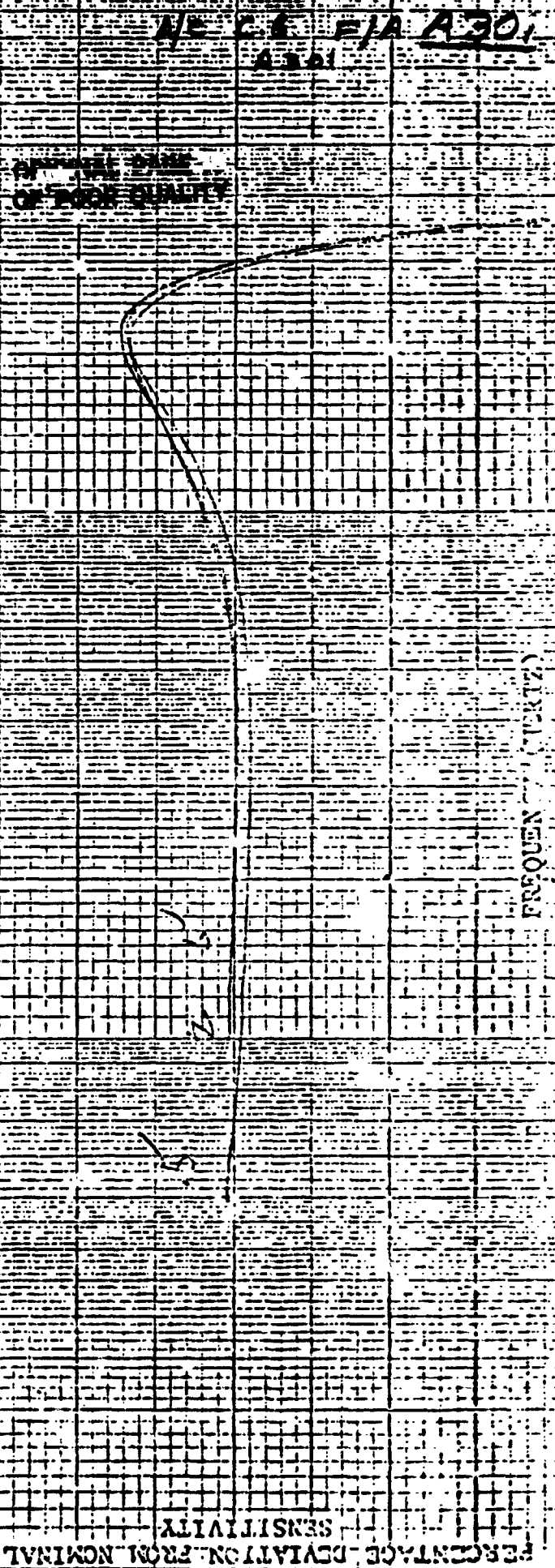
1000
100
10
1
2
3
4
5
6
7
8
9
10

Issue Date 10-14-76 To ARRON SN 15042

ACCELEROMETER CALIBRATION

TYPE 2691C-5-350 RANGE 5-G DATE 9-26-76
 EXCITATION (V) 1.000 NOMINAL SENS (S) 3.920 (mv/G)
 RESISTANCE, A-C 1.1 ohm, B-D 326.2 ohm, Tech. 70

2G INVERSION (REF ONLY)	SHUNT CAL	UNITY CAL
+1 <u>3.97</u> mv	100K C.E. = $\frac{4.8 \text{ } \mu\text{mv}}{\text{S}}$	U.C. = $\frac{V}{S}$
-1 <u>3.85</u> mv	100K C.E. = <u>1.232</u> G	U.C. = <u>1.530</u> G (mv/V)
Avg <u>3.91</u> (mv/G)		



(A372)

Issue Date 10-17-76 To SARAW SN 15852

1000
9
8
7
6
5
4
3
2
1

100
9
8
7
6
5
4
3
2
1

10
9
8
7
6
5
4
3
2
1

ACCELEROMETER CALIBRATION

TYPE 1697C-10-350 RANGE 10 G DATE 4-12-75

EXCITATION (V) 1.01 NOMINAL SENS (S) 2.015 (mv/G)

RESISTANCE, A-C 422.9 ohm, B-D 329.0 ohm, Tech. T.G.

2G INVERSION
(REF ONLY)

+1 1.86 mv
 -1 2.10 mv

SHUNT CAL

100K C.E. = $\frac{4.78 \text{ mv}}{S}$

AVG 1.98 (mv/G)
 100K C.E. = 2.372 G

UNITY CAL

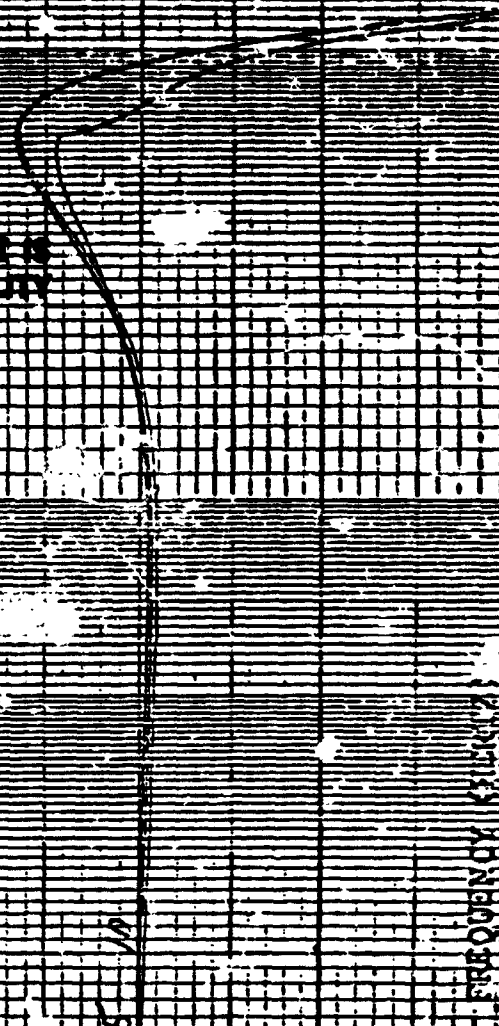
U.C. = $\frac{V}{S}$

U.C. = 2.983 G
 (mv/V)

PERCENTAGE DEVIATION FROM NOMINAL SENSITIVITY

FREQUENCY (CYCLES)

PILOTS START DAY 1
 1500
 1000
 500



K&E SEMI-LOGARITHMIC 0.5 CYCLES X 70 DIVISIONS
 FLUTEL & ESSER CO. MADE IN U.S.A.

46 5492

4304

Issue Date 10-14-76 To BARON SN 15854

1000
9
8
7
6
5
4
3
2
1
10
9
8
7
6
5
4
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10

ACCELEROMETER CALIBRATION

TYPE AE97C-10-350 RANGE 1.0 DATE 4-12-75
 EXCITATION (V) 6.01 NOMINAL SENS (S) 2.023 (mv/G)
 RESISTANCE, A-C 429.7 ohm, B-D 325.5 ohm, Tech. 7C

2G INVERSION
 (REF ONLY)

+1 1.80 mv
 -1 2.18 mv

SHUNT CAL

100K C.E. = $\frac{4.77 \text{ mv}}{S}$

AVG 1.99 (mv/G) 100K C.E. = 2.357 G

UNITY CAL

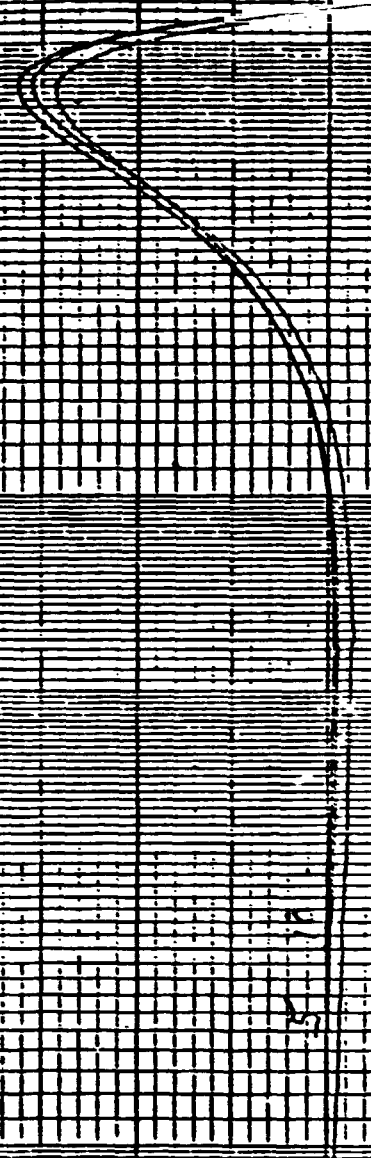
U.C. = $\frac{V}{S}$

U.C. = 2.969 G (mv/V)

ORIGINAL PAGE IN
 OF FOUR QUALITY

PERCENTAGE DEVIATION FROM NOMINAL SENSITIVITY

FREQUENCY (Hz)



4304

EL. MAIN LANDING GEAR OLEO

$856 \text{ cfs} = 12 \text{ INCHES}$

$100 \text{ cfs} =$

14

12

10

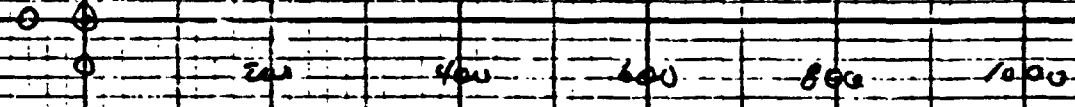
8

6

4

2

ORIGINAL PAGE IS
OF POOR QUALITY



D306

2-25-17

D306 OK

PITCH SCALE Pos.

$$642 \text{ ds} = 0.7 \text{ m}$$

$$100 \text{ ds} = 0.129$$

ORIGINAL PAGE IS
OF POOR QUALITY

800

600

400
U

200

0

.2

.4

.6

.8

INCHES

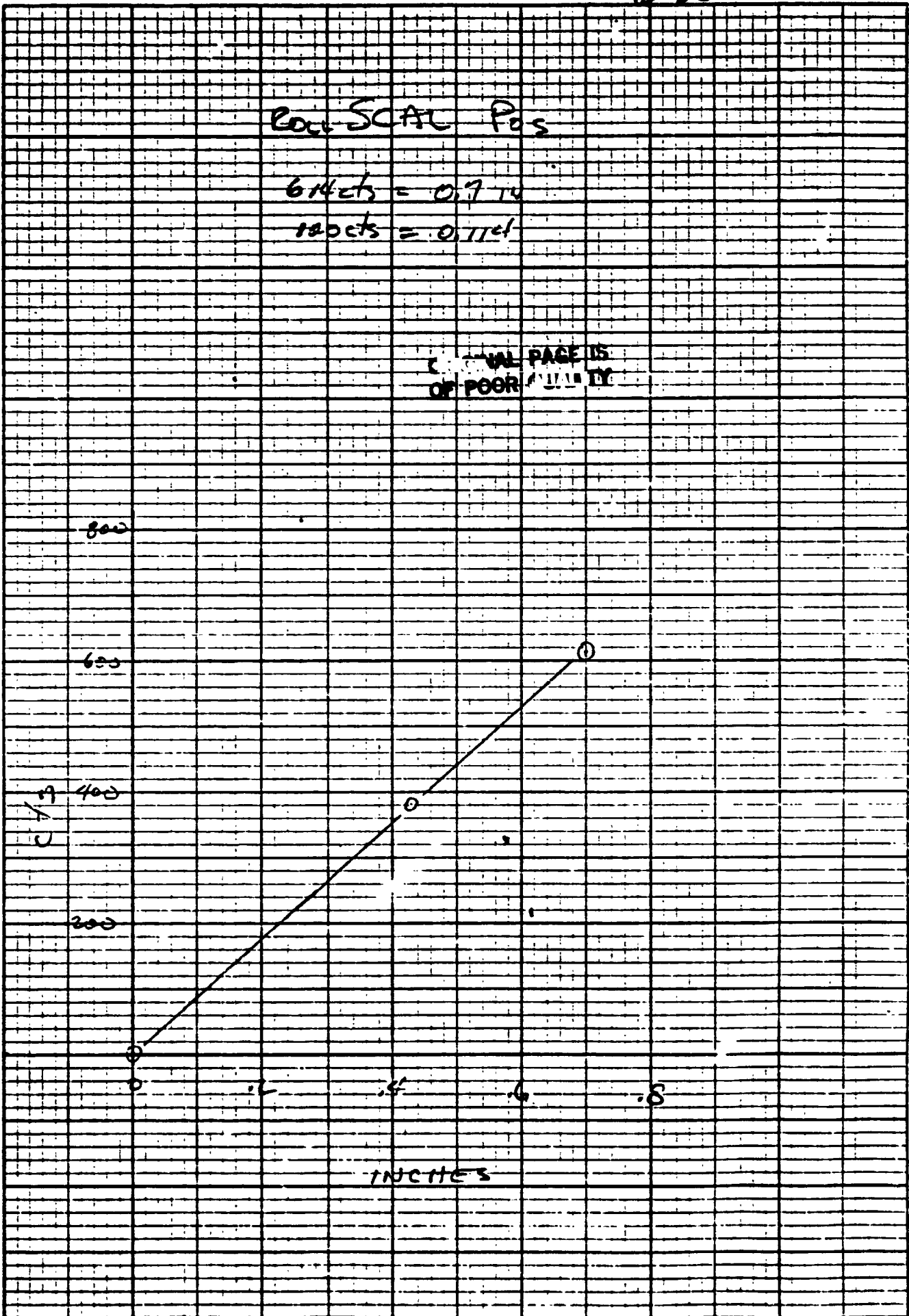
HEWLETT-PACKARD 8270-1008

Roll SCAL Pos

614cts = 0.714

120cts = 0.114

CENTRAL PAGE IS
OF POOR QUALITY



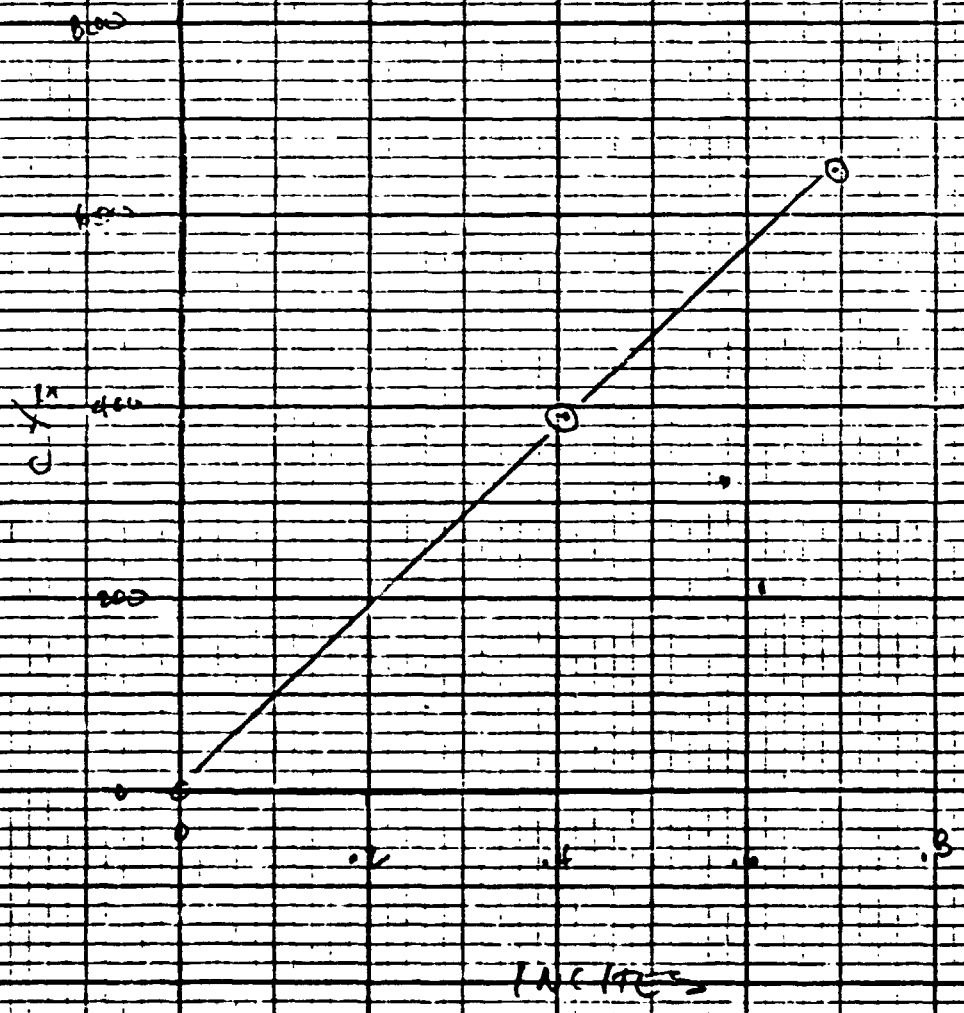
HEWLETT-PACKARD 9270 1004

Dir. SCAS Pos.

645 dts = 0.69 IN

100 dts = 0.107 IN

ORIGINAL PAGE IS
OF POOR QUALITY

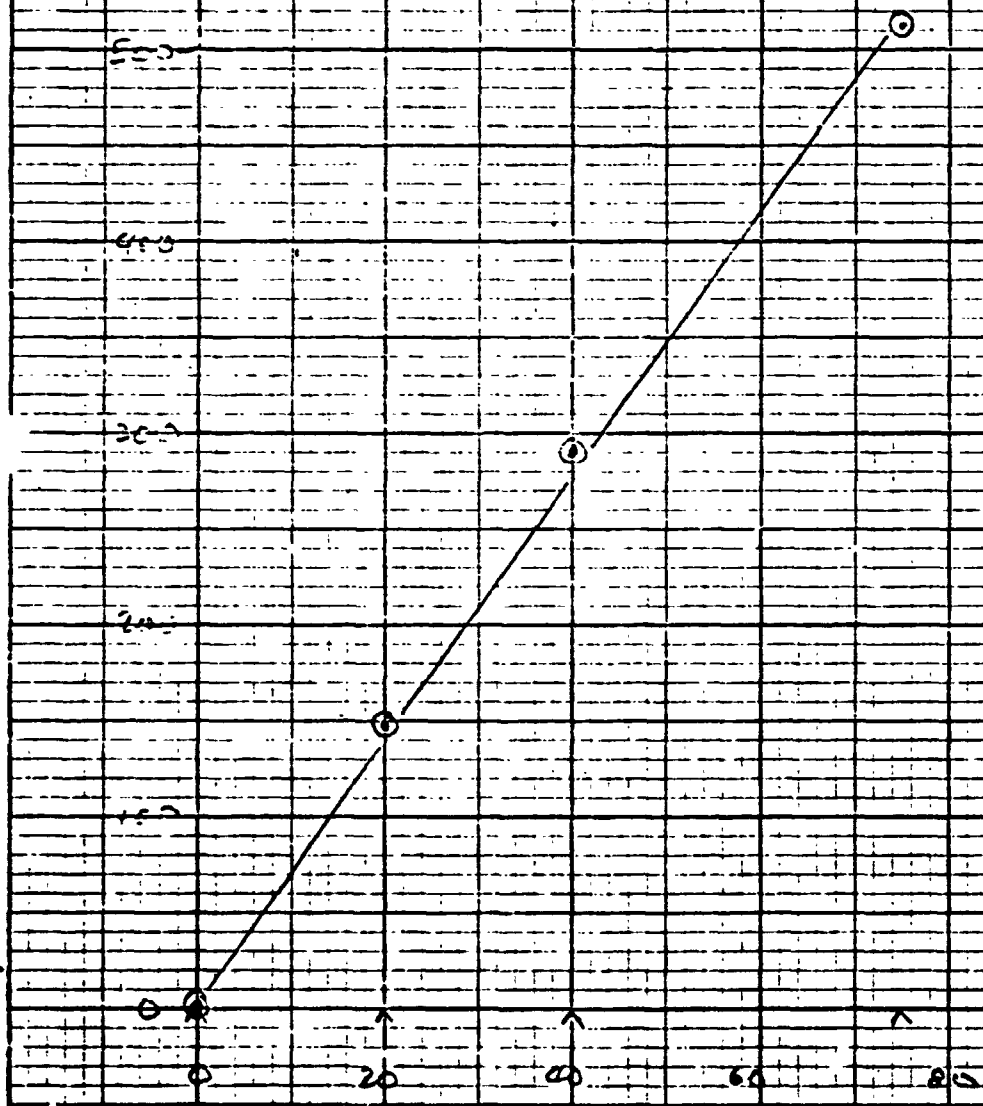


PLOTS FLAP LEVEL POS

511 cts = 75°

100 cts = 14.68

ORIGINAL PAGE IS
OF POOR QUALITY



B312

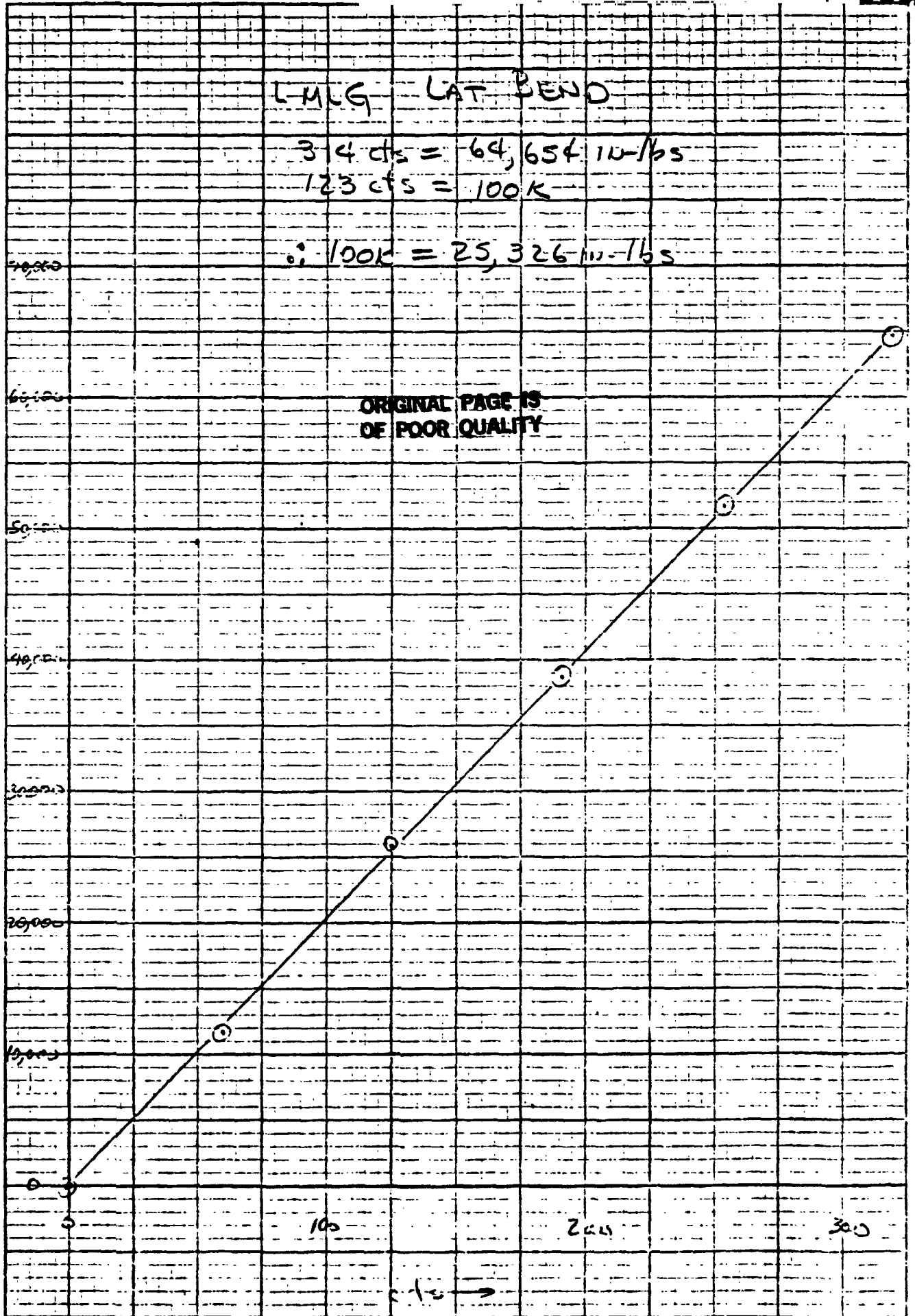
3-1-77 2312

LMLG LAT BEND

314 cts = 64,654 11-1bs

123 cts = 100K

∴ 100K = 25,326 11-1bs



ORIGINAL PAGE IS OF POOR QUALITY

11-1bs

100

200

300

cts →

T.B

NEVILLE PACKARD 4271-11116

D314

OR
D314

LT. MAIN LANDING GEAR Act

862 L_2 = 13 INCHES

ORIGINAL PAGE IS
OF POOR QUALITY

14

12

10

8

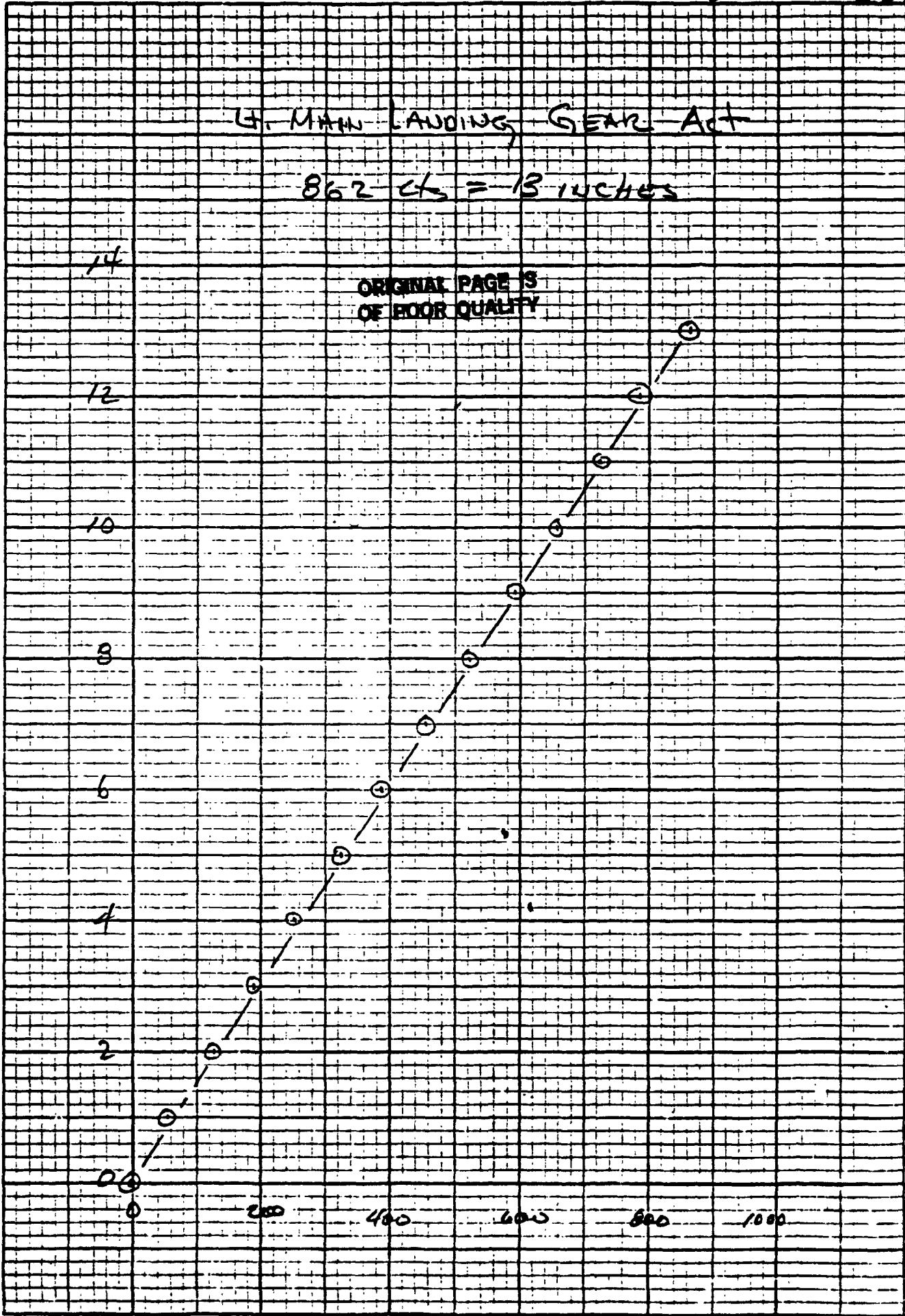
6

4

2

0

0 200 400 600 800 1000



B

D 315

D315

LT MAIN LANDING GEAR OLCO

844 lbs = 12 INCHES

100 lbs =

14

12

10

8

6

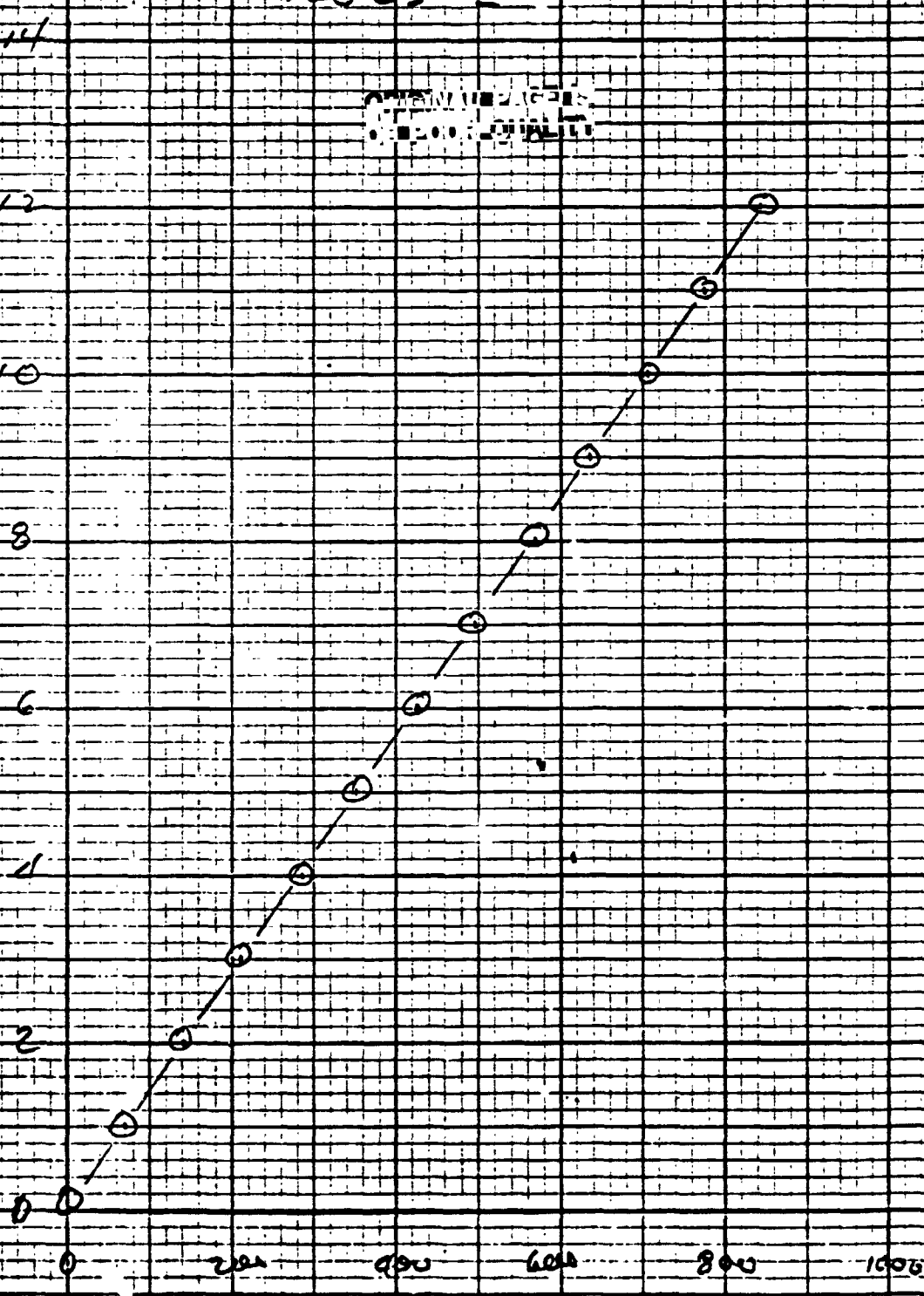
4

2

0

0 200 400 600 800 1000

APPROXIMATE
WEIGHT



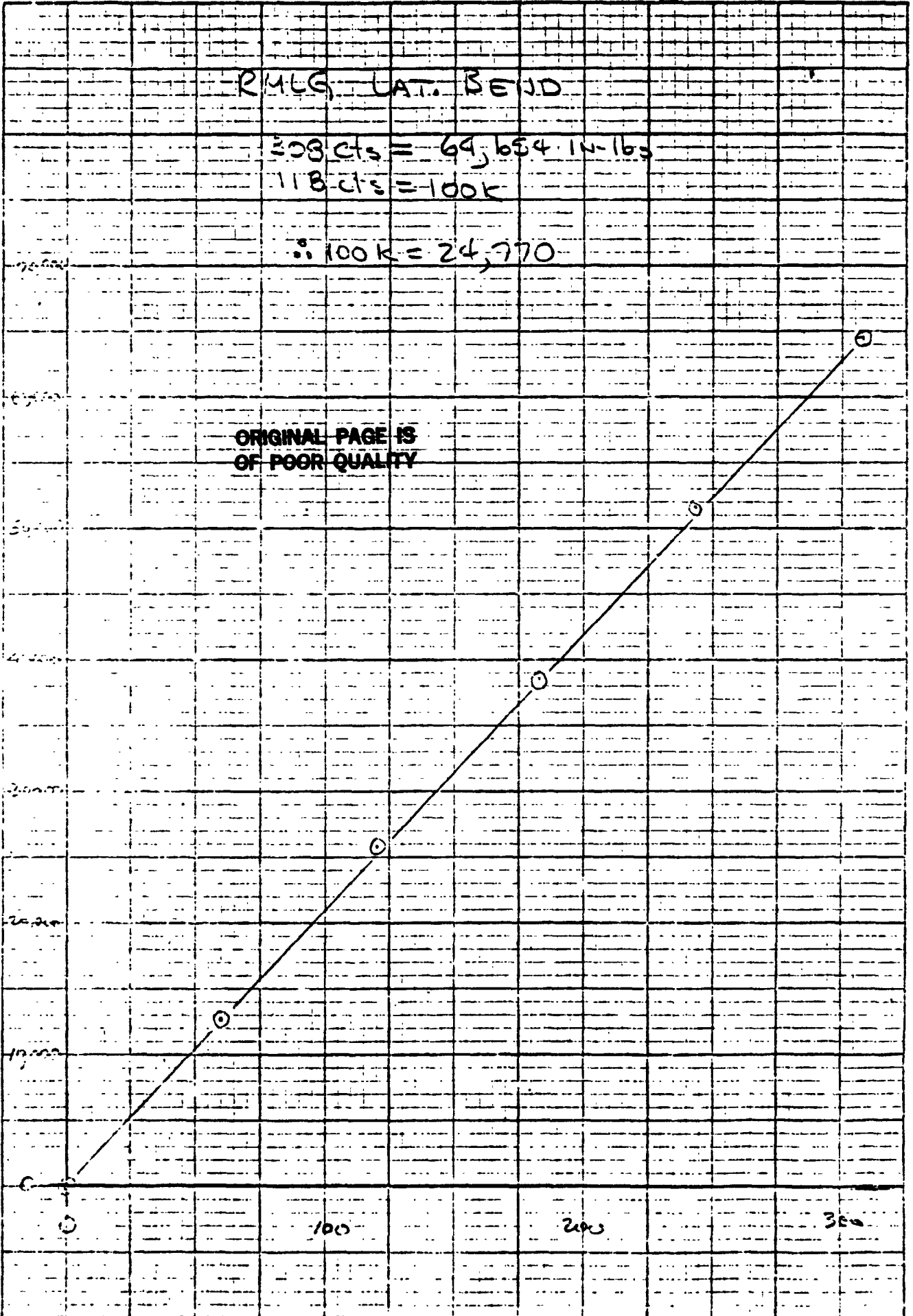
RMLG, LAT. BEUD

308 cts = 69,654.14-163

118 cts = 100k

∴ 100k = 24,770

ORIGINAL PAGE IS
OF POOR QUALITY



10 511 11 FACRARD 1070 1000

100 - 1000

LT. MAIN CAUDING GEAR Act.

$812 \text{ ds} = 12 \text{ INCHES}$

$100 \text{ ds} =$

14

ORIGINAL $2 \frac{1}{2}$ IP
OF POOR QUALITY

12

10

8

6

4

2

0

0

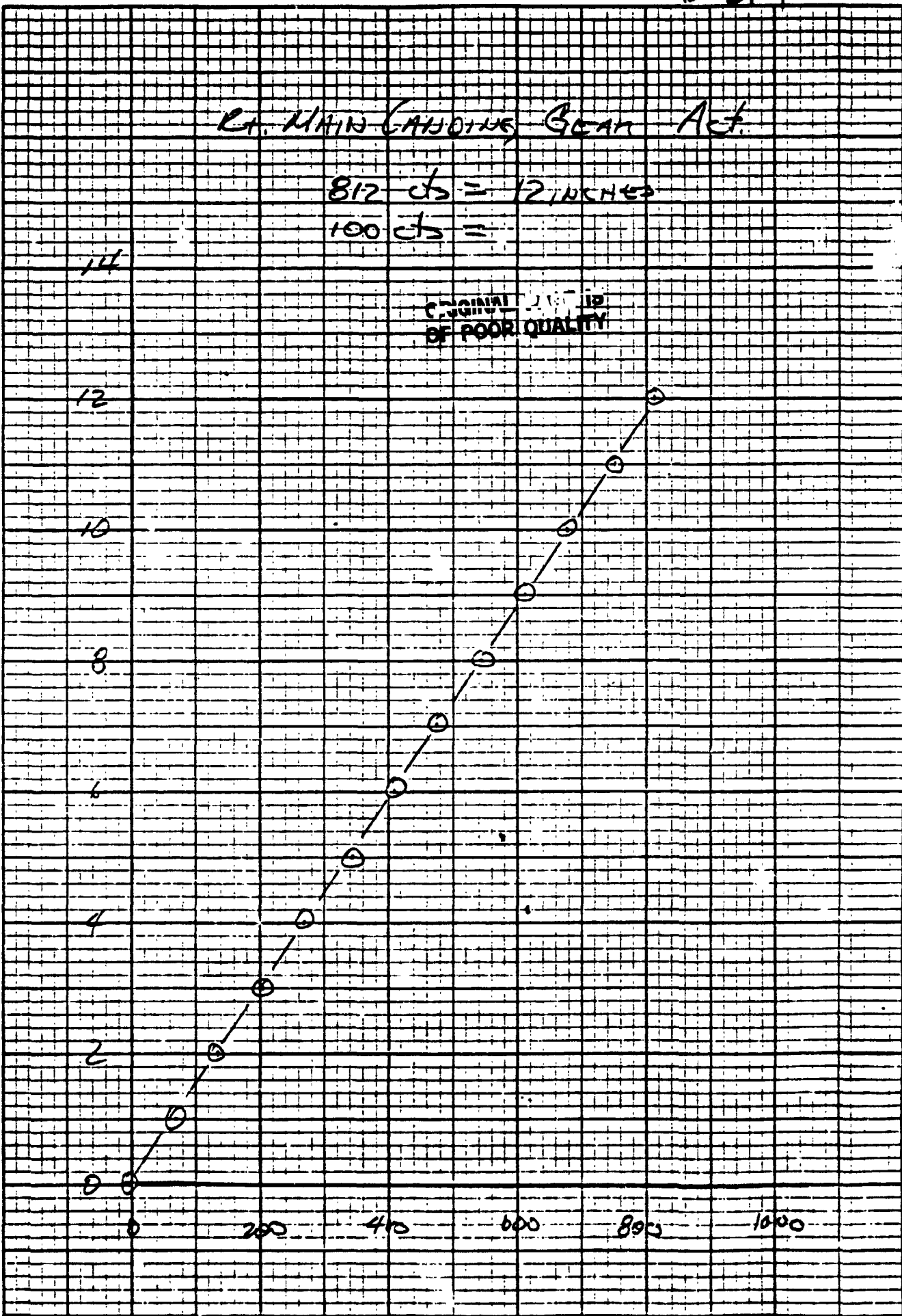
200

400

600

800

1000



301

SHIP # 1

1-12-77

check with Program

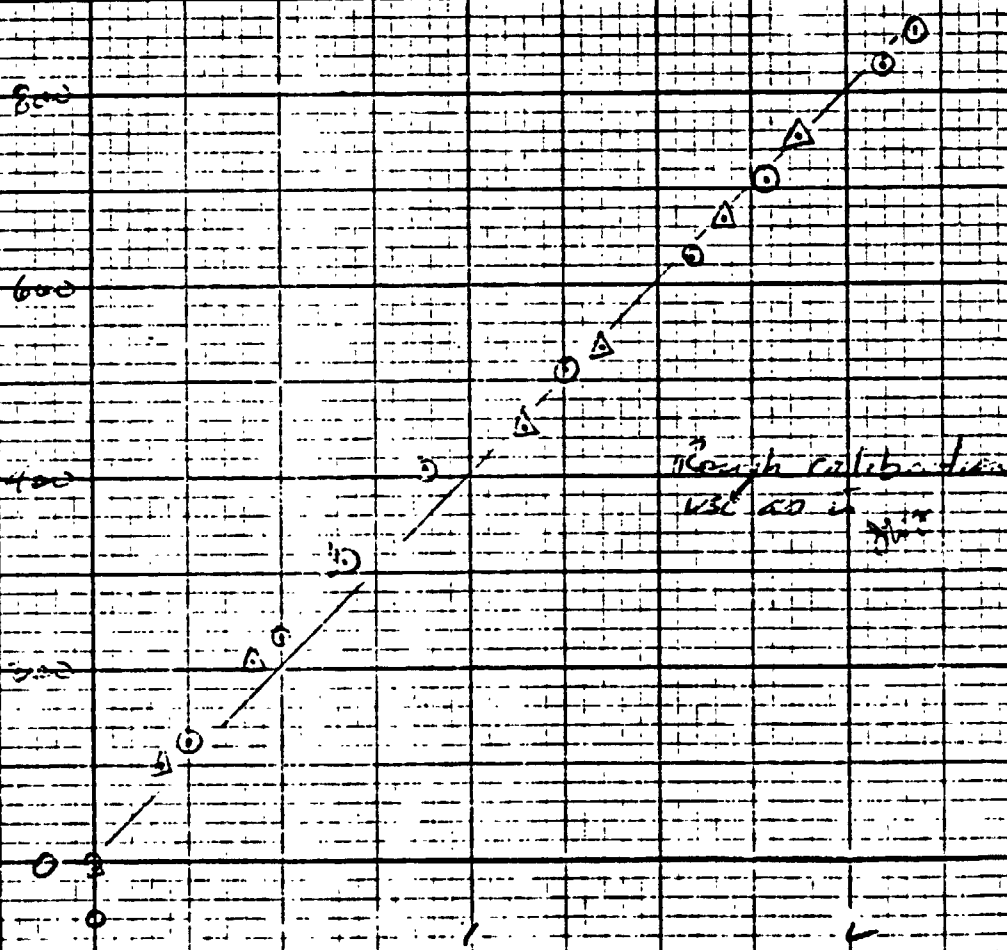
D3

DIFF. CYCLIC WASHOUT Pos

100 COUNTS = 0.2523 IN.

Item Code D318

ORIGINAL PAGE IS OF POOR QUALITY



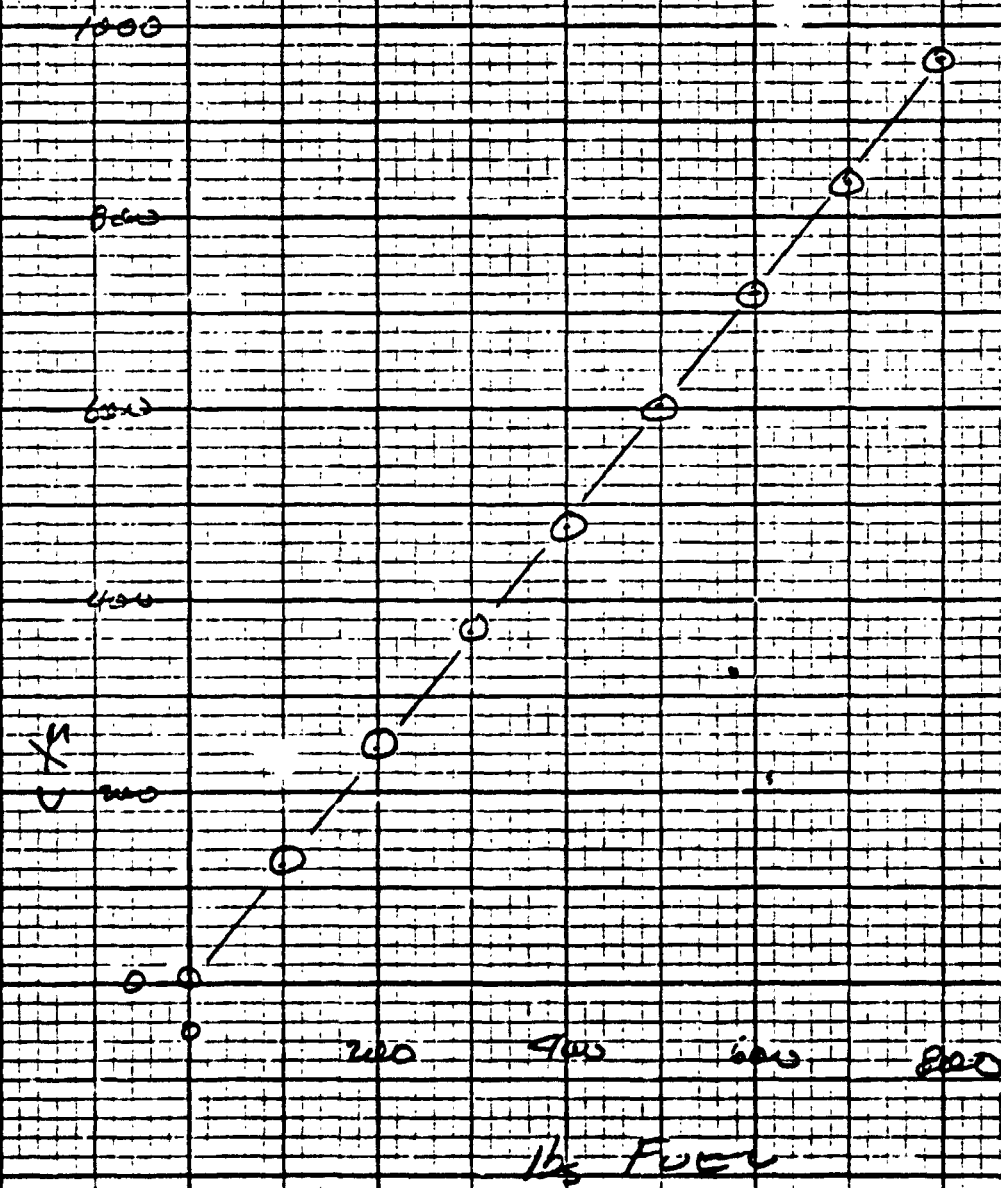
HEWLETT-PACKARD 9270 11176

Rt. FUEL QUAN (TANK)

$$964 \text{ lbs} = 800 \text{ lbs}$$

$$100 \text{ lbs} =$$

ORIGINAL FUEL
OF THIS QUALITY

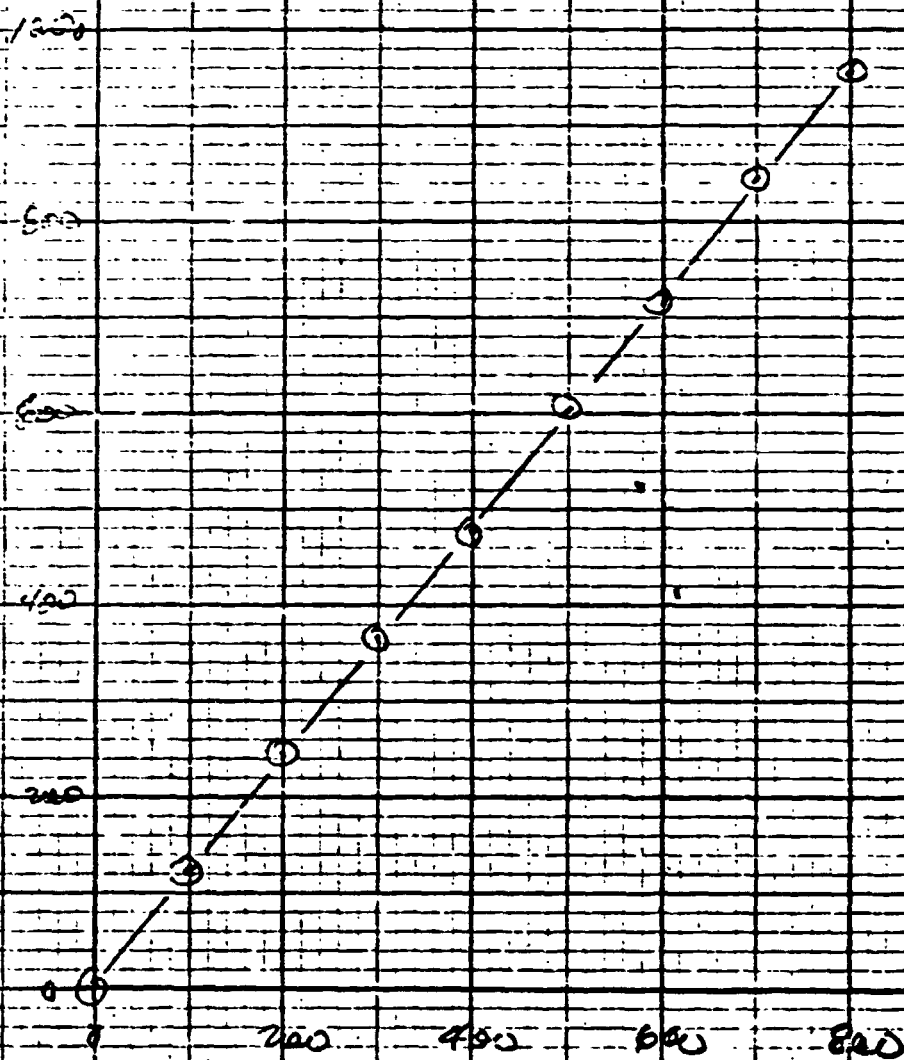


LT. FUEL QUANT (TANK)

$$958 \text{ ct} = 800 \text{ lbs}$$

$$100 \text{ ct} =$$

ORIGINAL PAGE IS
OF POOR QUALITY



BY
CHECKED

DATE REC'D

MODEL
WELL

PAGE
PT.

ORIGINAL PAGE IS
OF POOR QUALITY

SENSOR SERIAL NO.: 210
 SENSOR TYPE: 512 SF65
 PROBE SERIAL NO.: 20576
 PROBE TYPE: 10/AN
 LAB CALIBRATION: 11-12-75
 MODEL: ROSS/MOINT
 C.C.: 10 VOLT - 20 °CENTIGRADE

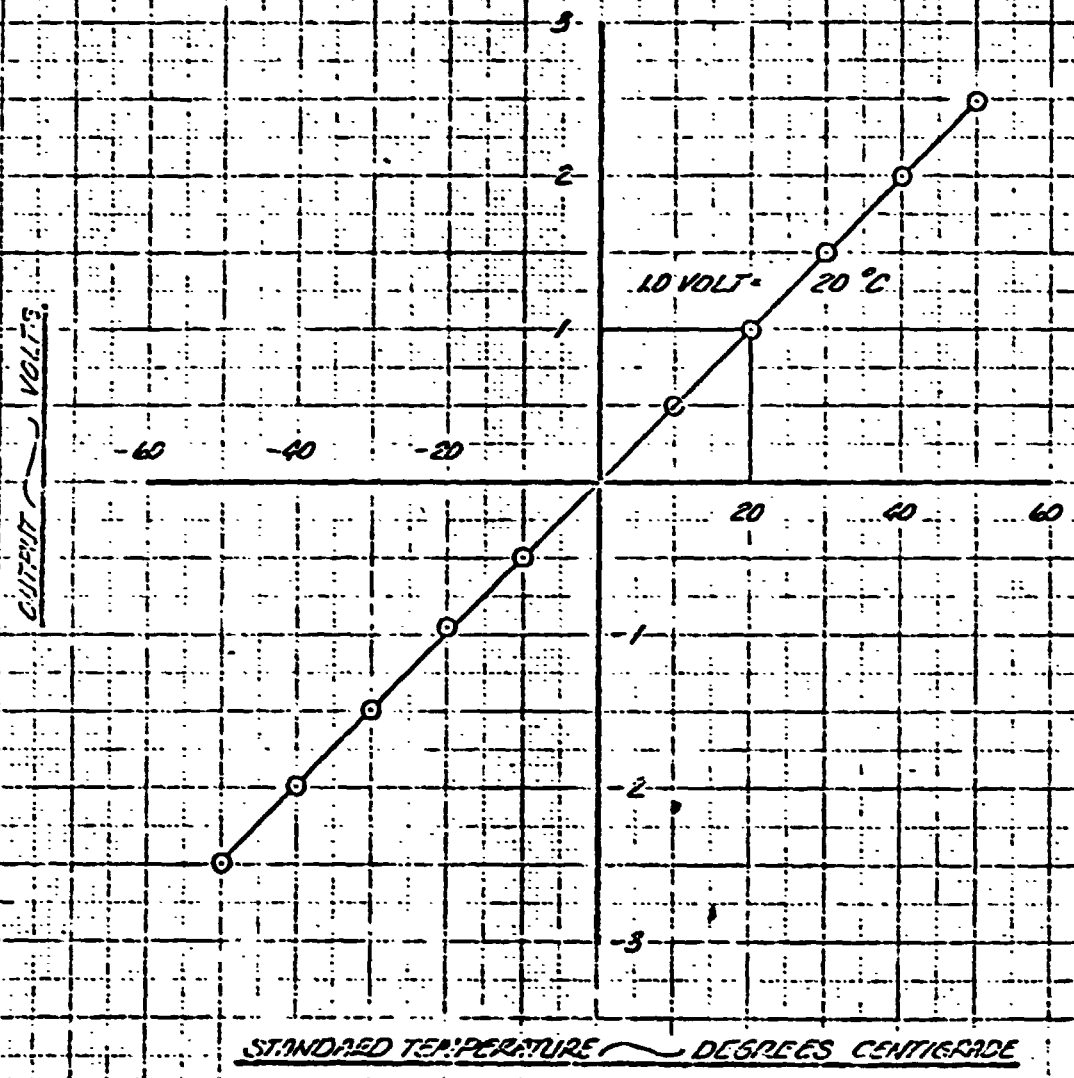


FIG. CALIBRATION OF TEMPERATURE SENSOR

SHAFT S/N 0012L
A12-000208K
 SENSOR S/N 500

SHAFT STIFFNESS FACTOR = 50.04 / 100 FT. LB.
 SHAFT RT = 180 RP = 180
 SENSOR RT = 180 RP = 180

2N

CALCULATED ZERO LB = 188

M335
4337

ENGINE

VAL ROVE	%	±.05% SIMMONS REQUIRED OUTPUT (ENGINE)	ACTUAL SIMMONS OUTPUT 1.500 TL	±.002% AFTER SENSE TEST 1.500 TL	FUNCTION GENERATOR INPUT RANGE	ORIGINAL PAGE IS OF POOR QUALITY	±180° EQUIVALENT
0	0	0	300	300	184.0		180
307	10	.417	031	633	190.4		192.8
614	20	.833	062	063	196.7		205.6
921	30	1.250	092	274	203.2		218.4
1228	40	1.667	123	125	209.6		231.2
1535	50	2.083	154	155	216.0		244.0
1842	60	2.500	184	186	222.4		256.8
2149	70	2.917	215	217	228.8		269.6
2456	80	3.333	246	248	235.2		282.4
2763	90	3.750	277	279	241.6		295.2
3070	100	4.167	307	309	248.0		308.0
3377	110	4.583	338	340	254.4		320.8
3684	120	5.000	368	371	260.8		333.6

1/51/72

M335

SHAFT S/N A12-00001
0710
 SENSOR S/N 704
 SHAFT STIFFNESS FACTOR 20.41, RT 124.7 RP 180
 SENSOR RT 180, RP 170.7 (190.8)

VAL ROVE	%	±.05% SIMMONS REQUIRED OUTPUT (ENGINE)	ACTUAL SIMMONS OUTPUT 1.500 TL	±.002% AFTER SENSE TEST 1.500 TL	FUNCTION GENERATOR INPUT RANGE	CALCULATED ZERO LB = <u>195.7</u>	±180° EQUIVALENT
8204	-140	0	521	515	118.13		40.56
7032	-120	.357	703	696	128.10		60.40
5866	-100	.714	585	578	138.07		80.33
4688	-80	1.071	469	463	148.04		100.27
3516	-60	1.429	350	345	158.00		120.20
2344	-40	1.786	233	227	167.97		140.13
1172	-20	2.143	119	113	177.94		160.07
0	0	2.500	002	004	187.90		180.0
1172	+20	2.857	+115	+117	197.87		199.73
2344	+40	3.214	+231	+236	207.84		219.87
3516	+60	3.571	+349	+353	217.80		239.80
4688	+80	3.928	+468	+472	227.77		259.73
5866	+100	4.286	+585	+589	237.74		279.67
7032	+120	4.643	+703	+707	247.70		299.60
8204	+140	5.000	+820	+822	257.67		319.54

1/51/76

ORIGINAL PAGE IS
OF POOR QUALITY

1 SEP 76

M 337

SHAFT #1 87
 AIR 00087

SHAFT STIFFNESS FACTOR - 20.6% / 100% = 100%
 SHAFT RT = 179.9° RP = 180° M338
 SENSOR RT = 182.0° RP = 179.9°

SENSOR #N 50L

CALCULATED ZERO LB = 191.9°

1451

ENGINE FREE 27751 Hz : VOLT INPUT = 1.5V

ACTUAL TORQUE SIMULATED	% TORQUE	SIMMONS REQUIRE OUTPUT (ENGINE)	ACTUAL SIMMONS OUTPUT	FUNCTION CONVERSION INPUT RANGE (VOLT)	ORIGINAL PAGE IS OF POOR QUALITY	TORQUE LB EQUIVALENT +180°
0	0	0	+000	180.05		180.0
307	10	.417	+030	182.6		193.3
614	20	.833	+061	184.3		206.7
921	30	1.250	+092	200.95		220.0
1228	40	1.667	+123	207.6		233.3
1535	50	2.083	+153	214.3		246.7
1842	60	2.500	+184	220.95		260.0
2149	70	2.917	+215	227.6		273.3
2456	80	3.333	+246	234.3		286.7
2763	90	3.750	+276	240.95		300.0
3070	100	4.167	+307	247.6		313.3
3377	110	4.583	+338	254.3		326.7
3684	120	5.000	+369	260.95		340.0

M 338

CROSS-SHAFT

SHAFT STIFFNESS FACTOR 20.6% / 100% = 100% RT 180 RP

SENSOR #N 102 . SENSOR RT 189.4 , RP 180.2
 FREQUENCY: 5000 Hz

	% TORQUE	SIMMONS REQUIRE OUTPUT (ENGINE)	ACTUAL SIMMONS OUTPUT (1170)	FUNCTION CONVERSION RANGE (VOLT)	CALCULATED ZERO LB = 188°	TORQUE LB EQUIVALENT +180°
2204	-140	0	-820	113.88		39.16
7032	-120	.257	-703	122.94		59.28
5860	-100	.714	-585	134.00		79.40
4688	-80	1.071	-467	144.06		99.52
3516	-60	1.429	-349	154.12		119.64
2344	-40	1.786	-231	164.18		139.76
1172	-20	2.143	-116	174.24		159.88
0	0	2.500	+000	184.30		180.00
1172	+20	2.857	+116	194.36		200.12
2344	+40	3.214	+232	204.42		220.24
3516	+60	3.571	+349	214.48		240.36
4688	+80	3.928	+467	224.54		260.48
5860	+100	4.286	+585	234.60		280.60
7032	+120	4.643	+703	244.66		300.72
8204	+140	5.000	+820	254.72		320.84

Date Calibrated 5-22-74

By: J. P. ...

NA

SHAFT S/N 00102
~~A12-00102004~~
 SENSOR S/N 500

SHAFT STIFFNESS FACTOR = 50.04 / 100 FT. LB.
 SHAFT RT = 180 RP = 180
 SENSOR RT = 180 RP = 180

RH

CALCULATED ZERO LB = 188 **M335**
M337

ENGINE

TOTAL TORQUE SIMMONS TORQUE	%	SIMMONS REQUIRED OUTPUT (ENGINE)	ACTUAL SIMMONS OUTPUT 1 SEC. TL	SECONDS AFTER REVERSE 1 SEC. TL	FUNCTION GENERATOR INPUT AMPLITUDE	TORQUE LB EQUIVALENT +180°
0	0	0	200	002	184.0	180
307	10	.417	031	033	190.4	192.8
614	20	.833	062	063	196.7	205.6
921	30	1.250	092	094	203.2	218.4
1228	40	1.667	123	125	209.6	231.2
1535	50	2.083	154	155	216.0	244.0
1842	60	2.500	184	186	222.4	256.8
2149	70	2.917	215	217	228.8	269.6
2456	80	3.333	246	248	235.2	282.4
2763	90	3.750	277	279	241.6	295.2
3070	100	4.167	307	309	248.0	308.0
3377	110	4.583	338	340	254.4	320.8
3684	120	5.000	368	371	260.8	333.6

M335

CROSS SHAFT

SHAFT S/N 0010
 SENSOR S/N 104

SHAFT STIFFNESS FACTOR 20.11, RT 184.7 RP 180
 SENSOR RT 180, RP 180.7 (180.8)

CALCULATED ZERO LB = 195.7

TORQUE	%	SIMMONS REQUIRED OUTPUT	ACTUAL SIMMONS OUTPUT 1 SEC. TL	SECONDS AFTER REVERSE 1 SEC. TL	FUNCTION GENERATOR INPUT AMPLITUDE	TORQUE LB EQUIVALENT +180°
8204	-140	0	-521	-515	118.13	40.46
7032	-120	.357	-703	-696	128.10	60.40
5866	-100	.714	-535	-528	138.07	80.33
4688	-80	1.071	-469	-462	148.04	100.27
3516	-60	1.429	-350	-345	158.00	120.20
2344	-40	1.786	-233	-227	167.97	140.13
1172	-20	2.143	-119	-113	177.94	160.07
0	0	2.500	-002	-004	187.90	180.0
1172	+20	2.857	+115	+117	197.87	199.73
2344	+40	3.214	+231	+236	207.84	219.87
3516	+60	3.571	+349	+353	217.80	239.80
4688	+80	3.928	+468	+472	227.77	259.73
5860	+100	4.286	+585	+588	237.74	279.67
7032	+120	4.643	+702	+706	247.70	299.60
8204	+140	5.000	+820	+824	257.67	319.54

ORIGINAL PAGE IS OF POOR QUALITY

1 SEP 16

M337

CALIBRATION DATA SHEET R338

Date 12-14-76

Lab. No. _____
 Serial No. 45621 FREQ. TO 2
COMPUTER
 Part No. _____
 Engineer Whitehead / Winniford

Model 301 #1
 Project PPE-GROUND RUN
 Title RIGHT ENGINE NIF
 L. T. R. _____ EWA _____

Technician	Lab. Notebook No.	Instruments	Serial No.	Res.	Galvo.
UPKAP		H.P. 202 C GSC.			
LIPSCOMB		H.P. 5301 GSC			

Volts					
Gage Type					
Gage Fac.					
Gage Res.					
Lot. No.					
Act. Arm					
Chen.					
Bridge					
Config.					
Col. Res.					
Lever Arm					

ORIGINAL PAGE IS
OF POOR QUALITY

Load Frc. (lb.)	Output Counts				
0.0	+0005				
10.0	+104				R338
20.0	+202				
30.0	+302				
40.0	+404				
50.0	+502				
60.0	+600				
70.0	+701				
80.0	+800				
90.0	+901				
100.0	+999				
80.0	+800				
60.0	+600				
40.0	+402				
20.0	+201				
10.0	+103				
0.0	+0004				

Calibration Data Sheet

P342

Description <u>TRANSducer ALTITUDE</u>		Date Calibrated:
Model/Type <u>542 K-2</u>		<u>10-14-76</u>
Range <u>-1000 TO 40000 FT.</u>		Calibration Period:
Mfg. <u>ROSEMOUNT INC.</u>		<u>.6 MO.</u>
Serial No. <u>10</u>		Lab. No. <u>CR-07-05</u>
Lab No.	Calibrated by: <u>T. G. ORCINICK</u>	

Remarks: D.M. READING BASED ON METRIC CALIBRATION 5-11-76

Q.M.	STD.	OUT. PNT	OUT. PNT	Q.M.	STD.	OUT. PNT	RES.
	FT.	VOLTS	VOLTS		FT.	VOLTS	
93.715	0	-1.97	-1.97	42.96	20000	4.205	1000
91.998	500	.296	—	42.96	20000	4.205	1000
90.306	1000	.395	.397				
89.641	1500	.474	—				
87.806	2000	.593	.595				
85.394	2500	.693	—				
83.816	3000	.793	.795				
82.254	3500	.895	—				
80.754	4000	.995	.997				
79.277	4500	1.096	—				
77.822	5000	1.196	1.197				
76.388	5500	1.296	—				
74.961	6000	1.397	1.399				
69.446	8000	1.795	—				
64.301	10000	2.192	2.194				
59.462	12000	2.593	—				
54.920	14000	2.996	2.999				
50.162	16000	3.400	—				
46.197	18000	3.802	3.804				
42.516	20000	4.205	—				

ORIGINAL PAGE IS OF POOR QUALITY

7862 Rev 665

(RT) NOSE OUCH STRENGTH
AT BEND

$$193 \text{ cts} = 1300 \text{ lbs}$$

$$100 \text{ cts} = 777.2 \text{ lbs}$$

$$100K = 119 \text{ cts}$$

$$= \frac{119}{100} (777.2 \text{ lbs})$$

$$= \underline{924.9 \text{ lbs}}$$

ORIGINAL PAGE IS
POOR QUALITY.

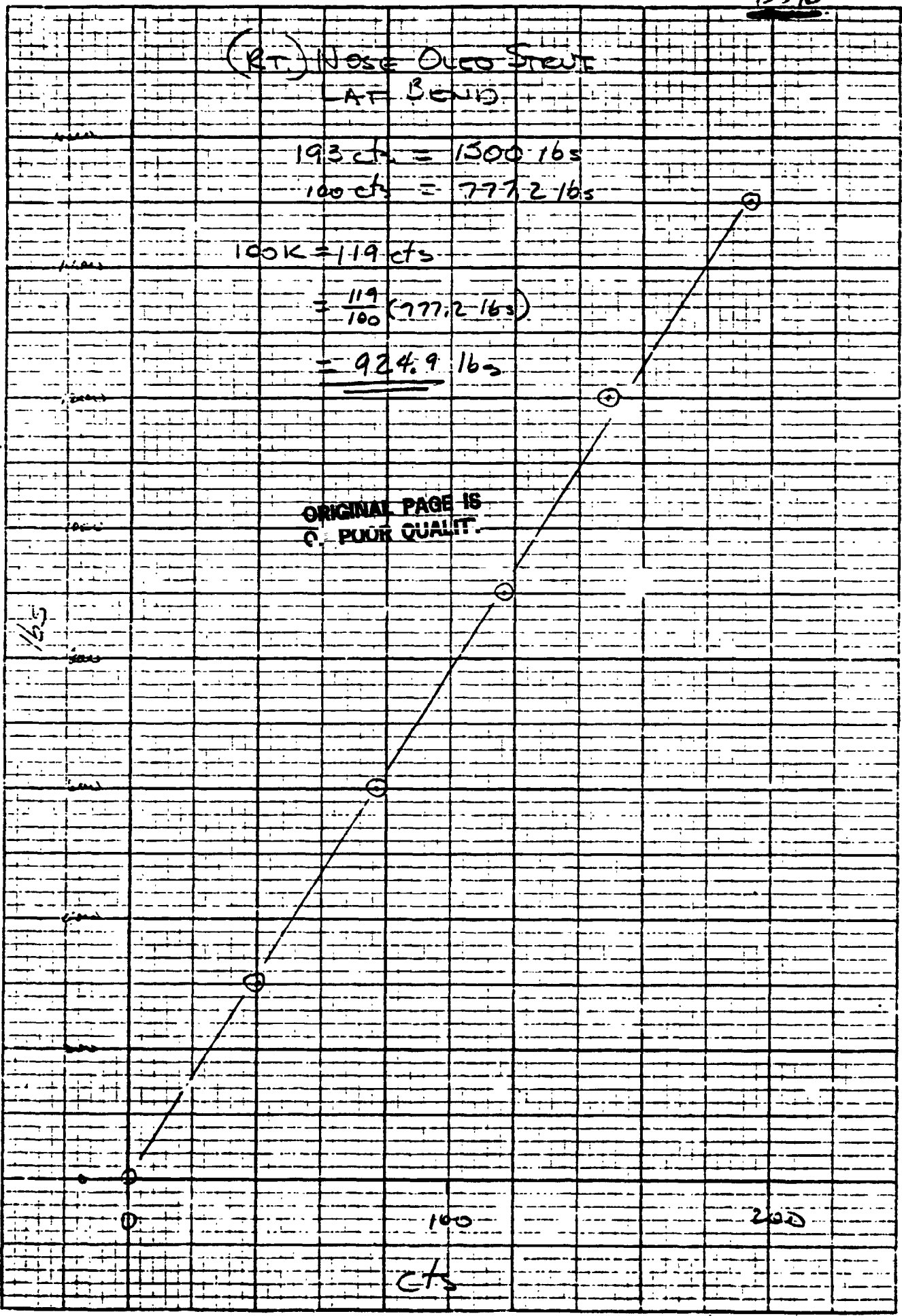
lbs

100

200

cts

FORMERLY 1000000 1000000



F 347

LAB # 11335A

OK
F347

NOSE ACT AXIAL LOAD

" OF CYLINDER

ORIGINAL PAGE IS
OF POOR QUALITY

FACTOR = 287.0515/lb

1 PSI = 3.434 lbs

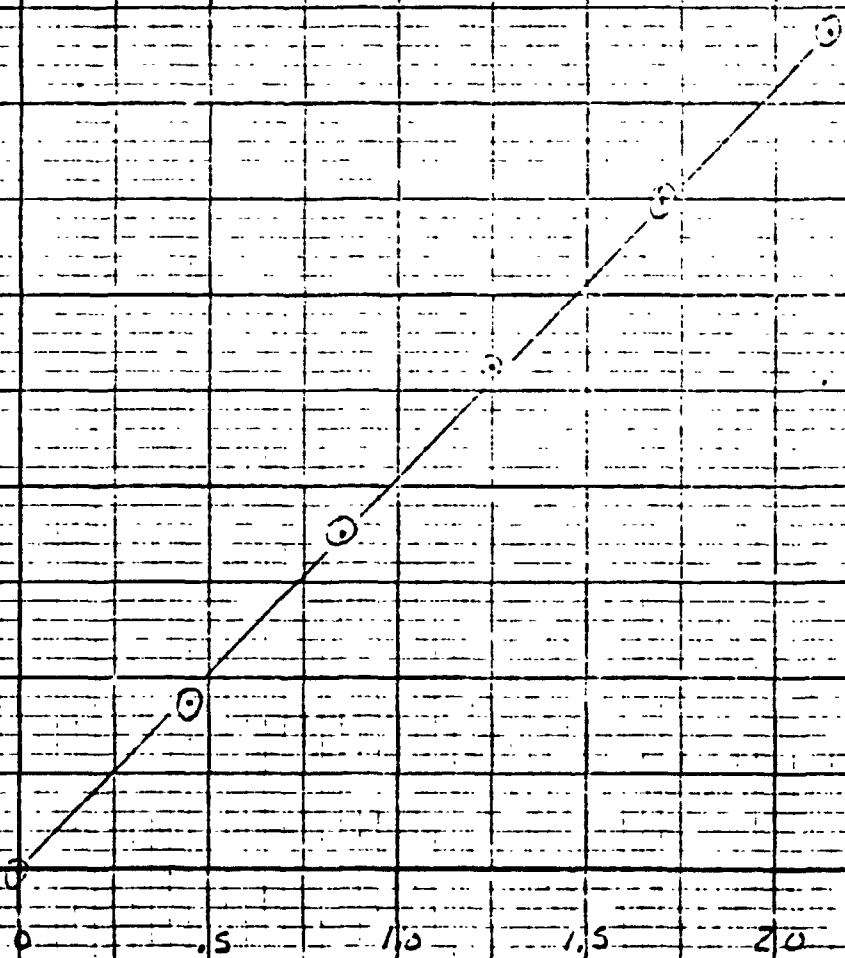
∴ 1750 PSI = 6097.56 lbs = 2.15 MV

100K = 9.8 MV

∴ 100K = 6093 $\left(\frac{9.8}{2.15}\right)$ = 27,794 lbs

5 PSI

2000
1000
500
100



NOSE ACT POS

ORIGINAL FACE S
OF POOR QUALITY

897cs = 13 INCHES

100cs =

INCHES

14

12

10

8

6

4

2

20

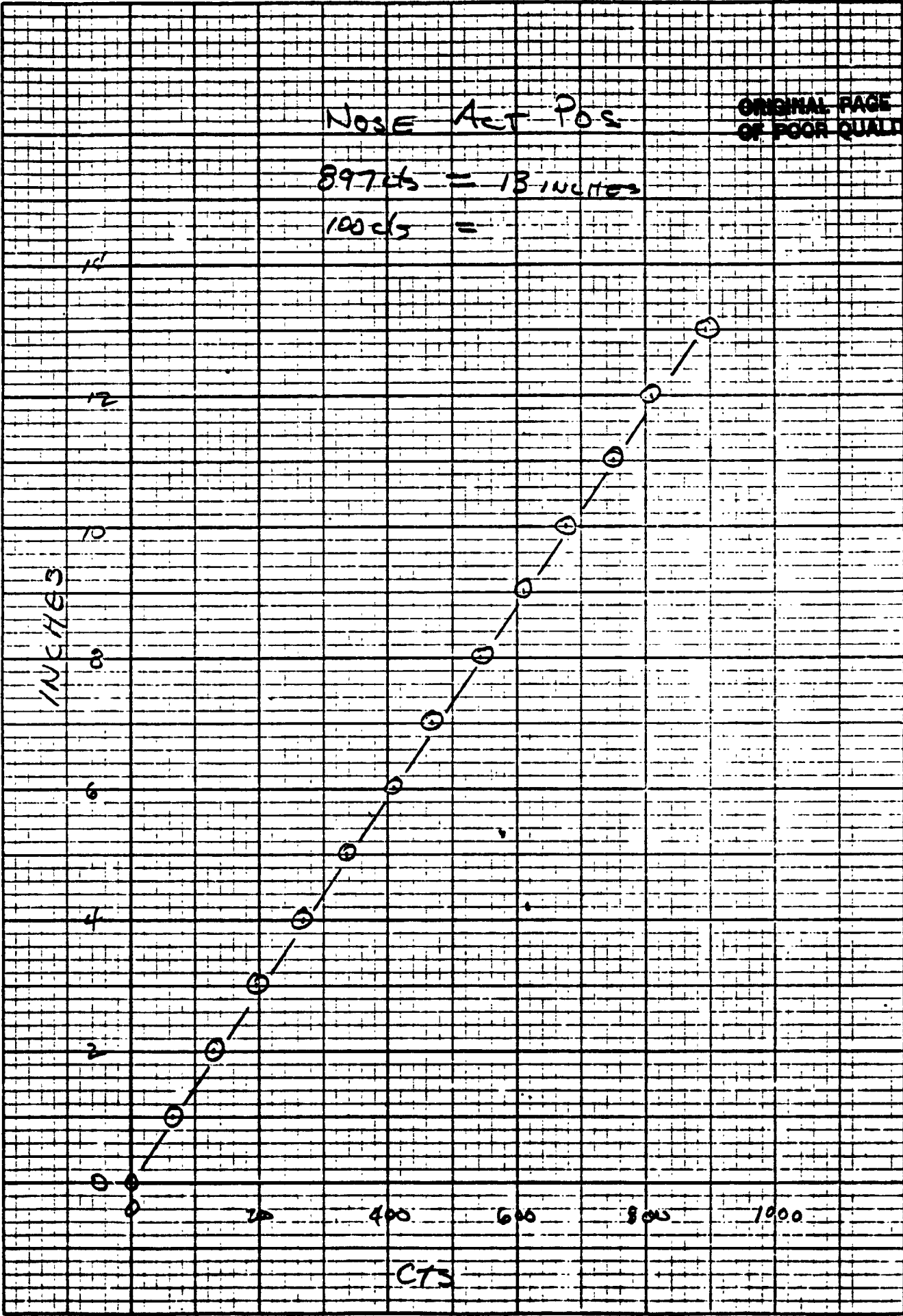
400

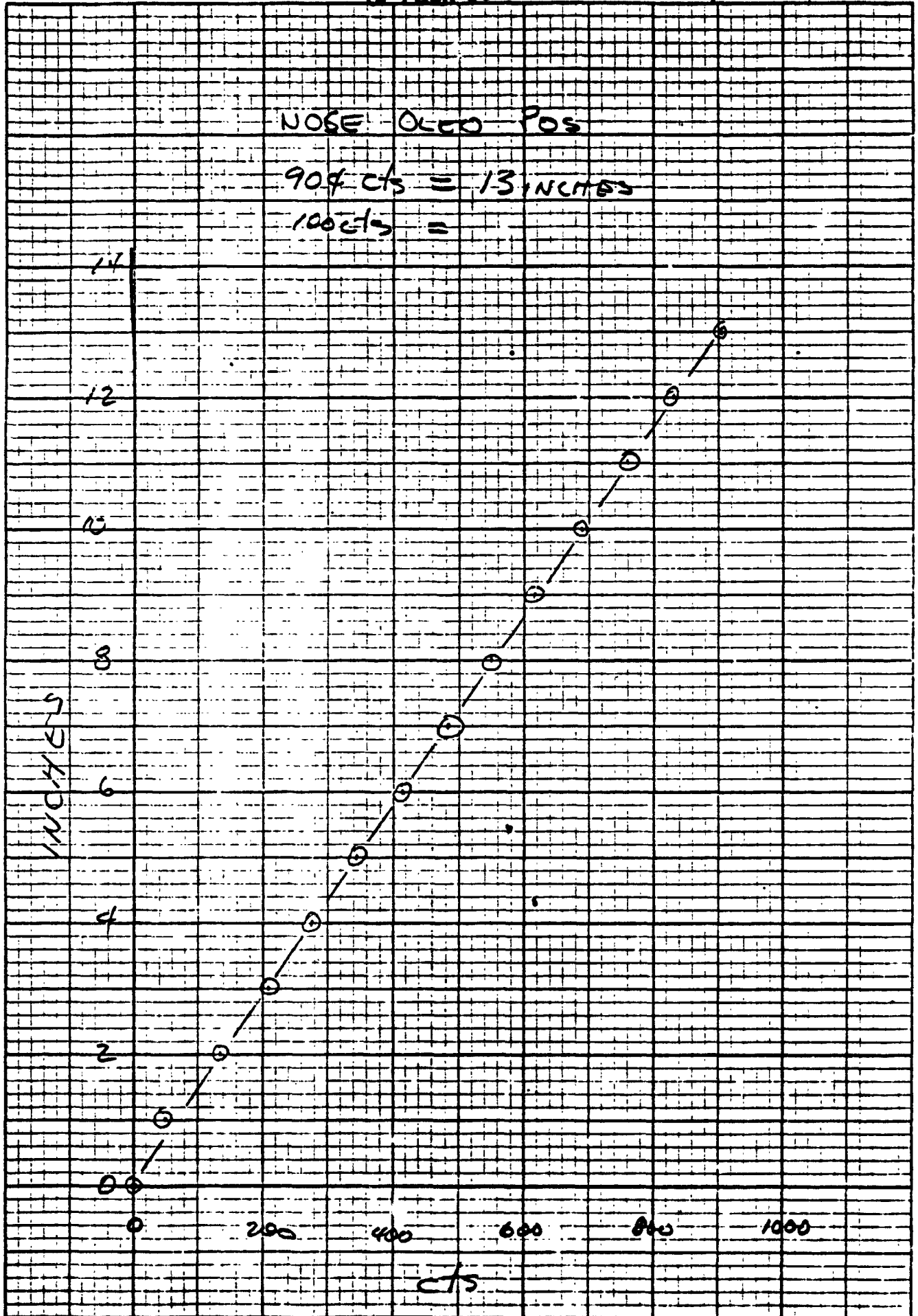
600

800

1000

CTS





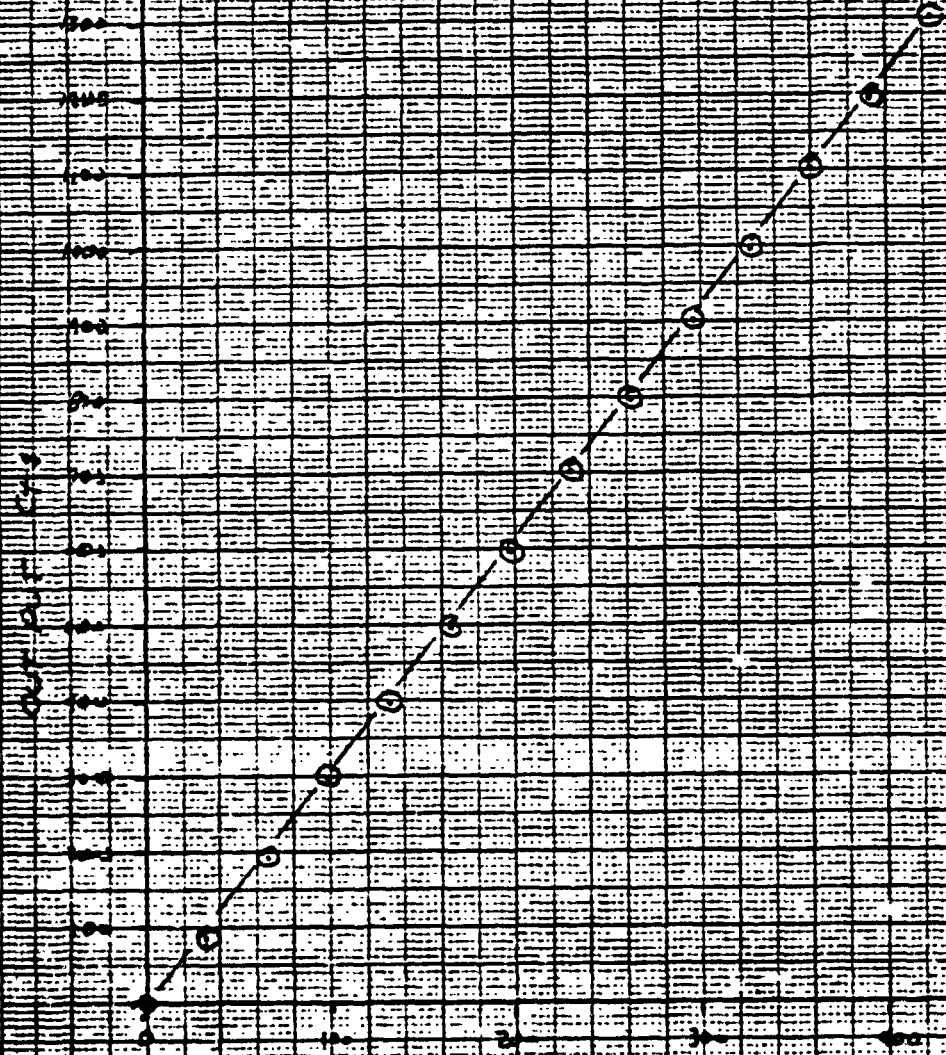
T 351, T 806, T 513

ORIGINAL DATA
OF 100% QUALITY

4.1 GAUSS. OIL IN TOWER

$$1302 G_s = 424 ^\circ F$$

$$100 G_s = 3257 ^\circ F$$



OF
(DEG F)

HEWLETT-PACKARD 9270-1023

10 000

Issue Date 1-11-77

TOA-WHITE

S/N 5006

10000

1000

100

10

A352

PIEZOELECTRIC ACCELEROMETER CALIBRATION

MANUF. KISTLER TYPE 5010 DATE 1-11-77

CAPACITANCE _____ PE PROPERTY # _____ TECH 76

MOUNTING METHOD -

REMARKS - ORIGINAL PAGE IS OF POOR QUALITY

NOMINAL CHARGE SENSITIVITY

248.7 $\frac{mV}{g}$

PERCENTAGE DEVIATION FROM NOMINAL SENSITIVITY

Thin Case A352
Amplitude CR

FREQUENCY (HERTZ)

10 9 8 7 6 5 4 3 2 1 0

10

5

0.5

0

10

100

1000

10000

(L+) Nose Oldo Steur
LAT LEND

$$196 \text{ cts} = 1500 \text{ lbs}$$

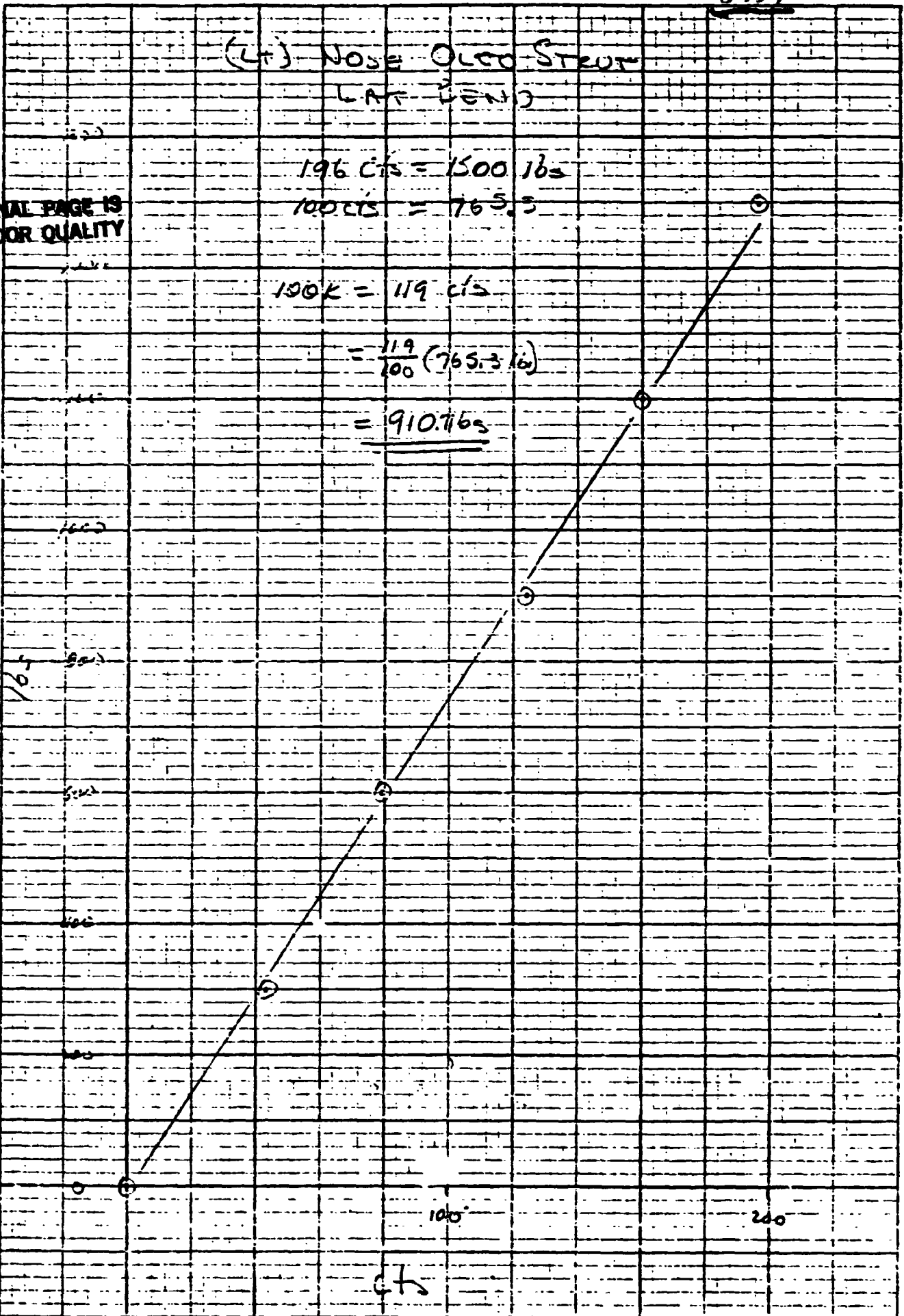
$$100 \text{ cts} = 765.3$$

$$190K = 119 \text{ cts}$$

$$= \frac{119}{100} (765.3 \text{ lbs})$$

$$= \underline{910.716 \text{ lbs}}$$

ORIGINAL PAGE IS
OF POOR QUALITY



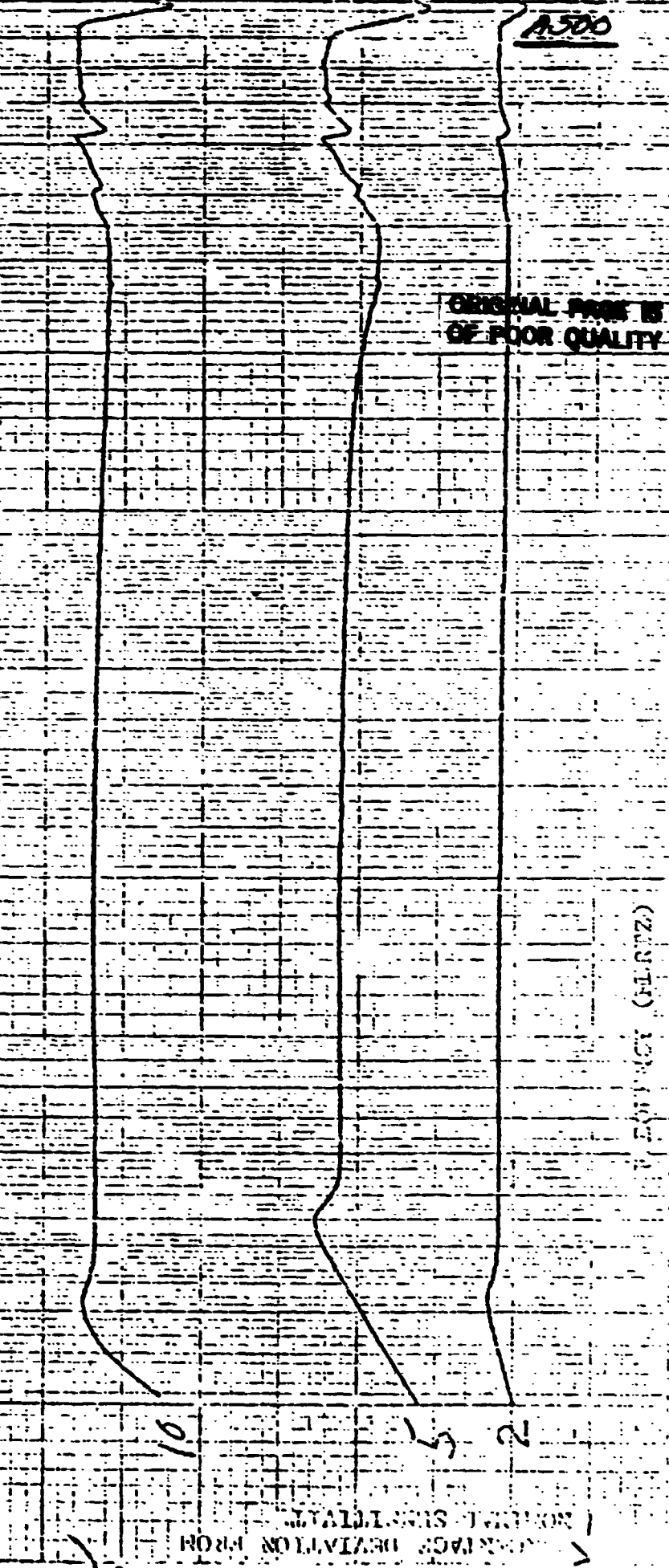
A500

1000
9
8
7
6
5
4
3
2
100
9
8
7
6
5
4
3
2
10

PIEZOELECTRIC ACCELEROMETER CALIBRATION	
MANUF. <u>EMERSON</u>	DATE <u>10-18-76</u>
CAPACITANCE	TECH. <u>ZIG</u>
PROPERTY #	
REMARKS ..	NOMINAL CHARGE SENSITIVITY
<u>DC OUT PUT</u>	<u>1728</u> <u>PCS/G</u>
<u>CHARGE - AMPLIFIER</u>	
<u>5/2</u> <u>EA 39</u>	

APPROXIMATE FLANGE DIA

ORIGINAL PART IS OF POOR QUALITY



PERCENTAGE DEVIATION FROM NOMINAL SENSITIVITY

PERCENTAGE (PLS/2)

1000
100
10

1000
9
8
7
6
5
4
3
2
100
9
8
7
6
5
4
3
2
10
9
8
7
6
5
4
3
2
1

PIEZOELECTRIC ACCELEROMETER CALIBRATION

MANUF. <u>ENGELING</u>	TYPE <u>2-2-71A</u>	DATE <u>10-13-76</u>	TECH <u>JL</u>
CAPACITANCE	PROPERTY #	NOMINAL CHARGE SENSITIVITY	
ROUTING METHOD	REMARKS	<u>.1662</u> <u>1000/g</u>	
CHARGE AMPLIFIER	<u>DC OUT PUT</u>		
<u>SN 2940</u>	<u>ON AMPLIFIER</u>		

ASPT
RCHT
PLANK
LINT

ORIGINAL PAGE IS OF POOR QUALITY

ASPT

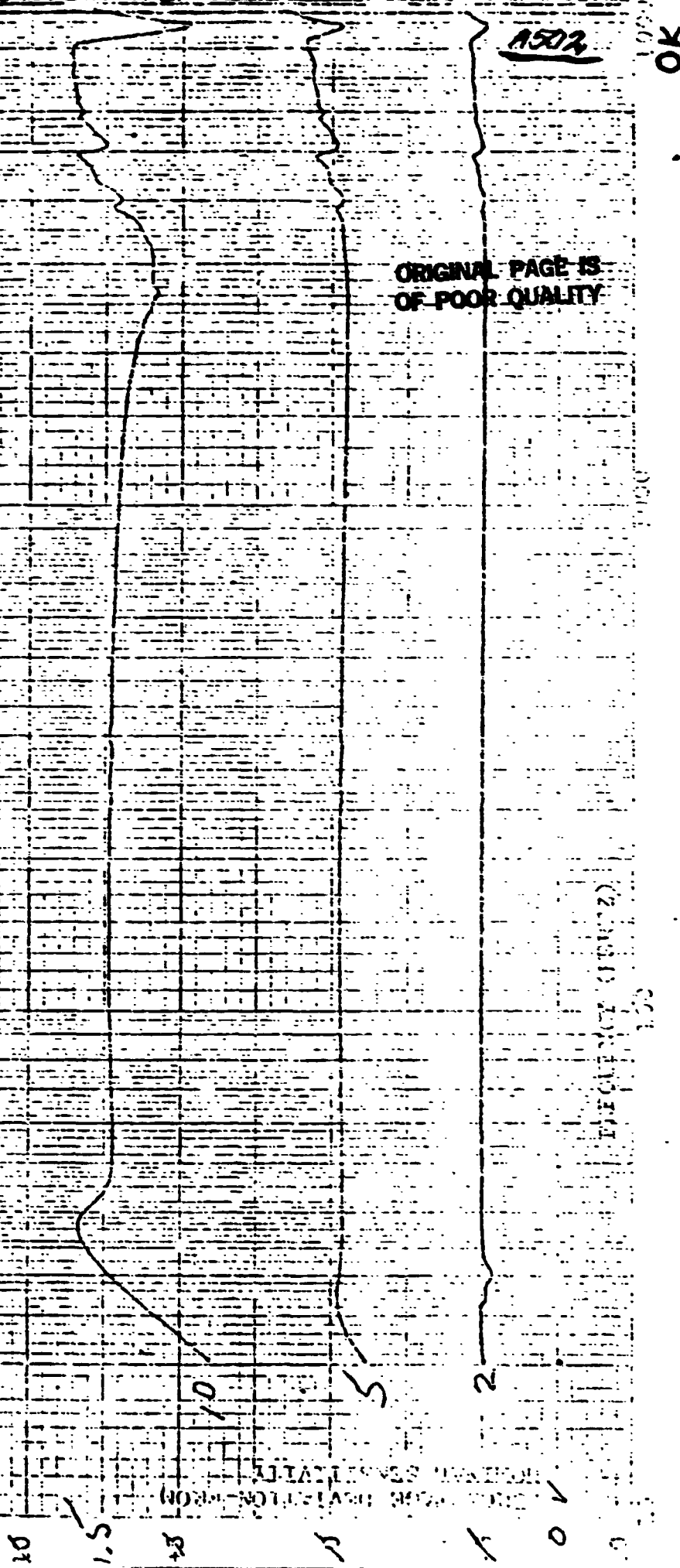
1502

ORIGINAL PAGE IS
OF POOR QUALITY

PIEZOELECTRIC ACCELEROMETER CALIBRATION

MANUF. <u>ENDRELL CO</u>	TYPE <u>2271A</u>	DATE <u>10-13-76</u>	TECH <u>ZC</u>
CAPACITANCE <u> </u>	pf PROPERTY # <u> </u>	NOMINAL CHARGE SENSITIVITY <u> </u>	
MOUNTING METHOD - <u>CHARGE AMPLIFIER</u> <u>S/N 2A41</u>	REMARKS - <u>DC OUT PUT</u> <u>OF AMPLIFIER</u>	NOMINAL CHARGE SENSITIVITY <u>0.1591</u> <u>pc/g</u>	

A 502
RIGHT
CUTTING
VERT.



FREQUENCY (1/SEC)

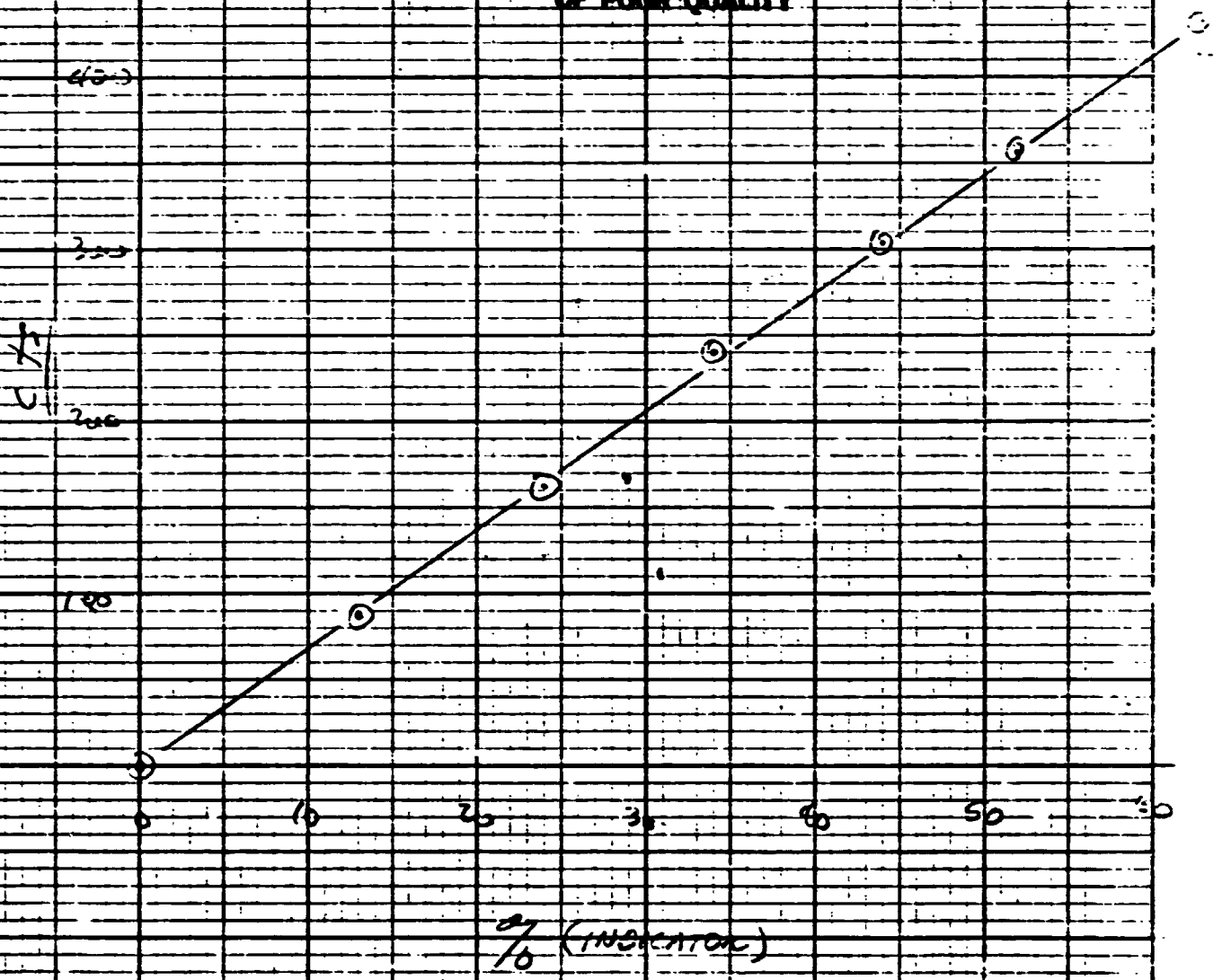
QUALITY CONTROL

2-25-77

R503

RIGHT N_F
498 cts = 72 %
100 cts =

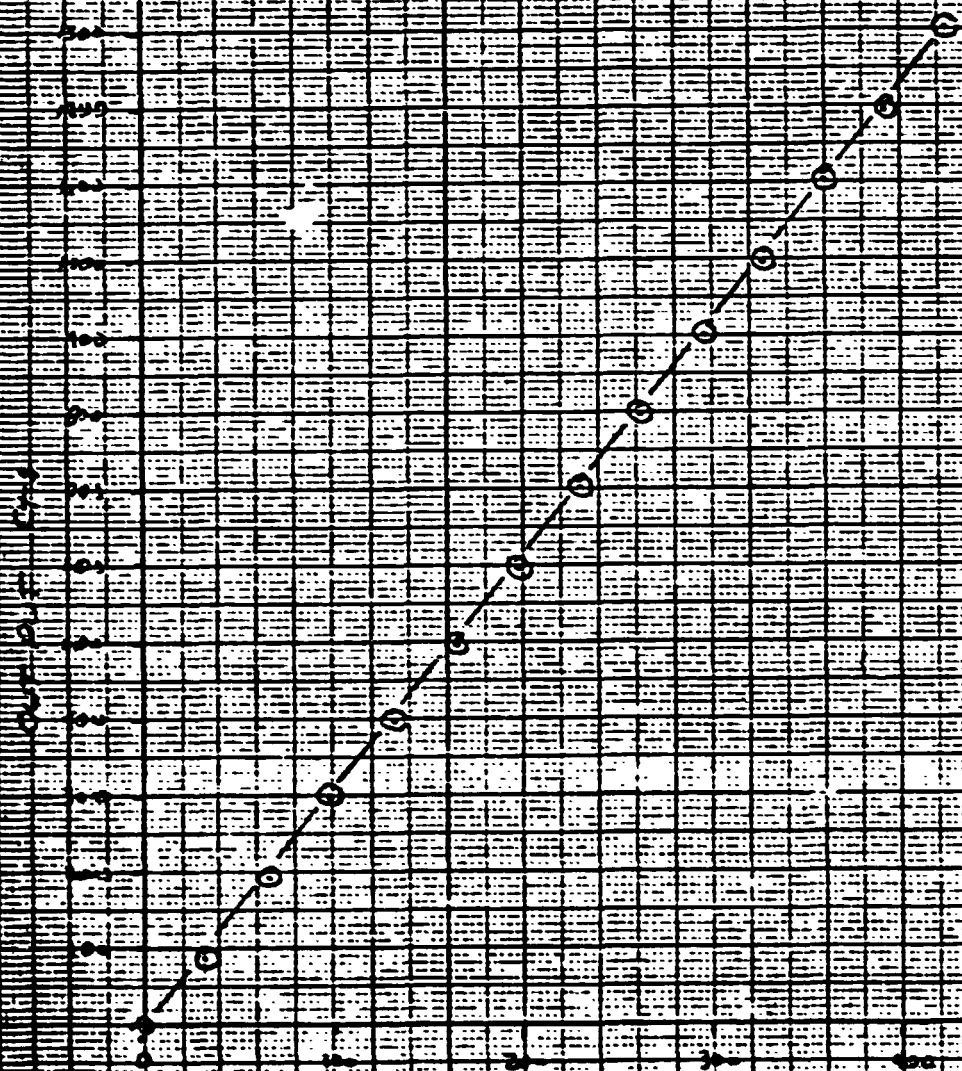
ORIGINAL PAGE IS
OF POOR QUALITY



L. TRANS. OIL IN TEMP

$$1302 G_2 = 424 \text{ } ^\circ\text{F}$$

$$700 C_2 = 3257 \text{ } ^\circ\text{F}$$



OF
(200 F)

PIEZOELECTRIC ACCELEROMETER CALIBRATION

MANUF. <u>SEAN</u>	TYPE <u>2-3-71</u>	DATE <u>10-13</u>	TECH <u>TC</u>
CAPACITANCE --	PROPERTY #		
MOUNTING METHOD -	REMARKS -	NOMINAL CHARGE SENSITIVITY	
CHARGE AMPLIFIER	<u>DC OUTPUT</u>	<u>.1525 ppc/g</u>	
<u>5/2 RAY3</u>	<u>of AMPLIFIER</u>	<u>#A39 01710</u>	

ORIGINAL PAGE IS OF POOR QUALITY

A507
LEFT
FLANGE
F/A

A507

10000
OK

1000

100

0

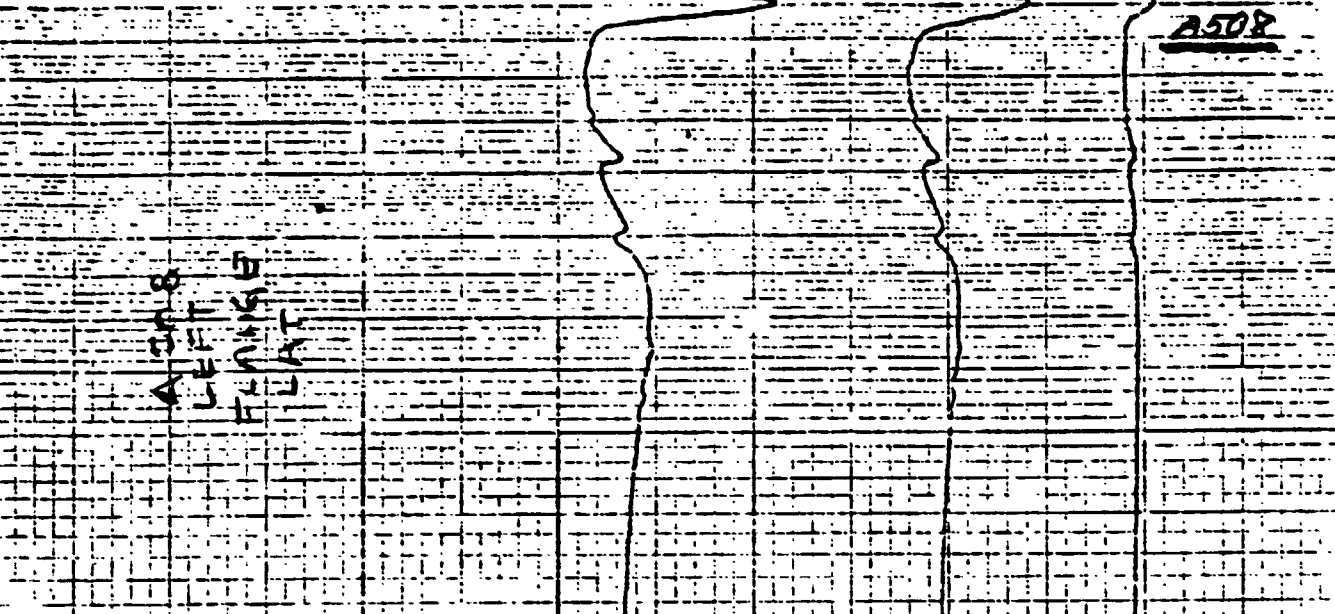
ALLIANCE TUNING
CENTRE BEHAVIOUR

FREQUENCY (HERTZ)

10
9
8
7
6
5
4
3
2
1
0
1000
100
10

Issue Date 10-13-76 To ARRON S/N CPL0

1000
100
10
OK



PIEZOELECTRIC ACCELEROMETER CALIBRATION

MANUF. EMRESCO TYPE 2-2-7-1 DATE 10-13-76 TECH TC

CAPACITANCE _____ OF PROPERTY # _____

MOUNTING METHOD _____

CHARGE AMPLIFIER 52 EA 48

REMARKS - DC OUT PUT OF AMPLIFIER

NOMINAL CHARGE SENSITIVITY .160 V/g

ORIGINAL PAGE IS OF POOR QUALITY

PERCENTAGE DEVIATION FROM NOMINAL SENSITIVITY

FREQUENCY (HERTZ)

301

SHIP # 1

ORIGINAL PAGE IS
OF POOR QUALITY

1-11-77

D509

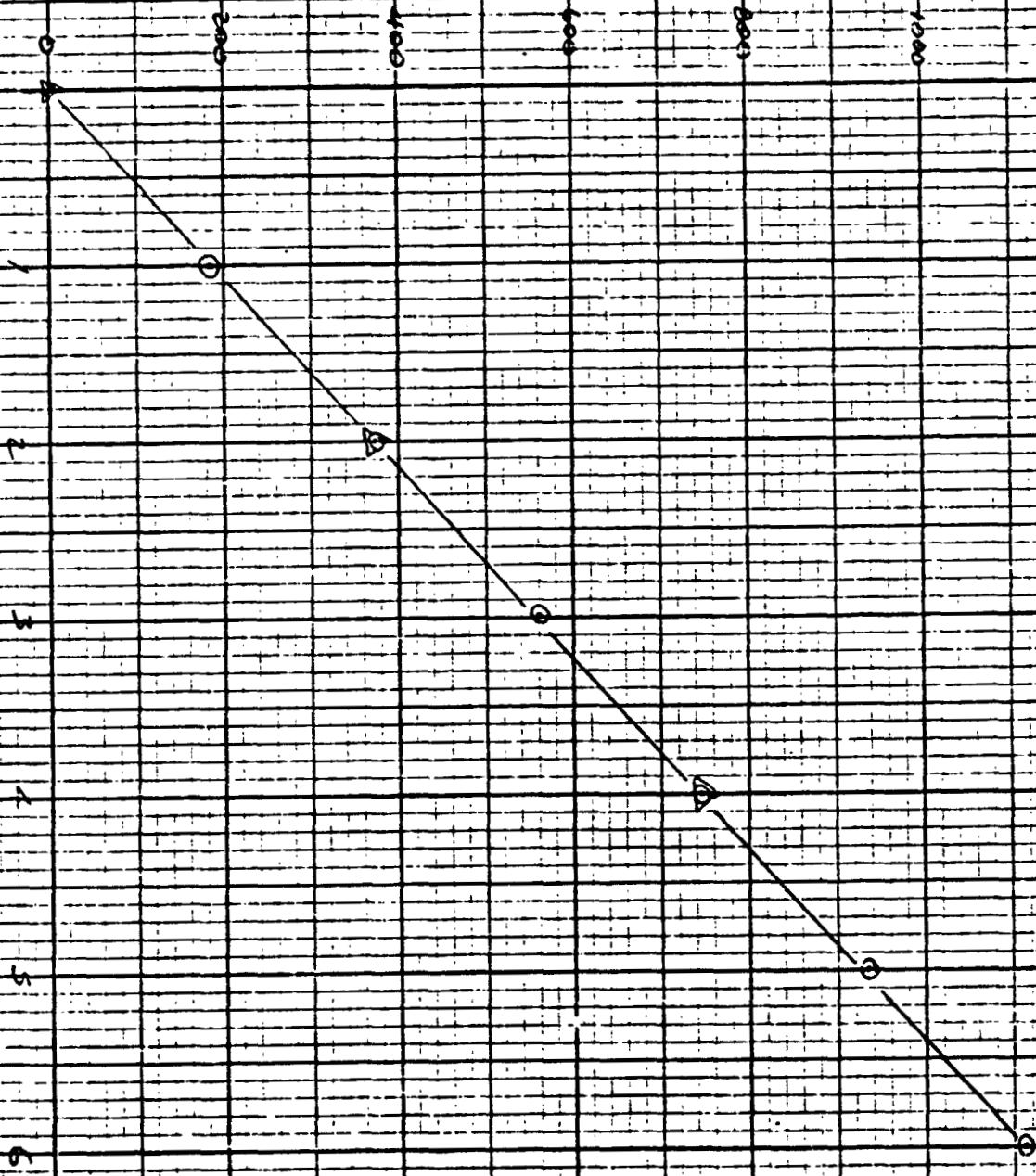
RIGHT FUEL FLOW CONTROL
LEVER POS

100 COUNTS = 0.5401 INCHES

Item Code D509

POT. PUT COUNTS

INCHES
DEFLECTION



301

SAMP # 1

ORIGINAL PAGE IS
OF POOR QUALITY

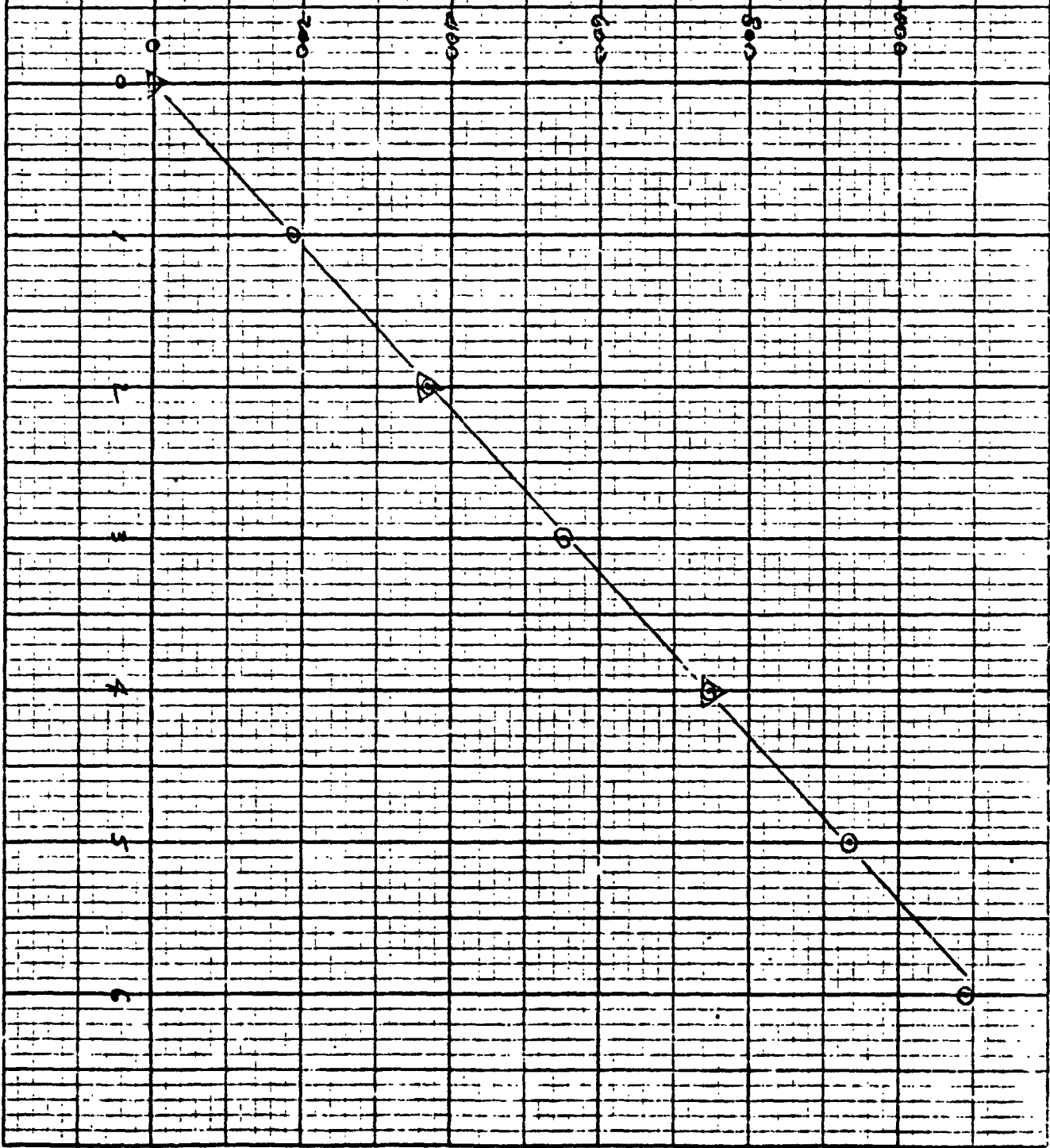
1-11-77

D510

LEFT FUEL FLOW CONTROL
LEVER POS.

100 COUNTS = 0.552 INCHES

Item Code D510



OK

LEFT PULMONARY SCINIVALVE

2-9-77

PRESSURE TRANSDUCER

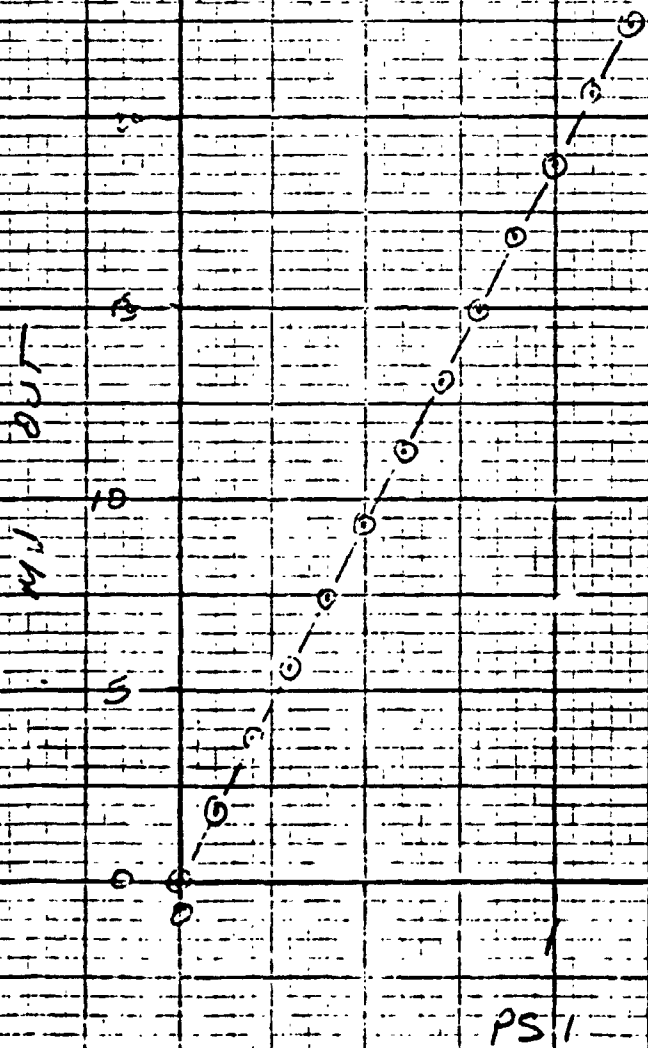
PSI

24 PSI = 22.46 MV

100K = 4.28 MV

∴ 100K = 0.957 PSI

ORIGINAL PAGE IS
OF POOR QUALITY



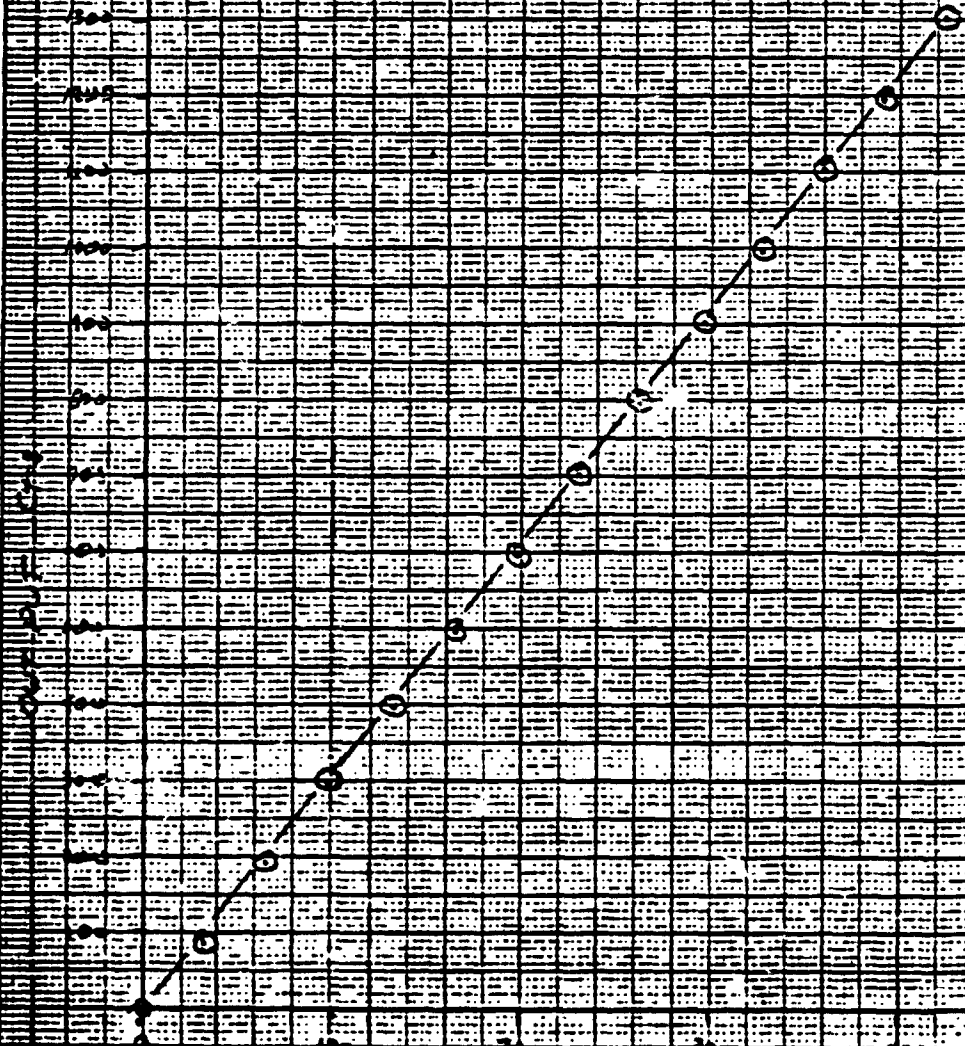
ORIGINAL PAGE IS
OF POOR QUALITY

T 351, T 506, T 513

L. TRANS. OIL IN TEND

$$1302 C_2 = 424 ^\circ F$$

$$100 C_2 = 3257 ^\circ F$$



HEWLETT-PACKARD 8270-1023

OF
(DEG F)

10.000

Issue Date

10-13-76

T. HARRON

S/N CP06

10390

1000

9

8

7

6

5

4

3

2

1

0

9

8

7

6

5

4

3

2

1

0

9

8

7

6

5

4

3

2

1

0

9

8

7

6

5

4

3

2

1

0

9

8

7

6

PIEZOELECTRIC ACCELEROMETER CALIBRATION

MANUF. EMULEV CO TYPE 2-7-1/A DATE 10-13-76 TECH TC
CAPACITANCE --- pf PROPERTY # ---

MOUNTING METHOD - <u>3/4 EA Y9</u>	REMARKS - <u>DC OUT PUT OF AMPLIFIER</u>	NOMINAL CHARGE SENSITIVITY <u>.1556 $\frac{V}{g}$</u>
---------------------------------------	---	---

ORIGINAL PAGE IS OF POOR QUALITY

ASIA LEFT
LIFE LINE VERT

ASIA

NONLINEAR SENSITIVITY
TYPICAL CHARACTERISTICS

FREQUENCY (HERTZ)

1000

100

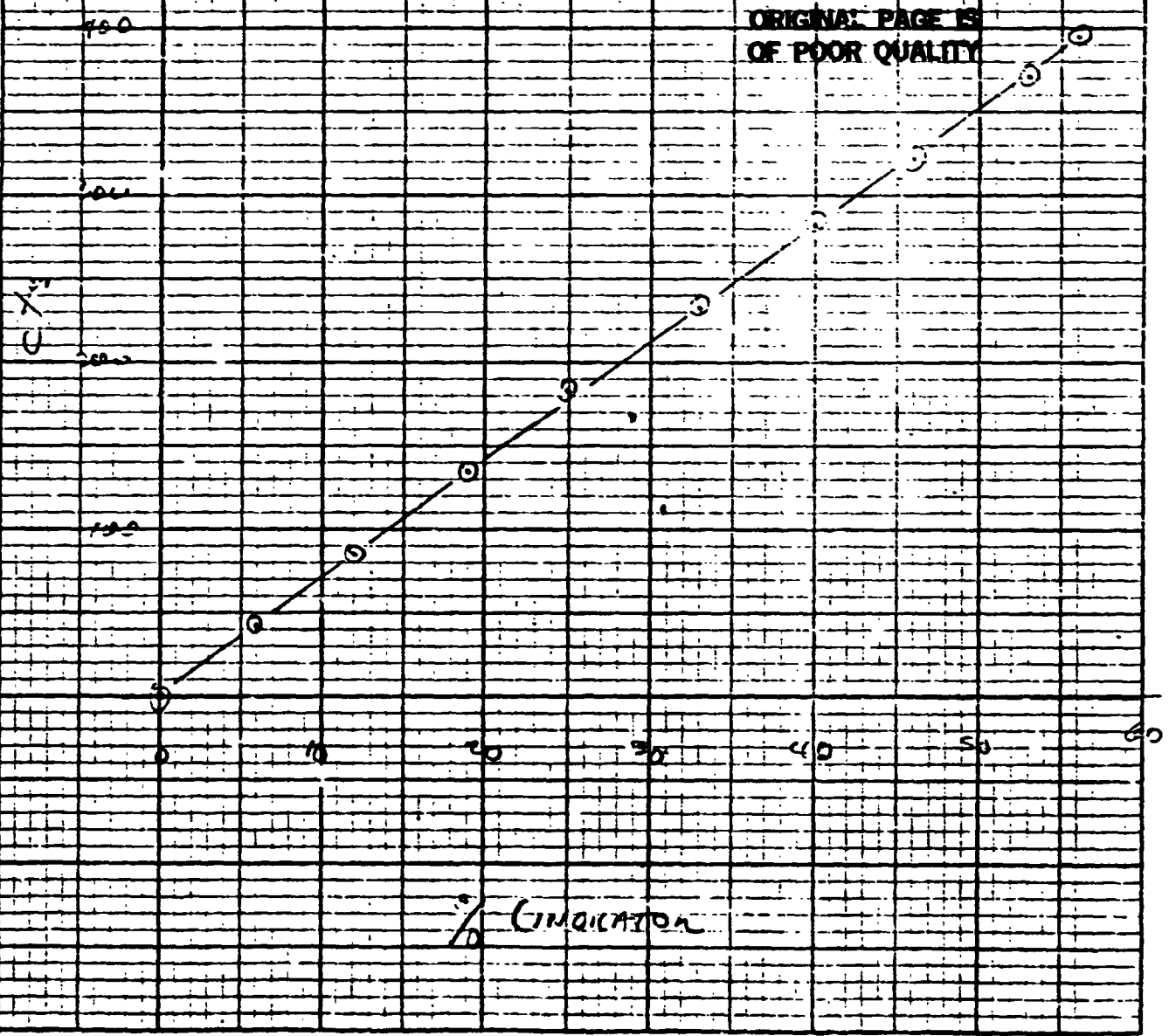
10

2-28-77

R515

LEAF N_E

$$\frac{393 \text{ lbs}}{100 \text{ lbs}} = 56\%$$



WING STRESS (BL 0.0)

UPPER PANEL -	INNER.	@	BL 0	<u>5609</u>
"	"	"	"	<u>5628</u>
LOWER	INNER	"	"	<u>5610</u>
"	"	"	"	<u>5629</u>

ORIGINAL PAGE IS
OF POOR QUALITY.

$$\begin{aligned}
 \text{STRESS} &= \frac{R \times}{(N)(GF)(R + R_{OH})} \\
 &= \frac{(300)(10.4 \times 10^6)}{(1)(2.12)(300 + 100,000)} \\
 &= \frac{(300)(100)}{(2.12)(1,00000)} \\
 &= \frac{36000}{2.1272}
 \end{aligned}$$

10000 = 17000 : 20

10000 = 2.4500 10000

ORIGINAL PAGE IS
OF POOR QUALITY

WING STRESS (BL 0.0)

UPPER PANEL - INNER	①	BL 0	<u>5609</u>
" " OUTER	"	"	<u>5628</u>
LOWER " INNER	"	"	<u>5610</u>
" " OUTER	"	"	<u>5629</u>

$$\begin{aligned}\text{STRESS} &= \frac{R \times}{(N)(GF)(R + R_{CH})} \\ &= \frac{(350)(10.4 \times 10^6)}{(1)(2.12)(330 + 100,000)} \\ &= \frac{(350)(104)}{(2.12)(1,00330)} \\ &= \frac{36400}{2.1375}\end{aligned}$$

$$100K = 17029 \text{ Psi}$$

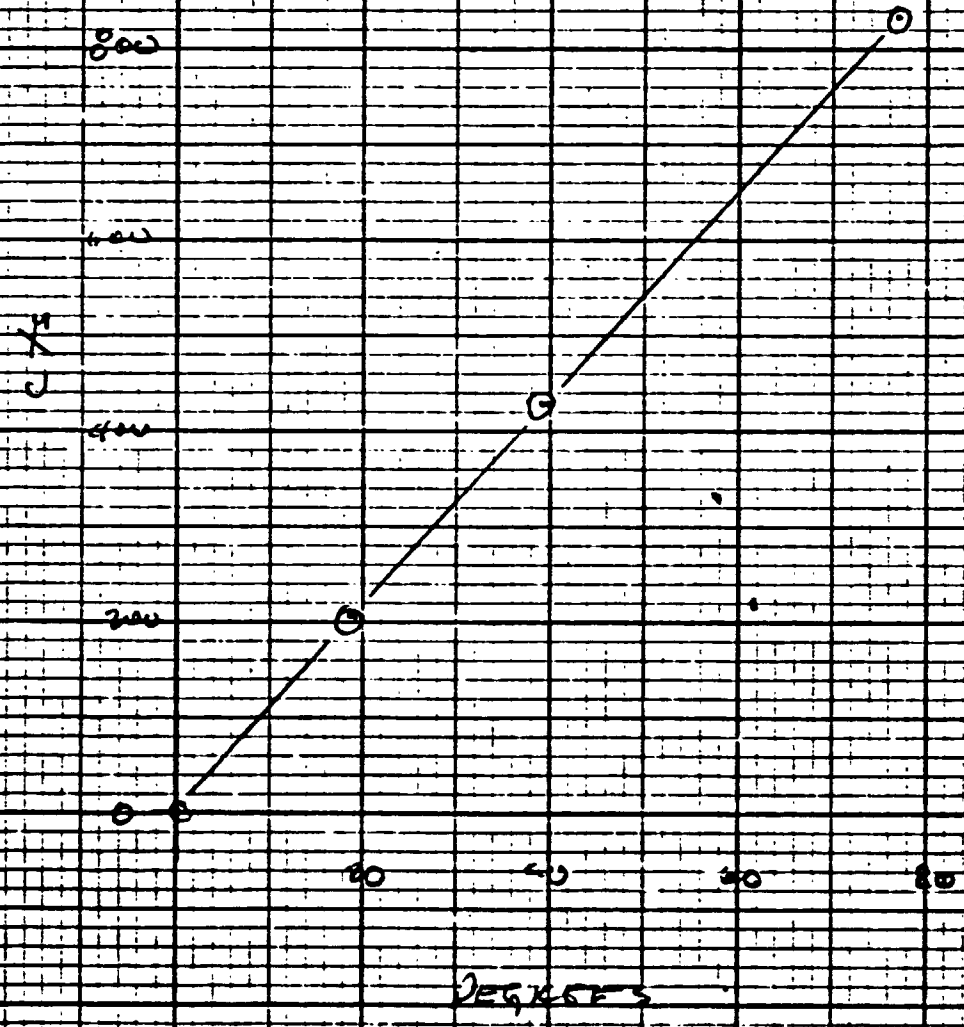
$$\text{UNITY CAL} = \underline{19,484 \text{ Psi/in/V}}$$

FLAND POS (CR+LF)

336 cts = 76.92°

100 cts = 9.20°

OFFICIAL AGE IN
28 MONTHS



ORIGINAL PAGE IS
OF POOR QUALITY

WING STRESS (BL 0.0)

UPPER PANEL - INNER	Q. BL 0	<u>5609</u>
" " OUTER	" "	<u>5628</u>
LOWER " INNER	" "	<u>5610</u>
" " OUTER	" "	<u>5629</u>

$$\begin{aligned} \text{STRESS} &= \frac{R Y}{(N)(GF)(R + R_{2H})} \\ &= \frac{(350)(10.4 \times 10^6)}{(1)(2.13)(350 + 100,000)} \\ &= \frac{(350)(104)}{(2.13)(1,00350)} \\ &= \frac{36400}{2.1375} \end{aligned}$$

$$100K = 17029 \text{ PSI}$$

$$\text{UNITY CAL} = \underline{19,484 \text{ PSI/IN/V}}$$

ORIGINAL PAGE IS
OF POOR QUALITY

WING STRESS (BL 0.0)

UPPER PANEL - INNER	@	BL 0	<u>5609</u>
" " OUTER	"	"	<u>5628</u>
LOWER " INNER	"	"	<u>5610</u>
" " OUTER	"	"	<u>5629</u>

$$\begin{aligned} \text{STRESS} &= \frac{R \cdot Y}{(N)(GF)(R + R_{SH})} \\ &= \frac{(350)(10.4 \times 10^6)}{(1)(2.13)(350 + 100,000)} \\ &= \frac{(350)(104)}{(2.13)(1,00350)} \\ &= \frac{36400}{2.1375} \end{aligned}$$

$$100K = 17029 \text{ PSI}$$

$$\text{UNITY CAL} = \underline{19,484 \text{ PSI/IN/V}}$$

WING STEAK (RIGHT)

S630

S631

S632

S633

S634

S635

S636

S637

ORIGINAL PAGE IS
OF POOR QUALITY

$$\text{SHEAR} = \frac{R(2A)}{(N)(GF)(R+R_{SH})}$$

$$= \frac{(350)(2)(10.4 \times 10^6)}{(2)(2.075)(350 + 100,000)}$$

$$= \frac{(350)(104)}{(2.075)(1.0035)}$$

$$= \frac{36400}{20823}$$

$$100K = 17,480.7 \text{ PSI}$$

$$\text{WING CAL} = \underline{19,978 \text{ PSI/MV/V}}$$

D1.45

RET. ALUMINUM POS.

663 cts = 3733 deg

100 cts =

600

500

400

300

200

100

10

20

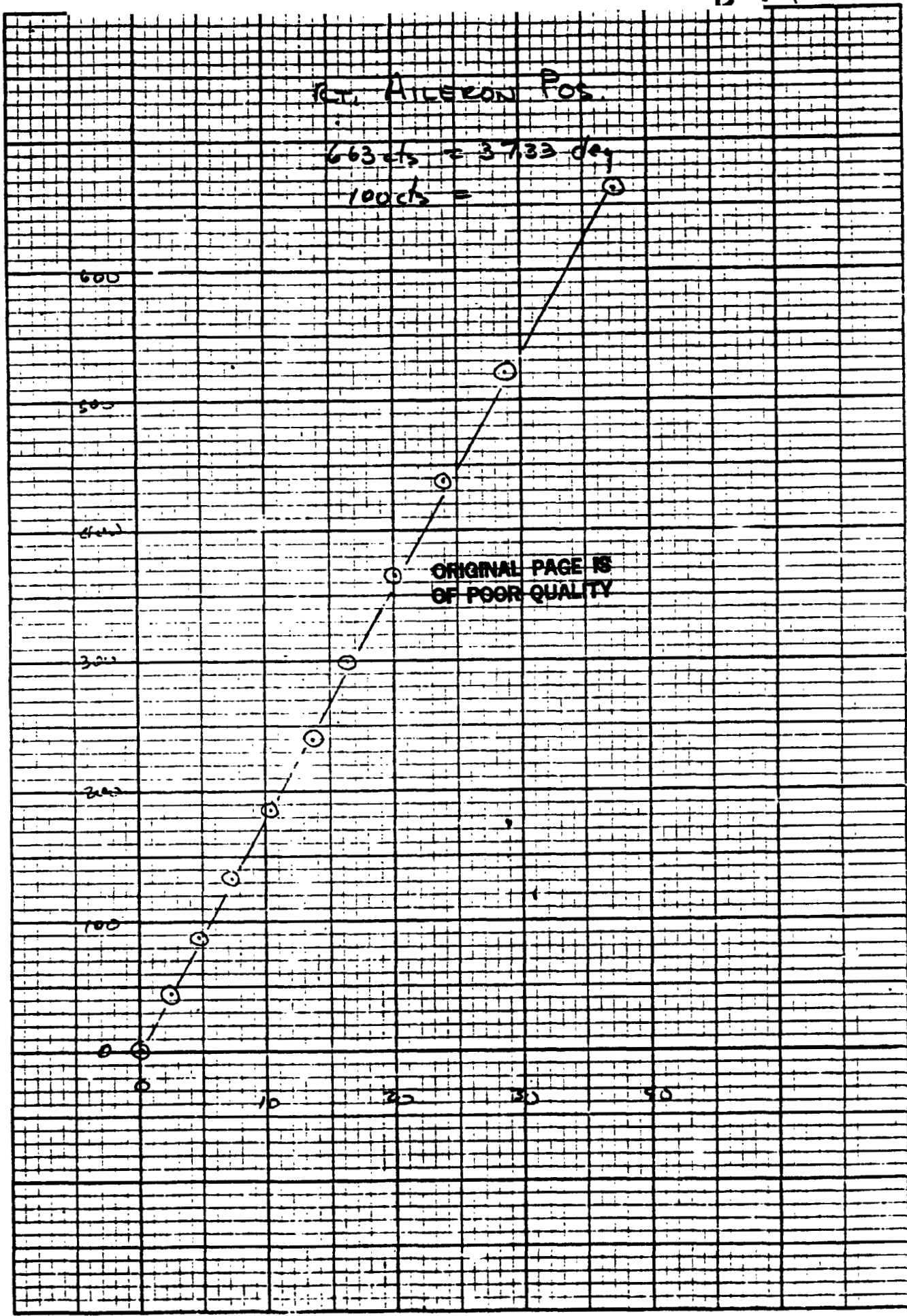
30

40

ORIGINAL PAGE IS
OF POOR QUALITY

ok A

HEWLETT-PACKARD 9270-1008



D646

2-25-77

ORIGINAL PAGE IS
OF EQUAL QUALITY

4. Arlexon Pos

$$\frac{718 \text{ cts}}{100 \text{ cts}} = 40.41 \text{ deg}$$

