

---

# American-Lincoln®

OPERATOR'S  
MANUAL &  
PARTS LIST

3366XP  
POWER  
SWEEPER



Beginning with Serial No. 586001

## READ THIS BOOK

This book has important information for the use and safe operation of this machine. Failure to read this book prior to operating or attempting any service or maintenance procedure to your machine could result in injury to you or to other personnel; damage to the machine or to other property could occur as well. you must have training in the operation of this machine before using it. If you or your operator (s) cannot read English, have this manual explained fully before attempting to operate this machine.

Si Ud. o sus operadores no pueden leer el Inglés, se hacen explicar este manual completamente antes de tratar el manejo o servicio de esta máquina.

All directions given in this book are as seen from the operator's position at the rear of the machine.

For new books, write to: American-Lincoln, Inc., 1100 Haskins Road, Bowling Green, Ohio 43402



# TABLE OF CONTENTS

<b>MACHINE SPECIFICATIONS</b> .....	<b>1-5</b>
<b>MACHINE DIMENSIONS</b> .....	<b>1-7</b>
<b>STANDARD HARDWARE &amp; TORQUE VALUES</b> .....	<b>1-8</b>
<b>HYDRAULIC TORQUE REQUIREMENTS</b> .....	<b>1-9</b>
<b>DECIMAL-METRIC CONVERSION TABLE</b> .....	<b>1-10</b>
<b>MACHINE OPERATION</b> .....	<b>1-11</b>
<b>SAFETY INSTRUCTIONS</b> .....	<b>1-12</b>
<b>OPERATION OF CONTROLS AND GAUGES</b> .....	<b>1-13</b>
WATER TEMPERATURE GAUGE .....	1-13
HOUR METER .....	1-13
FUEL GAUGE .....	1-13
OIL PRESSURE GAUGE .....	1-13
VOLT METER .....	1-13
HYDRAULIC FLUID SIGHT GLASS .....	1-14
BROOM & FAN SWITCH .....	1-14
SHAKER MOTOR SWITCH .....	1-14
TIMED SHAKER MOTOR SWITCH (OPTION) .....	1-14
RIGHT SIDE BROOM LIFT AND POWER CONTROL .....	1-15
IGNITION SWITCH .....	1-15
WET-SWEEP BYPASS SWITCH - (OPTIONS) .....	1-15
TURN SIGNALS - 4 WAY (OPTIONS) .....	1-15
FOOT BRAKE .....	1-16
ACCELERATOR and DIRECTIONAL CONTROL PEDAL .....	1-16
BACKUP ALARM (OPTION) .....	1-16
SEAT CONTROL .....	1-16
PARKING BRAKE .....	1-17
CIRCUIT BREAKERS .....	1-17
GLOW PLUG (DIESEL) .....	1-17
HOPPER LIFT/SIDE BROOM LEVER .....	1-18
HOPPER DUMP/RETURN CONTROL LEVER .....	1-18
THROTTLE CONTROL .....	1-18
CHECK ENGINE LIGHT .....	1-19
MAIN BROOM LIFT .....	1-19
WORK LIGHT SWITCH - (OPTIONS) .....	1-19
LIGHT SWITCH - (OPTIONS) .....	1-19
HORN BUTTON .....	1-19
CAB - (OPTIONS) - NOT SHOWN .....	1-19
LOW OIL SHUT DOWN .....	1-19
<b>OPERATING INSTRUCTIONS</b> .....	<b>1-20</b>
PRE-START CHECK LIST .....	1-20
TO START ENGINE .....	1-20
TO OPERATE SWEEPER .....	1-20
TO STOP SWEEPER .....	1-20
POST-OPERATION CHECK LIST .....	1-21
TO EMPTY DEBRIS HOPPER .....	1-21
TOWING INSTRUCTIONS .....	1-22
DUST FILTERS .....	1-22
DUST CONTROL SYSTEM .....	1-22
<b>LP-POWERED MACHINES</b> .....	<b>1-23</b>
SAFETY REQUIREMENTS .....	1-23
LP CHECK LIST .....	1-23
LP VAPOR WITHDRAWAL SYSTEM .....	1-24
LP VAPORIZER/REGULATOR QUICK CHECK .....	1-24
LP FUEL TANKS .....	1-25
USE & CARE OF LP TANKS .....	1-25
CHANGING MACHINE LP TANKS .....	1-25
STORAGE OF LP FUEL TANK .....	1-25
<b>MAINTENANCE SERVICE CHART FOR 3366XP</b> .....	<b>1-26</b>
<b>HOW TO SWEEP</b> .....	<b>1-28</b>
<b>GENERAL MACHINE MAINTENANCE</b> .....	<b>1-29</b>
LUBRICATION .....	1-29

## TABLE OF CONTENTS

HOW TO OPEN THE ENGINE COVER .....	1-29
HYDRAULICS .....	1-30
HOW TO FILL THE HYDRAULIC RESERVOIR .....	1-30
THE HYDRAULIC OIL COOLER .....	1-30
HOW TO CLEAN THE HYDRAULIC SYSTEM .....	1-31
HOW TO CLEAN THE HYDRAULIC SUCTION STRAINER .....	1-31
HOW TO REPLACE THE RETURN FILTER ELEMENT .....	1-31
HOW TO REPLACE THE MAIN BROOM .....	1-32
MAIN BROOM LEVEL ADJUSTMENT .....	1-32
HOW TO ADJUST MAIN BROOM WEAR PATTERN .....	1-33
SIDE BROOM LEVEL ADJUSTMENT .....	1-33
SIDE BROOM REPLACEMENT .....	1-33
BROOM FLAPS .....	1-33
ENGINE AIR INTAKE SYSTEM .....	1-34
AIR FILTER .....	1-34
TO REPLACE AIR FILTER ELEMENT .....	1-34
BRAKE ADJUSTMENT .....	1-36
BRAKE DRUM ADJUSTMENT .....	1-36
PNEUMATIC WHEELS .....	1-36
COOLING SYSTEM .....	1-37
COOLANT LEVEL .....	1-37
RADIATOR .....	1-37
DRIVE BELTS .....	1-38
BATTERY .....	1-38
GAS TANK .....	1-39
HOPPER ADJUSTMENT .....	1-39
STEERING ADJUSTMENT .....	1-39
<b>CHECK ENGINE LIGHT CODES .....</b>	<b>1-40</b>
<b>HARDWARE ABBREVIATIONS .....</b>	<b>1-43</b>
<b>ORDERING PARTS .....</b>	<b>1-44</b>
 PARTS LIST CHAPTER 2	
Driver Compartment .....	2-2
Frame, Broom Door, & Flaps .....	2-4
Control Panel & Horn .....	2-6
Hopper Lid & Filter System .....	2-8
Hopper Lift System (Variable Dump) .....	2-10
Hopper Lift System (Low Dump) .....	2-12
Steering Gear & Rear Drive System .....	2-14
Forward/Reverse Control .....	2-16
Brake & Front Wheel Assembly .....	2-18
Brake Control Linkage .....	2-20
Main Broom Lift Mechanism .....	2-22
Main Broom .....	2-24
Side Broom .....	2-26
Auxiliary Pump & Fittings .....	2-28
Main Pump & Fittings .....	2-29
Impeller & Fittings .....	2-30
Control Valve & Fittings (Variable Dump) .....	2-32
Control Valve & Fittings (Low Dump) .....	2-33
Rear Drive Motor & Fittings .....	2-34
Main Broom Motor & Fittings .....	2-35
Side Broom Motor & Fittings .....	2-36
Lift, Rotation & Dump Cylinders w/ Fittings (Variable Dump) .....	2-37
Dump Cylinders w/ Fittings .....	2-38
Lift Cylinder Lock-out Valve & Fittings .....	2-39
Auxiliary Manifold & Fittings .....	2-40
Return Manifold Assembly (Variable Dump) .....	2-41
Return Manifold Assembly (Low Dump) .....	2-42
Hydraulic Oil Cooler .....	2-43
Hydraulic Reservoir & Fittings .....	2-44

## TABLE OF CONTENTS

---

Engine Cover .....	2-46
Ford 425EFI Gas/LP Engine (Fan, Mounts, Brackets) .....	2-48
Ford 425EFI Gas/LP Engine (Exhaust Systems) .....	2-50
Ford 425EFI GAS Engine (Fuel System) .....	2-52
Ford 425EFI GAS Engine (Fuel System continued) .....	2-54
Ford 425EFI LP Engine (Fuel System) .....	2-56
Ford 425EFI LP Engine (Fuel System continued) .....	2-58
LPTank System .....	2-62
Air Cleaner Assembly (all models) .....	2-64
Mitsubishi S4Q2 Diesel Engine (Fan, Brackets, Throttle) .....	2-66
Mitsubishi S4Q2 Diesel Engine (Exhaust System) .....	2-68
Mitsubishi S4Q2 Diesel Engine (Fuel System) .....	2-70
Radiator & Shroud (Gas/LP) .....	2-71
Radiator & Shroud (Diesel) .....	2-72
Fuel Tank (Gas/Diesel) .....	2-73
CE Kit .....	2-74
Decals .....	2-76
Instrument Panel .....	2-78
Hydraulic Hose System (Variable Dump) .....	2-80
Hydraulic Hose System (Common to Variable & Low Dumps) .....	2-82
Hydraulic Hose System (Low Dump) .....	2-84
Hydraulic Schematic (Variable Dump) .....	2-85
Hydraulic Schematic (Low Dump) .....	2-86
Machine Harness Routing .....	2-88
Ford 425EFI (Frame Side) Harness Routing .....	2-90
Mitsubishi S4Q2 (Frame Side) Harness Routing .....	2-91
Electrical Schematic (Gas/LP/Diesel) .....	2-92
Connection Diagram (Gas/LP/Diesel) .....	2-93

### PARTS LIST CHAPTER 3

Safety Air Cleaner .....	3-2
Broom Options .....	3-3
Back-up Alarm .....	3-4
Blower Attachment .....	3-6
Tire Options .....	3-7
Fire Extinguisher .....	3-8
Flame Arresting Gas Cap .....	3-9
Lights Option .....	3-10
Turn Signal & Brake Light Options .....	3-12
Turn Signal & Brake Light (con't) .....	3-14
Side Broom Light .....	3-16
Warning Light Option .....	3-18
Warning Light Option w/ Overhead Guard .....	3-20
Overhead Guard .....	3-22
Work Light Option .....	3-23
Suspension Seat Option .....	3-24
Timed Shaker Motors .....	3-25
Left Side Broom Option .....	3-26
Vacuum Side Brooms Option .....	3-28
Vacuum Wand Option .....	3-30
Wet Sweep Bypass Option .....	3-32
Filter Warning System Option .....	3-34
Pulse - Air <sup>3</sup> .....	3-36
Pulse - Air <sup>3</sup> - Electrical Schematic .....	3-38
Pulse - Air <sup>3</sup> - Hydraulics .....	3-40
Engine Service Parts - Ford 425EFI Gas/LP .....	3-41
Engine Service Parts - Mitsubishi S4Q2 Diesel .....	3-42
Warranty .....	3-43

**MACHINE SPECIFICATIONS****DIMENSIONS**

Length	97.0 inches (246.4 cm.)
Width	70.5 inches (179.1 cm.)
Wheel Base	45.2 inches (114.8 cm.)
Height	59.5 inches (151.1 cm.)

**DRIVES**

Propelling	Variable Displacement Pump Hydraulic Drive Motor
Sweeping	(2) Hydraulic Motors
Vacuum	(1) Hydraulic Motor
Multi Level Dump	(4) Hydraulic Cylinders

**HYDRAULIC CONTROLS**

Single foot pedal controls forward, neutral, reverse and dynamic braking.

Switch controlled broom and vacuum fan on/off.

Steering wheel controls maneuverability to the right and left. Power steering system translates steering wheel rotation to rear wheel angle.

**MECHANICAL SYSTEMS**

Brakes	Foot-operated with hand-operated locking drum brakes
Brooms	
Main	Lift and height adjustment
Side	Lift

**SWEEPING SYSTEM**

Type	Direct throw
Hopper	27 cubic feet 1500 lbs. (680 Kg.)
Filter Area	170 square feet
Main Broom	
Length	50 inches (127 cm.)
Diameter	16 inches (40.6 cm.)
Bristle length	4.25 inches (10.8 cm.)

Features broom lift and adjustable broom height for wear compensation, standard proex and wire broom and quick change system.

Side Broom	
Diameter	23 inches (58.5 cm.)

Features side broom lift, independent broom angle and height adjustment for wear compensation and nylon fiber broom.

**Dust Control System**

Twin quick change treated pleated paper type panel air filters (85 square feet or 7.9 square meters) with a 9 inch (22.9 cm.) hydraulically driven vacuum impeller.

## SPECIFICATIONS

---

### SYSTEM FLUID CAPACITIES

Engine Cooling System	
Radiator and Hoses	4.0 quarts (3.8 liters)
Gas/LP System total	8.0 Quarts (7.6 l.)
Diesel system total	8.0 Quarts (7.6 l.)
Fuel Tank	
Gas, Diesel Fuel	9.2 gallons (34.8 liters)
LP Fuel	33 lbs. (15 kg.)
Hydraulic System	7 gallons (26.5 liters)

### GENERAL MACHINE PERFORMANCE

Sweeping Width	66 inches (167.6 cm.)
Speed	
Maximum Travel	8.0 MPH (12.9 Km/Hr)
Recommended Sweeping Speed	3.0 MPH( 4.8 Km/Hr)
Turning Radius	
Left	68 inches (172.5 cm.)
Right	110 inches (279.4 cm.)
Minimum aisle width for 180° turn	120 inches (304.8 cm.)

### WEIGHT

3366 Gas Variable Dump	3700 lbs. (1678 Kg.)
3366 Gas Variable Dump w/Crate	4200 lbs. (1905 Kg.)

### ENGINE DATA

#### Ford LRG425 EFI

Bore and Stroke	3.78" x 3.40" (96.0 mm x 86.3 mm)
Oil Capacity	4.5 quarts (4.3 liters) (including filter)
Displacement	4 cylinders (2.5 liters) (153 CID)
Fuel	87 A.K.I. (Standard Unleaded Gasoline) HD-5 for LP versions

#### Mitsubishi S4Q2 Diesel

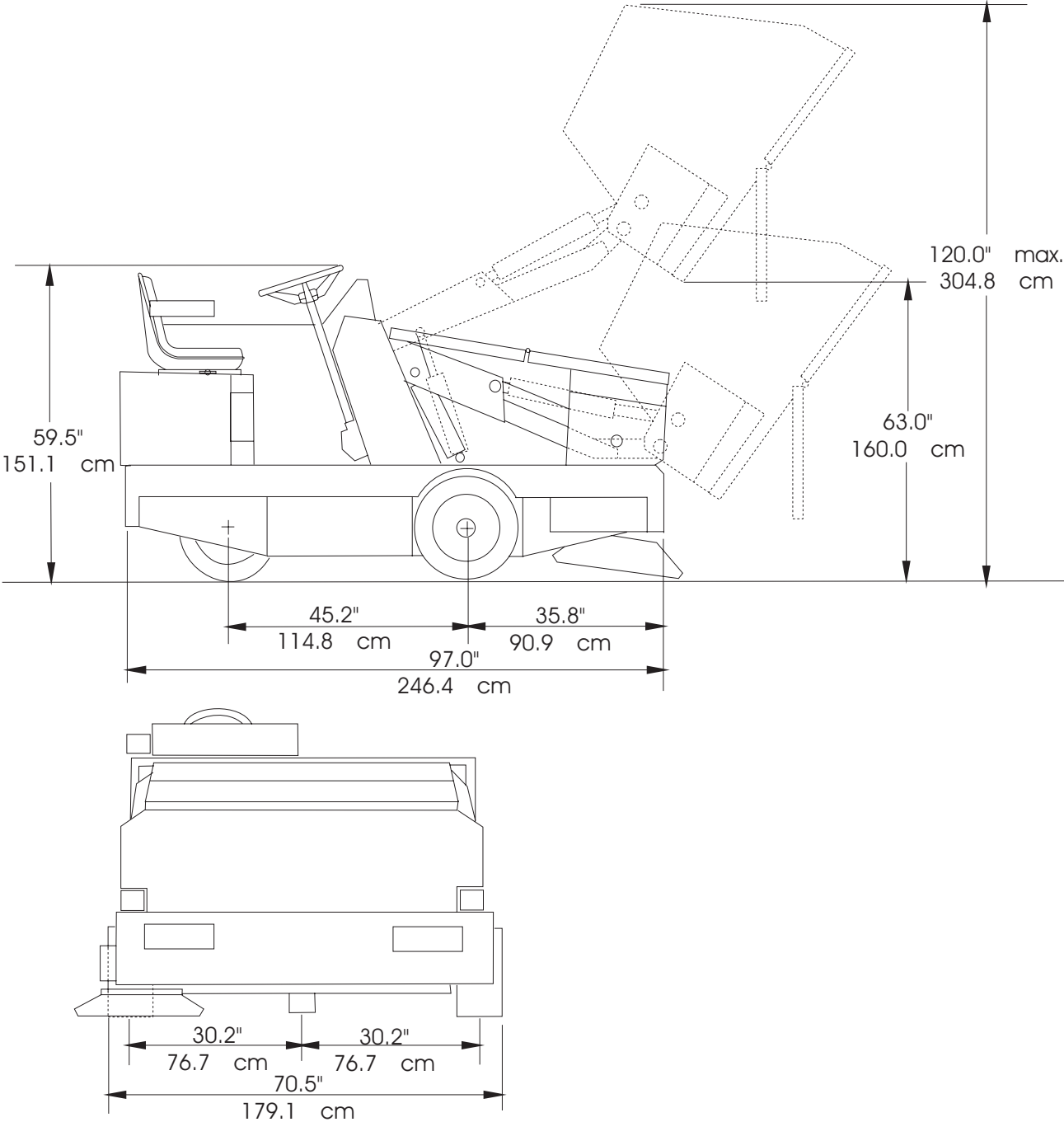
Bore and Stroke	3.46" x 4.06" (88 mm x 103 mm)
Oil Capacity	7.2 quarts (7 liters) -Oil pan / 8.4 quarts (8 liters) - Complete system
Displacement	4 cylinders (2.5 Liters) (153 cu. in.) (122 CID)
Fuel	ASTM No. 2-D

High temperature/low pressure sensors with engine shutdown are standard on both the Ford 425EFI and Mitsubishi S4Q2.

### WHEELS

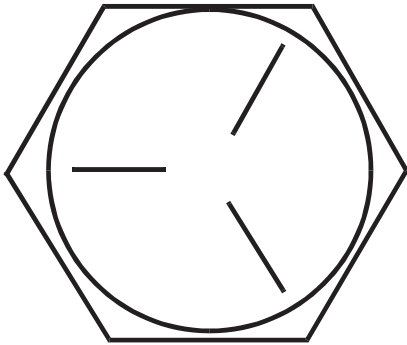
Diameter	21 inches
Tire	Pneumatic (6.90/6.00 x 9)
Rim	9 in. (22.86 cm), 5 bolts

MACHINE DIMENSIONS

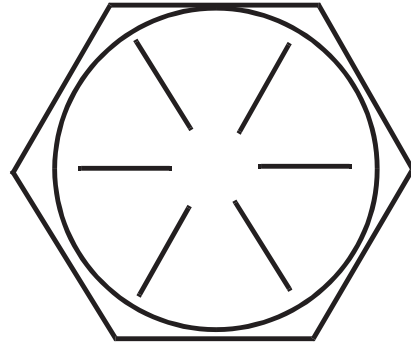


C-0100

**BOLT IDENTIFICATION**



SAE - Grade 5



SAE - Grade 8

Screw Size	Grade 5 Plated		Grade 8 Plated		410H Stainless		Brass	Type F & T & BT		Type B, AB
	C	F	C	F	C	F		C	F	
*6	14	15	-	-	18	20	5	20	23	21
*8	27	28	-	-	33	35	9	37	41	34
*10	39	43	-	-	47	54	13	49	64	49
*1/4	86	108	130	151	114	132	32	120	156	120
5/16	15	17	22	24	19	22	6	-	-	-
3/8	28	31	40	44	34	39	10	-	-	-
7/16	44	49	63	70	55	62	16	-	-	-
1/2	68	76	95	108	85	95	-	-	-	-
9/16	98	110	138	155	-	-	-	-	-	-
5/8	135	153	191	216	-	-	-	-	-	-
3/4	239	267	338	378	-	-	-	-	-	-
7/8	387	-	545	-	-	-	-	-	-	-
1	579	-	818	-	-	-	-	-	-	-

C = Coarse Thread

F = Fine Thread

\* = Torque values for #6 through 1/4 are lb./in. All others are lb./ft.

**NOTE**

Decrease the torque by 20% when using thread lubricant  
The torque tolerance is  $\pm$  on torque values.

+

C2000/9905



## HYDRAULIC TORQUE REQUIREMENTS

### HYDRAULIC TORQUE REQUIREMENTS

Nominal SAE Dash Size	O-ring Face Seal End		SAE O-ring Boss End	
	Thread Size Inch	Swivel Nut Torque	Thread Size Inch	Str. Fitting or Locknut Torque
		LB-FT		LB-FT
-3	*	*	3/8-24	8-10
-4	9/16-18	10-12	7-16-20	14-16
-5	*	*	1/2-20	18-20
-6	11/16-16	18-20	9/16-18	24-25
-8	13/16-16	32-35	3/4-16	50-60
-10	1-14	46-50	7/8-14	72-80
-12	1 3/16-12	65-70	1 1/16-12	125-135
-14	1 3/16-12	65-70	1 3/16-12	160-180
-16	1 7/16-12	92-100	1 5/16-12	200-220
-20	1 11/16-12	125-140	1 5/8-12	210-280
-24	2-12	150-165	1 7/8-12	270-360

\* O-Ring Face Seal Not Defined for this tube size.

**NOTE**  
Parts must be lightly oiled with hydraulic fluid.

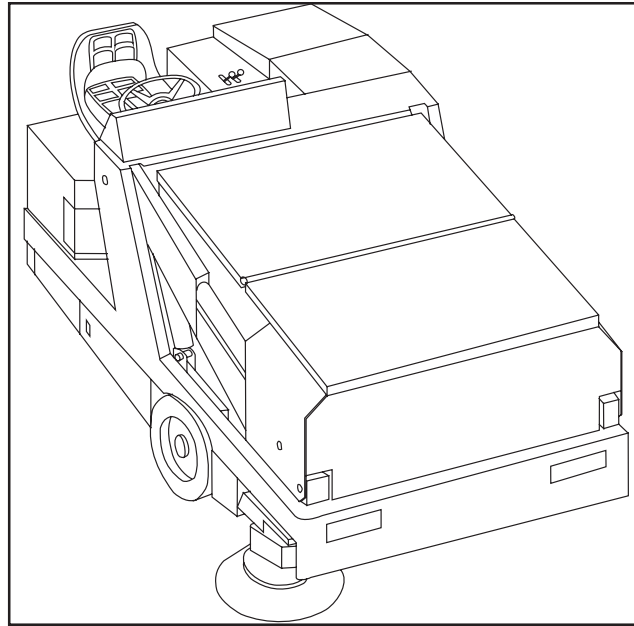
## O-RING SIZE CHART

Part Number	O.D.	I.D.	Width	Description
2-00-04962	0.441	0.301+0.005	0.07	O-ring Seal Tube Size 4
2-00-04963	0.629	0.489+0.005	0.07	O-ring Seal Tube Size 8
2-00-04964	0.879	0.739+0.005	0.07	O-ring Seal Tube Size 12

# DECIMAL-METRIC CONVERSION TABLE

## DECIMAL-METRIC CONVERSION TABLE

Fraction	Decimal	Millimeter	Fraction	Decimal	Millimeter
$\frac{1}{64}$	0.015625	0.3969	$\frac{33}{64}$	0.515625	13.0969
$\frac{1}{32}$	0.03125	0.7938	$\frac{17}{32}$	0.53125	13.4938
$\frac{3}{64}$	0.046875	1.1906	$\frac{35}{64}$	0.546875	13.8906
$\frac{1}{16}$	0.0625	1.5875	$\frac{9}{16}$	0.5625	14.2875
$\frac{5}{64}$	0.078125	1.9844	$\frac{37}{64}$	0.578125	14.6844
$\frac{3}{32}$	0.09375	2.3813	$\frac{19}{32}$	0.59375	15.0813
$\frac{7}{64}$	0.109375	2.7781	$\frac{39}{64}$	0.609375	15.4781
$\frac{1}{8}$	0.125	3.1750	$\frac{5}{8}$	0.625	15.8750
$\frac{9}{64}$	0.140625	3.5719	$\frac{41}{64}$	0.640625	16.2719
$\frac{5}{32}$	0.15625	3.9688	$\frac{21}{32}$	0.65625	16.6688
$\frac{11}{64}$	0.171875	4.3656	$\frac{43}{64}$	0.671875	17.0656
$\frac{3}{16}$	0.1875	4.7625	$\frac{11}{16}$	0.6875	17.4625
$\frac{13}{64}$	0.203125	5.1594	$\frac{45}{64}$	0.703125	17.8594
$\frac{7}{32}$	0.21875	5.5563	$\frac{23}{32}$	0.71875	18.2563
$\frac{15}{64}$	0.234375	5.9531	$\frac{47}{64}$	0.734375	18.6531
$\frac{1}{4}$	0.25	6.3500	$\frac{3}{4}$	0.75	19.0500
$\frac{17}{64}$	0.265625	6.7469	$\frac{49}{64}$	0.765625	19.4469
$\frac{9}{32}$	0.28125	7.1438	$\frac{25}{32}$	0.78125	19.8438
$\frac{19}{64}$	0.296875	7.5406	$\frac{51}{64}$	0.796875	20.2406
$\frac{5}{16}$	0.3125	7.9375	$\frac{13}{16}$	0.8125	20.6375
$\frac{21}{64}$	0.328125	8.3344	$\frac{53}{64}$	0.828125	21.0344
$\frac{11}{32}$	0.34375	8.7313	$\frac{27}{32}$	0.84375	21.4313
$\frac{23}{64}$	0.359375	9.1281	$\frac{55}{64}$	0.859375	21.8281
$\frac{3}{8}$	0.375	9.5250	$\frac{7}{8}$	0.875	22.2250
$\frac{25}{64}$	0.390625	9.9219	$\frac{57}{64}$	0.890625	22.6219
$\frac{13}{32}$	0.40625	10.3188	$\frac{29}{32}$	0.90625	23.0188
$\frac{27}{64}$	0.421875	10.7156	$\frac{59}{64}$	0.921875	23.4156
$\frac{7}{16}$	0.4375	11.1125	$\frac{15}{16}$	0.9375	23.8125
$\frac{29}{64}$	0.453125	11.5094	$\frac{61}{64}$	0.953125	24.2094
$\frac{15}{32}$	0.46875	11.9063	$\frac{31}{32}$	0.96875	24.6063
$\frac{31}{64}$	0.484375	12.3031	$\frac{63}{64}$	0.984375	25.0031
$\frac{1}{2}$	0.5	12.7000	1	1.0000	25.4000



C1033

FIGURE 1

### Unpacking and Preparing the Machine for Operation

YOUR MODEL 3366XP POWER SWEEPER HAS BEEN SHIPPED COMPLETE, BUT DO NOT ATTEMPT TO OPERATE WITHOUT READING THE FOLLOWING INSTRUCTIONS.

1. Uncrate the machine and carefully remove from skid to prevent damage.
2. Connect and tighten battery cables.
3. Fill tank with UNLEADED gasoline or Diesel Fuel.



#### WARNING

**Never fill fuel tank while the engine is running. Always be sure gasoline container and sweeper are electrically connected before pouring gas. This can be easily done by providing an insulated wire (permanently attached to the container) with battery clip on the other end.**

4. Check engine crankcase oil level. Although properly lubricated at factory, check before starting engine. No special break-in oil is used and recommended number of operating hours before the initial oil change is the same as normal. See Maintenance chart.
5. Check radiator coolant level. Permanent type antifreeze is added at the factory to provide protection to approximately -35° F (-37° C). To retain this protection level, always add 1/2 part water to 1/2 part antifreeze.
6. Check oil level in the hydraulic reservoir located at center of machine beside the engine. The hydraulic reservoir is full, if oil can be seen in the sight glass with the hopper in "DOWN" position. If oil is required, add HYDRAULIC FLUID ONLY, automatic transmission fluid FORD type "F" ATF.

#### NOTE

**After the first 50 operating hours, service must be performed on your engine to insure future high performance and trouble free operation. See Maintenance.**

## SAFETY INSTRUCTIONS

---



### WARNING

**FOR SAFETY, OBSERVE THE FOLLOWING WARNINGS. FAILURE TO COMPLY MAY CREATE A SERIOUS RISK OF INJURY TO YOURSELF AND OTHERS. THIS MACHINE SHOULD NOT BE USED IN HAZARDOUS LOCATIONS INCLUDING AREAS OF VOLATILE DUST OR VAPOR CONCENTRATIONS.**

1. To avoid possible injury or property damage, read the operator's manual before using the machine.
2. Fire hazard. Fine dust, fuels solvents and thinner can explode and cause severe burns.
3. Do not use with/ or near flammable materials or vapors. Use only with good ventilation.
4. Heavy machinery, Improper use can cause personal injury.
5. Operate only from the designated operators position. Keep inside the body of the machine. Keep hands and feet on the designated controls. Always operate in well lighted areas.
6. Do not leave the machine on a ramp or dock. After stopping the machine, turn all the switches off.
7. Do not dump the hopper over an open pit or dock. Do not dump the hopper when positioned on a grade (ramp). The machine must be level (horizontal).
8. Operate only when lids, doors, and access panels are securely closed.
9. Never travel with the hopper in the raised position.
10. The operator must exhibit extreme caution when negotiating, turning and traveling across grades or ramps.
11. Start, stop, change direction, travel and brake smoothly. Slow down when turning. Avoid uneven surfaces and loose materials.
12. Watch out for obstructions, especially overhead.
13. Carry no passengers on the machine.
14. Set parking brake when leaving the machine. Chock (block) the wheels if the machine is to be parked on a grade (ramp), or is to be worked on.
15. Never leave the operator's seat with the engine running.
16. Report damage or faulty operation immediately. Do not operate the machine until repairs have been completed.
17. Maintenance and repairs must be done by authorized personnel only.
18. Never manually depress the electrical switch on the left lift arm when the hopper is raised.



### WARNING

**TO MAINTAIN THE STABILITY OF THIS SWEEPER IN NORMAL OPERATION, THE COUNTER-WEIGHTS, OVER-HEAD GUARD, REAR BUMPER GUARD, OR ANY SIMILAR EQUIPMENT, INSTALLED BY THE MANUFACTURER AS ORIGINAL EQUIPMENT, SHOULD NEVER BE REMOVED. IF IT BECOMES NECESSARY TO REMOVE SUCH EQUIPMENT FOR REPAIR OR MAINTENANCE. THIS EQUIPMENT MUST BE REINSTALLED BEFORE THE SWEEPER IS PLACED BACK IN OPERATION.**



### WARNING

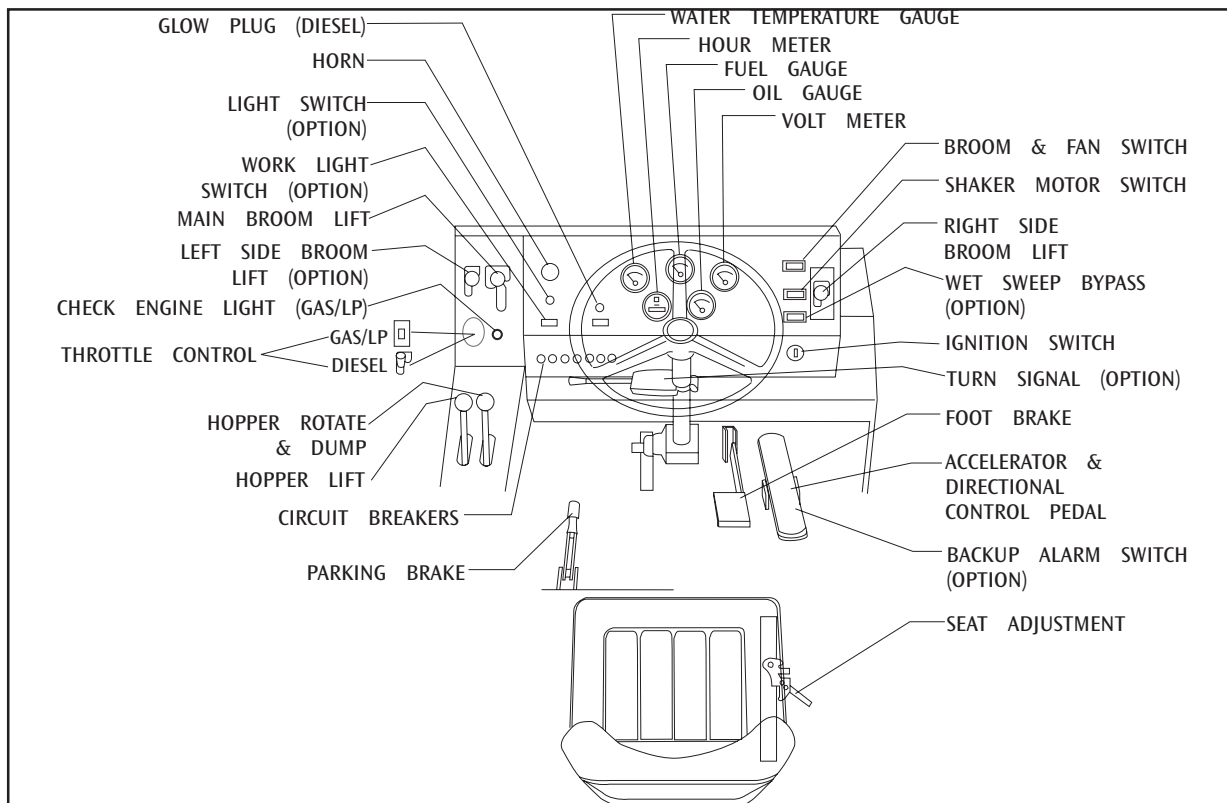
**WHEEL ASSEMBLY MAY EXPLODE CAUSING SERIOUS PERSONAL INJURY OR DEATH. WHEEL ASSEMBLY MUST BE SERVICED BY PROPERLY TRAINED AND QUALIFIED PERSONNEL IN ACCORDANCE WITH FEDERAL OSHA STANDARD 29 CFR PART 1910.177.<D>**



### WARNING

**DO NOT ADD AIR TO TIRE AND RIM ASSEMBLIES THAT HAVE BEEN OPERATED IN A SERIOUS UNDERINFLATED OR FLAT CONDITION. THE TIRE AND RIM COMPONENTS CAN EXPLODE CAUSING SERIOUS OR FATAL INJURIES.**

- Always deflate a tire and wheel assembly completely before removing it from the vehicle for servicing.
- An underinflated tire is one inflated to 80% or less of recommended air pressure.
- Never use mismatched tire/rim components.



P4586ecp

FIGURE 2

### **WATER TEMPERATURE GAUGE (See Figure 2)**

The water temperature gauge is located on the instrument panel to the left of the fuel gauge. The gauge is activated by a sender in the engine. It displays the engine water temperature in °F.

### **HOUR METER (See Figure 2)**

This meter is located to the left of the oil pressure gauge on the instrument console. This meter is activated when the engine begins running. The meter indicates actual “run” time of the machine. The meter can be used to indicate when maintenance should be done to the machine.

### **FUEL GAUGE (See Figure 2)**

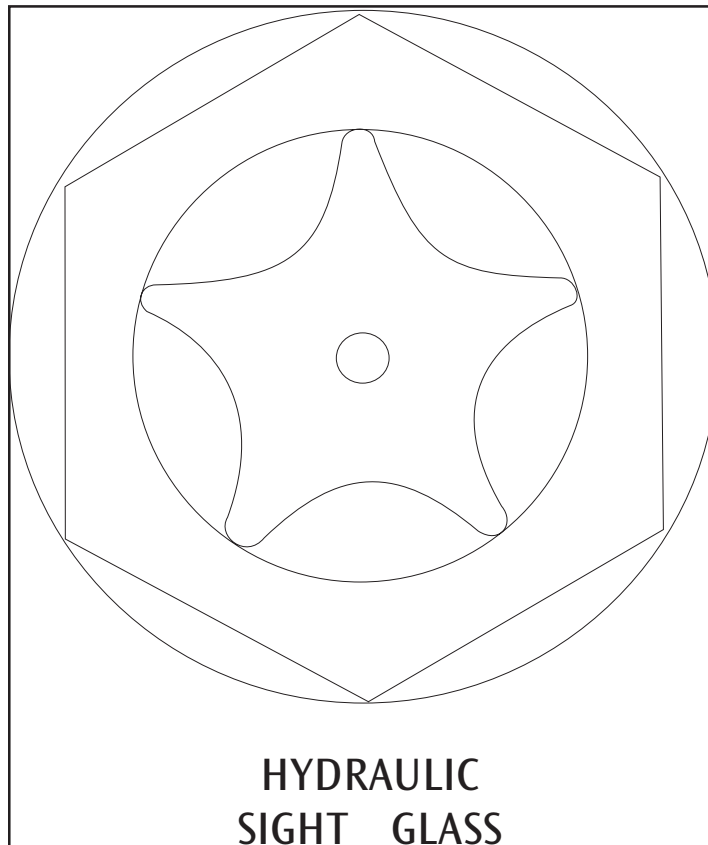
The fuel gauge is located between the water temperature gauge and the volt meter on the instrument panel, and indicates the level of fuel contained in the fuel tank.

### **OIL PRESSURE GAUGE (See Figure 2)**

The oil pressure gauge is located on the instrument panel to the right of the hour meter. The gauge is mechanical and activated by a sender in the engine. It displays the engine oil pressure in PSI.

### **VOLT METER (See Figure 2)**

The volt meter is located on the control panel to the left of the fuel gauge. The meter indicates the charging or discharging of the battery. When the key is in the accessory position the gauge will register approx. 12 volts. The meter will indicate approx. 13 to 14.5 volts when the engine is running. This indicates that the alternator is working correctly.



P4696a

FIGURE 3

### **HYDRAULIC FLUID SIGHT GLASS (See Figure 3)**

The sight glass is located on the side of the hydraulic oil reservoir.

The sight glass indicates the level of the hydraulic oil in the reservoir.

Fluid level must be visible in the sight glass when the hopper is in the down position. If the sight glass is completely full, then there is too much fluid in the reservoir.

### **BROOM & FAN SWITCH (See Figure 2)**

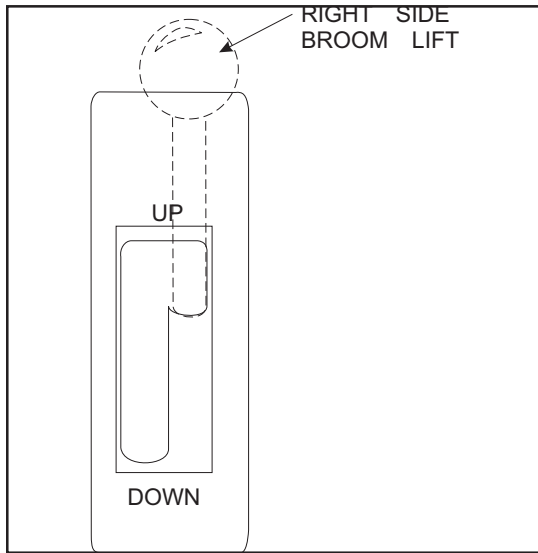
The broom and fan switch is located to the left of the right side broom lever. This switch “powers” the brooms and the vacuum fan system. It has on-off positioning.

### **SHAKER MOTOR SWITCH (See Figure 2)**

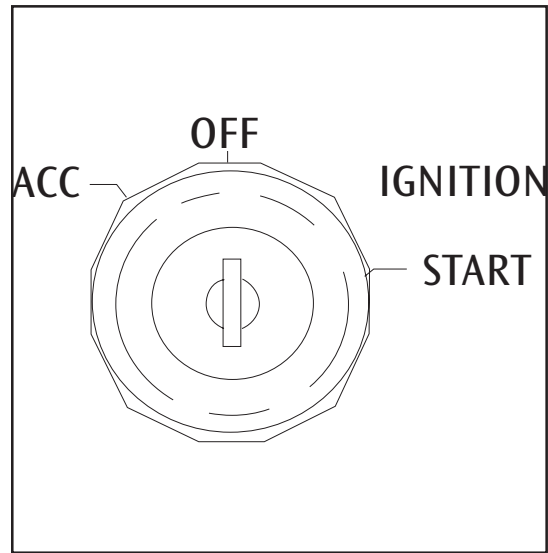
The shaker motor switch is located below the broom and fan switch. This is a momentary switch that will activate the filter shaker motors. Hold the switch for 20 to 30 seconds to activate the shaker motors. When the shaker motors have been activated, the brooms and impeller fan will stop. The shaker motors will only operate with the hopper in the “SWEEP” position. The switch is not on the control panel if the machine is equipped with the CDC Dust Control Filter Option.

### **TIMED SHAKER MOTOR SWITCH (OPTION) (See Figure 2)**

The shaker motor switch is located below the broom and fan switch. This is a momentary switch that will activate the filter shaker motors for 20 to 30 seconds after it has been pushed. When the shaker motors have been activated, the brooms and impeller fan will stop. The shaker motors will only operate with the hopper in the “SWEEP” position.



P4687 FIGURE 4



P4385 FIGURE 5

**RIGHT SIDE BROOM LIFT AND POWER CONTROL (See Figure 4)**

The right side broom lift and power control is located on the right side of the instrument panel. To raise and stop the side broom, grasp the lever and push the lever to the locking notch, marked “UP”. To lower the side broom, grasp the lever, push it up and to the left, away from the locking notch. Let the lever lower -until it rests by the “DOWN” mark. The broom will automatically begin rotating as it is lowered. To turn “ON” the side brooms, move the Hopper Lift/Side Broom Lever forward to the “ON” position (See Figure 9).

**IGNITION SWITCH (See Figure 5)**

The keyed ignition switch is located to the right of the steering column on the instrument panel. It has four positions.

1. The key turned to the center “OFF” position will shut of the engine. The following items can be activated in the “OFF” position.
  - a. Horn
  - b. Filter Shaker Motors
  - c. Light Options
2. The key turned to the left “ACCESSORY” position will allow the following additional items to be activated:
  - a. Turn Signals
  - b. Instrument Gauges
3. The key turned to the right “IGN/ON” position will allow all the items listed above to be activated. This position will not start the engine.
4. The key turned to the far right “START” position will start the engine. This position is a momentary position. The key will revert to the “IGN/ON” position when it is released.

**WET-SWEEP BYPASS SWITCH (OPTION) (See Figure 2)**

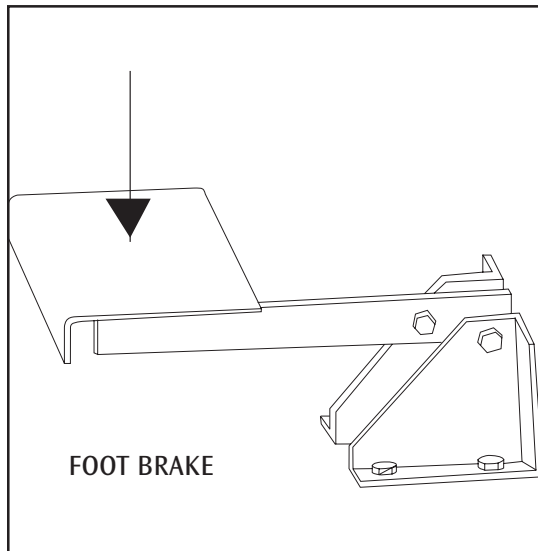
The wet-sweep bypass switch is located to the right of the steering wheel under the shaker motor switch.

The switch activated will shut off the vacuum motor. This will keep the dust filters from being ruined by the water pickup from sweeping water.

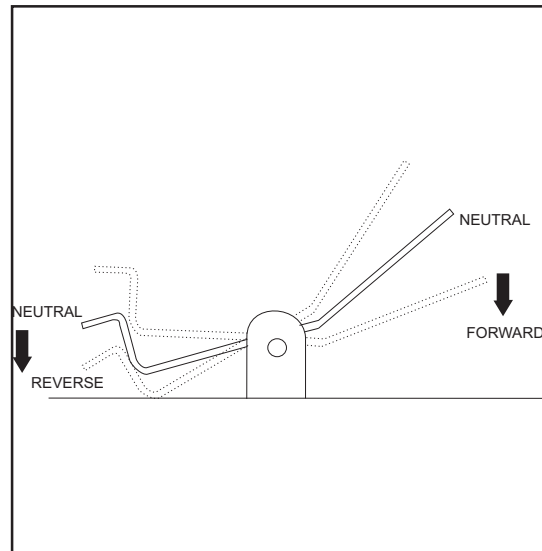
**4-WAY TURN SIGNALS (OPTION) (See Figure 2)**

The turn signal option is located on the steering column and works as automotive turn signals work, forward on the lever for right and back on the lever for left. The 4 way flasher will activate when the turn signal lever is pulled out.

## OPERATION OF CONTROLS AND GAUGES



P4689 FIGURE 6



P4066 FIGURE 7

### FOOT BRAKE (See Figure 6)

The foot brake pedal is located to the right of the steering column on the floor of the driver compartment. The foot brake on front wheels is a mechanical system actuated by the brake pedal.

### ACCELERATOR & DIRECTIONAL CONTROL PEDAL (See Figure 7)

The accelerator and directional control pedal is located on the floor of the operator's area, to the right of the brake pedal. The accelerator and directional control pedal controls the machine direction and travel speed.

1. Put foot pressure on the upper portion of the pedal. The machine will move forward.
2. Increase the foot pressure on the upper portion of the pedal to increase the forward speed.
3. Put foot pressure on the lower portion of the pedal. The machine will move in reverse.
4. Increase the foot pressure on the lower portion of the pedal to increase the reverse speed.
5. To stop the machine, put light foot pressure on the opposite end of the accelerator and directional control pedal. If the machine is moving forward, put light foot pressure on the lower portion of the pedal. If the machine is moving in reverse, put light foot pressure on the upper portion of the pedal.

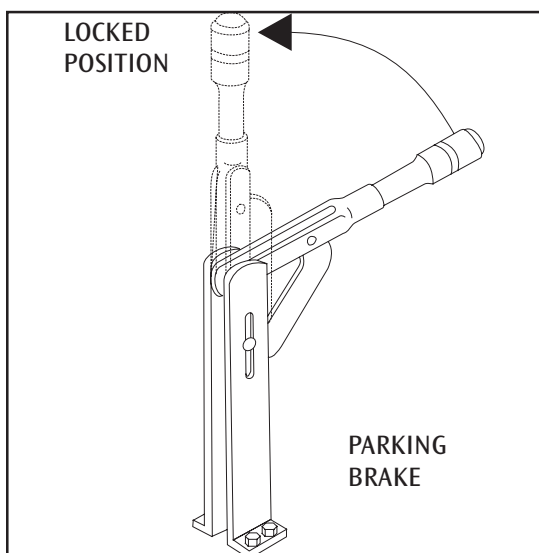
### BACK UP ALARM (OPTION) (See Figure 2)

The back up alarm is operated by a switch that is located under the lower section of the Accelerator and directional control pedal. The alarm makes a loud audible noise when the machine is being driven in reverse.

### SEAT ADJUSTMENT (See Figure 2)

This lever is located on the right of the seat. This lever allows the seat to be adjusted forward or back when the lever is moved.





P4691 FIGURE 8

### **PARKING BRAKE (See Figure 8)**

The parking brake lever is located in the left side of the driver compartment floor. This lever when raised to the upright position will “lock” the foot brake pedal in the down position.

### **CIRCUIT BREAKERS (See Figure 2)**

The circuit breakers are located to the left of the steering wheel. When a circuit breaker “pops” out, this is an indication of an electrical problem that must be corrected before the breaker can be reset.

There can be up to seven circuit breakers in the row. They control the following circuits, beginning with number 1 on the left:

- CB-1 = Filter shaker motors
- CB-2 = Horn
- CB-3 = Starter relay
- CB-4 = Ignition
- CB-5 = Accessory
- CB-6 = Options
- CB-7 = Cab Options

### **GLOW PLUG (DIESEL)**



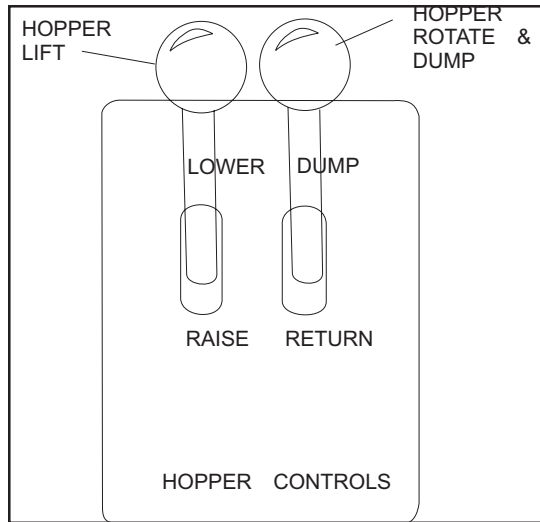
### **WARNING**

**It is advised that in no circumstances should either or any other unauthorized starting aids be used at the same time as the Glow Plugs.**

To operate the glow plugs, the following procedure should be adopted.

1. Before operating the starter motor, press the “GLOW PLUG” button for approximately 20 to 30 seconds.
2. With the “GLOW PLUG” button still depressed, engage the starter motor until the engine starts.
3. Continue to press the “GLOW PLUG” button for a few seconds after the engine has started until even running has been obtained.
4. If the engine does not start, disengage the starter motor but keep the “GLOW PLUG” button depressed for a further 10 to 15 seconds. When a further attempt is made to start the engine, keep the glow plugs energized while starting and for a few seconds after the engine has fired until it is running smoothly.

# OPERATION OF CONTROLS AND GAUGES



P4686 FIGURE 9

**HOPPER LIFT / SIDE BROOM LEVER (See Figure 9)**  
 The Hopper Lift/Side Broom lever is located to the left side of the drive compartment. The lever is a three position control that operates the hopper lift, side broom and optional left side broom.

**NOTE**

**The Hopper Lift lever will not function until the hopper has been rotated to clear the body of the sweeper.**

The lever is spring centered from the rear position. The center position turns OFF the side broom (or brooms) and is the HOLD position when dumping the hopper. The lever is detonated in the forward position. Move the lever forward to turn ON the side broom when sweeping or to LOWER the hopper when dumping the hopper. Move the lever back to RAISE the hopper when dumping. Release the lever when the hopper has reached the desired height. The lever will return to the center HOLD position.

**HOPPER DUMP/RETURN CONTROL LEVER (See Figure 9)**

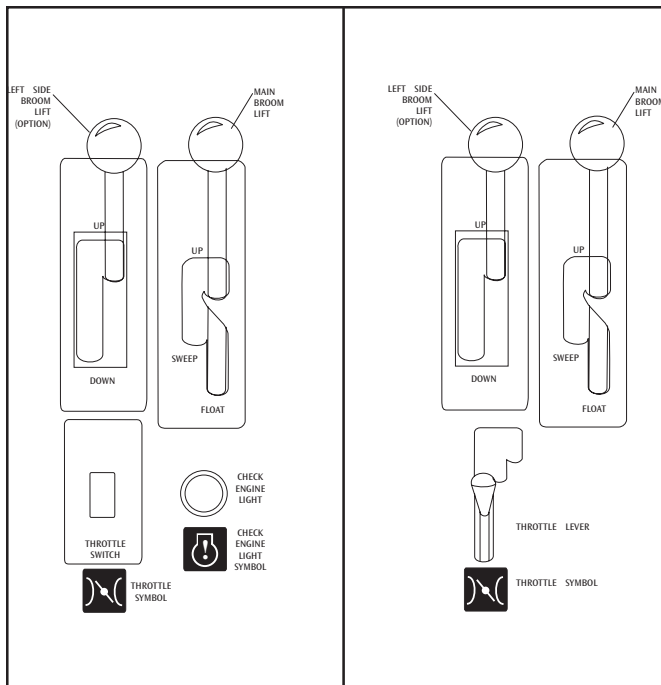
The Hopper Dump/Return lever is located to the left of the drive compartment. The lever is a two position control that operates the hopper dump system. The lever is spring loaded to the center position which “STOPS” rotation of the hopper. To rotate the hopper, move the lever forward to the dump position and hold. Release the lever when the hopper reaches the desired position. To return the hopper after dumping, move the lever back to the RETURN position. The hopper will rotate back and the hopper will lower to the seated position. Release the lever once the hopper has been seated in the body of the sweeper.



**Never turn off the engine with the hopper in the lifted position.**

**THROTTLE CONTROL (Figures 10 & 10a)**

The throttle control is located on the left side console. Gas and LP equipment have a throttle switch. Diesel versions have a lever. Both have 3 throttle speed positions - IDLE, 1, and 2. To operate the diesel, grasp the lever and push up and right to desired locking notch. To reduce to idle, grasp the lever and push up and to the left (away from both locking notches). Let the lever lower until it rests at the bottom of the slot. For the Gas/LP switch, the bottom position is idle, the top position is top RPMs (2450 “no load”), and the middle is lower speed (2050 “no load” RPMs). “Load” (brooms and/or brushes and/or dust control operating) and “No Load” (brooms, brushes & dust control off) RPMs are the same for gas and LP equipment; there will be a slight drop between “Load” and “No Load” RPMs with diesels. Always return the throttle lever to the idle position before turning off the key to stop the engine.



P4688ecp FIGURE 10

FIGURE 10a

MACHINE		RPMs	
		IDLE	“NO LOAD”
SWEEPER/ SCRUBBER (1 speed level)	Gas/LP	950	2050
	Diesel	950	2150
SWEEPER (2 speed levels)	Gas/LP	1st	950
		2nd	2450
	Diesel	1st	950
		2nd	2550

### **CHECK ENGINE LIGHT (Gas, LP Only) (See Figure 10a)**

The check engine light is located on the left side console. If the light comes on, it indicates a problem with the engine. Flip the switch located on/near the air cleaner bracket in the engine compartment and count the number of times the panel light flashes, then go to the "Check Engine Light Codes" page at the end of this chapter to determine the problem.

### **LEFT SIDE BROOM LIFT AND POWER CONTROL (OPTION) (See Figure 10)**

The left side broom lift control is located on the left side of the instrument panel. To raise and stop the side broom, grasp the lever and push the lever to the locking notch marked "UP". To lower the side broom, grasp the lever and push it up to the right away from the locking notch. Let the lever lower until it rests by the "DOWN" mark. To turn "ON" the side brooms, move the Hopper Lift/Side Broom Lever forward to the "ON" position.

### **MAIN BROOM LIFT (See Figure 10)**

The main broom lift control is located to the left of the driver's seat. To lower the main broom, grasp the lever and push up and to the left to clear the locking notch. Move the lever down to the first or second notch in the elongated slot. The first notch, "SWEEP", is for normal sweeper (2 to 3 in. or 5 to 8 cm. broom pattern).

The second notch, "FLOAT", is for heavy sweeping (4 to 5 in. or 10 to 13 cm. broom pattern). To raise the main broom, push the lever up and slide into the locking notch in the "UP" position. You may operate the main broom in either the "SWEEP" or "FLOAT" position. However, the "SWEEP" position should be used for normal sweeping and will result in increased broom life. The "FLOAT" position should be used only when sweeping in extremely uneven areas.

### **WORK LIGHT SWITCH (OPTION)**

The work light switch is located under the light switch to the left side of the steering wheel. It allows the operator to work the rear work light option when the headlights are on.

### **LIGHT SWITCH (OPTION)**

The light switch is located under the horn to the left side of the steering wheel. It will work various light options that are available for this machine, such as:

- \* Head Lights
- \* Tail Lights
- \* Side Broom Lights
- \* Instrument Lights

All gauges with the exception of the hour meter can have an option internal instrument light.

### **HORN BUTTON**

The horn button is located to the left of the steering column. The horn button is always active. Push the horn button to sound the horn.

### **CAB (OPTION)**

The all weather cab is available for this machine along with several "cab only" options:

- \* Heater
- \* Windshield Wipers
- \* Defroster Fan
- \* Interior Light
- Pressurizer

These options have their controls located on the cab.

### **LOW OIL SHUTDOWN**

This engine is equipped with a low oil pressure shutdown. If the engine oil pressure drops too low, the engine will shut down. Add engine oil until the oil is brought up to the correct level.

## OPERATING INSTRUCTIONS

---

### NOTE

Before starting the engine, perform these pre-start checks.

### PRE-START CHECK LIST

1. Check engine air filter element indicator.
2. Check engine oil level.
3. Check radiator coolant level.
4. Check hydraulic fluid level.
5. Check fuel level.
6. Check all systems for leaks.
7. Check brakes and controls for proper operation.
8. Check broom patterns

### BEFORE STARTING ENGINE

1. Set Parking Brake.
2. Make sure all controls are in the "Off" position.

### TO START ENGINE

1. Be sure accelerator and directional control pedal is in neutral.
2. Turn key to "On" position & release.
3. If engine fails to start after following the above procedures, refer to Engine Manual Section.

### NOTE

When machine has been stored in below-freezing temperatures, run engine at not over 1/2 throttle with machine standing still for 5 to 10 minutes to warm engine and hydraulic oil.

### TO OPERATE SWEEPER

1. Make sure parking brake is released.
2. Lower the side and main broom to the floor. (The main broom control may be placed in either the "FLOAT" or "SWEEP" position.)
3. Turn Broom Fan Switch on.
4. Pull engine throttle to "UP" position. (Engine must always be operated at full governed speed while sweeping to obtain recommended brush speed and dust control).
5. Push forward on directional control pedal to place machine in motion.
6. Vary your foot pressure on the directional control pedal to obtain desired travel speed.

### TO STOP SWEEPER

1. Allow directional control pedal to return to neutral (centered) position. (Pedal will automatically return to neutral when foot pressure is released.) FOR NORMAL OPERATION, DEPRESS DIRECTIONAL CONTROL PEDAL WITH HEEL INTO NEUTRAL.
2. Depress the foot brake.
3. Turn Broom Fan Switch off.
4. Put the broom controls (Side and Main) in the "UP" position.
5. Push engine throttle down. Turn key to "OFF."
6. Set parking brake.

## NOTE

After stopping the engine, perform these post operation checks.

### POST OPERATION CHECK LIST

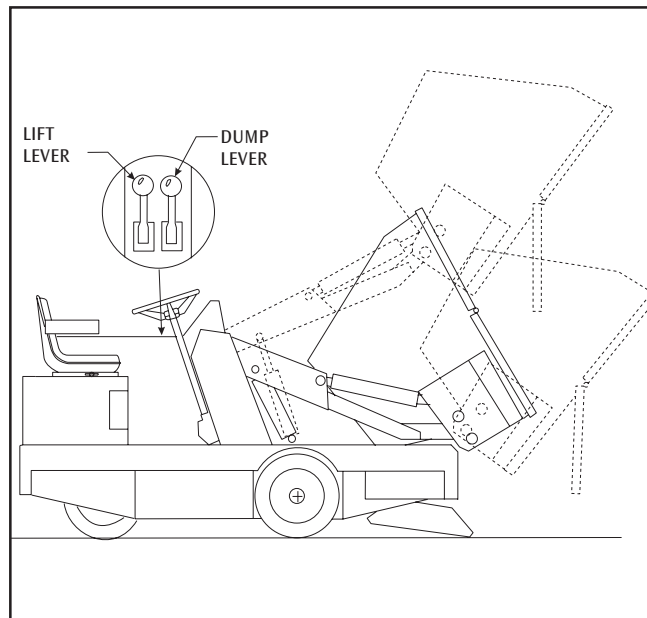
1. Clean debris hopper.
2. Check sweeping brooms for wear or damage.
3. Check all flaps for wear, damage and adjustment.
4. Fill the fuel tank.



### WARNING

The gasoline tank access is located behind the drivers seat.  
**DO NOT** mistake the *hydraulic reservoir* for the gasoline tank.

5. Check all systems for leaks.



P4585

FIGURE 11

### TO EMPTY DEBRIS HOPPER

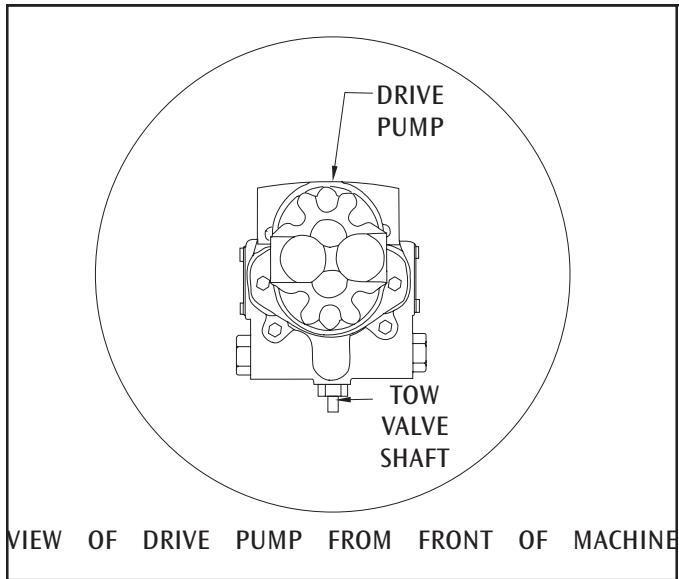
1. Set engine throttle to full throttle position.
2. Push the hopper rotate and dump lever to the "DUMP" position. The hopper will begin to rotate.
3. Once the hopper rotation speed doubles, the hopper lift lever will work. Raise the hopper to the desired level (MINIMUM OF 8" or 20 cm OF LIFT REQUIRED) by pulling back the hopper lift lever to the "RAISE" position.
4. Drive forward 12 to 18 inches slowly with the hopper up before completing the dump cycle.
5. Push the hopper rotation and dump lever to the "DUMP" position to complete dump cycle.
6. Drive in reverse 12 to 18 inches or 30 to 46 cm. slowly with the hopper up to clear the dumpster before lowering the hopper.
7. Pull the hopper rotation and dump lever to the "RETURN" position and the hopper will automatically rotate and lower to its proper position.



### WARNING

Never turn off the engine with the hopper in the lifted position.

## OPERATING INSTRUCTIONS



C0192

FIGURE 12

### TOWING INSTRUCTIONS

1. Locate tow control shaft extension as shown in Figure 12. The tow control shaft is located underneath the pump.
2. To open hydraulic circuit to wheel drive motor turn shaft 90°.
3. After towing, turn shaft 90° to its original position.

### DUST FILTERS

The Filter Panel can be periodically removed from the hopper and blown off with compressed air (not to exceed 100 P.S.I.) or cleaned with soap and water. (Do not attempt to use Filter Panels that have not dried completely.)

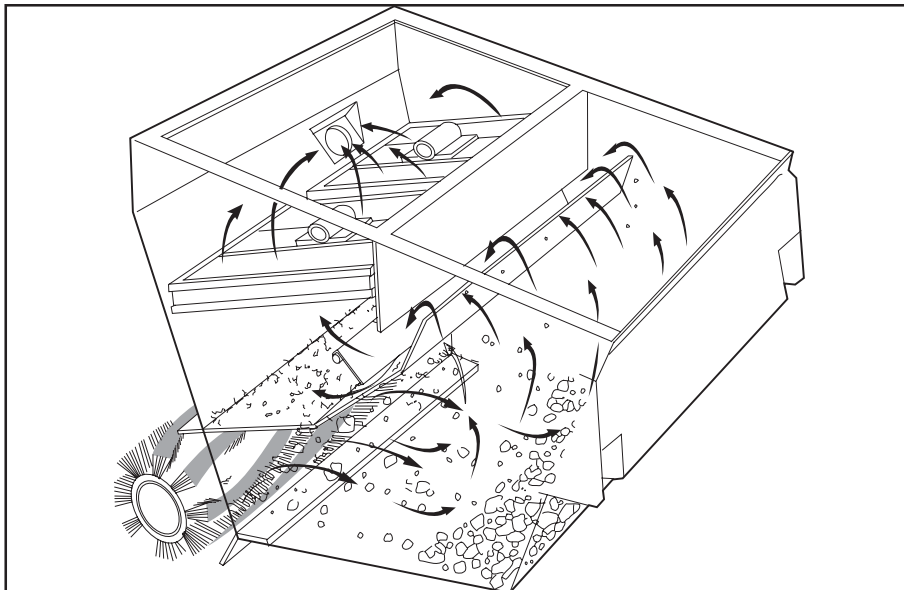
### THE DUST CONTROL SYSTEM

The baffle system that is built into the debris hopper is designed minimize dust in the air while the machine is sweeping.

The debris from sweeping is thrown into the hopper. The impeller vacuum fan pulls the lighter dust up and through a baffle system. The Pre-Clean Flap separates the heavier dust particles to an area below the filter. The lighter dust particles are captured by the dust filter. This allows the dust filter to remain cleaner and need less shaking to remove dust. When the dust filter becomes clogged the filter shaker switch should be pushed to start the dust shaker cycle. This will extend the life of the filter.

### NOTE

The main broom and impeller fan will shut off automatically when the shaker motor is cycling.



P4695

FIGURE 13

### SAFETY REQUIREMENTS

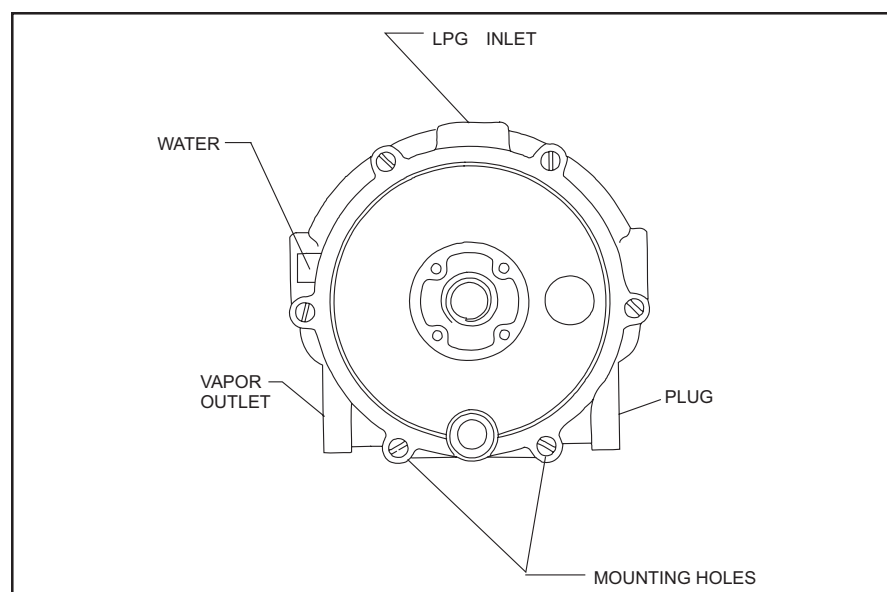
1. Keep cigarettes, sparks, and open flame away when working on LP equipment, when inspecting for gas leaks or when LP tanks are present.
2. Check all components for proper operation. Replace LP components when needed. Never by-pass defective safety components.
3. Check routing of all LP hoses. Keep them away from sharp edges, exhaust manifolds, or other hot surfaces. Check for signs of abrasion or deterioration.
4. Check for gas odor before and during starting operations. If gas odor is noticed, stop and check for leaks or component malfunction.
5. Make sure LP tank is free of dents or gouges.
6. Make sure service coupling is clean and free of damage. Make sure service coupling of tank matches machine service coupling.
7. Keep the engine properly tuned.
8. Make sure the LP tank matches the fuel system.
9. Make sure LP tank is securely mounted on the machine with the retainer bracket clamping the tank, and with the locating pin in position.
10. Park the machine in a shaded, cool area when not in use.
11. Keep the LP tank service valve closed when the tank is not in use.
12. Never overfill LP tank. Fill the LP tank to the recommended weight stamped on the tank.
13. Use care in handling LP tanks. Never drop or drag them.
14. Always store and transport LP fuel tanks with the safety relief valve in the "UP" position.
15. Avoid contact with the LP fuel to avoid frostbite.

When the machine is to stand unused for a period of time, overnight for example, park the machine in a designated area, shut off the service valve at the tank and operate the engine until the remaining fuel is consumed. Then, turn off the ignition switch.

### LP CHECKLIST

This checklist can be made quickly. Be sure to make all of the checks listed on the maintenance chart.

1. Check connections for leaks.
2. Open the LP storage tank valve.
3. Check the regulator. See Figure 15.
4. Start the engine.



P4563ecp

FIGURE 15

## LP-POWERED MACHINES

### LP FUEL SYSTEM

The LP fuel system consists of several components not found on the gasoline system. The LP fuel system also contains the associated mounting hardware and plumbing for the LP components. The major LP components are as follows (these components are factory set, adjustments to these components should only be made by authorized service personnel):

1. Throttle plate & mixer
2. Combination water-heated vaporizer & regulator
3. Megajector
4. LP fuel tank, valves & fittings

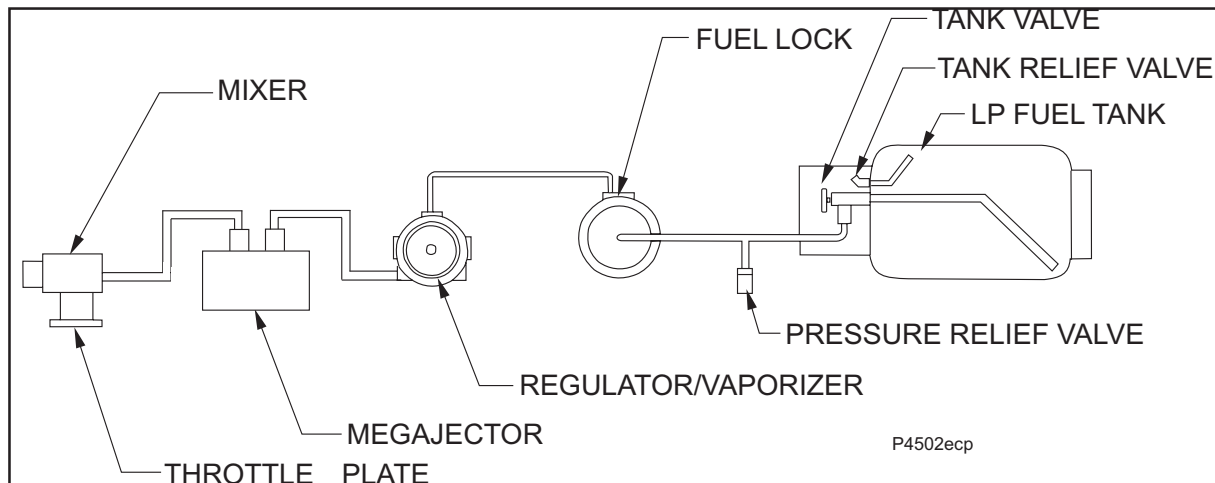


FIGURE 16

P4502ecp

### LP VAPOR WITHDRAWAL SYSTEM

The liquid fuel flows from the tank under its own pressure to the pressure relief valve. This valve is normally closed, which prevents fuel from escaping into the atmosphere. When the engine is running, LP then flows through the open fuel lock (lock automatically closes when engine is shut down) and into the vaporizer/regulator where it is converted to a gaseous state. (The regulator reduces the tank pressure and makes the flow more constant.) As the vaporized LP moves through the Megajector, the Megajector meters the amount of LP necessary to be piped into the mixer where it is then introduced into the air flow and sent to the combustion chamber.

### LP VAPORIZER-REGULATOR QUICK CHECK

Turn on the ignition switch and open the radiator cap. Check the coolant for bubbles. If bubbles are present, the vaporizer may have a leaking gasket or may have developed a pinhole leak, allowing the LP fuel to enter the cooling system.



### LP FUEL TANKS

Standard D.O.T. LP fuel tank sizes have 14, 20, 33.5, and 43.5 lb. capacities. The liquid volume permitted in these containers is less than the total volume of the cylinder, to provide for expansion of the LP fuel should the temperature increase a normal amount. Excessive heat may cause the fuel to expand too much, causing the safety relief valve to vent some LP fuel, relieving internal tank pressure.

Each tank is marked showing the type of construction (liquid or vapor), the manufacturer, the date of manufacture, the capacity, the weight, and the date of requalification. D.O.T. LP fuel tanks must be requalified (checked) periodically. This requalification must be recorded and maintained for the life of the container.

### USE & CARE OF LP TANKS

If an LP tank is damaged or leaking, it should be removed to a designated safe area and the proper personnel should be notified. Do not attempt to make repairs to the cylinder, regardless of conditions. Repairs must be made by qualified personnel.

The care an LP tank receives has a direct bearing on how long that tank can be used safely. LP tanks must not be dropped, dragged, or slid across any surface. To move LP tanks, use a hand truck, or roll the LP tank on its foot ring while it is being held in a position slightly off the vertical.

### CHANGING MACHINE LP TANKS

Refueling machines with LP tanks is an important function. Refueling is accomplished by replacing the empty LP tank with a full one.

The tank changing operation presents an opportunity for the machine operator to observe, carefully, the tank, tank fittings, and the fuel lines and the fittings for his own satisfaction. If abnormal wear is detected, the operator should report his findings to his supervisor for appropriate action.

To begin the tank changing operation, park the machine in a designated safe area and stop the machine. Next, close the tank valve, then remove the quick-disconnect coupling from the tank valve. Observe the machine fuel lines and the quick-disconnect for damage or abnormal wear.

Remove the empty tank from the holding device and observe the tank and tank fittings for damage or abnormal wear. Handle the tank carefully; it must not be dropped or mishandled.

Store the LP tank in a designated safe area. Select a filled LP tank and observe it for damage or leaks. Carefully install the filled tank in the machine so that the tank centering pin enters the aligning hole in the tank collar. This assures that the tank is positioned properly, so that the safety relief valve, liquid level gauge, and service valves will operate properly. Fasten the tank retaining bracket so that the tank is locked into position. Reconnect the fuel line to the tank servicing coupling. Open the service valve slowly and check for leaks. If a leak is found, close the valve immediately and notify the appropriate personnel. If no leaks are found, the engine is ready to start. Do not start the engine unless the operator is in the operator's position, with the directional control pedal in the neutral position.

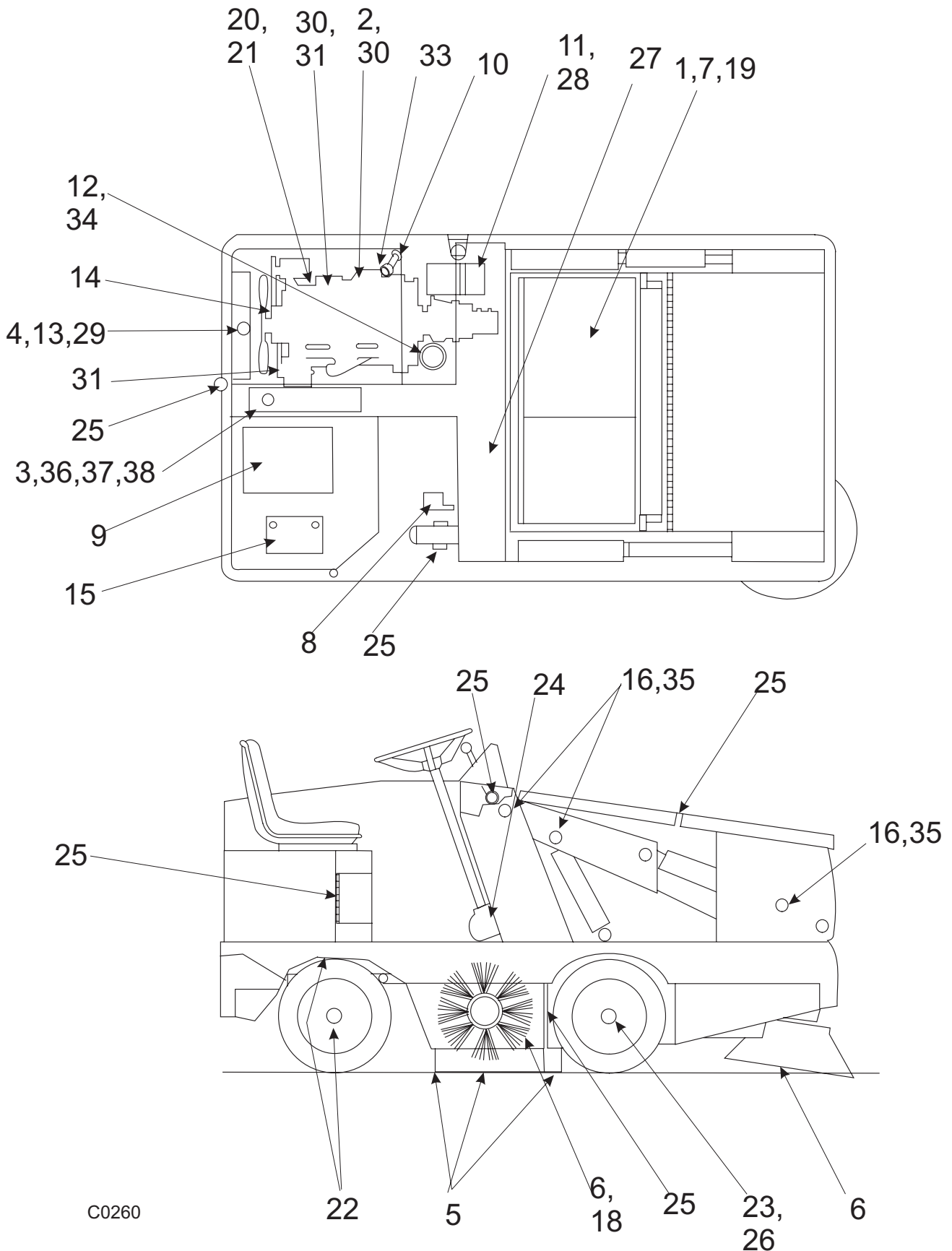
### STORAGE OF LP FUEL TANK

Whether the storage is inside or outside, it should not be in the vicinity of combustible materials or high temperature sources such as ovens or furnaces, since the heat may raise the pressure of the fuel to a point where the safety relief valves would function. Care should be taken to insure that the cylinders are stored in such a manner that if the safety relief valves do function, they will relieve vapor, rather than liquid.

Valves on empty tanks must be closed during storage and transportation.

Similar precautions should be taken in storing machines fitted with LP fuel tanks. They may be stored or serviced inside buildings, provided there are no leaks in the fuel system, and the tanks are not overfilled. While machines are being repaired inside a building, the shut-off valve on the tanks must be closed, except when the engine must be operated.

**SERVICE CHART**



For service assistance, consult the yellow pages under power sweepers and scrubbers. For best performance, replace worn parts with genuine Alto parts.

**EVERY 8 HOURS or DAILY operation check and clean/adjust if necessary:**

1. Inspect panel filter for damage and clean.
2. Check engine oil level
3. Check hydraulic fluid level
4. Check radiator core for blockage
5. Check all flaps for wear or damage
6. Check brooms for wear or damage, adjust as required
7. Check panel filter (clean side) for leakage
8. Check brake pedal and parking brake
9. Check for LP/Diesel odor at connections
10. Check water separator (Diesel)
11. Clean engine air filter dust cap and check filter
12. Check hydraulic return filter
13. Check coolant level

**EVERY 50 HOURS**

14. Check tension on all belts
15. Check battery electrolyte level (If battery is not maintenance free)
16. Lubricate dump system
17. Check all hydraulic hoses for wear or cuts
18. Rotate main brush (end-to-end)
19. Clean or replace panel filter

Perform recommended engine maintenance (See engine manual)

**EVERY 100 HOURS**

20. Change crankcase oil
21. Change engine oil filter
22. Lubricate drive wheel swivel bearing
23. Lubricate front wheel bearings
24. Lubricate steering gear box
25. Lubricate all moving joints
26. Check brake pads for wear and adjust accordingly
27. Lubricate clamp ends of the throttle cable with NAPA #765-1363 or equivalent anti-seize lubricant.

Perform recommended engine maintenance (See engine manual)

**EVERY 250 HOURS**

29. Flush radiator coolant system
30. Remove spark plugs - clean or replace (Gas, LP)
31. Check distributor - service or replace (Gas, LP)
32. Clean and lubricate governor linkage (Diesel)
33. Replace fuel filter
34. Replace hydraulic return filter element
35. Check brass bushings & pins on hopper & lift arms

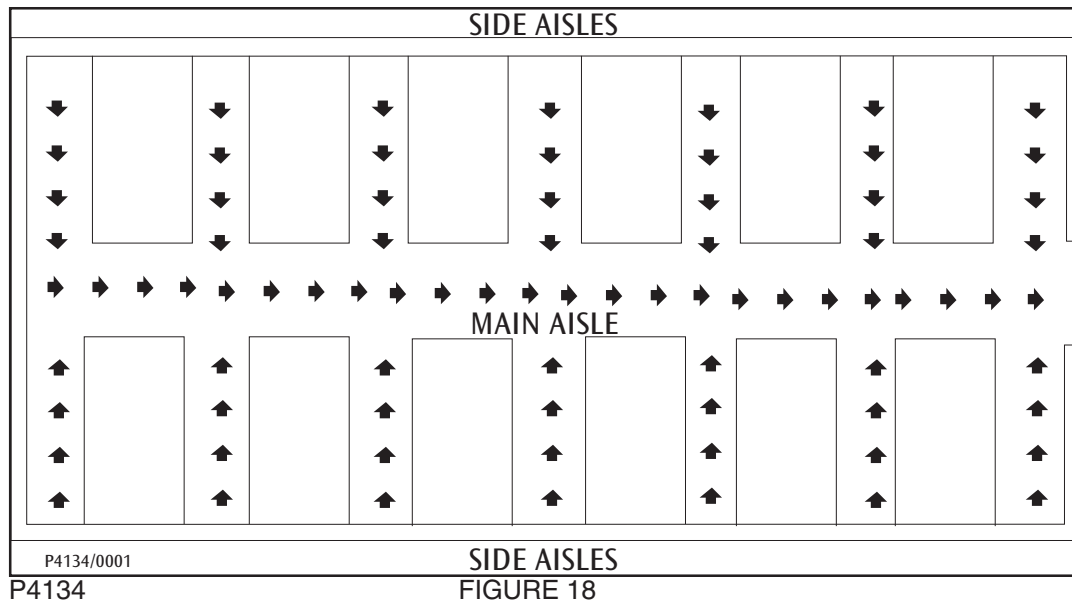
Perform recommended engine maintenance (See engine manual)

**EVERY 500 HOURS**

36. Clean hydraulic reservoir
37. Clean hydraulic intake strainer
38. Change hydraulic fluid

Perform recommended engine maintenance (See engine manual)

## HOW TO SWEEP



 **WARNING**

Do not turn the steering wheel sharply when the machine is in motion. The sweeper is very responsive to movement of the steering wheel. Do not make sudden turns.

 **WARNING**

Sweep in straight paths. Do not bump posts. Do not scrape the sides of the machine.

 **WARNING**

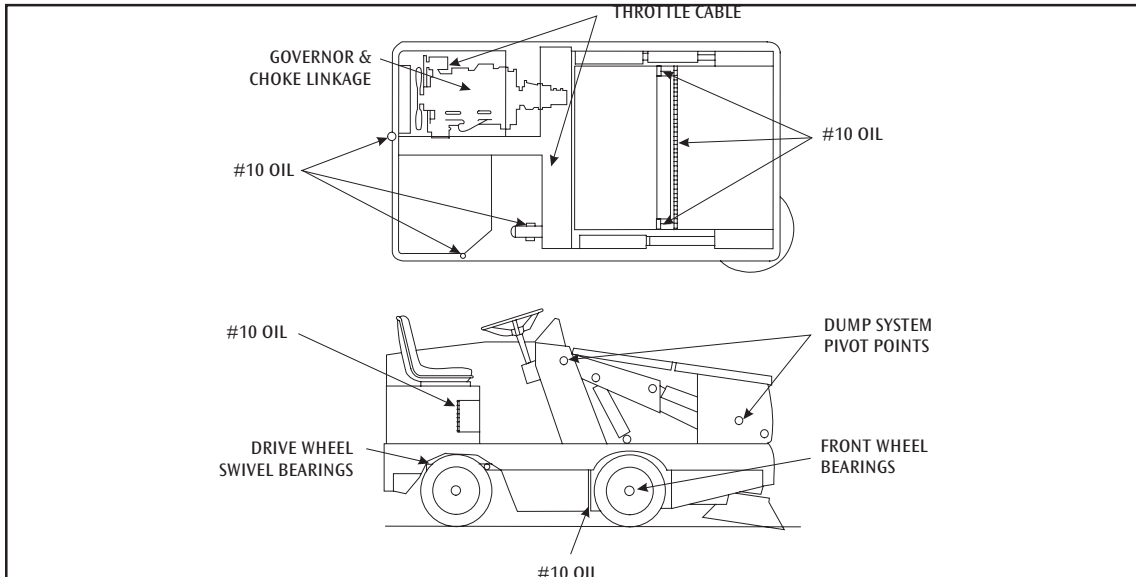
When the machine is in motion, do not push the directional / speed control pedal all the way forward. This is the same as starting in "High" and will put a strain on the motor and drive system.

1. Pick up large debris before sweeping with machine. Flatten and remove bulky cartons from aisle before sweeping large debris.
2. Use the machine to sweep debris from narrow aisles into main aisle. See Figure 17.
3. After the machine has made a sweeping run.
4. Push and hold the filter shaker control button for 20 to 30 seconds, the filter shakers will shake to unload accumulated dust. The main broom and fan will turn off automatically. The filter shakers only work when the hopper is in the sweep position.
5. Sweep debris from main aisle. See Figure 17.
6. Overlap of broom paths when sweeping. This will eliminate leaving dirty patches.
7. The machine will leave debris, while sweeping, when the hopper is full. Follow the hopper unloading cycle outlined on page 18.

**NOTE**

Replace main broom when bristles are reduced to 2-inch length. To order replacement brooms, see MAIN BROOM. Replace side broom when bristles are reduced to 3-inch length. To order replacement brooms see SIDE BROOM.

## LUBRICATION

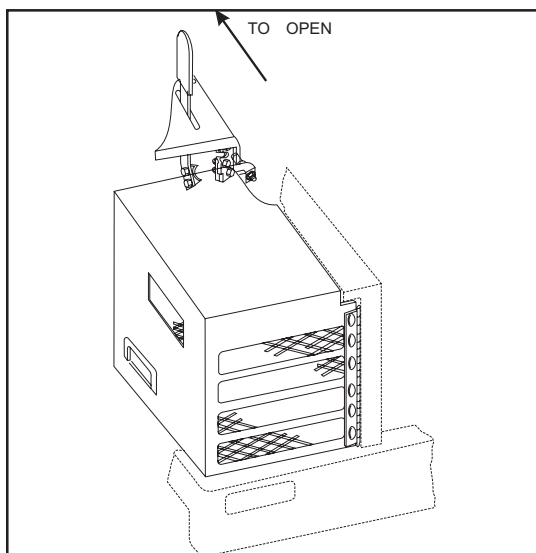


C0135

FIGURE 19

Perform the following lubrication procedures after every 50 hours of machine use:

1. Lubricate dump system pivot points, with a good grade multipurpose grease. Do the following lubrication procedures after every 100 hours of machine use.
2. Lubricate drive wheel swivel bearing, and the front wheel bearings with a good multi-purpose grease.
3. The steering gear assembly has a grease fitting, located on the front section of the steering gear housing. Use E.P. Lithium grease to lubricate the steering gear through the grease fitting.
4. Lubricate all other moving joints of the machine with #10 oil.
5. Lubricate the clamp ends of the throttle cable with NAPA #765-1363 or equivalent anti-seize lubricant.



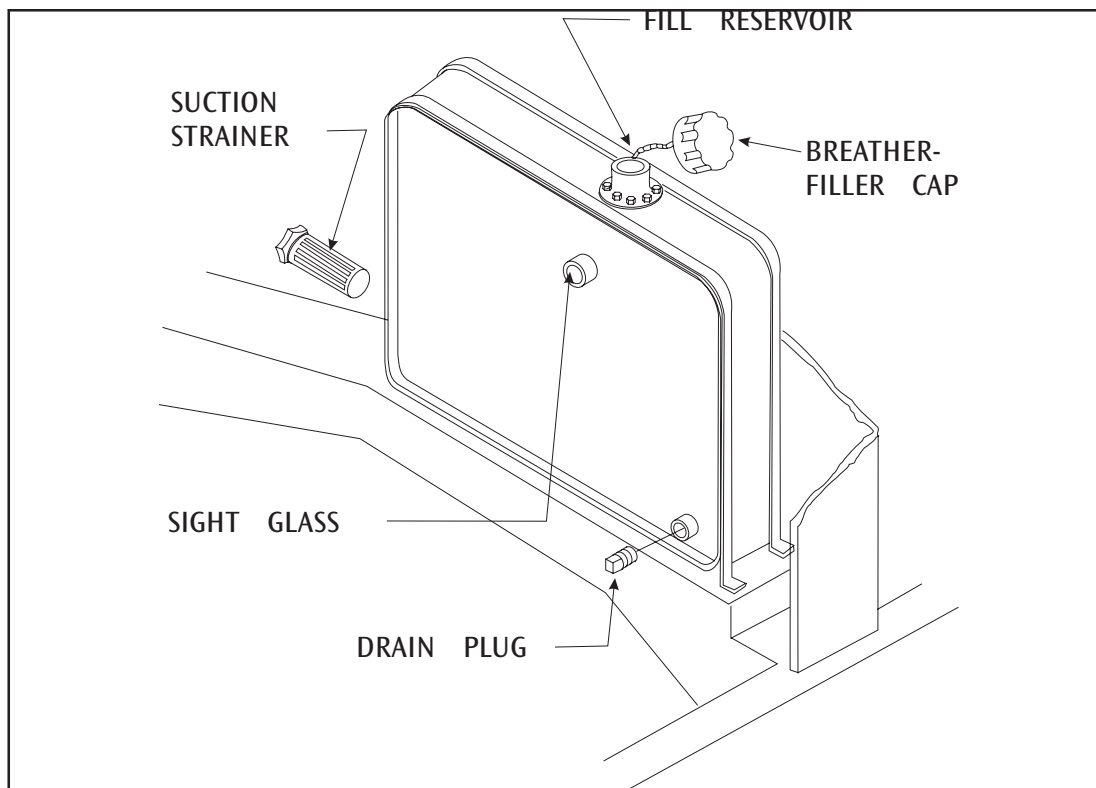
C0188

FIGURE 20

### HOW TO OPEN THE ENGINE COVER

The engine cover encloses the entire engine, radiator and hydraulic reservoir assembly. The cover can be swung open to completely clear the assembly and allow easy access to the engine.

1. To open the cover, push the engine cover latch lever toward the front of the machine.
2. Swing the cover over.



P4705b

FIGURE 21

### HYDRAULICS

The Hydraulics system controls the brooms, hopper lift and rotation, the machine drive motor and vacuum fan.

#### HOW TO FILL THE HYDRAULIC RESERVOIR

1. Open the engine cover.
2. Open the hydraulic reservoir breather filler cap.
3. Remove any debris that is in the breather filler cap screen.
4. Fill the reservoir until fluid is visible in the sight glass that is located on the side of the reservoir.  
DO NOT OVERFILL.
5. Close the hydraulic reservoir breather filler cap.
6. Close the engine cover.

#### HYDRAULIC OIL COOLER

The hydraulic oil cooler is located next to the radiator. The cooler can be accessed by opening the engine cover. The oil cooler core must be kept clear of debris and dust.

### HOW TO CLEAN THE HYDRAULIC SYSTEM

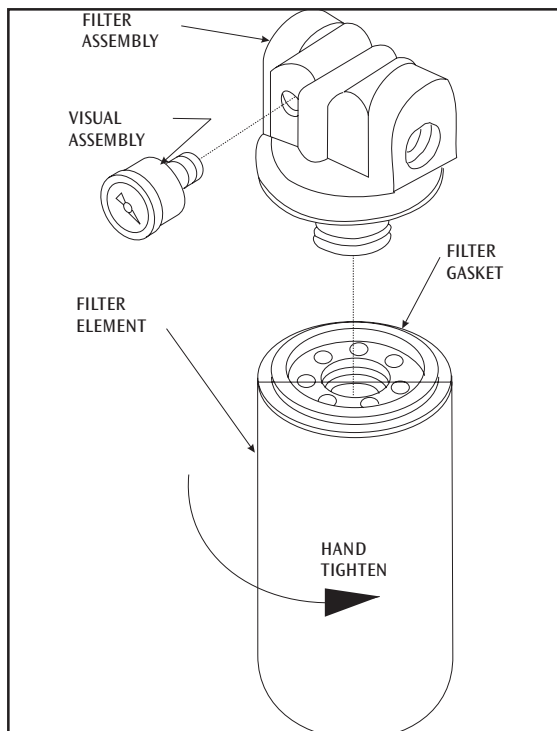
1. Put a drop cloth on the floor.
2. Drive the machine on to the drop cloth.
3. Set the parking brake.
4. Open the engine cover.
5. Put a container under the reservoir drain to catch the reservoir fluid.
6. Remove the drain plug. The reservoir fluid will drain. Do not use the drained reservoir fluid to refill the hydraulic reservoir. Dispose of the used fluid.

### HOW TO CLEAN THE HYDRAULIC SUCTION STRAINER

The suction strainer is the filter assembly located in the bottom of the hydraulic reservoir and can be removed from the outside of the reservoir.

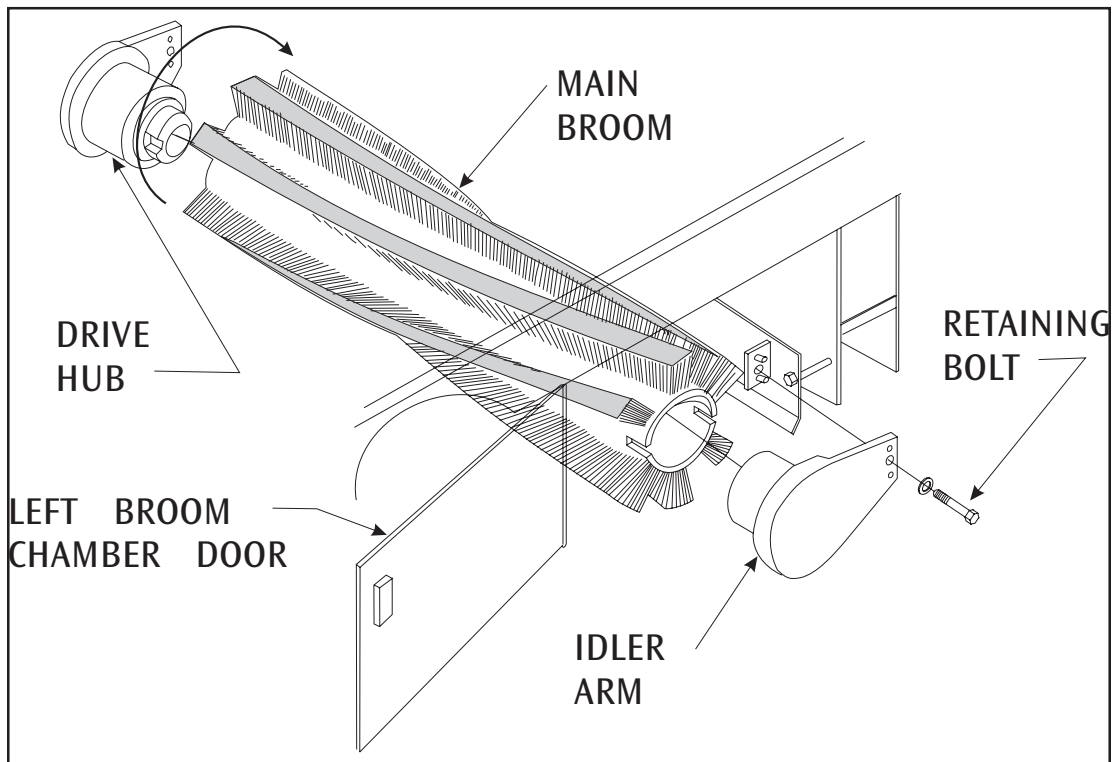
7. Turn the suction strainer counterclockwise by hand.
8. Remove the suction strainer from the reservoir.
9. Use a compressed air line on the inside of the strainer to blow impurities out of the filter media. If a compressed air line is unavailable, use new FORD type "F" Automotive Transmission Fluid to flush the impurities out of the filter media.
10. Flush the interior of the hydraulic reservoir with clean fluid.
11. Put the cleaned strainer in the hydraulic reservoir.
12. Rotate the strainer clockwise into the bottom of the hydraulic reservoir. Stop rotating the strainer when it is hand tight.
13. Put the reservoir plug, removed in step six, back in the hydraulic tank drain and tighten.
14. Open the breather filler cap.
15. Fill the reservoir with new FORD type "F" automotive transmission fluid. The capacity of the tank is 6 gallons or 22.8 liters.
16. Close the breather filler cap.
17. Close the engine cover.

### HOW TO REPLACE THE RETURN FILTER ELEMENT



P4506b FIGURE 22

1. Check the visual indicator on the top of the filter assembly daily. When the indicator reads 40 PSI replace the return filter element immediately. This should be after 250 hours of machine run time.
2. Unscrew the filter element from the filter assembly and discard.
3. Moisten the filter gasket of a new filter element with hydraulic fluid.
4. Put the filter element on threaded nipple of the filter assembly. Turn the filter clockwise, until it is hand tight.
5. Wipe clean any hydraulic reservoir fluid spills.



P4388a

FIGURE 23

### HOW TO REPLACE THE MAIN BROOM

Replace the main broom when the bristles are worn to 2 inches in length.

1. Open the left broom chamber door.
2. Put the main broom control in the "SWEEP" position.
3. Remove the retaining bolt. (See Figure 23)
4. Remove the idler arm assembly.
5. Remove the main broom and discard.
6. Put a new main broom in the broom chamber.
7. Rotate the new broom to the right on the drive hub until it engages the drive hub broom tabs.
8. Put the idler arm assembly in place.
9. Put the retaining bolt in place and tighten.
10. Close the broom chamber door.
11. Start the engine.
12. Put the broom lever in the "SWEEP" position.
13. Let the broom sweep in place for 30 seconds.
14. Put the broom lever in the "UP" position.
15. Back the machine off the test spot.
16. Inspect the polished area where the broom swept, for broom bristle contact with the floor. The area of broom bristle contact with the floor should be 2 to 3 inches or 5 to 8 cm. wide.

### MAIN BROOM LEVEL ADJUSTMENT

The main broom level is factory set and should not need adjustment, if the level gets out of adjustment and the broom bristle contact pattern is not an even 2" to 3" wide, the broom arm lift frame will have to be adjusted. The frame is supported by two flange bearings. These bearings are located inside the broom doors. The carriage bolts on the two end flanges will have to be loosened. The frame can then be leveled and the bolts tightened.



### HOW TO ADJUST MAIN BROOM WEAR PATTERN

When the bristles of the broom begin to wear out the following adjustments may be made to keep a 2 inch (5 cm) broom pattern.

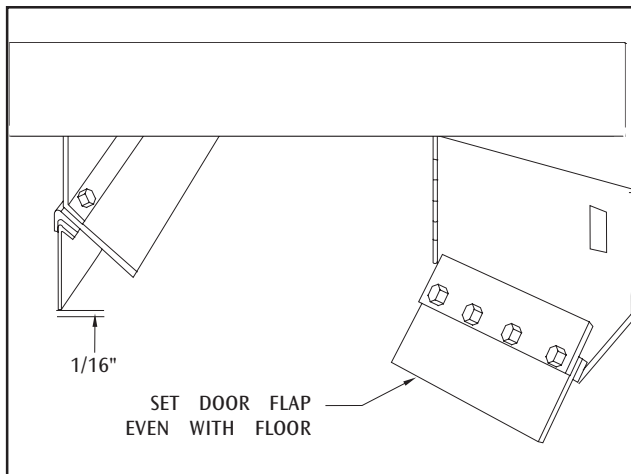
1. Loosen the wing nut located in the engine compartment.
2. Set the broom lever to the "Sweep" position and adjust the torque knob to obtain a 2 inch (5 cm) broom pattern. The torque knob will move the linkage rod that adjusts the sweeping pattern of the broom for wear.
3. Tighten the wing nut against the torque knob.

### SIDE BROOM LEVEL ADJUSTMENT

As the side broom wears, simply loosen the two wear adjusting bolts and slide the broom-motor assembly into a position so that the broom contacts the floor at a 3 degree angle when lowered.

### SIDE BROOM REPLACEMENT

Put the side broom lift control in the "UP" position. Remove the retaining screw in the bottom middle of the side broom. Remove the side broom. Transfer the side broom flange, spacer, screws, washers, and nuts to the replacement side broom. Put the replacement side broom on the shaft. Put the retaining screw and washer in position and tighten.



### BROOM FLAPS

The Urethane Flaps are susceptible to damage and should be inspected regularly and maintained in good condition. The side and hopper flaps are adjustable and should be maintained even with the floor. The rear flap must be maintained 1/16" (16 cm.) above the floor. All flaps should be replaced when worn or damaged to such an extent that they cannot perform their normal function.

# GENERAL MACHINE MAINTENANCE

## ENGINE AIR INTAKE SYSTEM

### NOTE

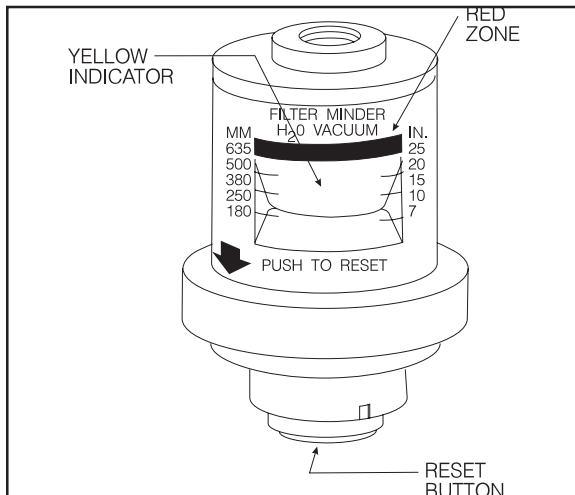
Monitor the air filter indicator daily

The importance of maintaining an air filter cannot be overemphasized. Dirt ingested through improperly installed, improperly serviced, or inadequate air filter elements wears out more engines than long hours of operation. Even a small amount of dirt will wear out a set of piston rings in just a few hours. Operating with a clogged air filter element also causes the fuel mixture to be richer, which can lead to formation of harmful sludge deposits in the engine. Always cover the air intake when the air filter is removed for servicing. Do not neglect servicing the air filter. Use only approved replacement parts. Keep all other air intake components such as hoses and clamps secure and in good condition to prevent entrance of unfiltered air.

Over maintenance can cause more damage than good. Removing the air filter element more often than is needed allows contaminants to enter the engine unnecessarily.

### AIR FILTER

The engine air filter housing includes a dust cap and a dry cartridge type air filter element. The dust cap must be emptied of dirt daily. The air filter element must be replaced every 75 to 100 hours. The filter element must be replaced if it is damaged or has been cleaned three times. Replace the engine air filter only when the Yellow Filter Service Indicator reaches the red band at the top of the indicator. The yellow indicator will stay at the red band when the engine is off. Reset the indicator by depressing the black button at the bottom of the indicator.



P4713

FIGURE 26

### TO REPLACE AIR FILTER ELEMENT

1. Stop the engine and engage the machine parking brake.



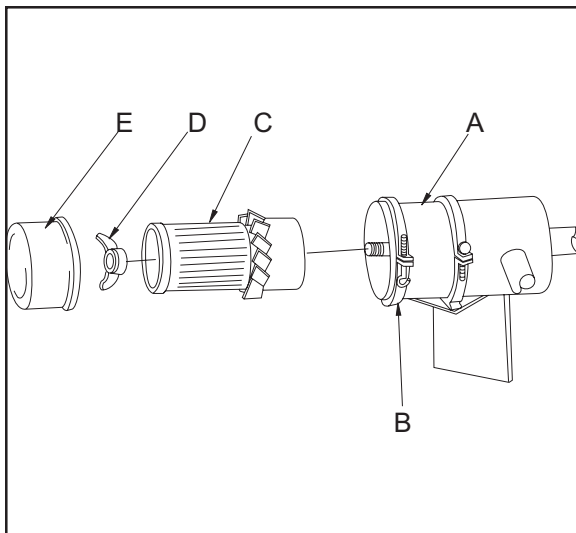
### WARNING

Always park on a level surface, stop the engine, and engage parking brake before working on the machine to keep it from creeping or rolling.

2. Tilt the hopper forward until it is over the bumper.
3. Unscrew the clamp ring on the filter.
4. Remove the dust cap.
5. Empty the dust cap.
6. Remove the filter wing nut.
7. Gently pull the filter element out of the filter housing.

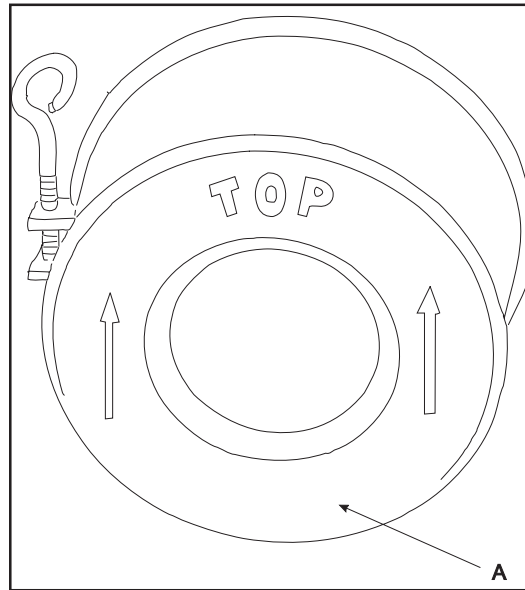
### REMOVING AIR FILTER ELEMENT

- A. Filter Housing
- B. Clamp Ring
- C. Filter Element
- D. Wing Nut
- E. Dust Cap



P4599a

FIGURE 27



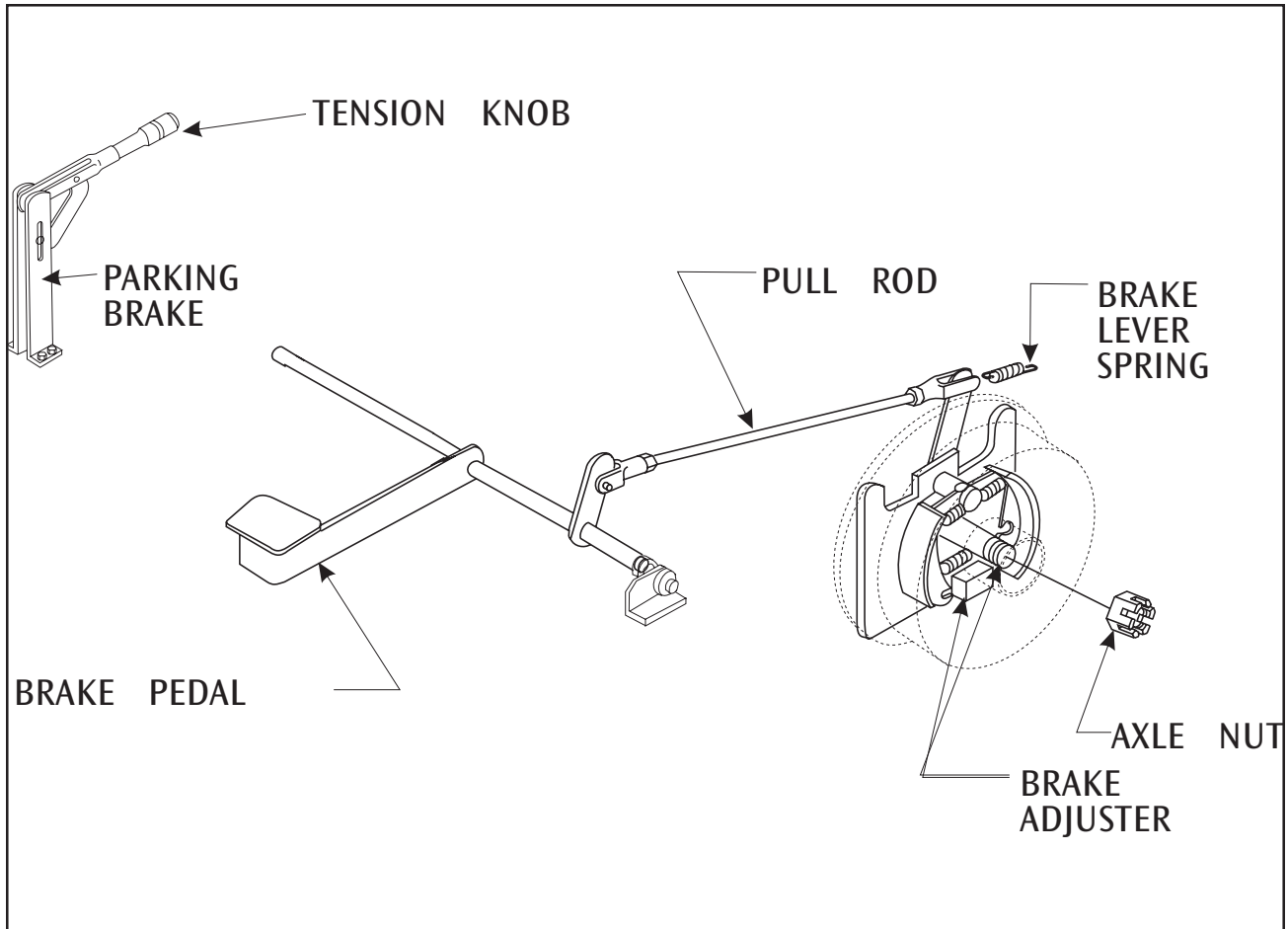
P4505

FIGURE 30

**DUST CAP**

8. Install the new or cleaned filter element so that fins on the element are at the intake end of the air cleaner. Use care so the fins are not damaged. Tighten the wing nut attaching the element.
9. Install the dust cap with the arrows pointing up. Tighten the clamp ring to hold it in place. Check all intake hose connections for leaks or abrasion.
10. Reset filter monitor after any filter service.
11. Retract the hopper.

## GENERAL MACHINE MAINTENANCE



P4718

FIGURE 31

### BRAKE ADJUSTMENT

1. Connect pull rod to brake lever then adjust to fit with brake pedal full up and the spring not attached.
2. Adjust tension knob on parking brake lever to hold machine on a 8 degree incline.
3. Attach the brake lever spring.

### BRAKE DRUM ADJUSTMENT

1. Tighten the axle nut so that the wheel hub spins freely.
2. Set the brake adjusters so that brakes drag then back them off two (2) notches. PNEUMATIC WHEELS

### PNEUMATIC WHEELS

The pneumatic wheels should be maintained at an inflation pressure of 100 PSI. Since the wheel rims are of a split rim construction, the outer bolt circle maintains the wheel assembly in one piece when the wheels are demounted from the machine.



### WARNING

Fully deflate tires before removing the rim bolts.

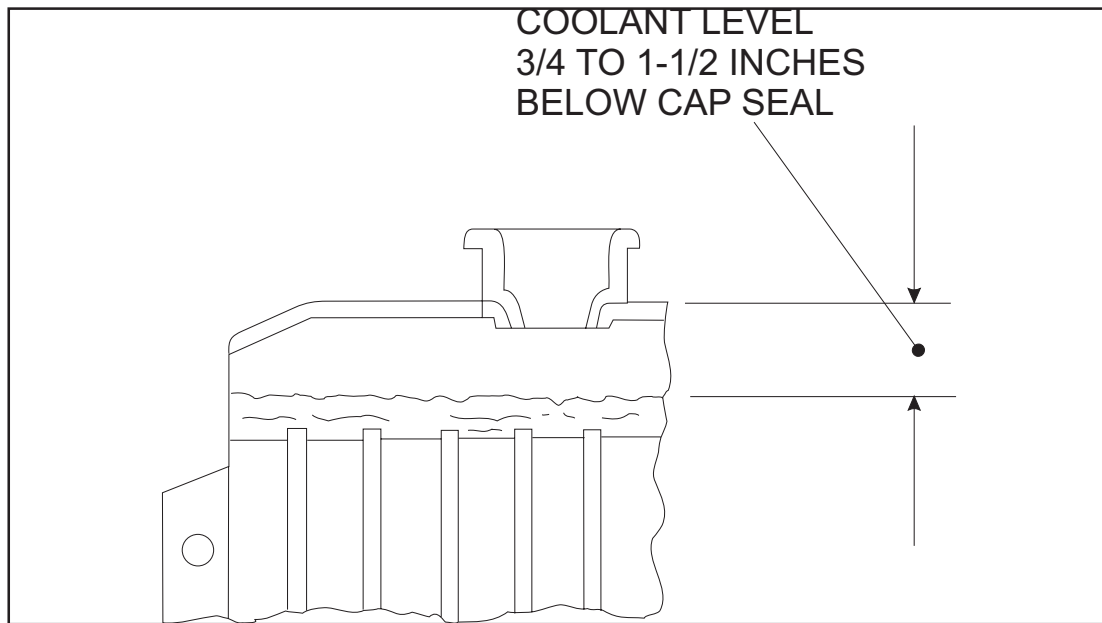
**COOLING SYSTEM**

**COOLANT LEVEL**

Check the coolant level in the radiator daily, only when the engine is cool.

Maintain the coolant level at approximately 3/4 inches (1.9 cm.) below the filler neck seat on the radiator when the coolant is cold. See Figure 32

Whenever coolant level checks are made, check condition of radiator cap rubber seal. Make sure it is clean and free of any dirt particles. Rinse off with clean water if necessary. When replacing cap on radiator, also make sure radiator filler neck is clean.



P4404

FIGURE 32

**⚠ WARNING**

**Never remove the radiator cap under any conditions while the engine is operating. Failure to follow these instructions could result in damage to the cooling system or engine and/or personal injury. To avoid having scalding hot coolant or steam blow out of the radiator, use extreme care when removing the cap from a hot radiator, if possible, wait until the engine has cooled, then wrap a thick cloth around the radiator cap and turn it slowly to the first stop.**

**Step back while the pressure is released from the cooling system. When you are sure all the pressure has been released, press down on the cap (still with a cloth), turn and remove it.**

Do not add coolant to an engine that has become overheated until the engine cools. Adding coolant to an extremely hot engine can result in a cracked block or cylinder head. Use only a permanent type coolant that meets FORD specification ESE-M97B44-A such as FORD Cooling System Fluid. Refer to the coolant chart on the container for additional antifreeze protection information. Do not use alcohol or methanol antifreeze, or mix them with the specified coolant.

Plain water may be used in an emergency, but replace it with the specified coolant as quickly as possible to avoid damage to the system. With only water in the system, do not let engine run hot.

**RADIATOR**

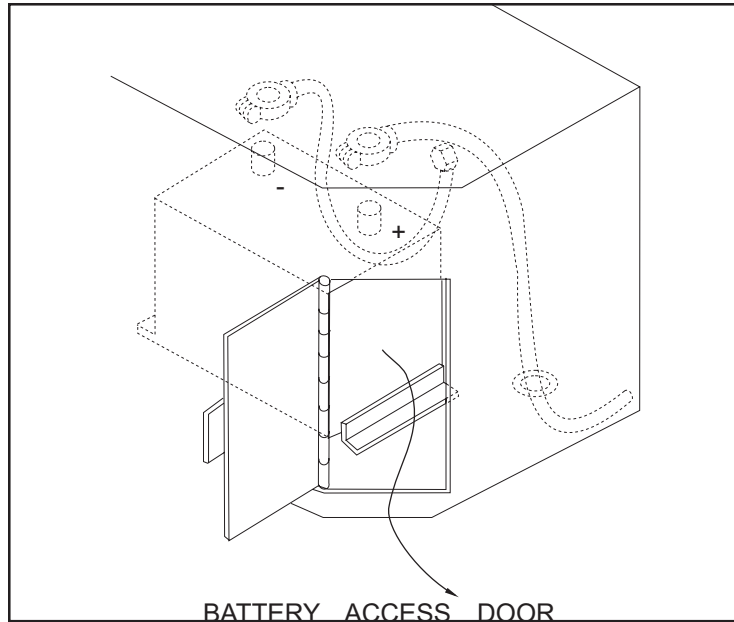
Inspect the exterior of the radiator for obstructions. Remove all bugs, dirt or foreign material with a soft brush or cloth. Use care to avoid damaging the fins. If available, use compressed air or a stream of water in the opposite direction to normal airflow. Open door for access.

Check all hoses and connections for leaks. If any of the hoses are cracked, frayed, or feel spongy, they should be replaced.

## GENERAL MACHINE MAINTENANCE

### DRIVE BELTS

The drive belt(s) should be properly adjusted at all times. A loose drive belt causes improper alternator, fan and water pump operation, and overheating. Overtightening the belt may result in excessive wear on the alternator and water pump bearings, as well as premature wear on the belt itself. Therefore, it is recommended that proper belt tension be maintained.



P4694

FIGURE 33

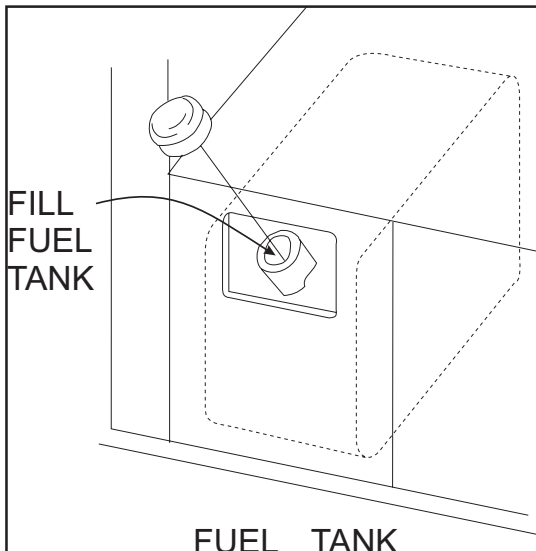
### BATTERY

1. Access to the battery is through the door located beneath the driver's seat.
2. Keep the top of the battery clean and dry. Keep the terminals and connectors clean. To clean the tops of the batteries, use a damp cloth with a weak solution of ammonia or bicarbonate of soda solution. To clean the terminals and connectors, use a terminal and connector cleaning tool.



#### WARNING

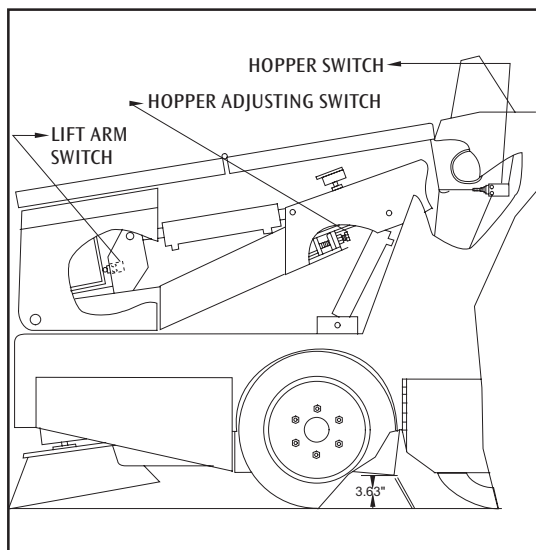
**NEVER** allow the soda solution to enter the cells. This will permanently discharge the battery.



P4692 **FIGURE 34**

## FUEL TANK

The gas tank is located under the drivers seat. It may be filled from the rear of the machine.

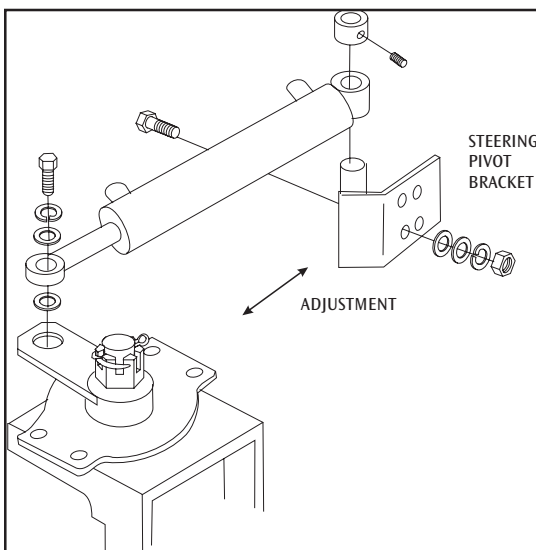


C0136 **FIGURE 35**

## HOPPER ADJUSTMENT

The following adjustments are made to the hopper at the factory. Once adjusted, no further attention should be required.

1. Install hopper stops loosely.
2. Adjust stops to give 3 5/8 (9.2 cm.) inches clearance under rear bottom edge of hopper, then secure.
3. Using the adjusting screw, set the hopper square in the machine with equal clearance between the wheel wells and the outer edges of the hopper on both sides. Set the jam nut.



C0137 **FIGURE 36**

## STEERING ADJUSTMENT

1. Loosen the mounting hardware at the steering pivot bracket.
2. Rotate the rear wheel yoke to a 90° full left turn position. Be sure the cylinder is fully extended.
3. Tighten the mounting hardware.

## CHECK ENGINE LIGHT CODES

CATEGORY	DESCRIPTION	CODE NUMBER
MAP	MAP high pressure	231
	MAP low voltage	232
TIP	TIP high voltage	1111
	TIP low voltage	1111
FP	FP high voltage	1111
	FP low voltage	1111
ECT/CHT	ECT/CHT high voltage	221
	ECT/CHT low voltage	222
	ECT higher than expected 1	223
	ECT higher than expected 2	224
	CHT higher than expected 1	223
	CHT higher than expected 2	224
IAT	IAT high voltage	211
	IAT low voltage	212
	IAT higher than expected 1	213
	IAT higher than expected 2	214
BP	BP high pressure	234
	BP low pressure	235
Knock	Knock sensor open	253
	Excessive knock signal	254
Battery Voltage	Voltage high	162
	Voltage low	161
5V External	5VE high voltage	632
	5VE low voltage	631
TPS	TPS1 high voltage	531
	TPS1 low voltage	532
	TPS2 high voltage	533
	TPS2 low voltage	534
	TPS1 higher than TPS2	535
	TPS1 lower than TPS2	536
	Unable to reach higher TPS	537
	Unable to reach lower TPS	538
FPP	FPP1 high voltage	511
	FPP1 low voltage	512
	FPP2 high voltage	521
	FPP2 low voltage	522
	FPP1 higher than IVS limit	513
	FPP1 lower than IVS limit	514
	FPP2 higher than IVS limit	523
	FPP2 lower than IVS limit	524
	FPP1 higher than FPP2	515
	FPP1 lower than FPP2	516
Governor Interlock	IVS/Brake interlock failure	545



## CHECK ENGINE LIGHT CODES

CATEGORY	DESCRIPTION	DESCRIPTION	CODE NUMBER
Auxiliary Analog Inputs	AUX analog PD1 high		163
	AUX analog PD1 low		164
	AUX analog PU1 high		541
	AUX analog PU1 low		542
	AUX analog PU2 high		543
	AUX analog PU2 low		544
Engine Speed	Max govern speed override		551
	Fuel rev limit		552
	Spark rev limit		553
Oil Pressure	Oil pressure low		215
Adaptive Learn	AL high gasoline bank1		141
	AL high gasoline bank2		151
	AL low gasoline bank1		142
	AL low gasoline bank2		152
	AL high LPG		143
	AL low LPG		144
	AL high NG		145
	AL low NG		146
Closed Loop	CL high gasoline bank1		121
	CL high gasoline bank2		131
	CL low gasoline bank1		122
	CL low gasoline bank2		132
	CL high LPG		111
	CL low LPG		124
	CL high NG		125
	CL low NG		126
Catalyst Monitor	Gasoline cat monitor		133
	LPG cat monitor		134
	NG cat monitor		135
EGO Sensors	EGO open/lazy bank1		112
	EGO open/lazy bank2/post-cat		113
	EGO open/lazy post-cat		114
Injectors	Injector Loop Open or Low-Side Short to Ground	Injector 1	311
		Injector 2	313
		Injector 3	315
		Injector 4	321
	Injector Coil Shorted	Injector 1	312
		Injector 2	314
		Injector 3	316
		Injector 4	322

## CHECK ENGINE LIGHT CODES

CATEGORY	DESCRIPTION	DESCRIPTION	CODE NUMBER
Spark Coil Primary	Primary Loop Open or Low-Side Short to Ground	Coil 1	411
		Coil 2	413
		Coil 3	415
		Coil 4	421
	Primary Coil Shorted	Coil 1	412
		Coil 2	414
		Coil 3	416
		Coil 4	422
Fuel Pump Feedback	F Pump Loop Open or High-Side Short to Ground		351
	F Pump High-Side Shorted to Power		352
MegaJector Diagnostics	MegaJector delivery pressure higher than expected		353
	MegaJector delivery pressure lower than expected		354
	MegaJector comm lost		355
	MegaJector voltage supply high		361
	MegaJector voltage supply low		362
	MegaJector internal actuator fault detection		363
	MegaJector internal circuitry fault detection		364
	MegaJector internal comm fault detection		365
Crank/Cam Sensors	Cam loss		244
	Cam sync noise		245
	Crank sync noise		242
	Never crank synced at start		243
Internal Processor Diagnostics	COP failure		611
	RTI 1 loss		614
	RTI 2 loss		655
	RTI 3 loss		656
	A/D loss		613
	Invalid interrupt		612
	Flash checksum invalid		615
	RAM failure		616
RS-485 Network	Rx Inactive		641
	Rx Noise		642
	Invalid Packet Format		643
	Shutdown Request		644

**ABBREVIATIONS - SCREWS**


ADJ	= Adjusting Screw
ADJ.SP	= Adjusting Plunger Screw
BHM	= Binding Head Machine Screw
BHS	= Button Head Socket Screw
CAPT.SL	= Captivated Slotted Screw
CAPT.WG	= Captivated Wing Screw
FHM	= Flat Head Machine Screw
FIL.HM	= Filister Head Machine Screw
HHC	= Hexagon Head Cap Screw
HHM	= Hexagon Head Machine Screw
HIHD	= 1/2 High Head Screw
HSHC	= Hexagonal Socket Head Cap Screw
HSFHC	= Hexagonal Socket Flat Head Cap Screw
KNH	= Knurled Head Screw
MHHC	= Metric Hexagon Head Cap Screw
PHM	= Pan Head Machine Screw
RHD	= Round Head Drive Screw
RHM	= Round Head Machine Screw
RHW	= Round Head Wood Screw
SHC	= Shiny Crown Cap Screw
SHTB	= Shoulder Thumb Screw
SQ	= Square Head Screw
TB	= Thumb Screw
THM	= Truss Head Machine Screw
WELD	= Weld Stud
WG	= Wing Screw

**ABBREVIATIONS - SETSCREWS**

HS	= Hexagonal Socket Setscrew
S	= Slotted Setscrew
SH	= Square Head Setscrew
-KCP	= Knurled Cup Point Setscrew
-CP	= Cup Point Setscrew
-OP	= Oval Point Setscrew
-FDP	= Full Dog Point Setscrew
-HDP	= Half Dog Point Setscrew
-FP	= Flat Point Setscrew
-COP	= Cone Point Setscrew

## ORDERING PARTS

Parts may be ordered from American-Lincoln authorized distributors. Record the information from the American-Lincoln serial plate to avoid delays in filling your order:

MODEL NO.   	SERIAL NO.   
Manufactured By  <b>AMERICAN LINCOLN TECHNOLOGY</b> BOWLING GREEN, OHIO	

1. Use the model number, catalog number, and serial number when ordering.
2. Give the part number, description, and quantity of parts needed.
3. Give shipping instructions for either freight, UPS, or parcel post.

Parts and supplies listed in this manual can be ordered from the following address:

<b>American-Lincoln</b>	<b>American-Lincoln authorized distributor</b>
1100 Haskins Road Bowling Green, Ohio 4302 1-800-331-7692	

### MACHINE CATALOG NUMBERS

579-540	Gas Variable Dump (North America)
579-540EX	Gas Variable Dump (Export)
579-540CE	Gas Variable Dump (Export w/CE Kit)
579-541	LP Variable Dump (North America)
579-541EX	LP Variable Dump (Export)
579-541CE	LP Variable Dump (Export w/CE Kit)
579-542	Diesel Variable Dump (North America & Export)
579-542CE	Diesel Variable Dump (Export w/CE Kit)
579-543	Gas Low Dump (North America)
579-543EX	Gas Low Dump (Export)
579-543CE	Gas Low Dump (Export w/CE Kit)
579-544	LP Low Dump (North America)
579-544EX	LP Low Dump (Export)
579-544CE	LP Low Dump (Export w/CE Kit)
579-545	Diesel Low Dump (North America & Export)
579-545CE	Diesel Low Dump (Export w/CE Kit)

## TABLE OF CONTENTS - CHAPTER 2

Driver Compartment .....	2-2
Frame, Broom Door, & Flaps .....	2-4
Control Panel & Horn .....	2-6
Hopper Lid & Filter System .....	2-8
Hopper Lift System (Variable Dump) .....	2-10
Hopper Lift System (Low Dump) .....	2-12
Steering Gear & Rear Drive System .....	2-14
Forward/Reverse Control .....	2-16
Brake & Front Wheel Assembly .....	2-18
Brake Control Linkage .....	2-20
Main Broom Lift Mechanism .....	2-22
Main Broom .....	2-24
Side Broom .....	2-26
Auxiliary Pump & Fittings .....	2-28
Main Pump & Fittings .....	2-29
Impeller & Fittings .....	2-30
Control Valve & Fittings (Variable Dump) .....	2-32
Control Valve & Fittings (Low Dump) .....	2-33
Rear Drive Motor & Fittings .....	2-34
Main Broom Motor & Fittings .....	2-35
Side Broom Motor & Fittings .....	2-36
Lift, Rotation & Dump Cylinders w/ Fittings (Variable Dump) .....	2-37
Dump Cylinders w/ Fittings .....	2-38
Lift Cylinder Lock-out Valve & Fittings .....	2-39
Auxiliary Manifold & Fittings .....	2-40
Return Manifold Assembly (Variable Dump) .....	2-41
Return Manifold Assembly (Low Dump) .....	2-42
Hydraulic Oil Cooler .....	2-43
Hydraulic Reservoir & Fittings .....	2-44
Engine Cover .....	2-46
Ford 425EFI Gas/LP Engine (Fan, Mounts, Brackets) .....	2-48
Ford 425EFI Gas/LP Engine (Exhaust Systems) .....	2-50
Ford 425EFI GAS Engine (Fuel System) .....	2-52
Ford 425EFI GAS Engine (Fuel System continued) .....	2-54
Ford 425EFI LP Engine (Fuel System) .....	2-56
Ford 425EFI LP Engine (Fuel System continued) .....	2-58
LPTank System .....	2-62
Air Cleaner Assembly (all models) .....	2-64
Mitsubishi S4Q2 Diesel Engine (Fan, Brackets, Throttle) .....	2-66
Mitsubishi S4Q2 Diesel Engine (Exhaust System) .....	2-68
Mitsubishi S4Q2 Diesel Engine (Fuel System) .....	2-70
Radiator & Shroud (Gas/LP) .....	2-71
Radiator & Shroud (Diesel) .....	2-72
Fuel Tank (Gas/Diesel) .....	2-73
CE Kit .....	2-74
Decals .....	2-76
Instrument Panel .....	2-78
Hydraulic Hose System (Variable Dump) .....	2-80
Hydraulic Hose System (Common to Variable & Low Dumps) .....	2-82
Hydraulic Hose System (Low Dump) .....	2-84
Hydraulic Schematic (Variable Dump) .....	2-85
Hydraulic Schematic (Low Dump) .....	2-86
Machine Harness Routing .....	2-88
Ford 425EFI (Frame Side) Harness Routing .....	2-90
Mitsubishi S4Q2 (Frame Side) Harness Routing .....	2-91
Electrical Schematic (Gas/LP/Diesel) .....	2-92
Connection Diagram (Gas/LP/Diesel) .....	2-93

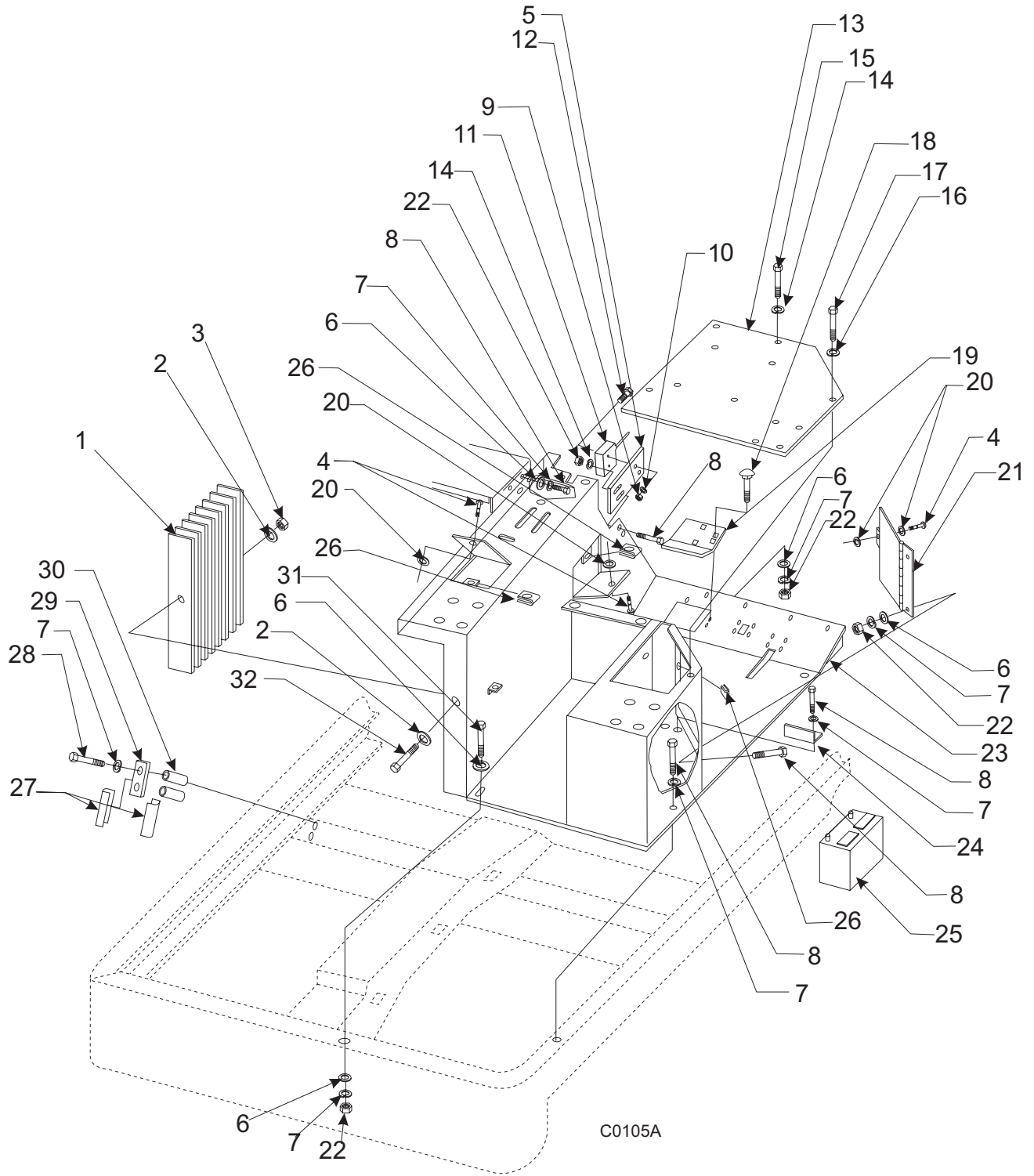
## DRIVER COMPARTMENT - PARTS LIST

---

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	8-89-04014	Weights	9
2	2-00-00427	Flat Washer, .875 x .515 x .062	2
3	2-00-04936	Nut, Hex Fiber Insert 1/2 - 13	1
4	7-23-03113	Fastener 1/4 Turn	3
5	8-08-00816	Switch Bracket	1
6	2-00-00407	Flat Washer, .562 x .265 x .062	1
7	2-00-00518	Lock Washer, Helical Spring 1/4 Med	3
8	2-00-00221	Screw, 1/4 - 20 x .750 HHC	9
9	2-00-00602	Nut, Hex MS #8-32	2
10	2-00-00529	Lock Washer, Helical Spring #8 Med	2
11	8-82-00058	Hopper Switch	1
12	2-00-03061	Screw, #10-24 x .500 THM	2
13	8-52-00140	Seat Deck Panel	1
14	2-00-00518	Lock Washer, 1/4	4
15	2-00-00183	Screw, 1/4 - 20 x .750 THM	4
16	2-00-02312	Lock Washer, Helical Spring 1/2 Med	1
17	2-00-00239	Screw, 1/2 - 13 x 1.000 HHC	1
18	2-00-03575	Carriage Bolt, 1/4-20 x .750	4
19	8-16-07334	Cover	1
20	7-23-03106	Retainer Washer	3
21	8-19-08042	Battery Access Door	1
22	2-00-00594	Nut, Hex 1/4 - 20 x .437 x .218	9
23	8-33-05112	Operator's Compartment	1
24	8-08-00588	Battery Hold Down Bracket	1
25	0875-008	Battery (Gas/LP)	1
	0875-057	Battery (Diesel)	
26	7-23-03108	Receptacle	3
27	8-08-07045	Edging	4
28	2-00-00203	Screw, 1/4 - 20 x 1.50 HHC	4
29	8-65-00024	Hose Clamp	2
30	8-75-01116	Spacer, .312 x .250 x .875	4
32	2-00-04914	Screw, 1/2 - 13 x 4.250 HHC	1

C-0105-1

# DRIVER COMPARTMENT - EXPLODED VIEW



## FRAME, BROOM DOOR, & FLAPS - PARTS LIST

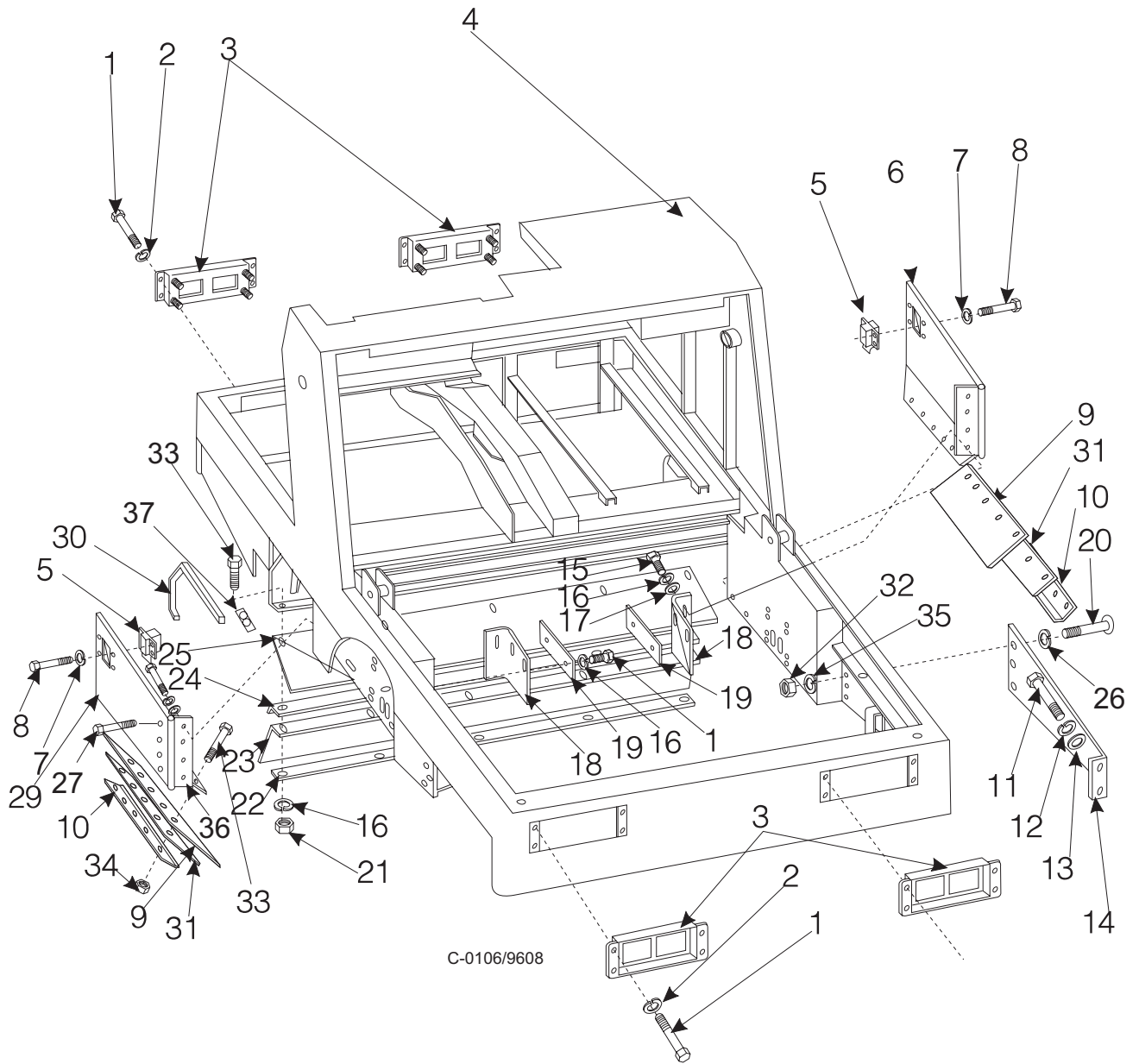
<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	2-00-04877	Screw, 1/4 - 20 x 1.000	6
2	2-00-00501	Lock Washer, 1/4 Int.	16
3	8-08-00614	Headlight Bracket	4
4	8-27-07123	Frame	1
5	8-41-00032	Broom Door Latch	2
6	8-19-08054	Broom Chamber Door (L.H.)	1
7	2-00-00529	Lock Washer, Helical Spring #8 Med	8
8	2-00-01081	Screw, #8 - 32 x .500 T/C RH	8
9	8-25-08185	Broom Chamber Door Inner Flap	2
10	8-13-07105	Broom Door Flap Clamping Plate	2
11	2-00-00233	Screw, 3/8 - 16 x 1.000 HHC	2
12	2-00-02310	Lock Washer, Helical Spring 3/8 Med	2
13	2-00-00402	Flat Washer, .750 x .390 x .093	2
14	8-52-00156	Front Skirt	1
15	2-00-00205	Screw, 1/4 - 20 x .750 HHC	16
16	2-00-00518	Lock Washer, Helical Spring 1/4 Med	17
17	2-00-01676	Flat Washer, 1.062 x .265 x .062	18
18	8-25-08174	Flaps, Wheel Well	2
19	8-13-07098	Clamp, Wheel Well Flap	2
20	2-00-00240	Screw, 1/2-13 x 1.250 HHC	3
21	2-00-00594	Nut, Hex, 1/4 - 20 x .437 x .218	5
22	8-13-07097	Plate, Broom Flap Clamping	1
23	8-25-08173	Rear Broom Flap	1
24	8-13-07100	Broom Flap Deflector (Rear)	1
25	8-25-08172	Rear Broom Flap	1
26	2-00-04159	Flat Washer, 9/16 I.D.	3
27	2-00-00078	Screw, 1/4 - 20 x 1.000 HHC	8
28	2-00-03702	Flat Washer, .625 x .281 x .062	18
29	8-19-08053	Broom Chamber Door (R.H.)	1
30	8-68-05073	Broom Chamber Seal	2
31	8-25-08184	Flap, Broom Door	2
32	2-00-00596	Nut, Hex 1/2 - 13 x .750 x .437	3
33	2-00-02196	Carriage Bolt, 1/4-20 x 1.000	9
34	0880-505	Nut, 1/4-20 Fiber Lock	36
35	2-00-02312	Lock Washer, Helical Spring 1/2 Med	3
36	8-32-00043	Hinge, Plated	2
37	8-41-00047	Latch	2

Broom Door Flaps Kit: 0880-562

C0106/2-04



# FRAME, BROOM DOOR, & FLAPS - EXPLODED VIEW



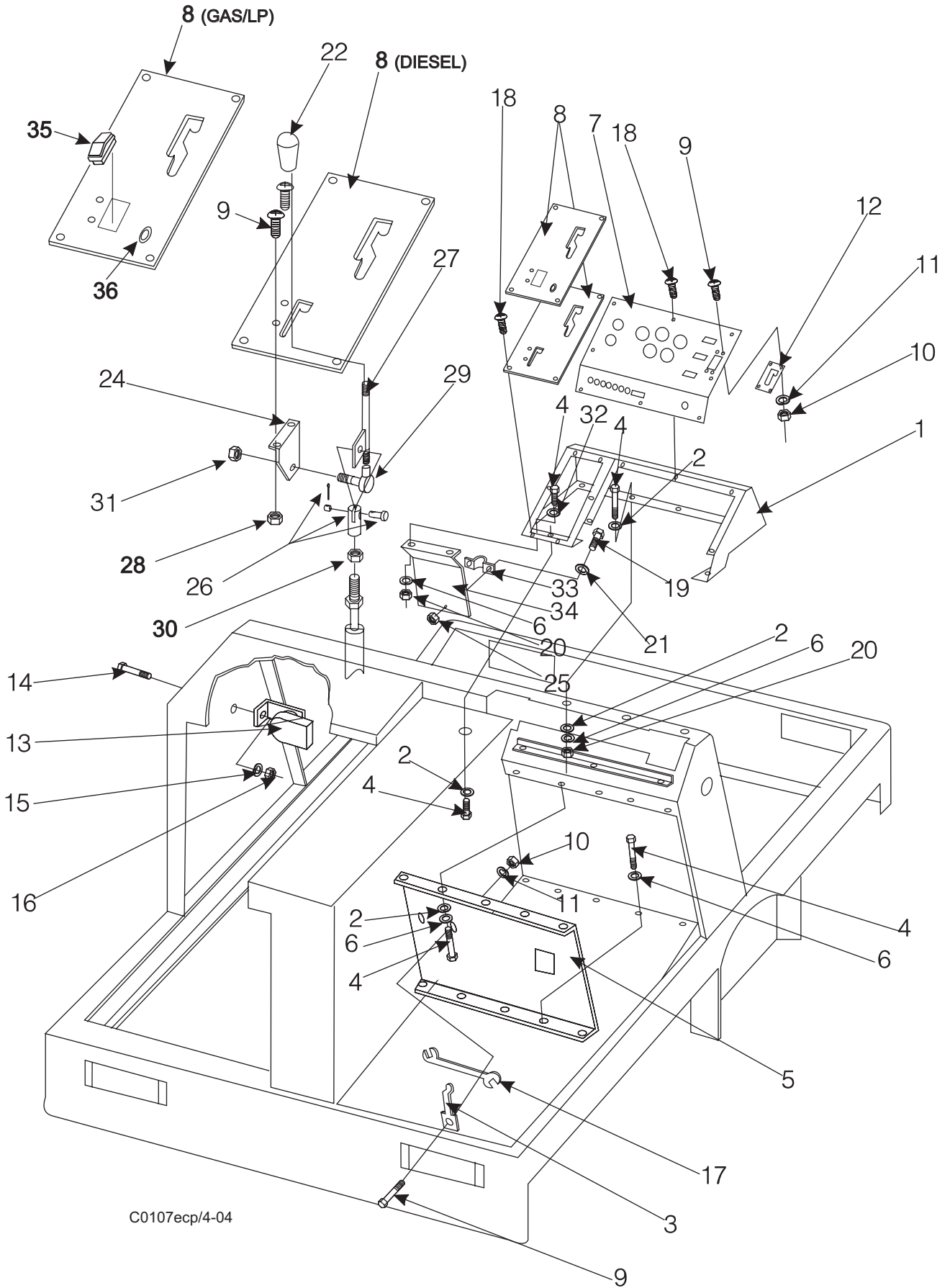
## CONTROL PANEL & HORN - PARTS LIST

---

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-33-05111	Instrument Housing	1
2	2-00-00407	Flat Washer, .562 x .265 x .062	12
3	8-13-07087	Clip	2
4	2-00-00221	Screw, 1/4 - 20 x .750 HHC	19
5	8-52-00157	Kickboard Panel	1
6	2-00-00518	Lock Washer, Helical Spring 1/4 Med	17
7	8-58-05224	Face Plate, Instrument Compartment	1
8	8-58-05265	Face Plate, MB Control/Throttle (Diesel)	1
	8-58-05291	Face Plate, MB Control/Throttle (Gas/LP)	1
9	2-00-03061	Screw, #10 - 24 x .500 THM	3
10	2-00-00605	Nut, Hex MS #10 - 24 x .375 x .125	9
11	2-00-00519	Lock Washer, Helical Spring #10 Med	9
12	8-58-05222	Backing Plate - Brush Control Lever	1
13	8-32-09013	Horn	1
14	2-00-00208	Screw, 5/16 - 18 x .750 HHC	1
15	2-00-00530	Lock Washer, Helical Spring 5/16 Med	1
16	2-00-00585	Nut, Hex 5/16 - 18 x .500 x .265	1
17	2-00-00686	Wrench, 3/4 - 9/16	1
18	2-00-03466	Screw, #10 - 16 x .500 T/F RH	13
19	2-00-04794	Screw, #10-24 x .625	2
20	2-00-00594	Nut, Hex 1/4 - 20 x .437 x .218	8
21	2-00-00426	Flat Washer, .500 x .218 x .062	3
22	7-39-00017	Knob (Diesel)	1
24	8-08-00752	Bracket	1
25	2-00-01246	Nut, Hex Fiber Insert #10-24	4
26	7-14-07006	Clevis Assembly	1
27	8-41-05074	Throttle Lever (Diesel)	1
28	2-00-01246	Nut, Hex #10-24 Fiber Lock	4
29	7-25-02050	Rod End (Diesel)	1
30	2-00-00626	Nut, #10-32 Hex	1
31	2-00-00633	Nut, 1/4-18 Fiber Lock	1
32	2-00-03702	Flat Washer, .625 x .281 x .062	2
33	8-13-07094	Clamp	1
34	8-08-00735	Bracket, Cable	1
35	8-82-00074	Switch Body & Actuator-1 piece (Gas/LP)	1
36	REF	Check Engine Light (comes w/engine assembly)	1

C0107ecp/4-04

# CONTROL PANEL & HORN - EXPLODED VIEW



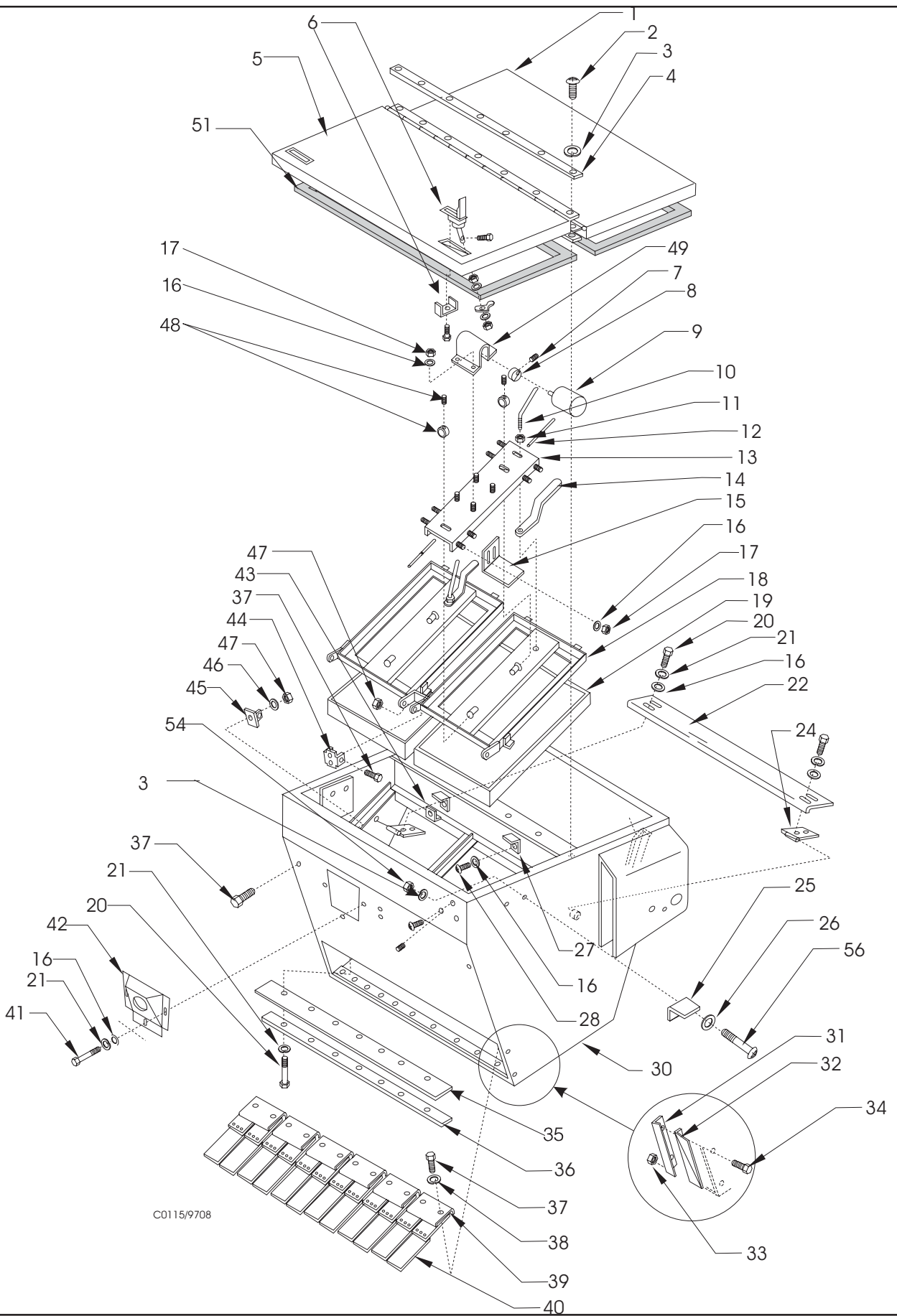
C0107ecp/4-04

## HOPPER LID & FILTER SYSTEM - PARTS LIST

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-16-07320	Hopper Lid (Lower)	1
2	2-00-04667	Screw, 3/8-16 x 1.250 BHS	11
3	2-00-02310	Lock Washer, Helical Spring 3/8 Med	11
4	8-75-01187	Spacer	2
5	8-16-07319	Cover (Upper)	1
6	8-41-00044	Latch - Low Profile Push Button	2
7	2-95-01929	Setscrew, 1/4 - 20 x .250 HS-CP (Nylok)	2
8	8-89-04019	Shaker Weight	2
9	0860-623	Shaker Motor	2
10	8-80-05032	Latch Arm Stud	1
11	2-00-02371	Nut, Hex Jam 1/2 - 13 x .750 x .312	2
12	8-66-00156	Rocker Pivot Rod	4
13	8-58-05285	Rocker Plate	2
14	8-41-00042	Shaker Frame Latch	2
15	8-50-05056	Rocker Plate Pad	8
16	2-00-00407	Flat Washer, .562 x .274 x .062	29
17	2-00-00641	Nut, Hex Fiber Insert 1/4 - 20	24
18	8-27-07094	Shaker Frame	2
19	8-24-04123-1	Panel Filter	2
	8-24-04123-2	POLY Panel Filter Option	
20	2-00-00221	Screw, 1/4 - 20 x .750 HHC	11
21	2-00-00518	Lock Washer, Helical Spring 1/4 Med	14
22	8-25-08154	Air Flow Deflector Panel	1
23	8-21-04040	Edging, Right Side Support	1
24	8-57-05019	Deflector Pivot	2
25	8-08-00671	Hopper Stop Bracket	2
26	2-00-00402	Flat Washer, .750 x .390 x .093	7
27	8-08-00701	Frame Lock Bracket	2
28	2-00-04880	Screw, 1/4-20 x .750 BHS	4
30	8-32-06096	Hopper	1
31	8-13-07101	Hopper Side Flap Clamp	2
32	8-25-08180	Hopper Side Flap	2
33	2-00-01246	Nut, Fiber Lock #10 -24	4
34	2-00-04794	Screw, 10-24 x .625 BHS	4
35	8-25-08179	Primary Deflector Flap	1
36	8-79-00111	Strap - Primary Deflector Flap	1
37	2-00-00208	Screw, 1/4 - 18 x .750 HHC	20
38	2-00-00530	Lock Washer, Helical Spring 5/16 Med	12
39	8-13-07084	Bottom Hopper Flap Clamp	6
40	8-25-08177	Hopper Flap - Upper	6
	8-25-08178	Hopper Flap - Lower	6
	0860-545	Upper & Lower Flaps Kit	1
41	2-00-00220	Screw, 1/4 - 20 x .625 HHC	3
42	8-58-05237	Blower Mating Plate	1
43	8-08-00692	Frame Mounting Bracket (R.H.)	1
44	8-08-00690	Center Frame Mounting Bracket	1
45	8-08-00691	Frame Mounting Bracket (L.H.)	1
46	2-00-00409	Flat Washer, .687 x .343 x .062	4
47	2-00-00644	Nut, Hex Fiber Insert 5/16 - 18	8
48	7-15-01022	Setscrew Collar, .750 x .378 x .375	4
49	8-16-07406	Shaker Motor Cover	2
51	3-73-00060	Bulb Seal Gasket	24'
53	8-08-00668	Hopper Lid Latch Bracket	2
54	2-00-02360	Nut-Hex 3/8 - 16	4
55	8-29-00183	Blower Gasket	1
56	2-00-00234	Screw, 3/8-16	1

C-0115/9710

# HOPPER LID & FILTER SYSTEM - EXPLODED VIEW



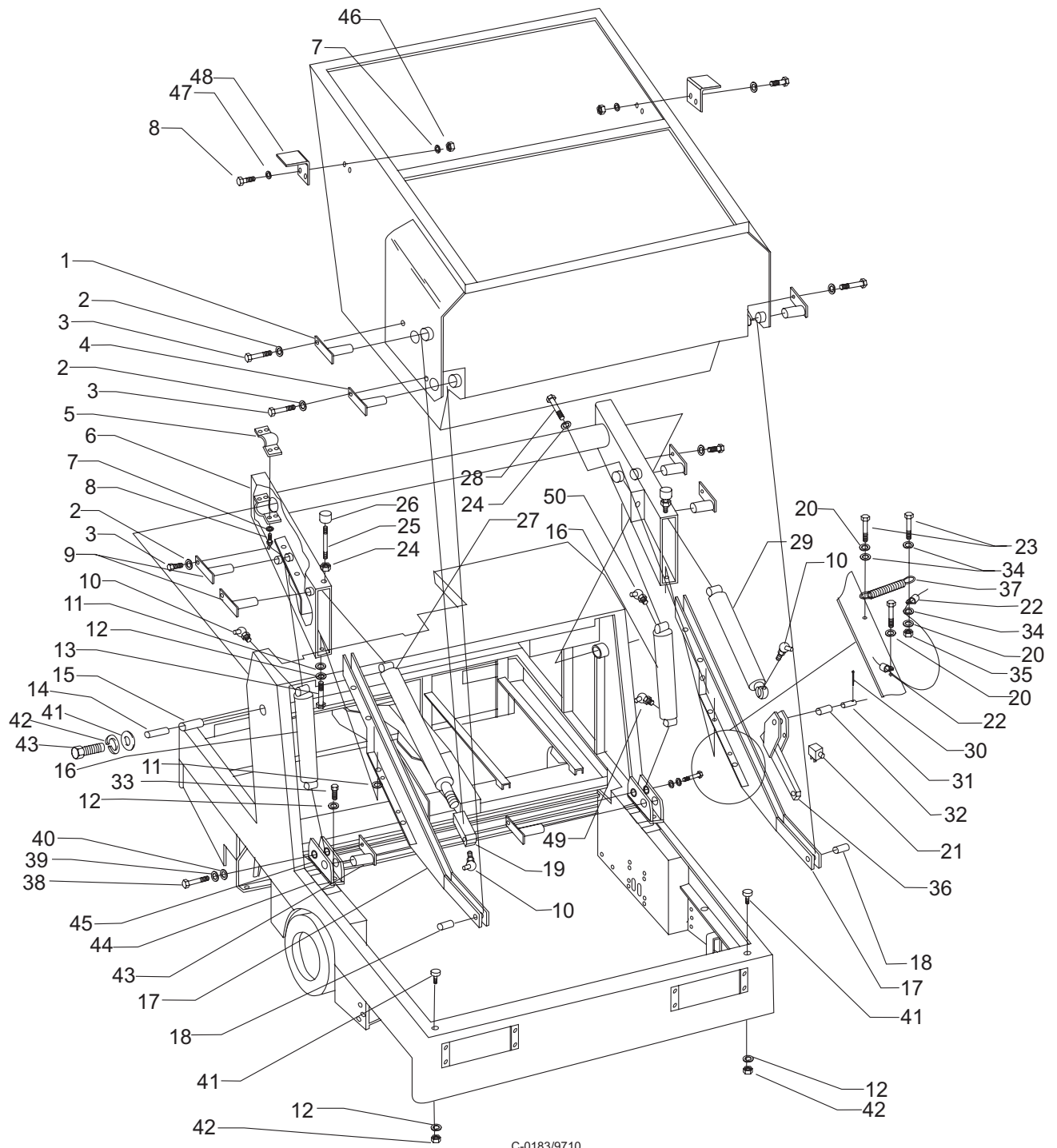
C0115/9708

## HOPPER LIFT SYSTEM (VARIABLE DUMP) - PARTS LIST

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-55-08105	Hopper Dump Pin	1
2	2-00-00518	Lock Washer, Helical Spring 1/4 Med	7
3	2-00-00221	Screw, 1/4 - 20 x .750 HHC	7
4	8-55-08104	Hopper Pivot Pin	2
5	8-13-07103	Pivot Pin Half Clamp	2
6	8-03-04242	Arm Pivot Bracket Assembly	1
7	2-00-02310	Lock Washer, Helical Spring 3/8 Med	12
8	2-00-00234	Screw, 3/8 - 16 x 1.000 HHC	8
9	8-55-08102	Pin (Upper)	4
10	2-00-02558	Lubrication Fitting, 45° 1/8 NPT	4
11	2-00-04159	Flat Washer, 1.375 x .562 x .109	8
12	2-00-02312	Lock Washer, Helical Spring 1/2 Med	8
13	2-00-01254	Screw, 1/2 - 13 x 1.500 HHC	6
14	8-55-08107	Pin (Arm Pivot)	2
15	2-00-04893	Sleeve Bearing, 2.005 x 1.503 x 2.000	2
16	8-17-05029	Lift Cylinder	2
	0880-449	Seal Kit for Lift Cylinder	2
17	8-03-04246	Lower Arm	2
18	2-00-04894	Sleeve Bearing, 1.254 x 1.003 x 2.500	2
19	8-14-01010	Clevis, Dump Cylinder	1
20	2-00-00519	Lock Washer, Helical Spring #10 Med	5
21	8-82-00050	Switch Lift Arm Lockout	1
22	2-00-04378	Clip, .281	2
23	2-00-00056	Screw, #10 - 24 x .750 RHM	3
24	2-00-02371	Nut, Hex Hvy. Jam 1/2 - 13 x .875 x .296	2
25	8-80-05014	Stud, 1/2-13 UNF-2A	2
26	7-78-05009	Stop Pad	2
27	8-17-05028	Dump Cylinder	1
	0880-505	Seal Kit for Dump Cylinder	1
28	2-00-04967	Screw, 1/2 - 13 x 2.500 HHM	4
29	8-17-05030	Rotation Cylinder	1
	0880-450	Seal Kit for Rotation Cylinder	1
30	2-00-02436	Cotter Pin, .187 x 1.750	1
31	8-55-08103	Hopper Rotate Pin	1
32	8-06-01083	Bushing,	1
33	2-00-00240	Screw, 1/4 - 13 x 1.250 HHC	4
34	2-00-00426	Flat Washer, .500 x .218 x .062	3
35	2-00-00605	Nut, Hex MS #10 - 24 x .375 x .125	1
36	8-08-00743	Rotate Cylinder Bracket	1
37	7-76-00050-1	Spring	1
38	2-00-00213	Screw, 5/16 - 18 x .625 HHC	2
39	2-00-00530	Lock Washer, Helical Spring 5/16 Med	2
40	2-00-00409	Flat Washer, .687 x .343 x .062	2
41	8-50-05054	Rubber Pad	2
42	2-00-00596	Nut, Hex 1/2 - 13	2
43	8-55-08102	Pin (Lower)	2
44	8-71-00017	Shim	1
45	8-08-00742	Adjustable Lift Arm Bracket	2
46	2-95-04689	Washer	2
47	2-00-02310	Washer, 3/8 Lock	2
48	2-00-00232	Screw- 3/8-16 x .75 HHC	2

C-0183/9710

# HOPPER LIFT SYSTEM (VARIABLE DUMP) - EXPLODED VIEW



C-0183/9710



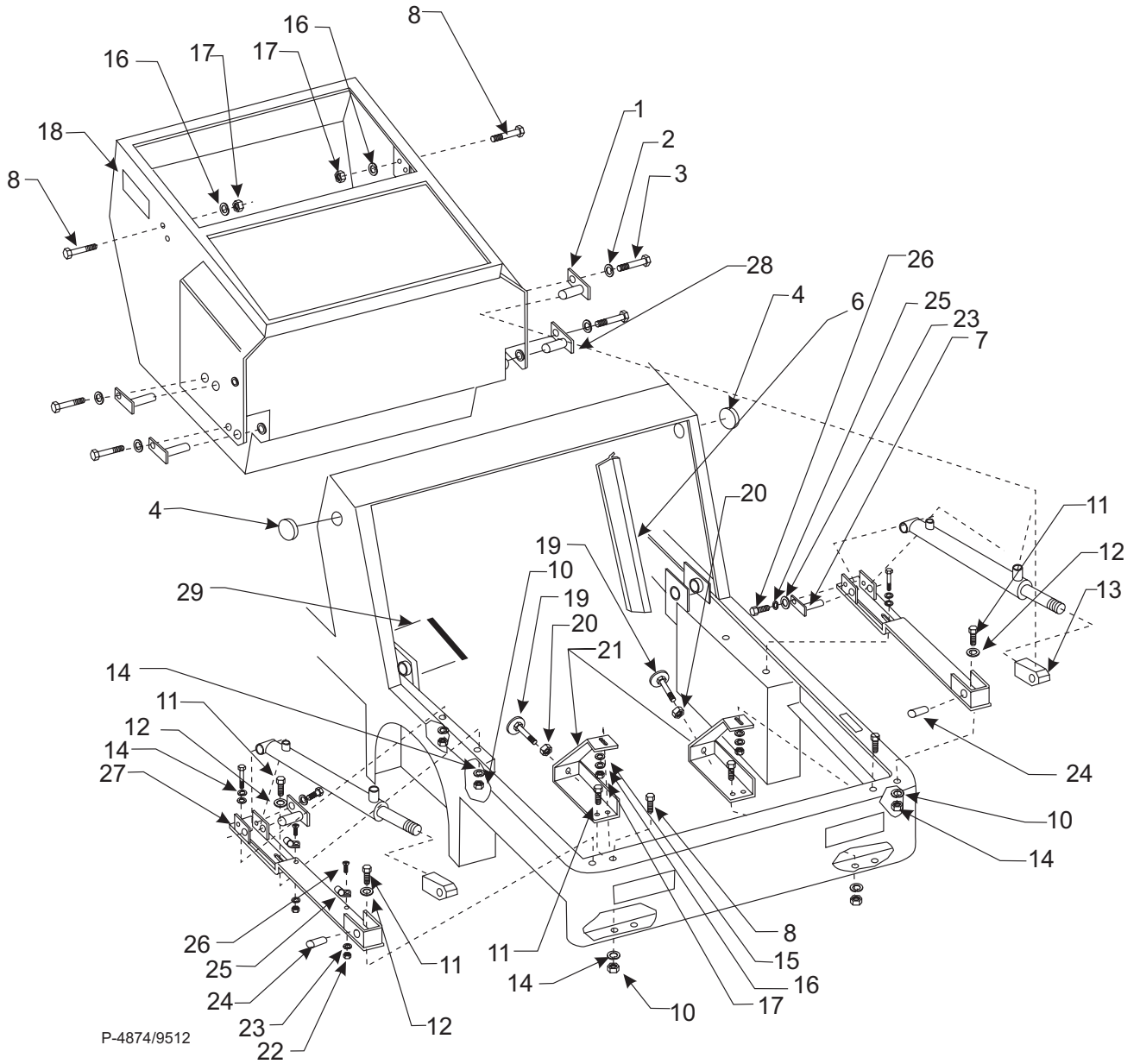
## HOPPER LIFT SYSTEM (LOW DUMP) - PARTS LIST

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-55-08105	Hopper Dump Pin	1
2	2-00-00518	Lock Washer, Helical Spring 1/4 Med	4
3	2-00-00221	Screw, 1/4 - 20 x .750 HHC	4
4	2-00-04432	Plug Button, 2.093	2
5	8-17-05033	Low Dump Cylinder	2
	0880-452	Seal Kit for Low Dump Cylinder	2
6	8-21-04041	Low Dump Lintel Edging	2
7	8-55-08102	Pin	2
8	2-00-00233	Screw, 3/8 - 16 x 1.000 HHC	6
9	8-18-00305	Decal, Warning Pinch Point	Ref
10	2-00-00596	Nut, Hex 1/2 - 13 x .750 x .437	6
11	2-00-00240	Screw, 1/2 - 13 x 1.250 HHC	10
12	2-00-04159	Flat Washer, 1/2	6
13	8-14-01010	Clevis	2
14	2-00-02312	Lock Washer, Helical Spring 1/2 Med	10
15	2-00-00402	Flat Washer, .750 x .390 x .093	2
16	2-00-02310	Lock Washer, Helical Spring 3/8 Med	6
17	2-00-02360	Nut, Hex 3/8 - 16 x .562 x .328	6
18	8-18-00314	Decal, Warning Service Precaution	Ref
19	8-78-05019	Hopper Stop	2
20	2-00-00598	Nut, Hex Jam 1/2 - 13 x .875 x .296	2
21	8-08-00628	Low Dump Hopper Stop Bracket	2
22	2-00-00596	Nut, Hex 1/2-13	4
23	2-00-00409	Flat Washer, 5/16	2
24	2-00-04894	Sleeve Bearing, 1.254 x 1.003 x 2.500	2
25	2-00-00530	Lock Washer, 5/16	2
26	2-00-00213	Screw, 5/16-18 x 5/8	2
27	8-08-00751	Low Dump Mounting Bracket	2
28	8-55-08104	Hopper Pivot Pin	2
29	7-21-04031	Edging	2
30	2-00-04345	Ty-Rap	2

P-4874/9512



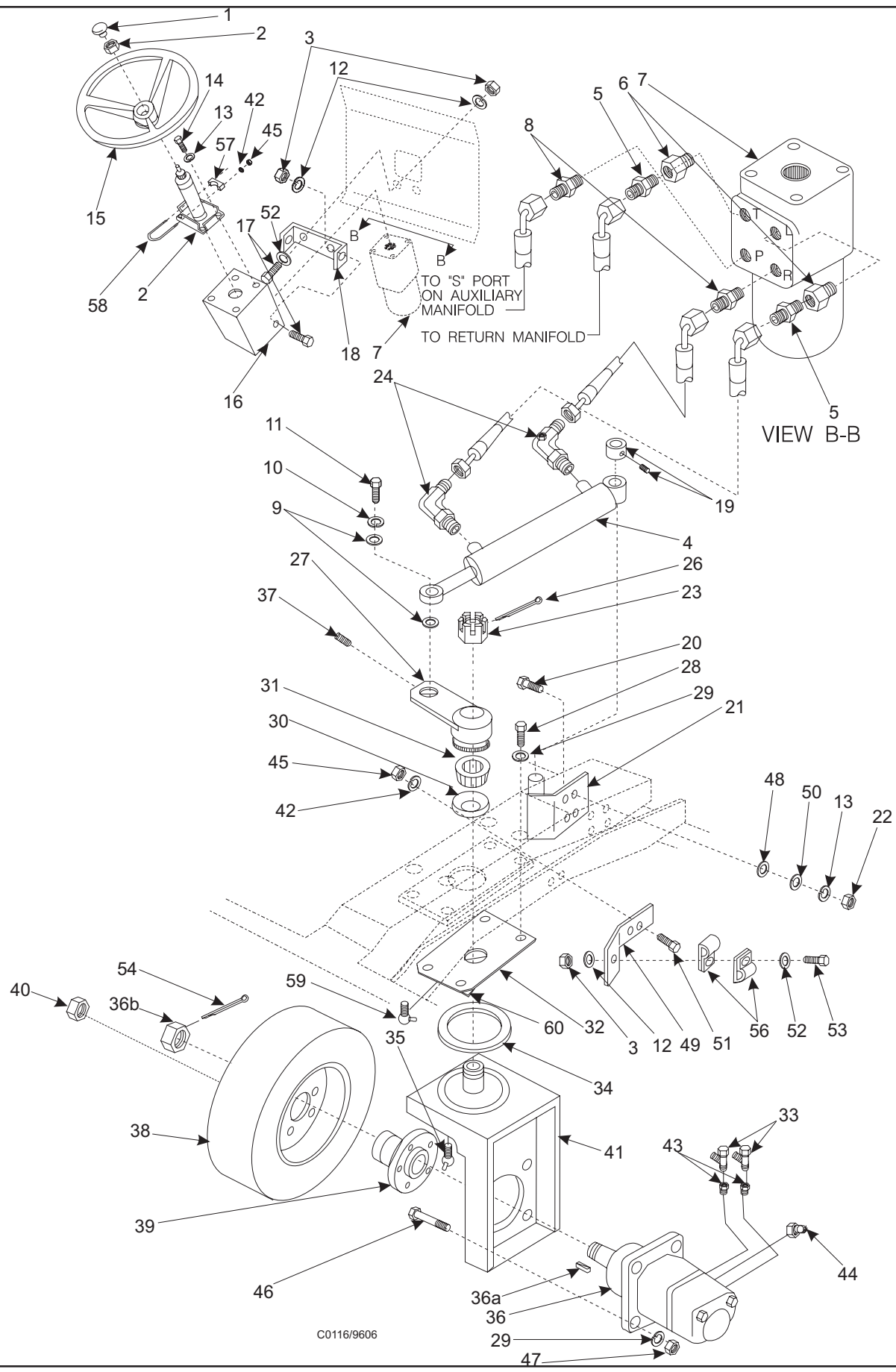
# HOPPER LIFT SYSTEM (LOW DUMP) - EXPLODED VIEW



## STEERING GEAR & REAR DRIVE SYSTEM - PARTS LIST

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-11-00022	Steering Wheel Cap	1
2	8-70-05287	Steering Column Assembly	1
3	2-00-00585	Nut, Hex 5/16-18	5
4	8-17-05029	Cylinder	1
5	2-00-04895	Straight Fitting	2
6	2-00-04917	Fitting, (Red)	2
7	8-60-05023	Power Steering Unit	1
8	2-00-04918	Straight Fitting	2
9	2-00-00432	Flat Washer, 3/4 ID	2
10	2-00-00522	Lock Washer, 3/4 ID	1
11	2-00-05136	Screw, 3/4-10 x 2.000 HHC Gr 5	1
12	2-00-00530	Lock Washer, 5/16 Helical Spring	5
13	2-00-02310	Lock Washer, 3/8 Helical Spring	8
14	2-00-00232	Screw, 3/8-16 x .750 HHC	4
15	7-89-08041	Steering Wheel	1
16	8-33-05109	Steering Unit Housing	1
17	2-00-00208	Screw, 5/16-18 x .750 HHC	4
18	8-08-00728	Bracket, Power Steering Unit Mount	1
19	8-15-01003	Collar & Setscrew, .750	1
20	2-00-00209	Screw, 3/8-16 x 1.250 HHC	4
21	8-08-00727	Cylinder Pivot Weldment	1
22	2-00-02360	Nut, Hex 3/8-16	4
23	2-00-05026	Nut, Hex Slotted 1" x 14	1
24	2-00-04892	Fitting, 90<198> Elbow #4 SAE to #4 ORS	2
26	2-00-04803	Pin Cotter	1
27	8-03-04318	Steering Arm	1
28	2-00-01254	Screw, 1/2-13 x 1.25 HHC	6
29	2-00-02312	Lock Washer, 1/2 ID	8
30	2-00-04621	Bearing Race	1
31	2-00-02079	Bearing	1
32	8-58-05269	Pivot Plate	1
33	2-00-05358	Fitting, Swivel	2
34	2-00-04455	Thrust Bearing	1
35	2-00-02558	45° Lube Fitting	1
36	0885-054-1	Hydraulic Motor	1
36a	8-70-00026	Key	1
36b	8-70-00027	Castle Nut	1
	0880-237	Shaft Seal Kit for Hydraulic Motor 0885-054-1	
	0880-238	Motor Seal Kit for Hydraulic Motor 0885-054-1	
37	2-00-00256	Set Screw, 1/4-20 x .38 HS-KCP	1
38	8-89-08059	Wheel, Pneumatic 21.50 Dia.	1
39	0860-536	Hub Assy., Rear Wheel	1
	8-33-09081	Hub ONLY	1
	7-80-05056-1	Studs ONLY	5
40	8-23-03065	Lug Nut - 1/2 - 20	5
41	8-92-00043	Rear Wheel Yoke	1
42	2-00-00518	Lock Washer, 1/4 ID	4
43	8-03-02036	Fitting, Reducer/Expander	2
44	2-00-04976	Fitting, 45° #4 SAE - #4 ORS	1
45	2-00-00594	Nut, Hex 1/4-20	4
46	2-00-00242	Screw, 1/2-13 x 2.750 HHC	4
47	2-00-00596	Nut, Hex 1/2-13	4
48	2-00-03829	Lock Washer, 3/8 Int/Ext	4
49	8-08-00733	Bracket	1
50	2-00-03266	Flat Washer, 3/8	4
51	2-00-00221	Screw, 1/4-20 x .250	2
52	2-00-00409	Flat Washer, 5/16 ID	3
53	2-00-02708	Screw, 5/16 - 18 x 1.000 HHC	1
54	2-00-00776	Cotter Pin - .125 x 1.50	1
55NS	2-00-04345	Ty-Rap	3
56	2-00-04564	Hose Clamp, 13/16 ID	2
57	8-08-00578	Bracket	1
58	8-13-07085	U-Bolt 1/4-20	1
59	2-00-02559	Fitting - Lube 90°	1
60	8-68-05097	Bearing Seal	1
61	8-68-05098	Bearing Seal	1

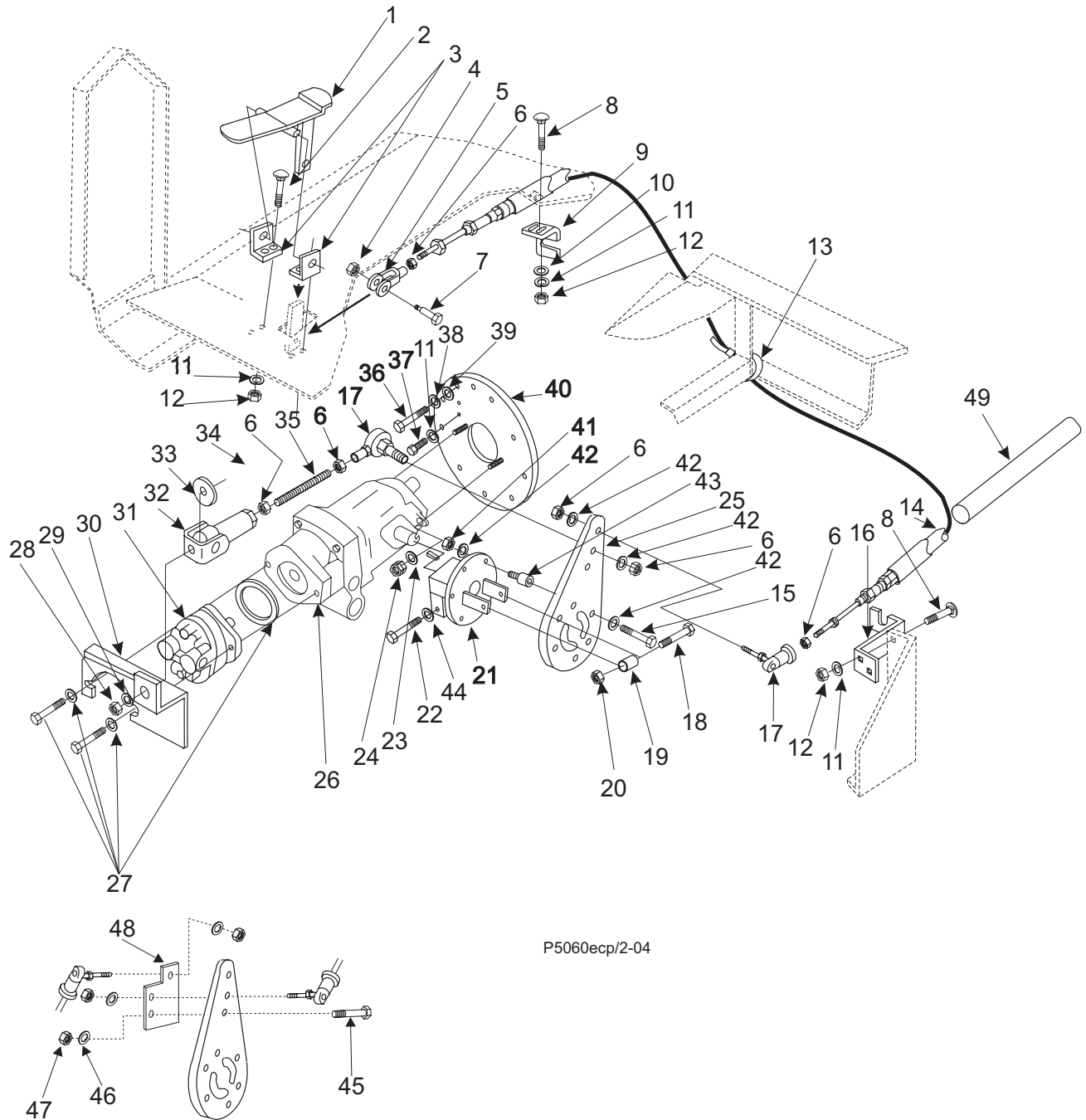
# STEERING GEAR & REAR DRIVE SYSTEM - EXPLODED VIEW



## FORWARD/REVERSE CONTROL - PARTS LIST

<u>KEY NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	8-55-00029	Forward/Reverse Pedal	1
2	2-00-03569	Carriage Bolt, 5/16-18 x .750	4
3	8-08-00723	Forward/Reverse Pedal Bracket	2
4	2-00-01246	Nut, Hex Fiber Insert #10-24	1
5	8-14-01006	Clevis	1
6	2-95-01999	Nut, Hex Jam 1/4 - 28 x .437 x .156	6
7	2-00-04563	Screw, #10-24 x .625 x .375 SH	1
8	2-00-00196	Carriage Bolt, 5/16-18 x 1.000	2
9	8-08-00585	Forward/Reverse Cable Mount. Bracket	1
10	2-00-00409	Flat Washer, .687 x .343 x .062	2
11	2-00-00530	Lock Washer, Helical Spring 5/16 Med	6
12	2-00-00585	Nut, Hex 5/16-18 x .50 x .265	6
13	2-00-04345	Plastic Tie Wrap	1
14	8-16-00045	Control Cable	1
15	2-00-00219	Screw, 1/4-20 x .500 HHC	6
16	8-08-00678	Hydroback Bracket (FORD 413)	1
17	7-25-02050	Rod End, 1/4-28	2
18	2-00-00246	Screw, 1/4-20 x 2.250 HHC	1
19	7-75-01110	Transmission Arm Spacer	1
20	2-00-00641	Nut, Hex Fiber Insert 1/4-20	1
21	7-03-04105	Transmission Arm Weldment	1
22	2-00-00225	Screw, 5/16-18 x 1.500 HHC	1
23	2-00-04801	Flat Washer, .875 x .375 x .125	2
24	2-00-03412	Nut, Hex Lock 3/8 - 24 x .562 x .281	2
25	7-58-05220	Transmission Plate	1
26	8-60-05006-2	Pump - Piston, 1.24 C.I.R.	1
27	0880-404	Pump Assembly Kit	1
28	2-00-00596	Nut, Hex 1/2-13 x .750 x .437	1
29	2-00-02312	Lock Washer, Helical Spring 1/2 Med	1
30	8-08-00860	Hydroback Bracket (FORD 423)	1
31	8-60-05022	Pump - Auxiliary, 1.20 C.I.R.	1
32	8-16-00025	Centering Control	1
33	2-00-00405	Flat Washer, 1.062 x .531 x .093	1
34	2-00-00240	Screw, 1/2-13 x 1.250 HHC	1
35	7-66-00147	Rod, 1/4-28 x 3.000	1
36	2-00-00233	Screw, 3/8-16 x 1.000 HHC	8
37	2-00-00224	Screw, 5/16-18 x .500 HHC	2
38	2-00-02310	Lock Washer, Helical Spring 3/8 Med	8
39	2-00-00402	Flat Washer, .750 x .390 x .093	8
40	8-58-05171	Pump Mounting Plate (FORD 411/413)	1
41	2-00-00594	Nut, Hex 1/4-20 x .437 x .218	6
42	2-00-00501	Lock Washer, 1/4 Int.	14
43	7-75-01089	Isolator	6
44	2-00-00530	Lock Washer, Helical Spring 5/16	1
45	2-00-00221	Screw- 1/4 x 20 x .75 HHC (Ford 423 Diesel)	2
46	2-00-00501	Washer- 1/4 Int. Lock (Ford 423 Diesel)	2
47	2-00-00594	Nut- 1/4 x 20 Hex. (Ford 423 Diesel)	2
48	8-08-00680	Bracket (Ford 423)	1
49	7-34-09018	Insulating Sleeve	1

# FORWARD/REVERSE CONTROL - EXPLODED VIEW



P5060ecp/2-04

## BRAKE & FRONT WHEEL ASSEMBLY - PARTS LIST

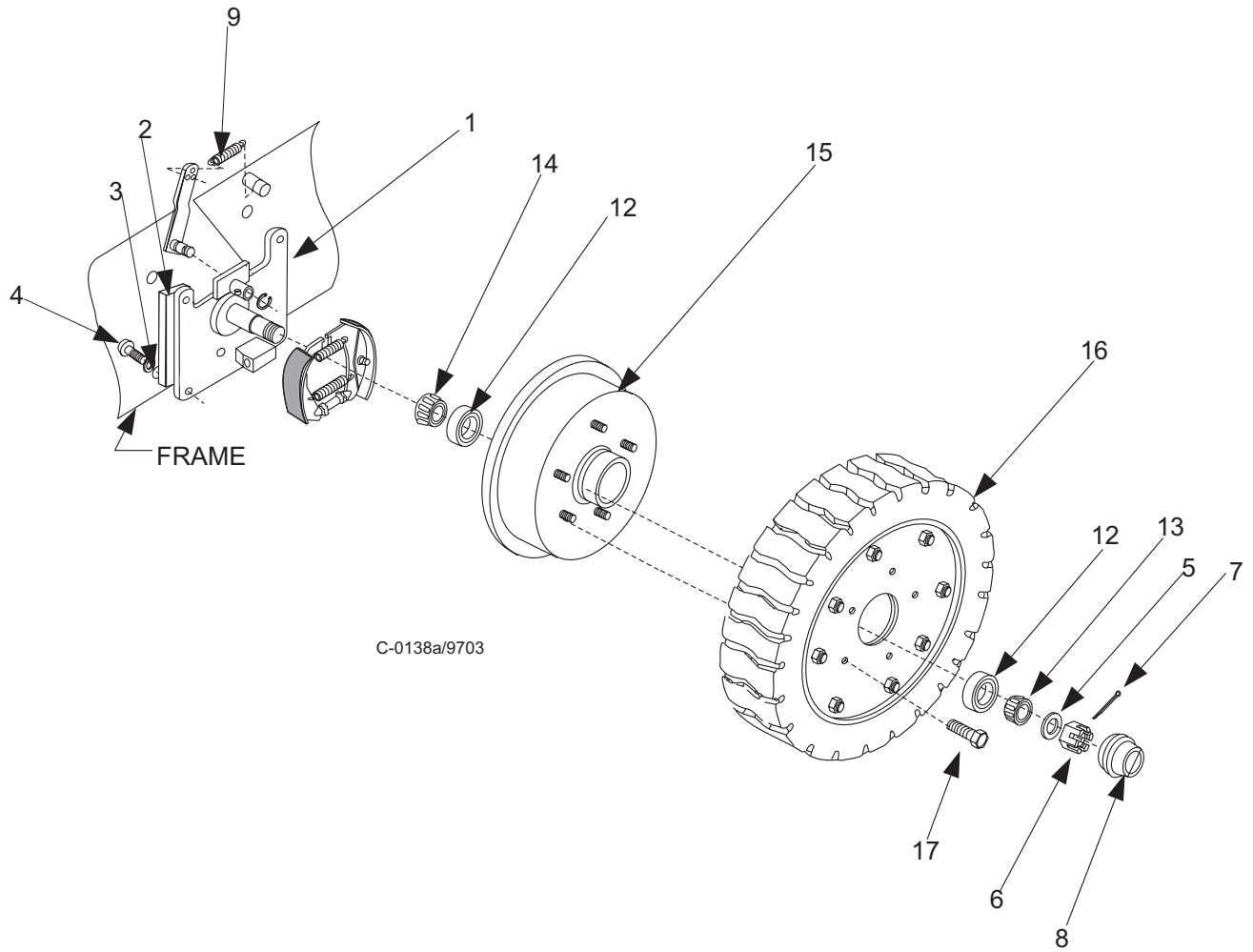
---

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	0860-703	Front Wheel Axle	2
2	8-75-01216	Spacer	4
3	2-00-02312	Lockwasher - 1/2	8
4	2-00-02693	Screw - 1/2 - 20 x 2.00 SHCS	8
5	2-00-05024	Thrust Washer	2
6	2-00-05026	Axle Nut	2
7	2-00-02436	Cotter Oin 3/16 x 1 3/4	2
8	8-11-00030	Cap - Front Axle	2
9	8-76-00042	Spring	2
10			
11			
12	2-00-04621	Bearing - Cup	4
13	2-00-04622	Bearing Cone	2
14	2-00-02079	Bearing Cone (sealed)	2
15	8-33-09089	Hub - Front Wheel	2
16	8-89-08054	Front Wheel (215 Pneumatic Demount)	2
*	8-85-06022	Tire- 6.00 x 9 Pneumatic	
*	8-70-00086	Flap-Pneumatic 9.00 x 6.7 Pneumatic	
*	8-70-00087	Tube-Inner 6.00 x 9 Pneumatic	
*	8-70-00081	Rim Assembly	
17	8-80-05035	Stud - 1/2 -20 w/Tapered Head	10

·Service Parts

C-0138a/9703

# BRAKE & FRONT WHEEL ASSEMBLY - EXPLODED VIEW



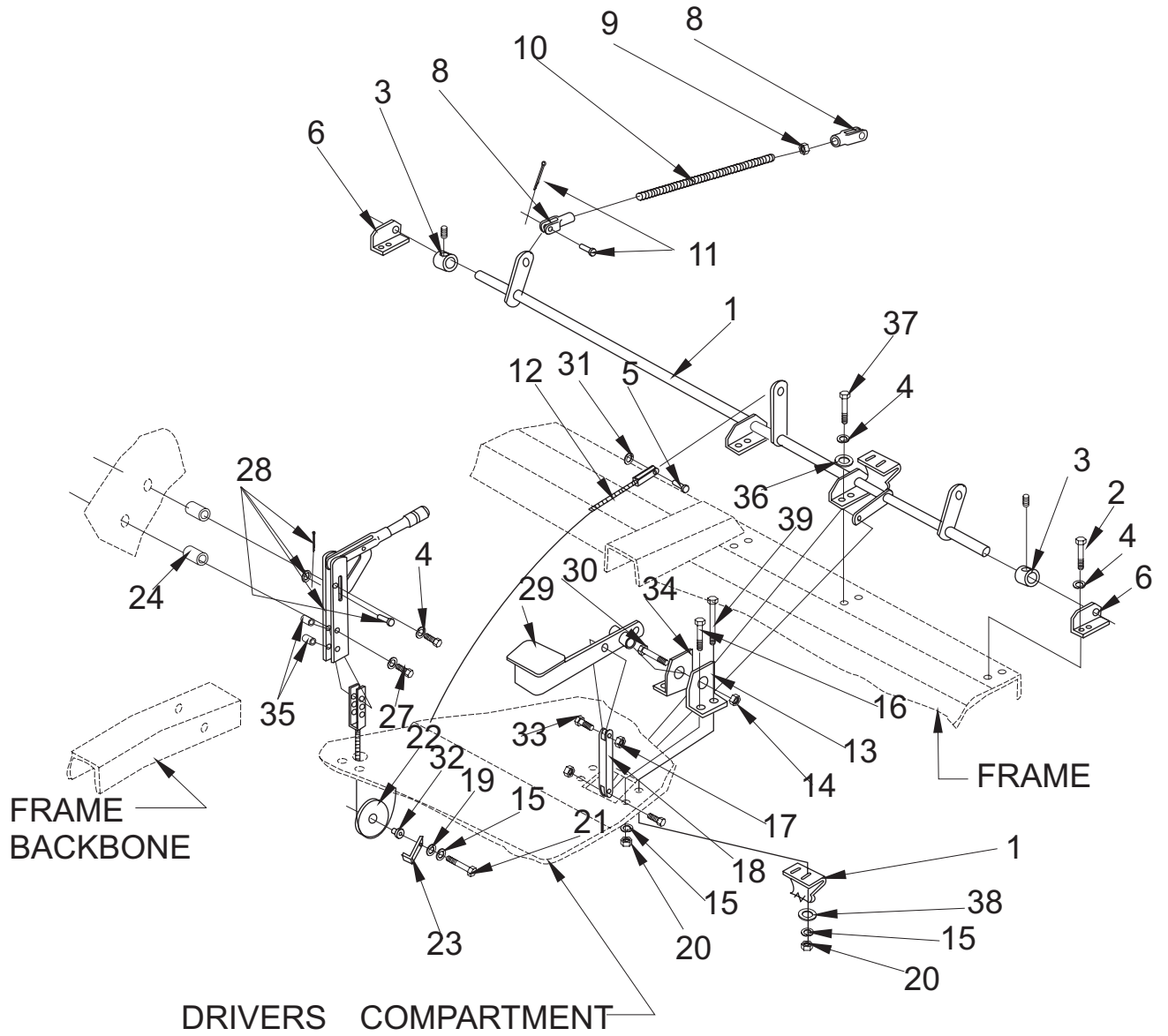
## BRAKE CONTROL LINKAGE - PARTS LIST

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-70-05288	Brake Pedal Pivot Shaft	1
2	2-00-00213	Screw, 5/16 - 18 x .625 HHC	8
3	8-15-01003	Setscrew Collar, 1.125 x .750 x .562	2
4	2-00-00530	Lock Washer, Helical Spring 5/16 Med	10
5	2-00-00206	Screw, 5/16-18 x .750 HHC	1
6	8-08-00571	Pivot Shaft Bracket	2
7	2-00-00518	Lock Washer, Helical Spring 1/4 Med	1
8	8-14-01006	Clevis	4
9	2-95-01999	Nut, Hex Jam 1/4 - 28 x .437 x .156	2
10	8-66-00154	Pull Rod	2
11	2-00-04909	Yoke Pin Assembly	4
12	8-10-00032	Parking Cable	1
13	8-08-00756	Brake Pedal Bracket (Right Hand)	1
14	2-00-04936	Nut, Hex Fiber Insert 1/2 - 13	1
15	2-00-02310	Lock Washer, Helical Spring 3/8 Med	5
16	2-00-00232	Screw, 3/8 - 16 x .750 HHC	2
17	2-95-04182	Nut, Hex Fiber Insert 3/8 - 16	2
18	8-42-05126	Brake Linkage Weldment	1
19	2-00-00402	Flat Washer, .750 x .390 x .093	1
20	2-00-02360	Nut, Hex 3/8 - 16 x .562 x .328	4
21	2-00-00234	Screw, 3/8 - 16 x 1.500 HHC	1
22	8-60-00140	Pulley	1
23	8-08-00436	Pulley Bracket	1
24	8-75-01184	Spacer, Lever Mounting	2
25			
26			
27	2-00-00228	Screw, 5/16 - 18 x 2.500 HHC	2
28	7-41-05083	Parking Brake Lever	1
29	7-55-00011	Brake Pedal	1
30	2-00-02682	Screw, 1/2 - 13 x 2.750 HHC	1
31	2-00-00644	Nut, 5/16-18, Fiber Lock	1
32	8-09-01065	Pulley Bushing	1
33	2-00-00233	Screw, 3/8 - 16 x 1.000 HHC	2
34	8-08-00755	Brake Pedal Bracket (Left Hand)	1
35	7-75-01126	Spacer, .500 x .327 x .780 (Part of #28)	2
36	2-00-00409	Flat Washer, .687 x .343 x .0625	2
37	2-00-01255	Screw, 5/16-18 x .875 HHC	2
38	2-00-04801	Flat Washer, .875 x .390 x .093	2
39	2-00-00209	Screw, 3/8 - 16 x 1.250 HHC	

P-4593/9512



# BRAKE CONTROL LINKAGE - EXPLODED VIEW



P-4593/9512

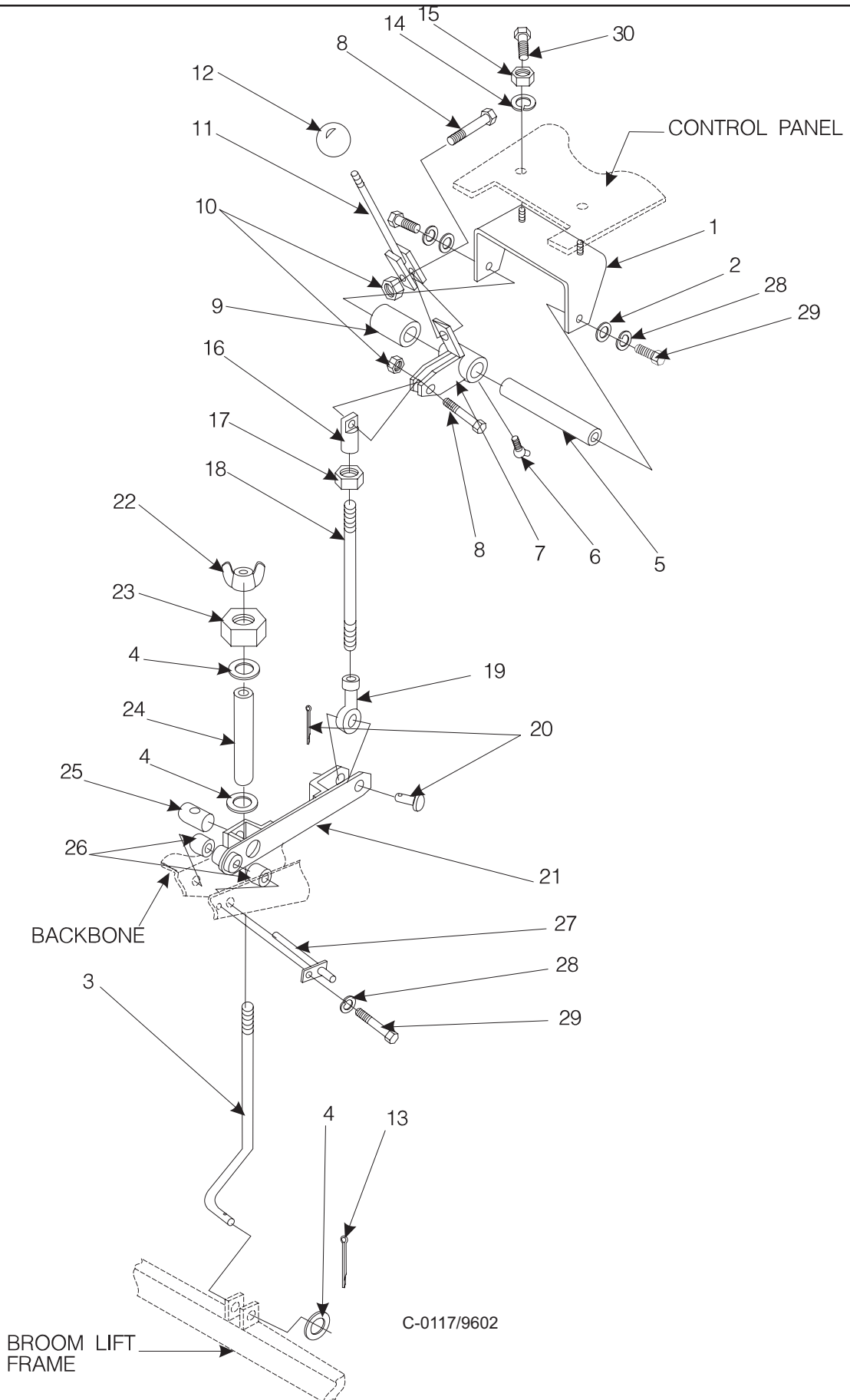
## MAIN BROOM LIFT MECHANISM - PARTS LIST

---

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-08-00645	Main Broom Pivot Bracket	1
2			
3	8-66-00161	Rod - Linkage (Main Broom)	1
4	2-00-00432	Flat Washer, 3/4 I.D.	3
5	8-70-05284	Shaft	1
6	2-00-02558	Lubrication Fitting, 45° 1/8 NPT	1
7	8-16-00035	Pivot Block	1
8	2-00-00234	Screw, 3/8 - 16 x 1.500 HHC	2
9	8-75-01177	Pivot Tube Spacer	1
10	2-95-04182	Nut, Hex Fiber Insert 3/8 - 16	2
11	8-16-00034	Lever	1
12	8-39-00003	Knob	1
13	2-00-02436	Cotter Pin, 1.500 x 1.875	1
14	2-00-00530	Lock Washer, Helical Spring 5/16 Med	2
15	2-00-00585	Nut, Hex 5/16 - 18 x .500 x .265	1
16	8-66-00141	Rod End	1
17	2-00-00591	Nut, Hex Jam 1/2 - 20 x .750 x .312	1
18	8-66-00150	Control Rod Lift Linkage Rod	1
19	8-66-00144	"MPB" Rod End # WF-8-32	1
20	8-55-08101	Clevis Pin # 1/2 - 1 3/4 - E&E	1
21	8-16-00037	Lift Linkage	1
22	2-00-04891	Wing Nut, 3/4 - 10 Thread	1
23	8-39-00011	Torque Knob	1
24	8-75-01180	Spacer	1
25	8-55-08099	Pivot Pin	1
26	8-75-01178	Spacer, .78 x .97	2
27	8-16-00038	Pivot Shaft	1
28	2-00-00518	Lock Washer, Helical Spring 1/4 Med	3
29	2-00-00221	Screw, 1/4 - 20 x .750 HHC	3
30	2-00-00208	Screw, 5/16 - 18 x .750	2

C-0117/9602

# MAIN BROOM LIFT MECHANISM - EXPLODED VIEW



C-0117/9602

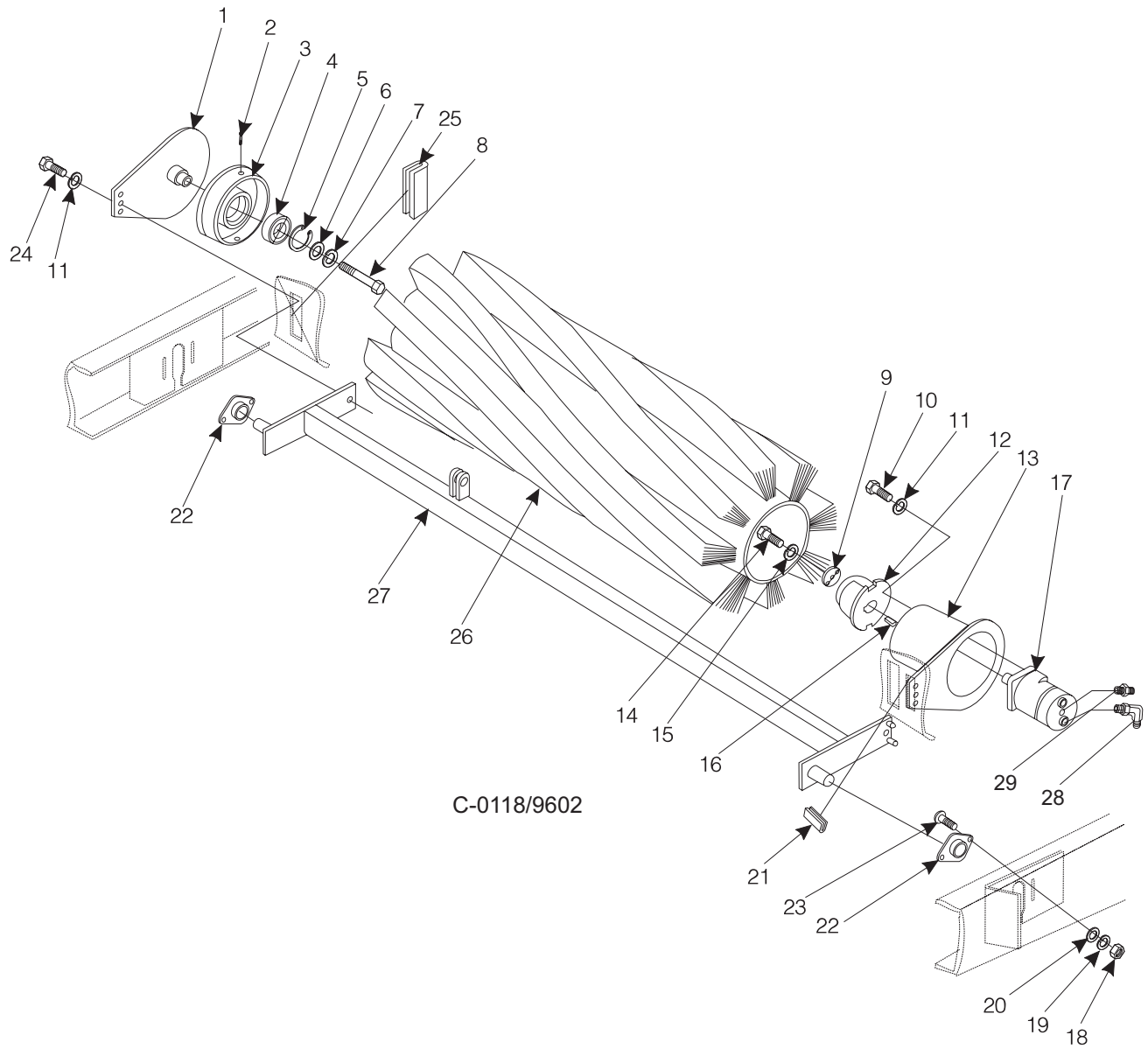
## MAIN BROOM - PARTS LIST

---

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-16-00039	Broom Arm Weldment	1
2	2-00-04886	Screw, 3/8 - 16 x .500 HSHC	2
3	8-33-09090	Idler - Main Broom	1
4	2-00-04889	Ball Bearing	1
5	2-00-04890	Retaining Ring, 2.437 Int.	1
6	8-75-01157	Flat Washer, 3/4 (Series W)	1
7	2-00-00522	Lock Washer, Helical Spring 3/4 Light	1
8	2-00-04887	Screw, 3/4 - 10 x 1.250 HHC	1
9	8-58-05160	Locking Hub Plate	1
10	2-00-00232	Screw, 3/8 - 16 x .750 HHC	4
11	2-00-02310	Lock Washer, Helical Spring 3/8 Med	6
12	8-33-09046-1	Drive Hub	1
13	8-16-00041	Drive Broom Arm	1
14	2-00-03039	Screw, 1/4 - 20 x .625 HSHC	3
15	2-00-00518	Lock Washer, Helical Spring 1/4 Med	6
16	2-00-03838	Woodruff Key, .25 x 1 (#15)	1
17	0882-040	Hydraulic Motor	Ref
18	2-00-00585	Nut, Hex 5/16 - 18 x .500 x .265	4
19	2-00-00530	Lock Washer, Helical Spring 5/16 Med	4
20	2-00-00409	Flat Washer, .687 x .343 x .062	4
21	8-21-04048	Edging	2
22	2-00-03997	Flange Bearing, 3.750 x 1.000	2
23	2-00-00196	Carriage Bolt, 5/16 - 18 x 1.000	4
24	2-00-00233	Screw, 3/8-16 x 1.000 HHC	2
25	8-29-00220	Broom Chamber Gasket	4
26		See Page 155 for Broom Options	-
27	8-03-04281	Main Broom Lift Frame	1
28	2-00-04885	Elbow Fitting - 90° St. Thd.	1
29	2-00-04895	Straight Fitting - SAE #4 to ORS #4	1

C-0118/9602

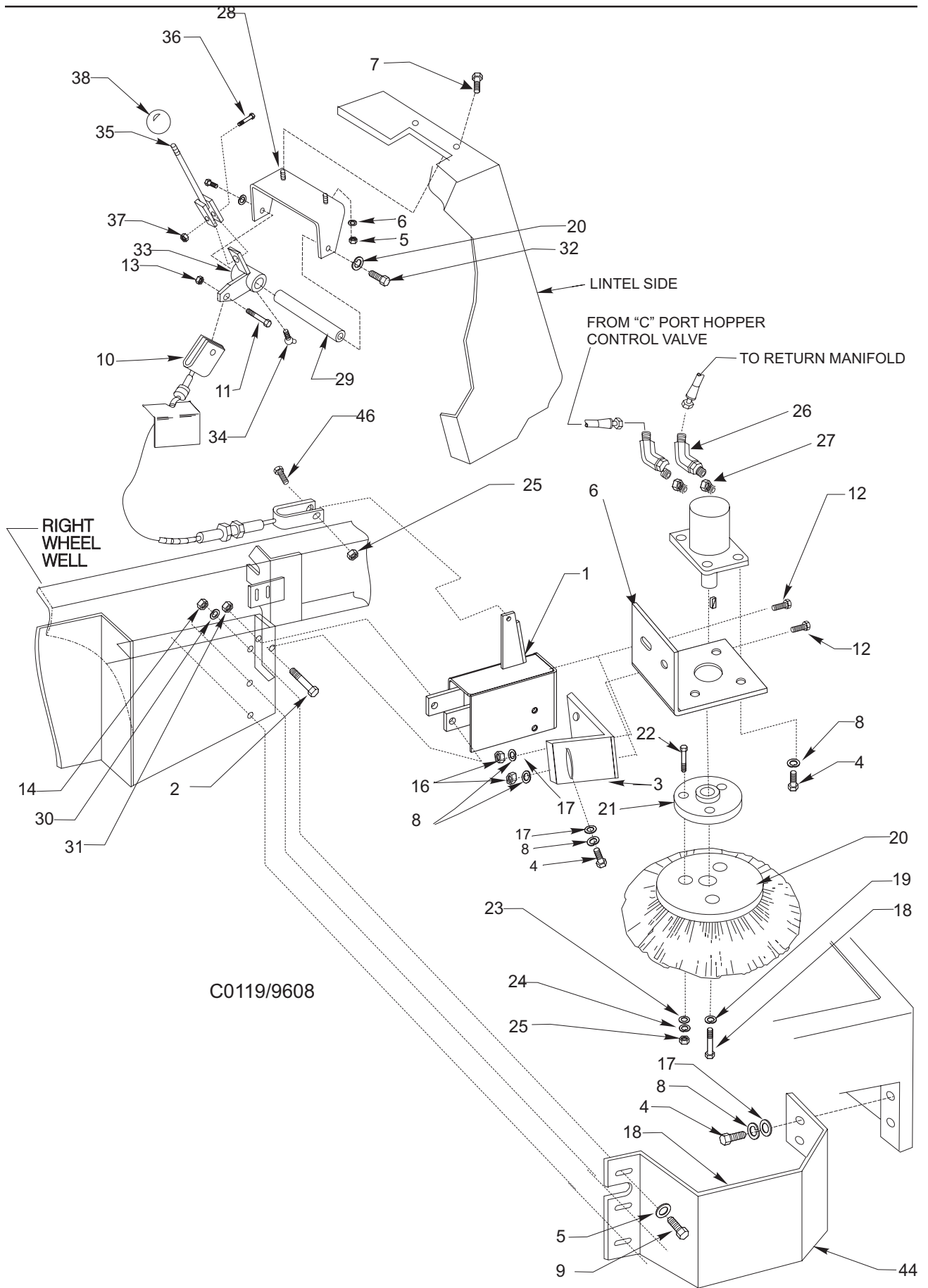
# MAIN BROOM - EXPLODED VIEW



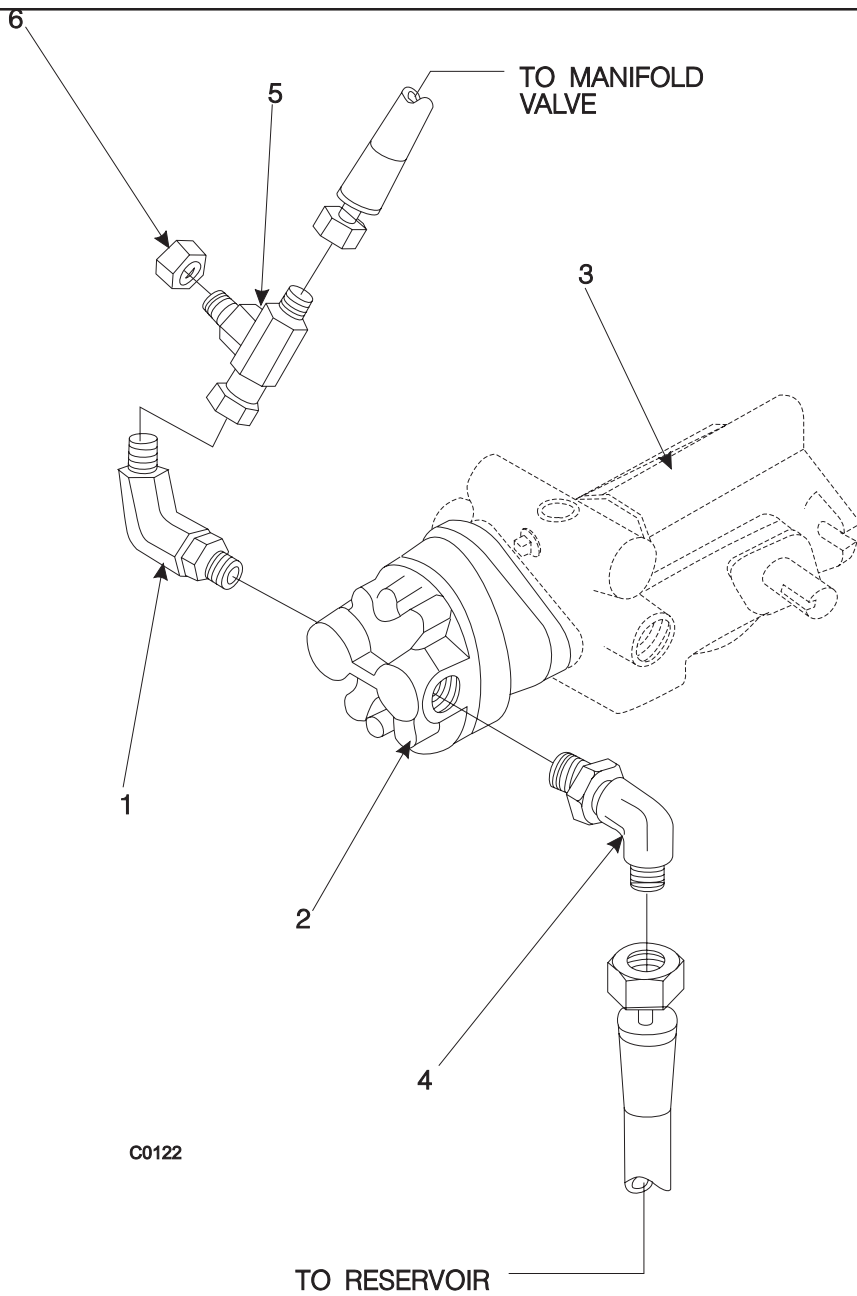
## SIDE BROOM - PARTS LIST

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-03-04282	Side Broom Arm (R.H.)	1
2	2-00-04914	Screw, 1/2 - 13 x 4.250 HHC	1
3	8-08-00725	Side Broom Adjustment Bracket	1
4	2-00-00233	Screw, 3/8 - 16 x 1.000 HHC	9
5	2-00-04159	Flat Washer, 1.375 x .562 x .109	3
6	8-08-00726	Motor Mounting Bracket	1
7	2-00-00208	Screw, 5/16 - 18 x .750 HHC	2
8	2-00-02310	Lock Washer, Helical Spring 3/8 Med	9
9	2-00-00241	Screw, 1/2-13 x 1.750 HHC	3
10	8-10-00028	Cable, R.H. Side Broom	1
11	2-00-02708	Screw, 5/16 - 18 x 1.000 HHC	1
12	2-00-00209	Screw, 3/8-16 x 1.250 HHC	1
13	2-00-00644	Nut, Hex Fiber Insert 5/16 - 18	2
14	2-00-04936	Nut, Hex fiber Insert 1/2-13	2
15	0882-047	Side Broom Motor	1
15a	2-00-00722	Woodruff Key, .250 x 1.000 (#15)	Ref.
16	2-00-00584	Nut - 3/8-16 Hex	2
17	2-00-04801	Flat Washer, 3/8	6
18	2-00-01490	Screw, 1/4 - 20 x .875 HHC	1
19	2-00-00518	Lock Washer, Helical Spring 1/4 Med	3
20	8-08-03211	Side Broom, Nylon	1
21	8-25-06008	Side Broom Flange	1
22	2-00-00218	Screw - 5/16-18 x 2.00	3
23	2-00-00409	Flat Washer, .687 x .343 x .062	3
24	2-00-00530	Lock Washer, Helical Spring 5/16 Med	5
25	2-00-00585	Nut, Hex 5/16 - 18 x .500 x .265	5
26	2-00-04926	Fitting - 90° Elbow	2
27	2-00-04915	Reducer Fitting	1
39	2-00-00584	Nut, Hex 3/8-16	2
28	8-08-00646	Side Broom Pivot Bracket	1
29	8-70-05285	Shaft - Broom Pivot R.H.	1
30	2-00-02312	Lock Washer, 1/2 I.D.	3
31	2-00-00596	Nut, 1/2 - 13 Hex	3
32	2-00-00221	Screw, 1/4 - 20 x .750 HHC	2
33	8-57-05021	Pivot Block (Side Broom)	1
34	2-00-02558	Lubrication Fitting, 45° 1/8 NPT	1
35	8-16-00034	Lever	1
36	2-00-00234	Screw, 3/8 - 16 x 1.500 HHC	1
37	2-95-04182	Nut, Hex Fiber Insert 3/8 - 16	1
38	8-39-00003	Knob	1
39			
40			
41			
42			
43			
44	8-30-05166	Side Broom Guard	1
45			
46	2-00-00207	Screw, 5/16-18 x 1.250 HHC	1

# SIDE BROOM - EXPLODED VIEW



# AUXILIARY PUMP & FITTINGS

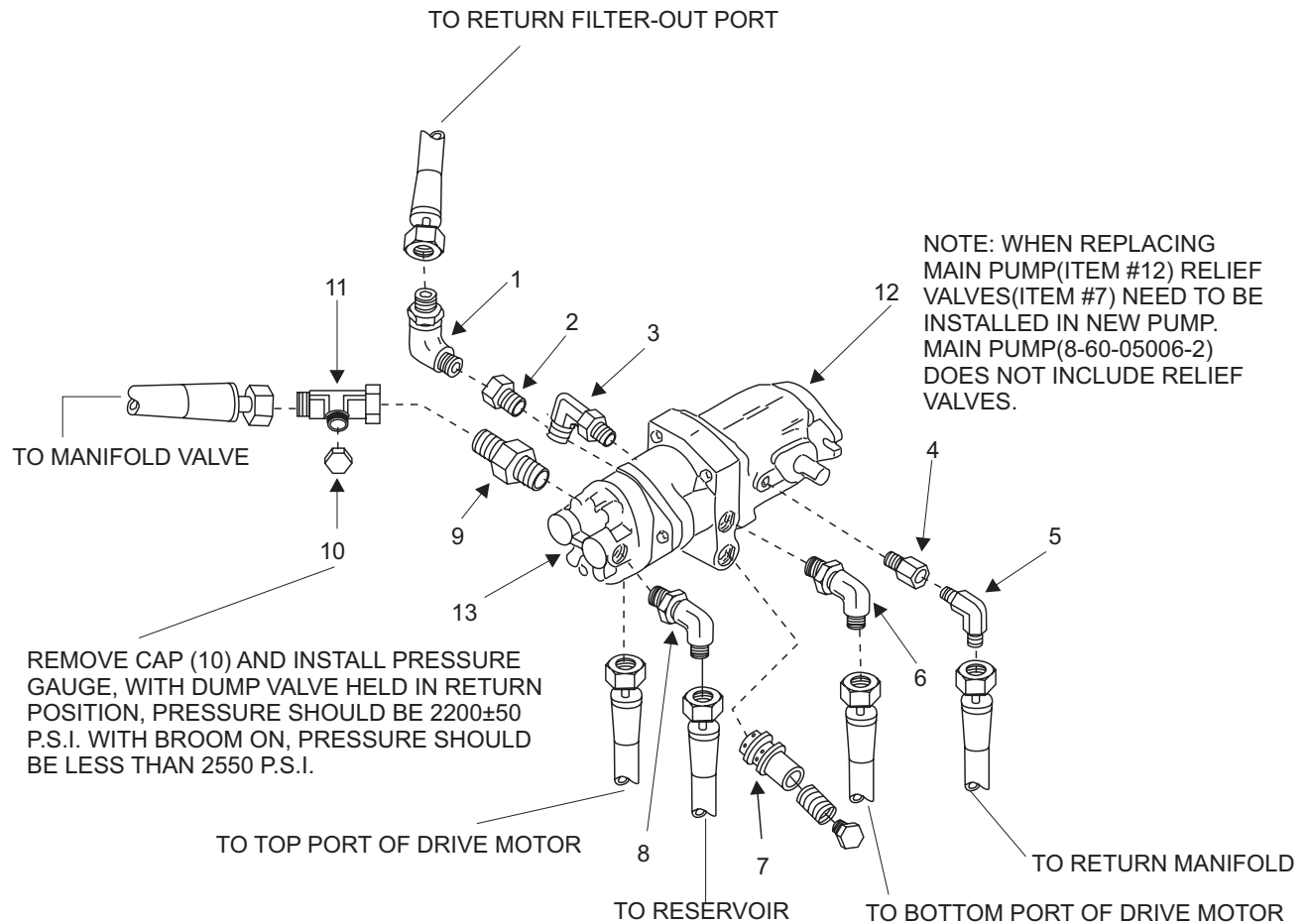


<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	2-00-04974	Fitting, Straight	1
2	8-60-05022	Auxiliary Pump	1
NS	0880-404	Pump Assembly Kit	1
3	8-60-05006-2	Main Pump	1
4	2-00-04920	ORFS 90° Elbow, 1 5/16-12 to 1 3/16-12	1
5	2-00-04928	ORFS Run Tee, 13/16-16	1
6	2-00-04957	ORFS Cap, #8 ORS	1

C0122



## MAIN PUMP & FITTINGS



C0114/9710

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	2-00-04926	ORFS 90° Elbow 9/16-18	1
2	2-00-04932	ORFS Boss Reducer, 3/4-16 x 9/16-18	1
3	2-00-04922	ORFS 90° Elbow, 1 1/16-12 to 13/16-16	2
4	2-00-04917	ORFS Boss Reducer, 9/16-18 to 7/16-20	1
5	2-00-04892	Fitting, 90° Elbow	1
6	2-00-04920	Fitting, 90° Elbow	1
7	8-88-00065	Relief Valve Kit	2
8	2-00-04920	Fitting, 90° Elbow	1
9	2-00-04974	Fitting Straight	1
10	2-00-04957	Fitting Cap	1
11	2-00-04928	Fitting Tee	1
12	8-60-05006-2	Main Pump	1
13	8-60-05022	Auxiliary Pump	1
NS	0880-404	Pump Assembly Kit	1

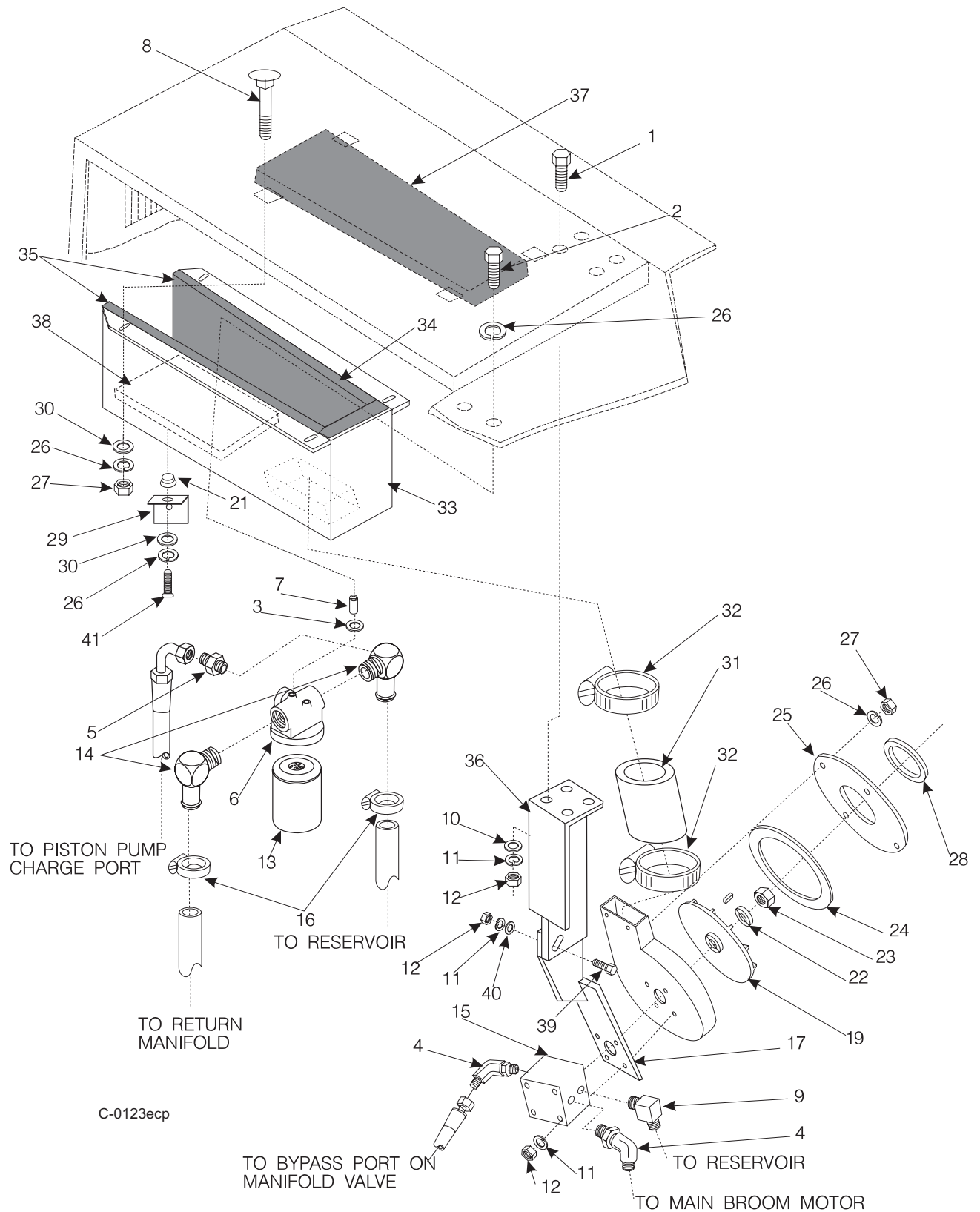
C-0114/9710

## IMPELLER & FITTINGS - PARTS LIST

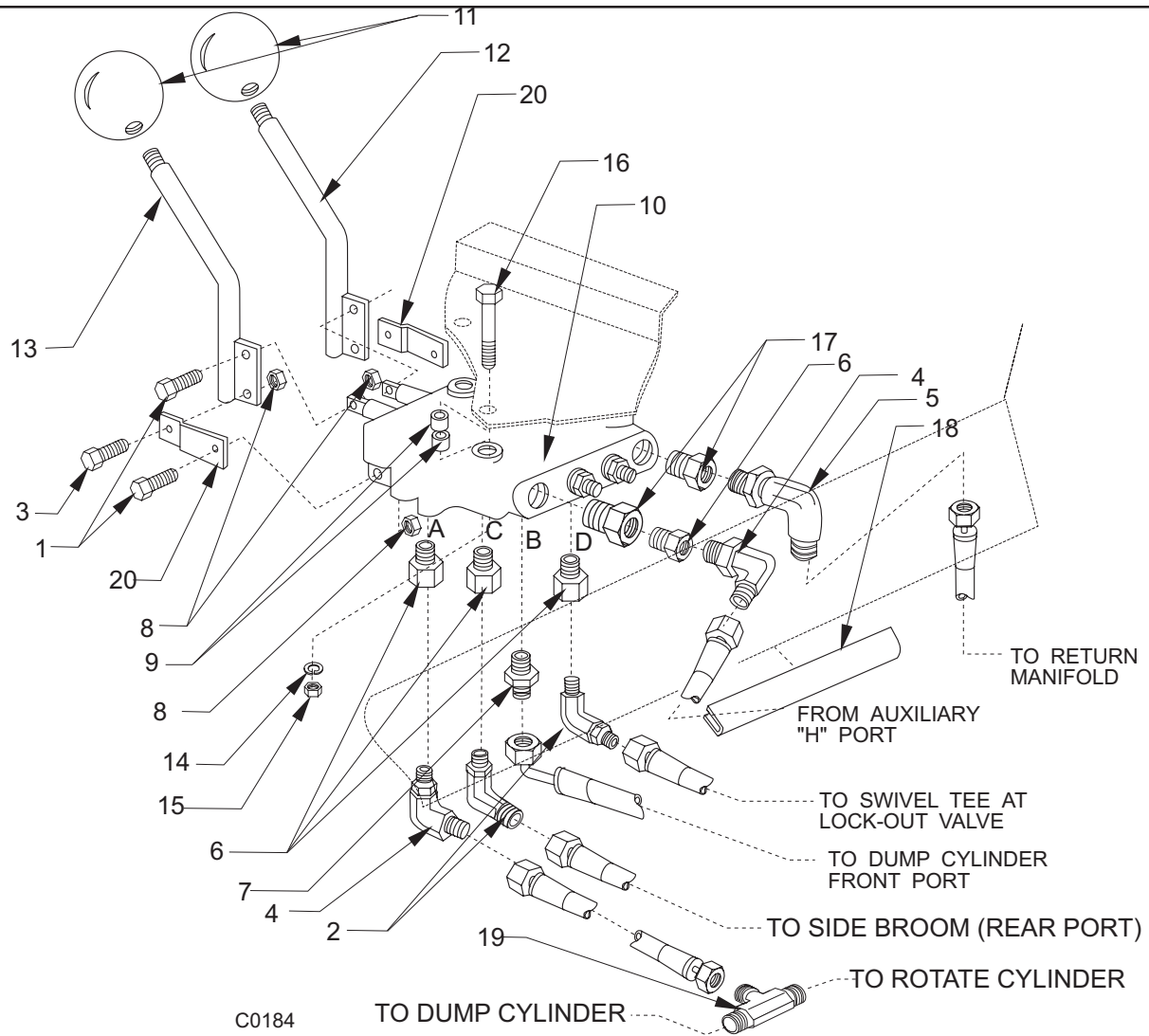
<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	2-00-02708	Screw, 5/16 - 18 x 1.000 HHM	4
2	8-56-05077	Fitting, Special 90° Elbow	1
3	2-00-01676	Flat Washer, 1.062 x .265 x .062	2
4	2-00-04885	ORFS 90° Elbow, (Modified)	1
5	2-00-04997	Fitting	1
6	8-24-04133	Return Filter	1
7	8-75-01181	Spacer	2
8	2-00-03575	Carriage Bolt, 1/4-20 x .750	4
9	2-00-04976	Fitting	1
10	2-00-00409	Flat Washer, .687 x .343 x .062	10
11	2-00-00530	Lock Washer, Helical Spring 5/16 Med	10
12	2-00-00585	Nut, 5/16 - 18 x .50 x .265 Hex	10
13	8-24-04118	Replacement Filter Element	1
14	2-00-05133	Elbow	4
15	0882-041	Hydraulic Motor	1
	7-70-00020	Seal Kit for Hydraulic Motor 0882-041	1
	2-00-02227	Key, .125 x .750 SQ	1
16	2-00-02220	Clamp, Hose	2
17	8-03-04289	Bracket, Lower Impeller	1
18	8-72-00005	Impeller Shroud	1
19	8-23-00012	Impeller	1
20	2-00-00252	Screw, 5/16 - 18 x 4.000 HHC	4
21*	2-00-05061	Insert, 1/4-20	1
22	2-00-00484	Flat Washer, .625 x .375 x .046	1
23	2-00-00632	Nut, 3/8-24 Fiber Insert Hex	1
24	8-29-00111	Gasket, Shroud	1
25	8-20-06028	Blower Throat Duct	1
26	2-00-00518	Lock Washer, Helical Spring 1/4 Med	9
27	2-00-00594	Nut, Hex 1/4 - 20 x .437 x .218	8
28	8-29-00183	Gasket	1
29*	8-08-00834	Bracket	1
30	2-00-03702	Flat Washer, .625 x .281 x .062	11
31	8-33-02271	Hose, Blower Exhaust	1
32	2-00-03454	Band Clamp 5 1/8-6	2
33	8-07-06020	Blower Exhaust Box Duct	1
34	8-34-09009	Insulation, Side	1
35	8-34-09007	Insulation, Front	2
36	8-03-04290	Bracket, Upper Impeller	1
37	8-34-09006	Insulation, Blower Box (Top)	1
38	8-34-09005	Insulation, Blower Box (Bottom)	1
39	2-00-00196	Carriage Bolt, 5/16 - 18 x 1.000	2
40	2-00-01803	Flat Washer, 5/16	2
41*	2-00-00220	Screw, 1/4-20 x .63	1

\*GAS & LP ONLY

# IMPELLER & FITTINGS - EXPLODED VIEW



# CONTROL VALVE & FITTINGS (VARIABLE DUMP)

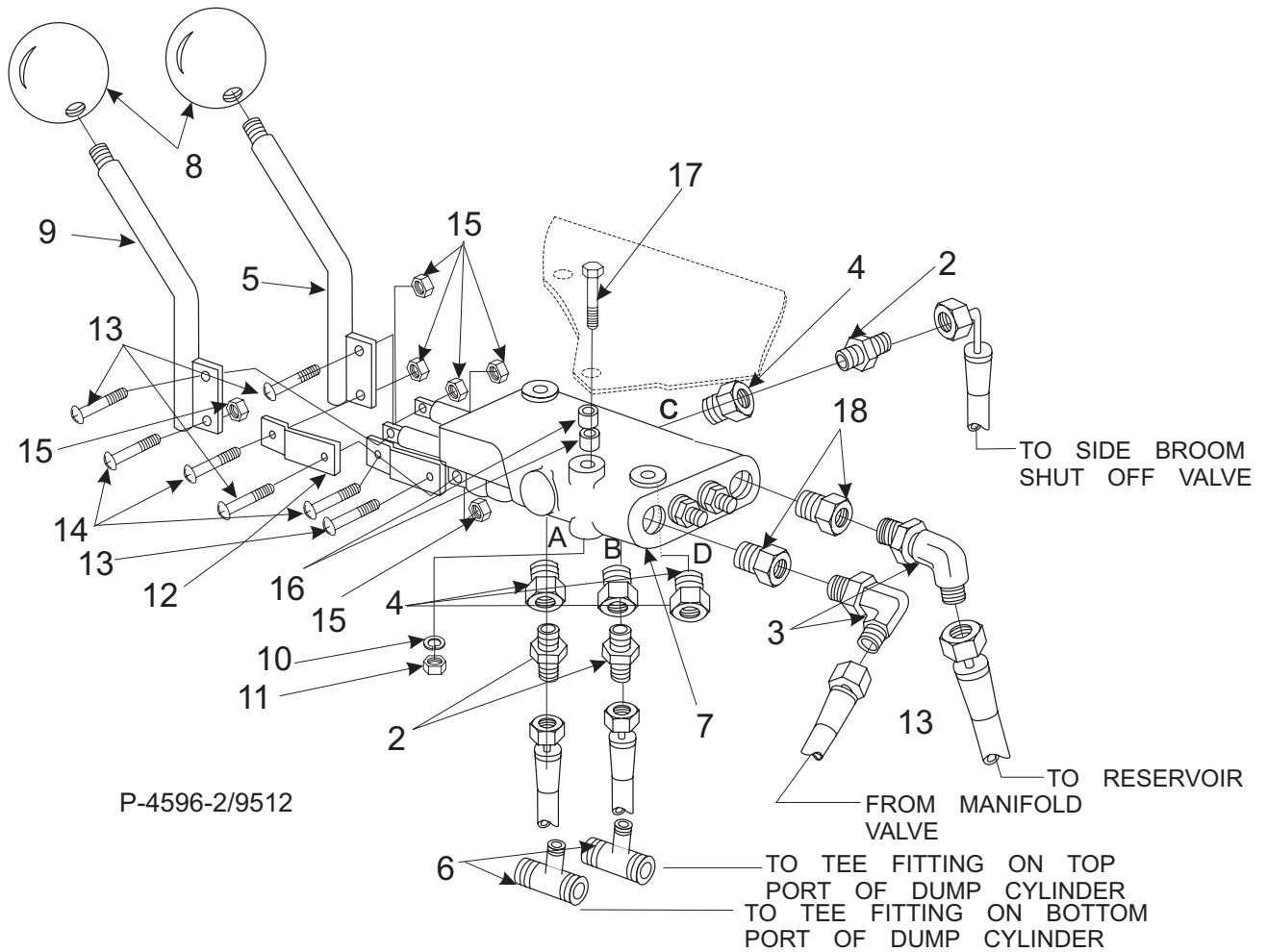


C0184

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	2-00-04795	Screw, #10-24 x .750 BLTS	4
2	2-00-04976	45° Elbow, #4 SAE to #4 ORS	2
3	2-00-05162	Swivel Tee, #4 ORS	1
4	2-00-04892	ORFS 90° Elbow, #4 SAE to #4 ORS	2
5	2-00-04926	90° Elbow, #6 SAE to #4 ORS	1
6	2-00-04917	ORFS Boss Reducer, #6 SAE to #4 SAE	5
7	2-00-04918	ORFS Connector, #6 SAE to #4 ORS	2
8	2-00-01246	Nut, Hex Fiber Insert #10-24	6
9	8-15-01008	Spacer	4
10	8-88-00058	Hopper Control Valve	1
11	8-39-00002	Valve Lever Knob	2
12	8-41-05066	Control Valve Lever (L.H.)	1
13	8-41-05068	Control Valve Lever (R.H.)	1
14	2-00-00518	Lock Washer, Helical Spring 1/4 Med	2
15	2-00-00594	Nut, Hex 1/4 - 20 x .437 x .218	2
16	2-00-01980	Screw, 1/4-20 x 2.500 HHC	2
17	2-00-04932	Reducer, #8 SAE - #6 SAE	2
18	7-21-04031	Edging	1
19	2-00-04930	Fitting, Tee	1
20	8-41-05067	Linkage	2

C-0184/9512

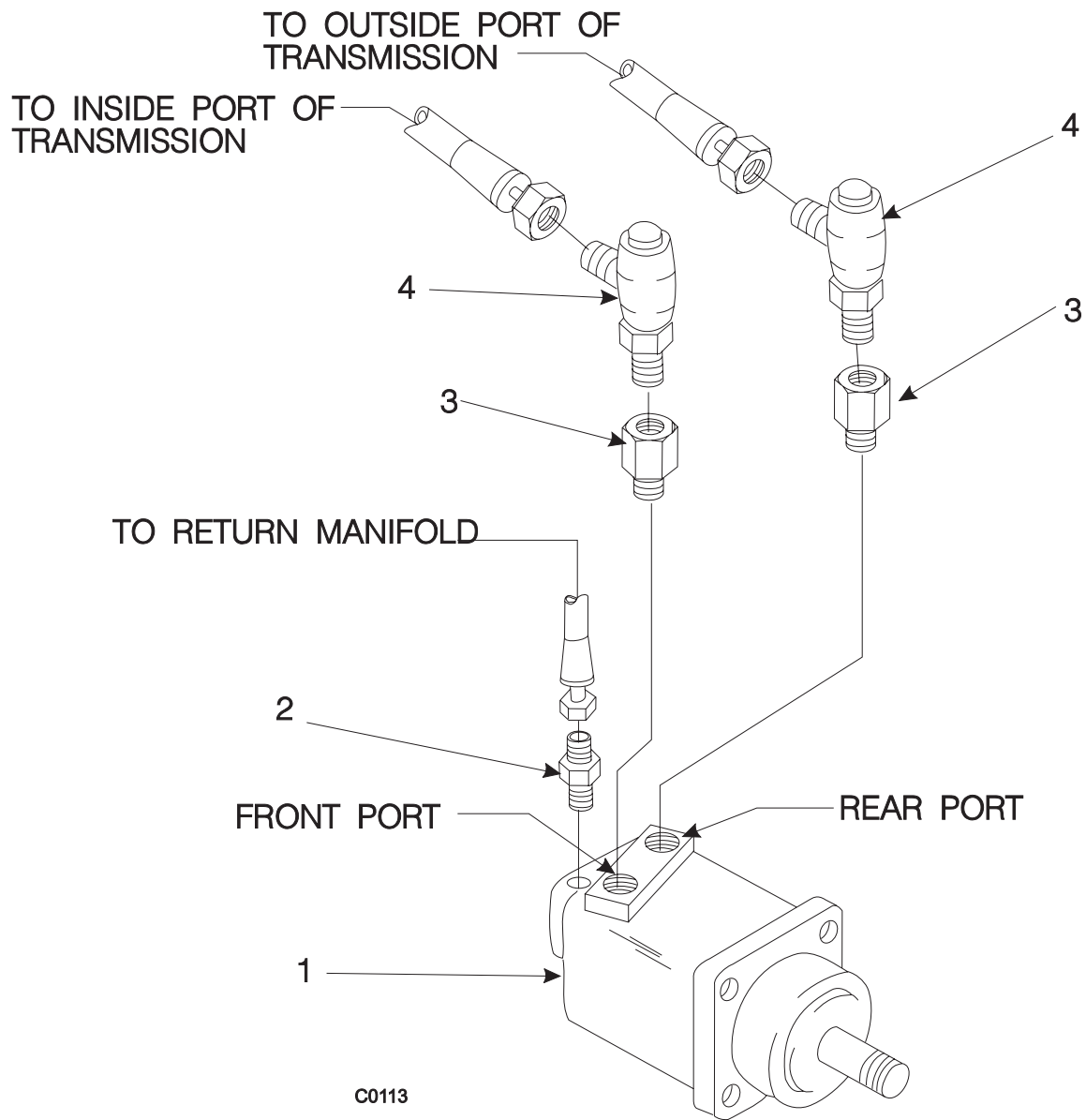
## CONTROL VALVE & FITTINGS (LOW DUMP)



<b>KEY NO.</b>	<b>PART NUMBER</b>	<b>DESCRIPTION</b>	<b>QTY</b>
2	2-00-04976	Fitting 45° Elbow #4 SAE - #4 ORS	3
3	2-00-04926	Fitting 90° Elbow #6 SAE - #4 ORS	2
4	2-00-04917	Reducer #6 SAE	3
5	8-41-05066	Lever - L.H.	1
6	2-00-04930	Tee - #4 ORS	2
7	8-88-00058	Hopper Control Valve	1
8	8-39-00002	Knob	2
9	8-41-05068	Lever - R.H.	1
10	2-00-00518	Lock Washer - 1/4 Helical Spring	2
11	2-00-00594	Nut, Hex 1/4 - 20 x .437 x .218	2
12	8-41-05067	Linkage	2
13	2-00-04795	Screw, #10 - 24 x .750 BHS	4
14	2-00-04794	Screw, #10 - 24 x .625 BHS	2
15	2-00-01246	Nut, Hex Fiber Insert #10 - 24	6
16	8-15-01008	Spacer	4
17	2-00-01980	Screw, 1/4 - 20 x 2.500 HHC	2
18	2-00-04932	Reducer, #8 SAE - #6 SAE	2

P-4596-2/9512

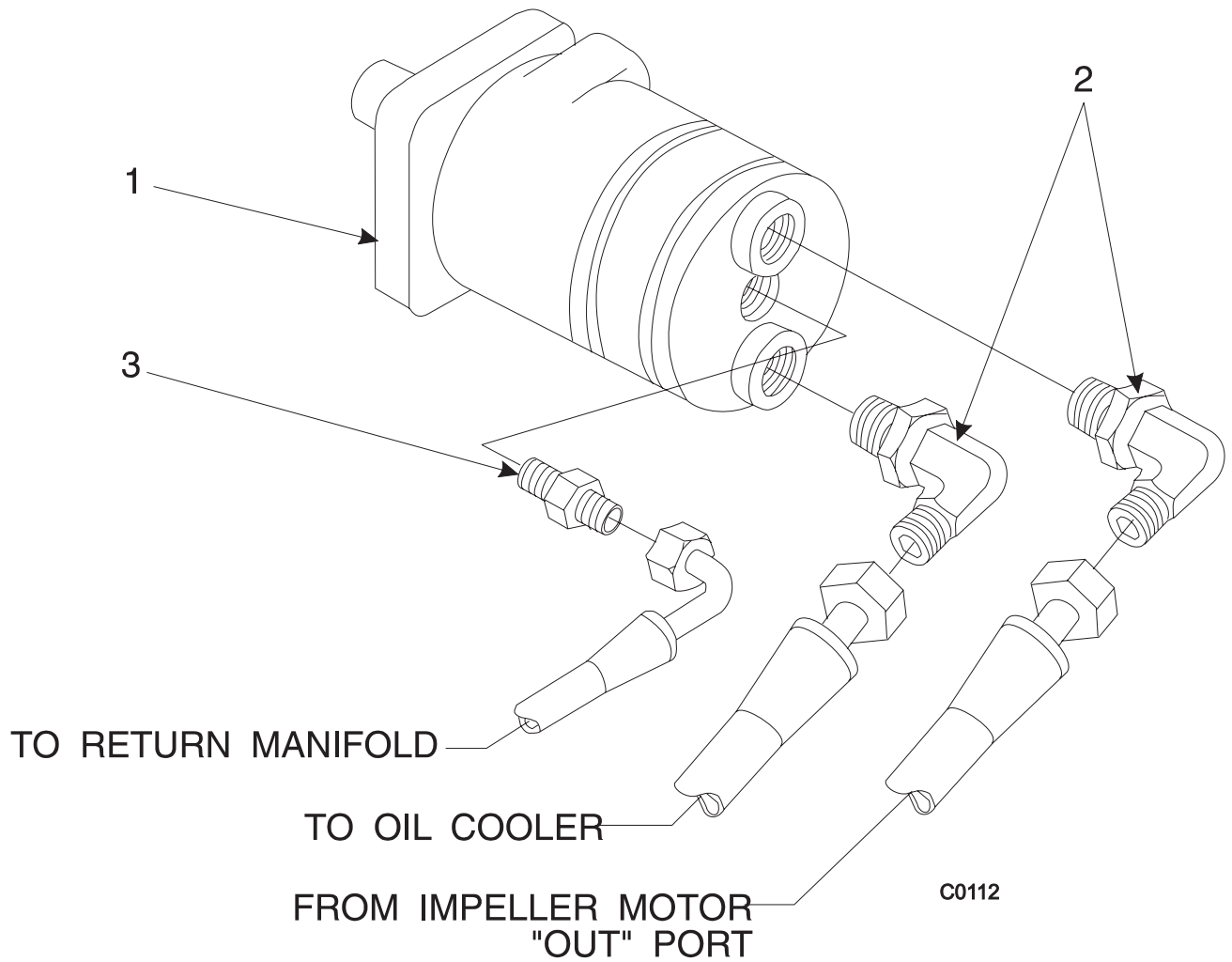
# REAR DRIVE MOTOR & FITTINGS



KEY NO.	PART NUMBER	DESCRIPTION	QTY
1	0885-054-1	Hydraulic Motor	1
NS	0880-238	Motor Seal Kit	1
NS	0880-237	Shaft Seal Kit	1
2	2-00-04976	Fitting	1
3	8-03-02036	Adapter	2
4	2-00-05358	Swivel Fitting	2

C-0113

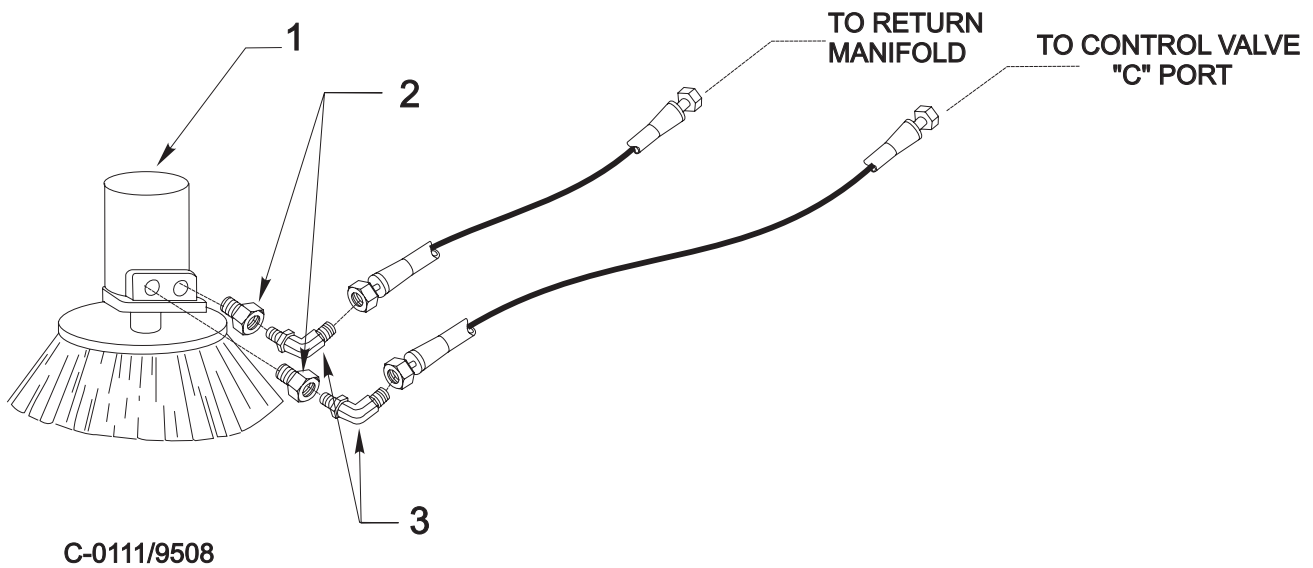
**MAIN BROOM MOTOR & FITTINGS**



<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	0882-040	Hydraulic Motor	1
NS	0880-448	Motor Seal Kit	1
2	2-00-04885	ORFS 90° Elbow, 3/4-16 to 13/16-16	2
3	2-00-04895	ORFS Connector, 7/16-20 to 9/16-18	1

C-0112

# SIDE BROOM MOTOR & FITTINGS

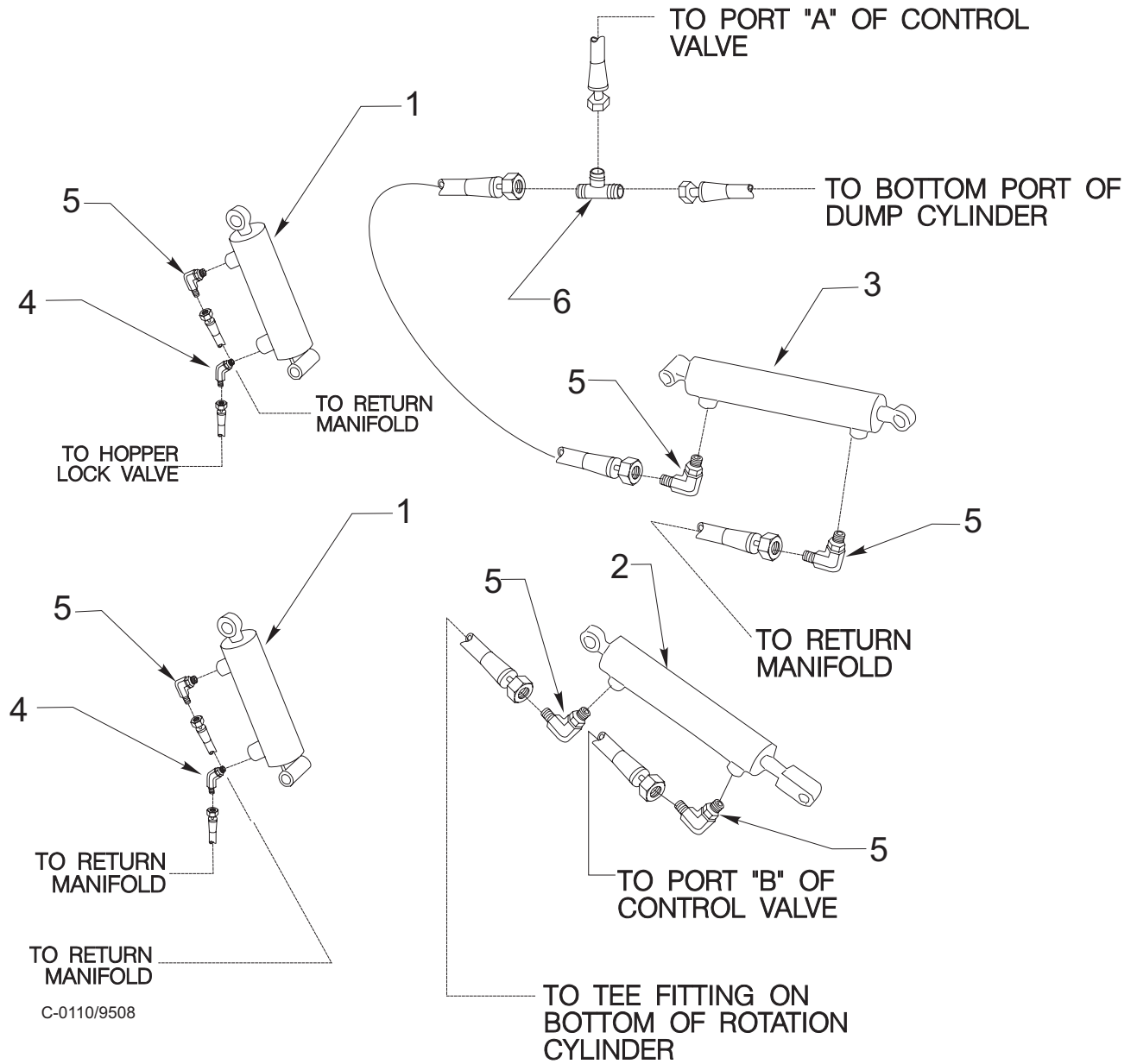


<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	0882-047	Hydraulic Motor	1
NS	0880-448	Motor Seal Kit	1
2	2-00-04915	ORFS Boss Reducer, 7/8-14 to 9/16-18	2
3	2-00-04926	ORFS 90° Elbow, 9/16-18	4
4	0891-008	Side Broom Shut-Off Valve	1
5	2-00-04940	ORFS Swivel Nut Branch Tee, #4 ORS	2
6	7-12-02015	Cartridge for Shut-Off Valve	1

C-0111



## LIFT, ROTATION & DUMP CYLINDERS W/ FITTINGS (VARIABLE DUMP)



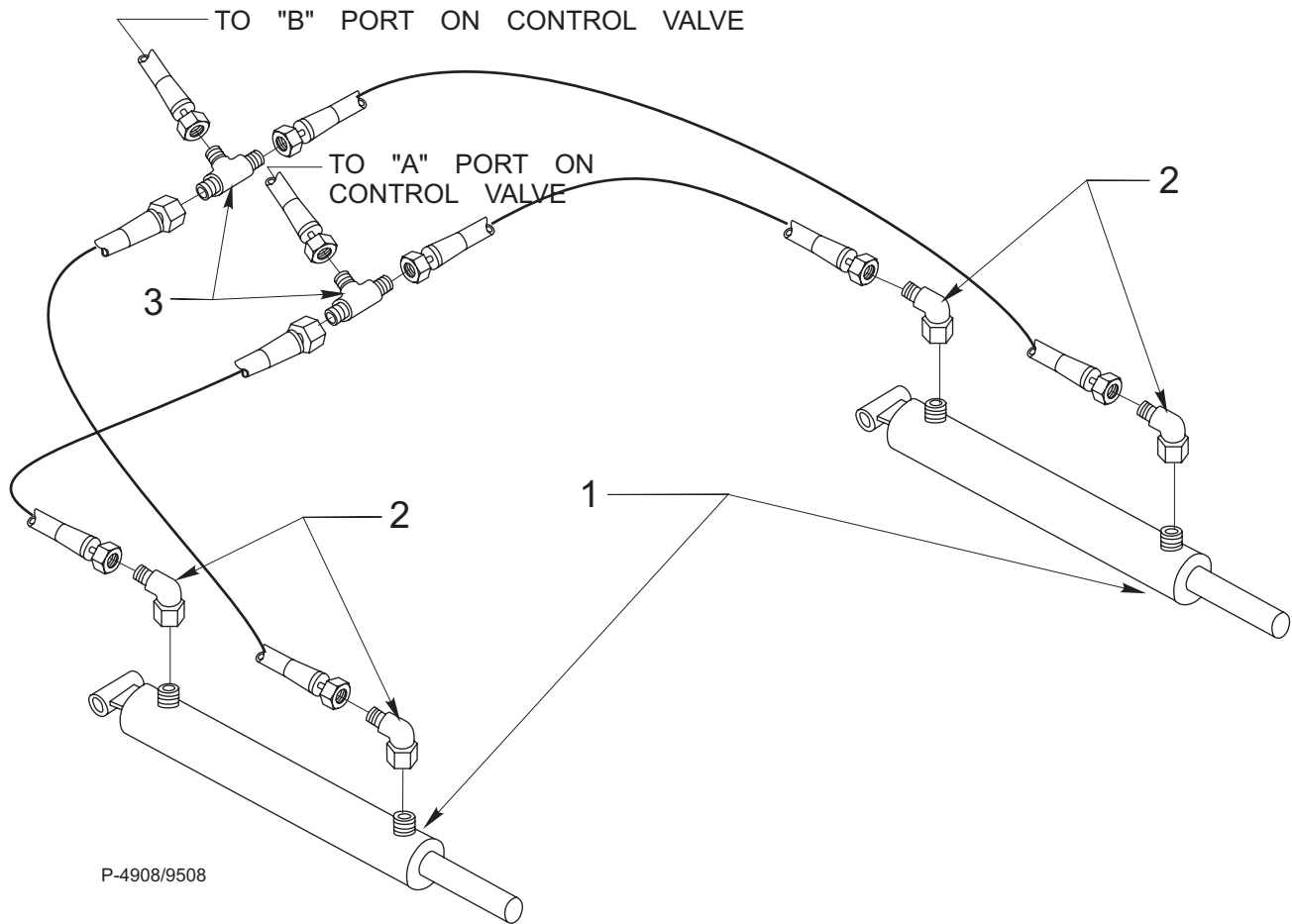
C-0110/9508

C0110

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-17-05029	Lift Cylinder	2
2	8-17-05028	Dump Cylinder	1
3	8-17-05030	Rotation Cylinder	1
4	2-00-04976	ORFS Connector, 7/16-20 to 9/16-18	2
5	2-00-04892	ORFS 90° Elbow, 7/16-20 to 9/16-18	6
6	2-00-04930	ORFS Union Tee, 9/16-18	2
NS	0880-449	Lift Cylinder Seal Kit	1
NS	0880-505	Dump Cylinder Seal Kit	1
NS	0880-450	Rotation Cylinder Seal Kit	1

C-0110

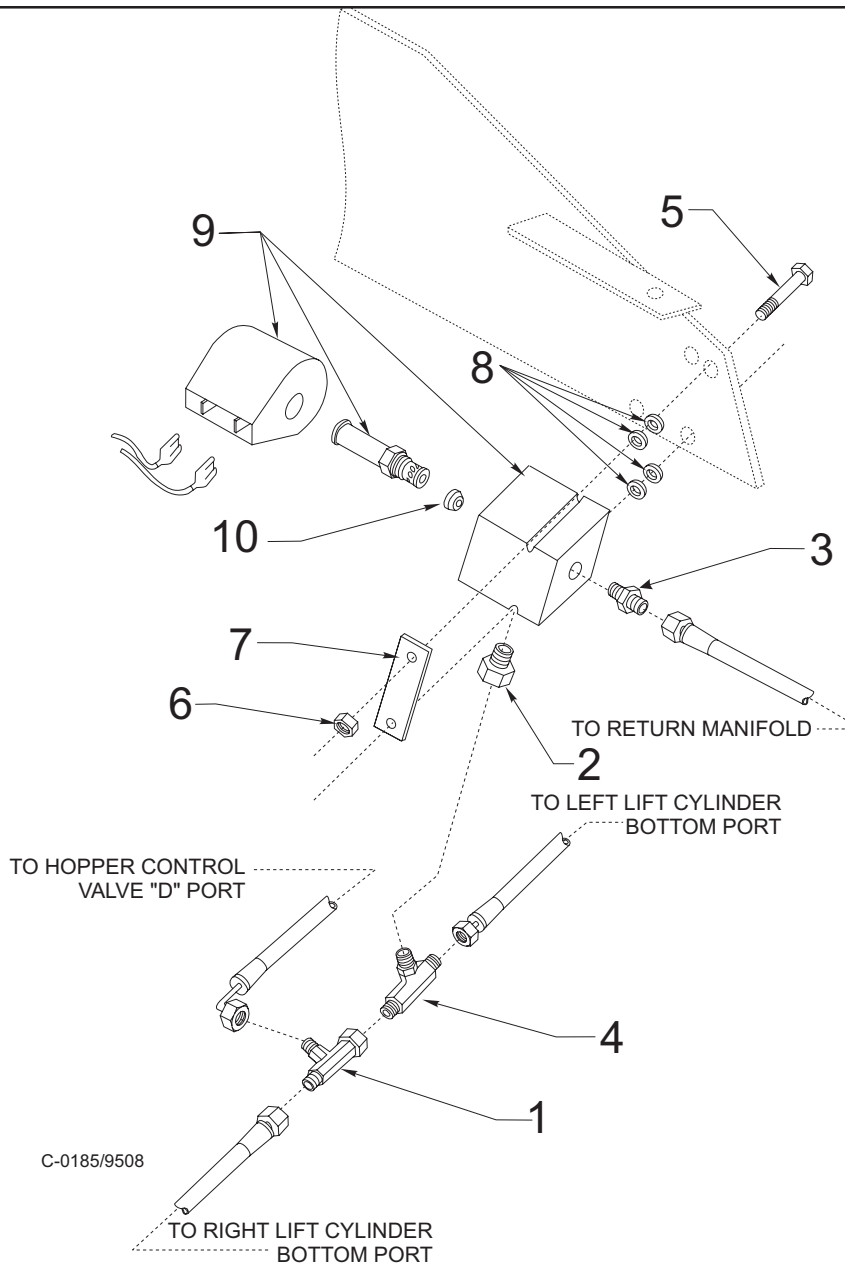
# DUMP CYLINDERS W/ FITTINGS (LOW DUMP)



<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-17-05033	Dump Cylinder	2
	0880-452	Seal Kit for Low Dump Cylinder	2
2	2-00-04892	ORFS 90° Elbow, 7/16-20 to 9/16-18	4
3	2-00-04930	ORFS Union Tee, 9/16-18	2

P-4908

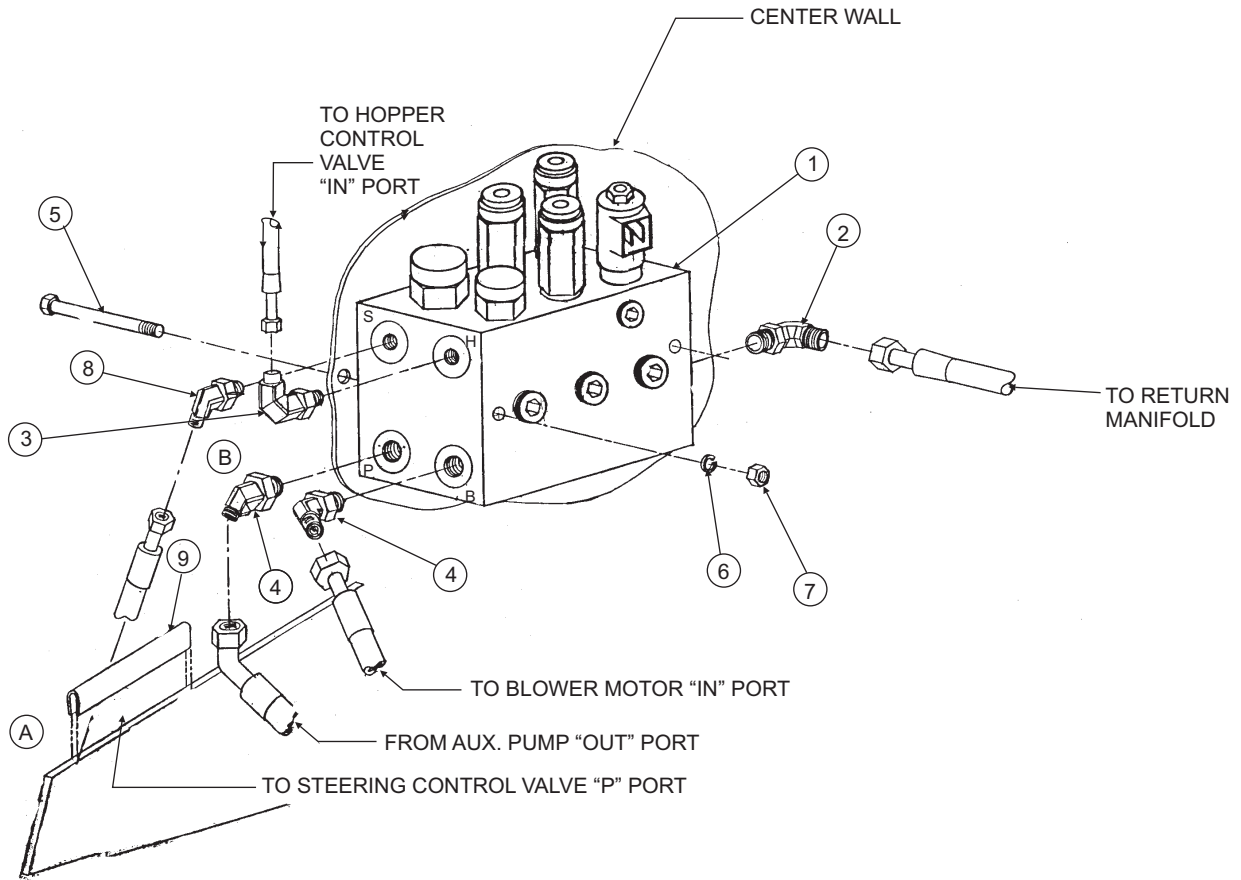
## LIFT CYLINDER LOCK-OUT VALVE & FITTINGS



<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	2-00-05162	Tee, Swivel #4 ORS	2
2	2-00-04917	ORFS Boss Reducer, 9/16-18 to 7/16-20	1
3	2-00-04918	ORFS Connector, 7/16-18 to 9/16-18	1
4	2-00-04919	ORFS Branch Tee, 7/16-20 x (2) 9/16-18	1
5	2-00-02589	Screw, 1/4 - 20 x 2.000 HHC	4
6	2-00-00641	Nut, Hex Fiber Insert 1/4 - 20	2
7	8-08-00590	Bracket	1
8	2-00-03702	Flat Washer, .625 x .281 x .0625	4
9	8-88-00044	Hopper Lock Valve	1
10	8-88-00056	Orifice Disc	1

C-0185

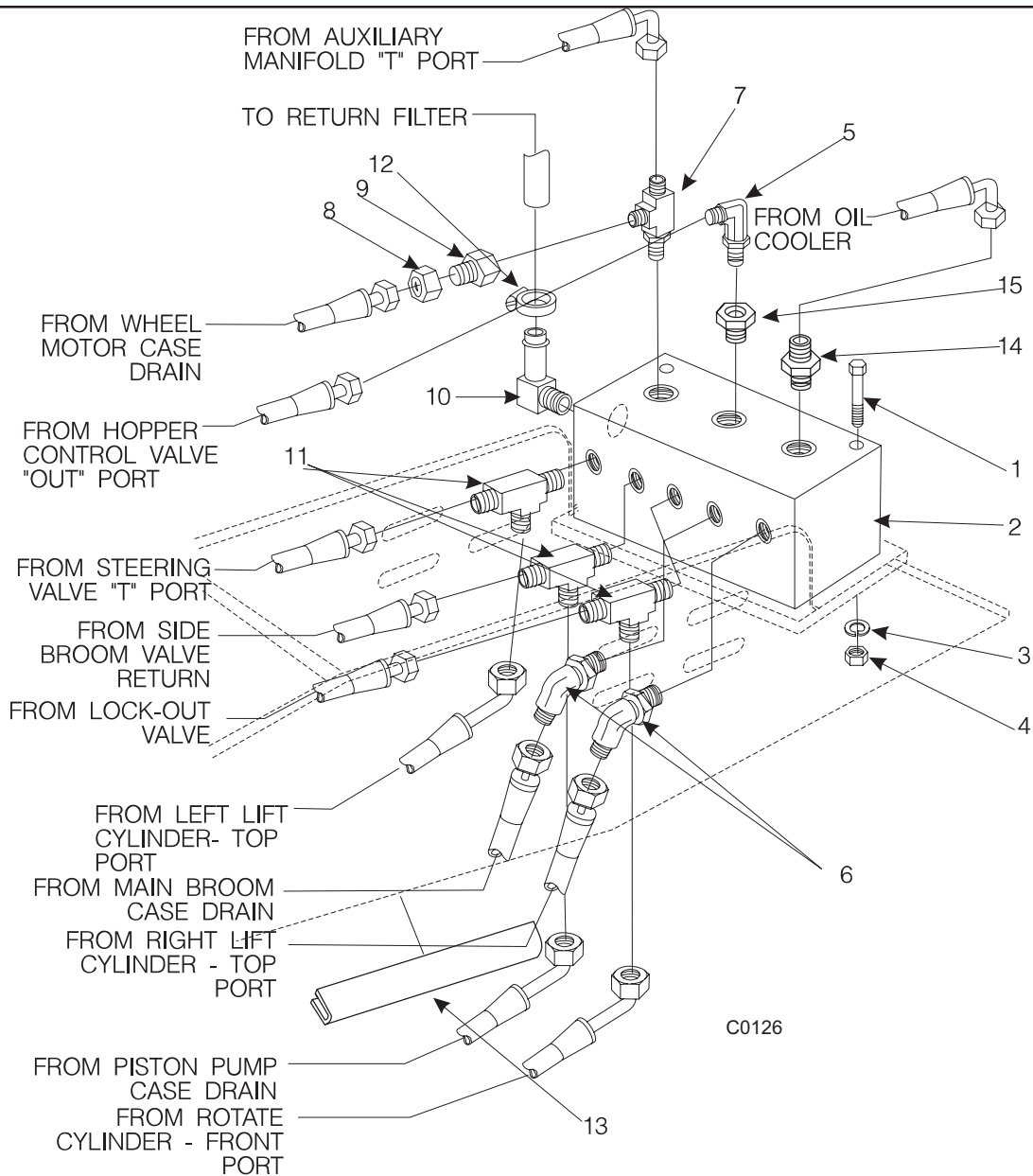
# AUXILIARY MANIFOLD & FITTINGS



KEY NO.	PART NUMBER	DESCRIPTION	QTY
1	8-88-00055	Auxiliary Manifold	1
	7-14-07004	Coil	1
2	2-00-04885	ORFS 90<198> Elbow, 3/4-16 / 13/16-16	1
3	2-00-04892	ORFS 90<198> Elbow, 7/16-20 / 9/16-18	1
4	2-00-04975	Fitting	1
5	2-00-04596	ORFS Nut, 13/16-16	1
6	2-00-00518	Lock Washer, Helical Spring 1/4 Med	2
7	2-00-00594	Nut, Hex 1/4 - 20	2
8	2-00-04976	Elbow 45<198> #4 SAE - ORS	1

C-0125

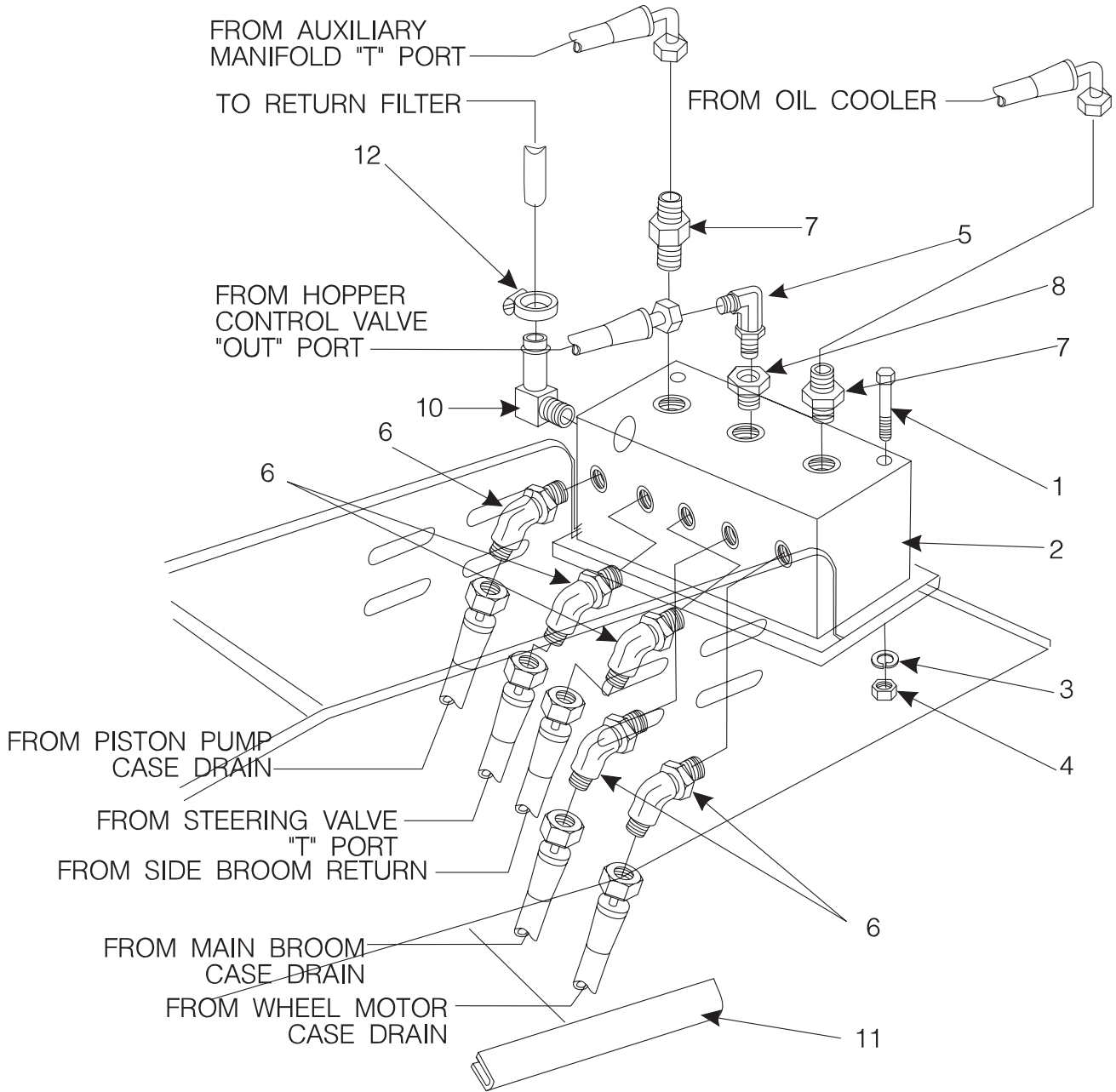
## RETURN MANIFOLD ASSEMBLY (VARIABLE DUMP)



<b>KEY NO.</b>	<b>PART NUMBER</b>	<b>DESCRIPTION</b>	<b>QTY</b>
1	2-00-04596	Screw, 1/4 - 20 x 3.50	2
2	7-48-00019	Return Manifold	1
3	2-00-00518	Lock Washer, Helical Spring 1/4 Med	2
4	2-00-00594	Nut, Hex 1/4 - 20 x .437 x .218	2
5	2-00-04926	ORFS 90° Elbow, 7/16-20 to 9/16-18	3
6	2-00-04976	45° Elbow, O-ring	3
7	2-00-04924	Swivel Tee	1
8	2-00-04932	Fitting, Reducer SAE #8 - 6	1
9	2-00-04929	Fitting, Reducer	2
10	2-00-05133	90° Elbow	1
11	2-00-04927	Run Tee, O-ring	2
12	2-00-02220	Clamp	1
13	7-21-04031	Edging	2
14	2-00-04970	Fitting, Straight #8 SAE - #8 ORS	2
15	2-00-04932	Fitting, Reducer #8 - #6 SAE	1

C-0126

# RETURN MANIFOLD ASSEMBLY (LOW DUMP)

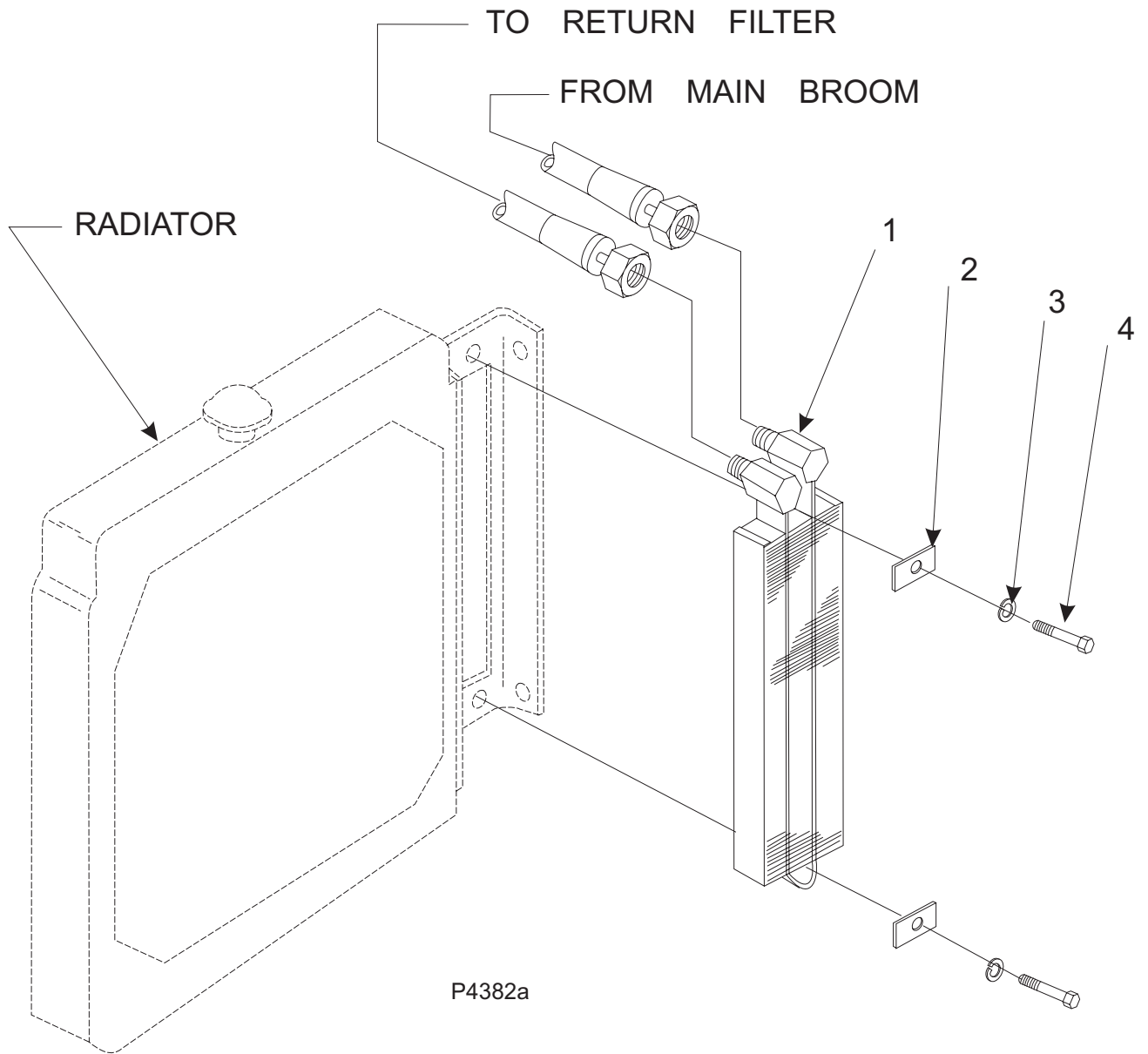


C0127

KEY NO.	PART NUMBER	DESCRIPTION	QTY
1	2-00-04596	Screw, 1/4-20 x 3.500 HHC	2
2	7-48-00019	Return Manifold	1
3	2-00-00518	Lock Washer, 1/4 Split	2
4	2-00-00594	Nut, Hex 1/4-20	2
5	2-00-04926	90<198> Elbow, O-ring	1
6	2-00-04976	45<198> Elbow, O-ring	5
7	2-00-04970	Fitting, Strt O-ring	1
8	2-00-04932	Fitting, Reducer SAE #8 - 6	1
10	2-00-05133	90<198> Elbow,	1
11	7-21-04031	Edging	2
12	2-00-02220	Hose Clamp, 13/16 to 1 1/2	1

C-0127

# HYDRAULIC OIL COOLER



<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-62-01010	Oil Cooler	1
2	8-13-07088	Clip	2
3	2-00-00518	Lock Washer, Helical Spring 1/4 Med	2
4	2-00-02589	Screw, 1/4 - 20 x 2.000 HHC	2

P-4382-1

## HYDRAULIC RESERVOIR & FITTINGS - PARTS LIST

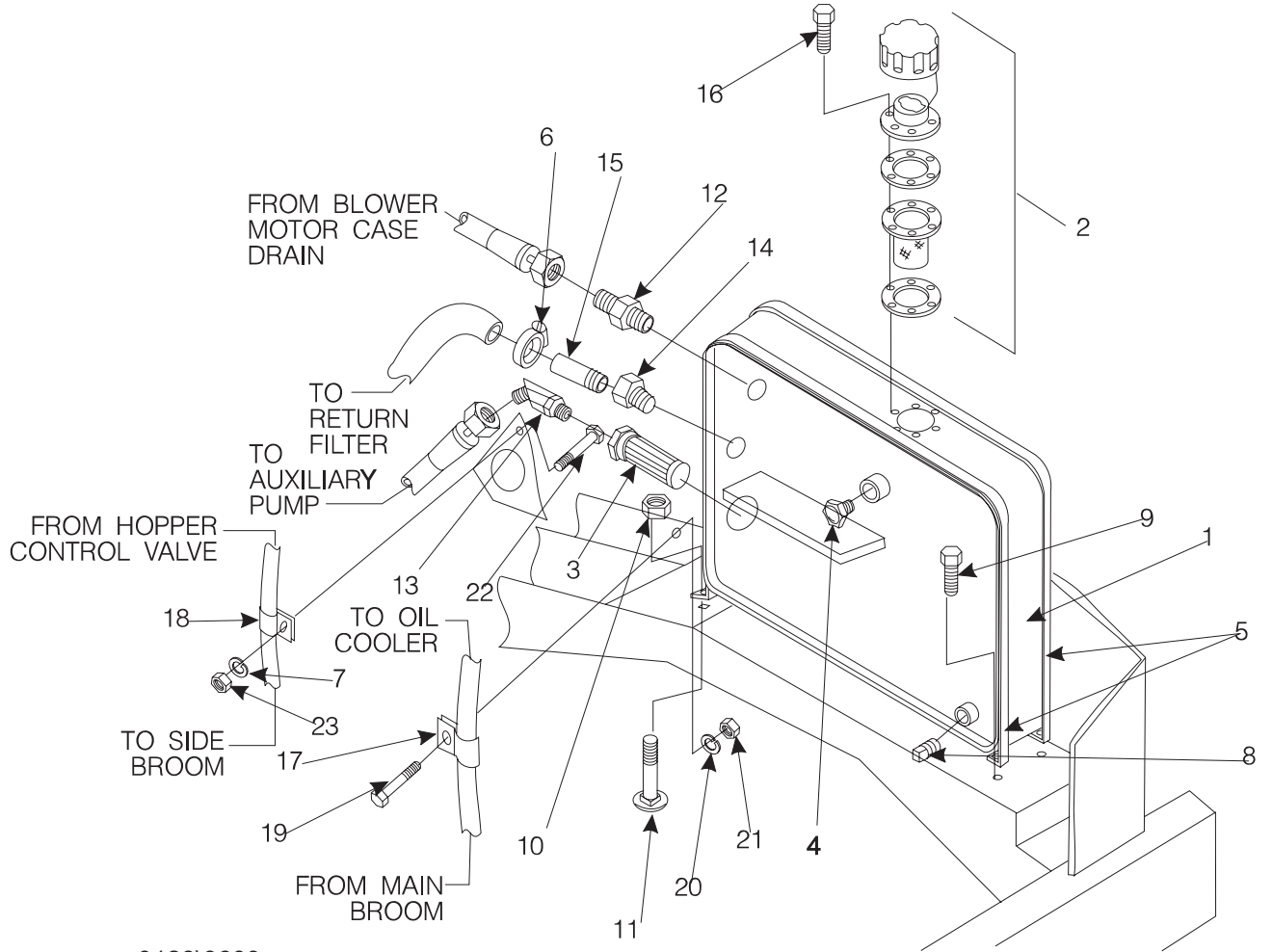
---

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-83-04036	Hydraulic Reservoir	1
2	8-11-00026	Filler Cap Assembly	1
3	8-24-04115	Strainer	1
4	8-48-05033	Sight Glass	1
5	8-79-00114	Strap	2
6	2-00-02220	Hose Clamp, .812 - 1.500	3
7	2-00-00518	Lock Washer, 1/4	5
8	2-00-02474	Pipe Plug, 1/2 NPT	1
9	2-00-00205	Screw, 1/4 - 20 x 1.000 HHC	4
10	2-00-00641	Nut, 1/4-20 Fiber Lock	2
11	2-00-02196	Carriage Bolt, 1/4 - 20 x 1.000	4
12	2-00-04895	Fitting Strt, #4 SAE - #4 ORS	1
13	2-00-05037	Adapter, 3/4 ORS x 3/4 NPT 45° Elbow	1
14	2-00-04572	Reducer, #12 Ste - 3/4 NPT	1
15	2-00-03585	Pipe Nipple, 3/4 NPT	1
16	2-00-03940	Screw, #10-24 x .500 T/C HH	6
17	2-00-04564	Hose Clamp, 13/16	1
18	2-00-04873	Clamp	1
19	2-00-02708	Screw, 5/16-18 x 1.000 HHC	1
20	2-00-00530	Lock Washer, 5/16	1
21	2-00-00585	Nut, Hex 5/16-18	2
22	2-00-02196	Carriage Bolt, 1/4-20 x 1.000	2

C-0128



# HYDRAULIC RESERVOIR & FITTINGS - EXPLODED VIEW



c0128\9609

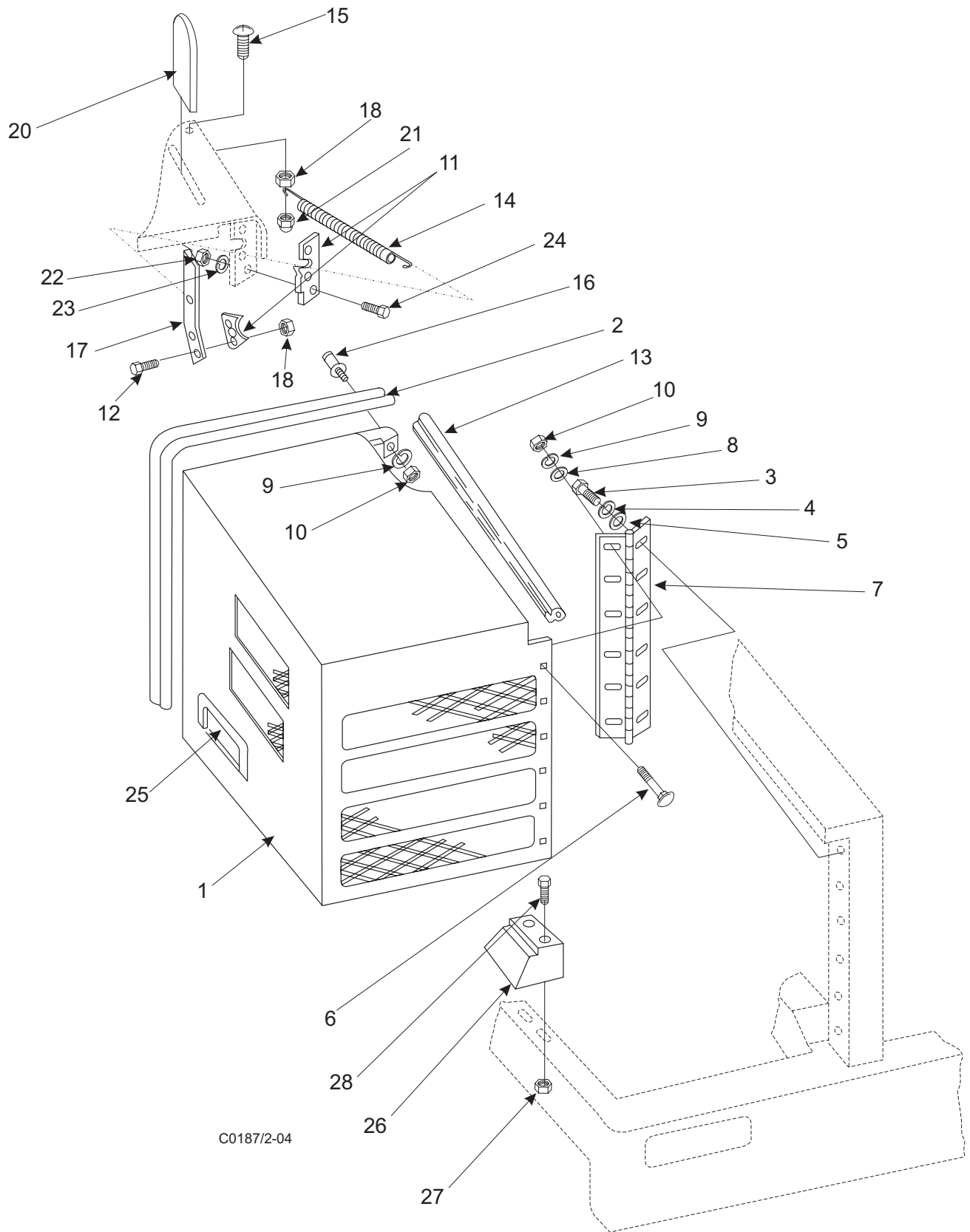
## ENGINE COVER - PARTS LIST

---

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-16-07338	Engine Cover Weldment	1
2	8-21-04043	Edging, Engine Compartment Seal	1
3	2-00-00233	Screw, 3/8 - 16 x 1.00 HHC	6
4	2-00-02310	Lock Washer, Helical Spring 3/8 Med	6
5	2-00-04801	Flat Washer, .875 x .375 x .062	6
6	2-00-03569	Carriage Bolt, 5/16-18 x .750	6
7	8-32-00042	Engine Cover Hinge	1
8	2-00-00409	Flat Washer, 5/16 x .69	6
9	2-00-00530	Lock Washer, Helical Spring 5/16	7
10	2-00-00585	Nut, Hex 5/16-18	7
11	8-41-00046	Rotary Latch	1
12	2-00-04794	Screw, #10-24 x .625 BHS	2
13	8-21-04042	Edging, Engine Compartment Seal	1
14	7-76-00106	Lever Return Spring	1
15	2-00-03063	Screw, #10-24 x .750 THM	1
16	7-55-08116	Striker Latch Pin	1
17	8-41-05073	Latch Release Lever	1
18	2-00-01246	Insert, #10 - 24 Thin Nylon	3
20	7-31-06061	Lever Cover	1
21	2-00-01246	Nut, Hex Fibre Lock #10-24	1
22	2-00-00594	Nut, Hex 1/4-20	3
23	2-00-00518	Lock Washer, Helical Spring 1/4	3
24	2-00-02587	Screw, 1/4-20 x 1.250 HHC	3
25	8-21-04038	Hand Hole Edging	1
26	7-78-05016	Engine Cover Stop	1
27	2-00-00641	Nut, Hex Fiber Lock 1/4-20	2
28	2-00-01769	Screw, 1/4-20 x 1.75 HHC	2

C0187ecp/2-04

# ENGINE COVER - EXPLODED VIEW



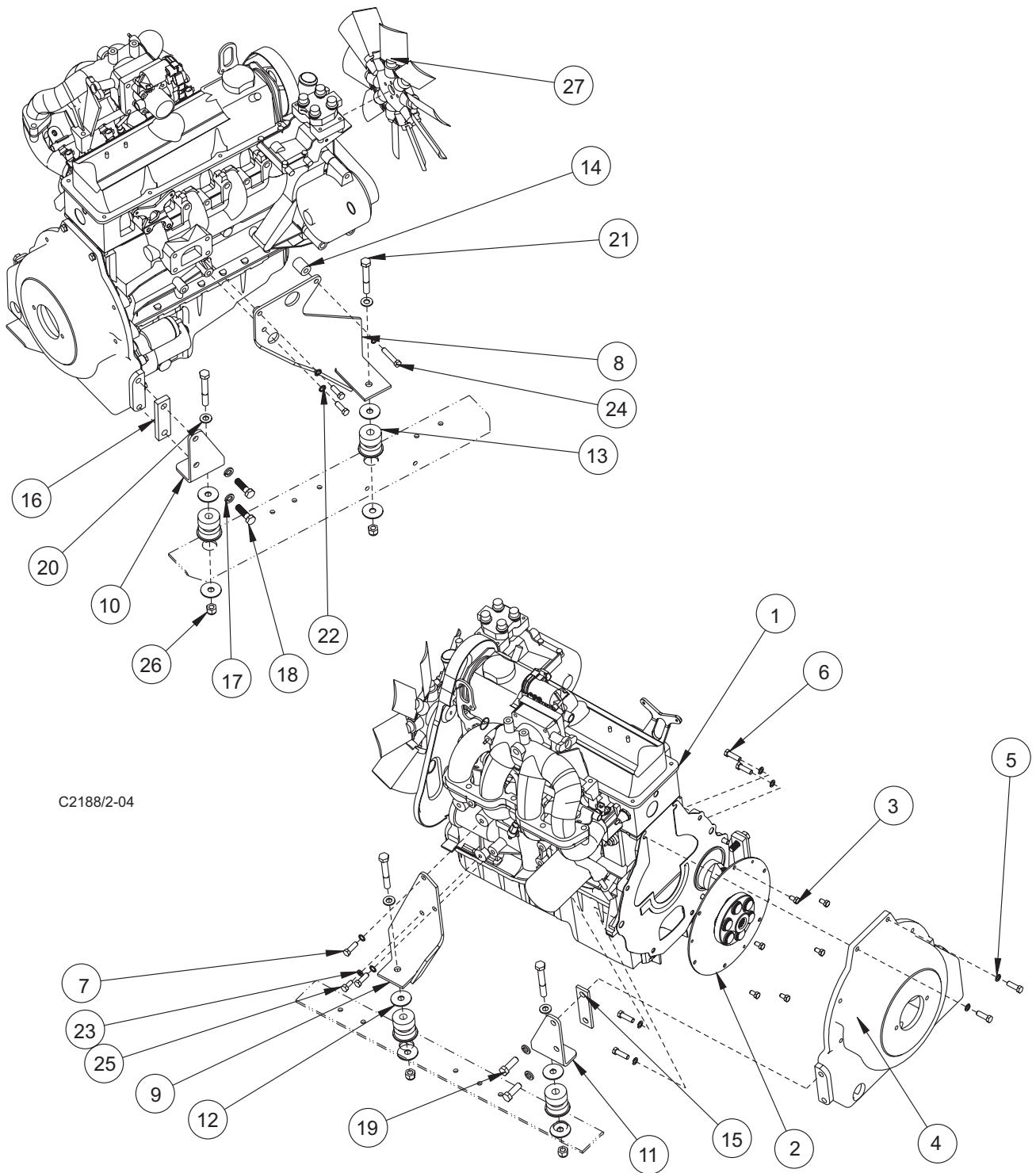
## FORD 425EFI GAS & LP ENGINES (FAN, MOUNTS, BRACKETS)

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	0777-050	Engine, Ford 425 EFI Gas	1
	0777-056	Engine, Ford 425 EFI Gas (Export Only)	1
1	0777-051	Engine, Ford 425 EFI LP	1
	0777-057	Engine, Ford 425 EFI LP (Export Only)	1
2~	7-16-05046	Coupling, Engine	1
3	2-00-05963	Screw, M8 x 1.25 x 15mm HHC 8.8 Blox	6
4	7-33-05098	Housing, Flywheel (Cast Iron)	1
5	2-00-02310	Lock Washer, 3/8" Helical Spring	9
6	2-00-00209	Bolt, 3/8-16 x 1.25 Hex Head	7
7	2-00-05005	Screw, M10 x 1.5 x 30mm HHC	6
8	8-08-00929	Bracket, Engine Mount	1
9	8-08-00928	Bracket, Engine Mount	1
10	8-08-00930	Bracket, Engine Mount	1
11	8-08-00931	Bracket, Engine Mount	1
12	2-00-05067	Spacer, Snubbing Washer	8
13	7-35-00017	Isolator, Engine Mount (Red Dot)	4
14	8-75-01210	Spacer, Engine Mount	1
15	8-75-01209	Spacer, Engine Mount Rear	1
16	8-75-01175	Spacer, Engine Mount Rear	1
17	2-00-02312	Lock Washer, 1/2"	4
18	2-00-02692	Screw, 1/2-20 x 1.75 Hex Head	2
19	2-00-02691	Screw, 1/2-20 x 1.50	2
20	2-00-00405	Flat Washer, 1.063 x .531 x .094	4
21	2-00-02618	Bolt, 1/2-13 x 3.5 LG Hex	4
22	2-00-02311	Lock Washer, 7/16" Med.	5
23	2-00-00530	Lock Washer, 5/16"	1
24	2-00-05328	Screw, M10 x 1.5 x 50mm HHC	1
25	2-00-04363	Screw, M8 x 1.25 x 20mm	1
26	2-00-04936	Nut, 1/2-13 Elastic Lock	4
27	7-23-00024	Fan, Ford 425EFI Breeza	1

~Comes w/Engine Assembly

C2188/6-04

# FORD 425EFI GAS & LP ENGINES (FAN, MOUNTS, BRACKETS)



## FORD 425EFI GAS ENGINE (EXHAUST SYSTEM)

---

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1*	8-87-02125	Tube, Exhaust	1
2*~	7-11-04038	Catalytic Converter	1
3*	7-87-02228	Tube, Exhaust	1
4*	7-49-00042	Muffler	1
5*	2-00-05965	Clamp, 3" Muffler	2
6	7-13-07075	Clamp, 1.50 Muffler	2
7	8-08-00861	Bracket, Muffler Hanger	1
8	7-31-07017	Hanger, Muffler	1
9	2-00-00209	Bolt, 3/8-16 x 1.25 Hex Head	2
10	2-95-04182	Hex Nut, 3/8-16 Stop	2
11	2-00-00402	Washer, 25/64 ID x 3/4 OD	1
12<	8-87-02128	Pipe, Exhaust	1
13<	7-49-00031	Muffler	1
14*	7-56-04055	Tail Pipe	1

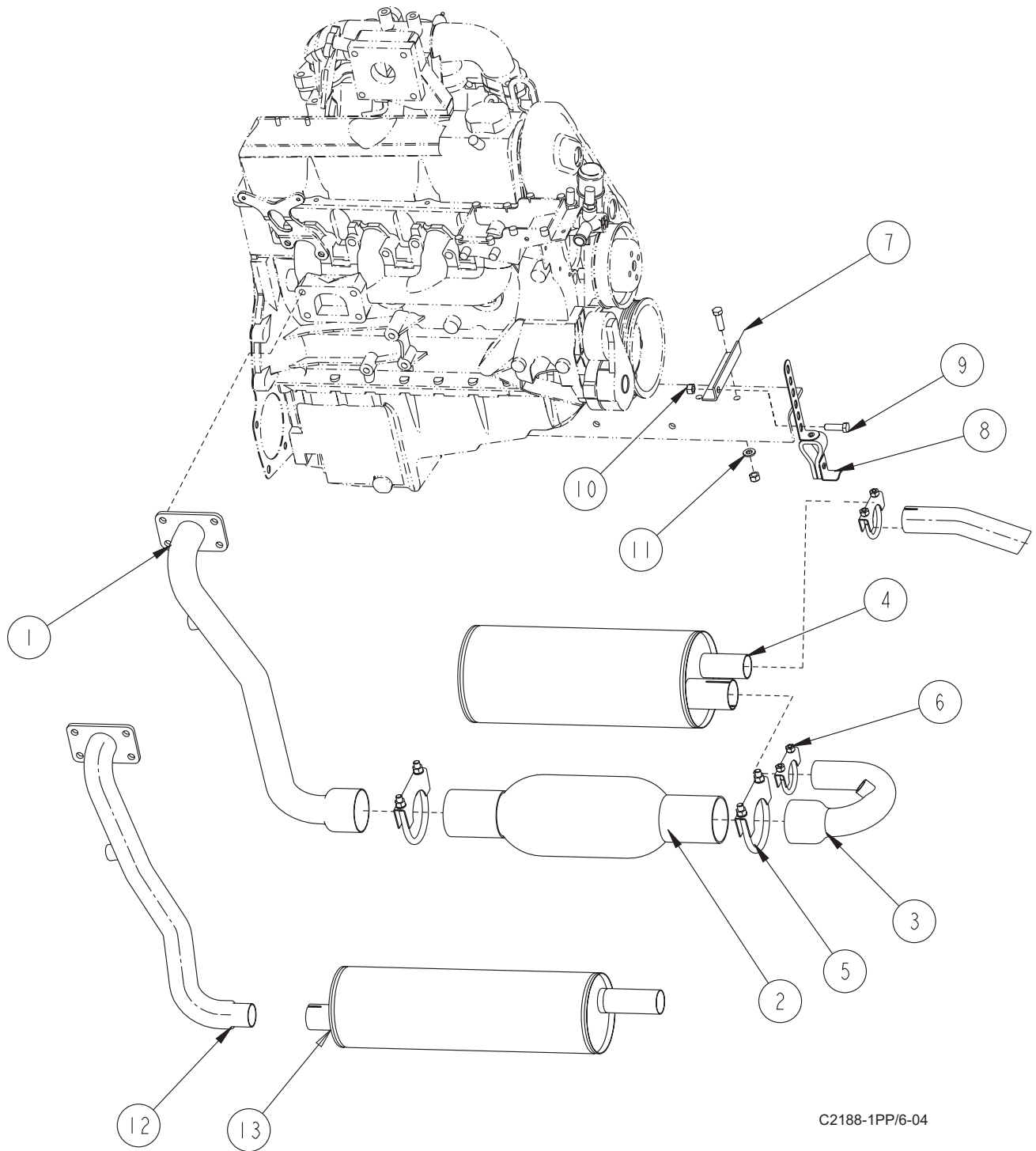
\*North America Only

<Export Only

~Comes w/Engine Assy.

C2188-1PP/6-04

# FORD 425EFI GAS ENGINE (EXHAUST SYSTEM)



C2188-1PP/6-04

## FORD 425EFI GAS ENGINE (FUEL SYSTEM)

---

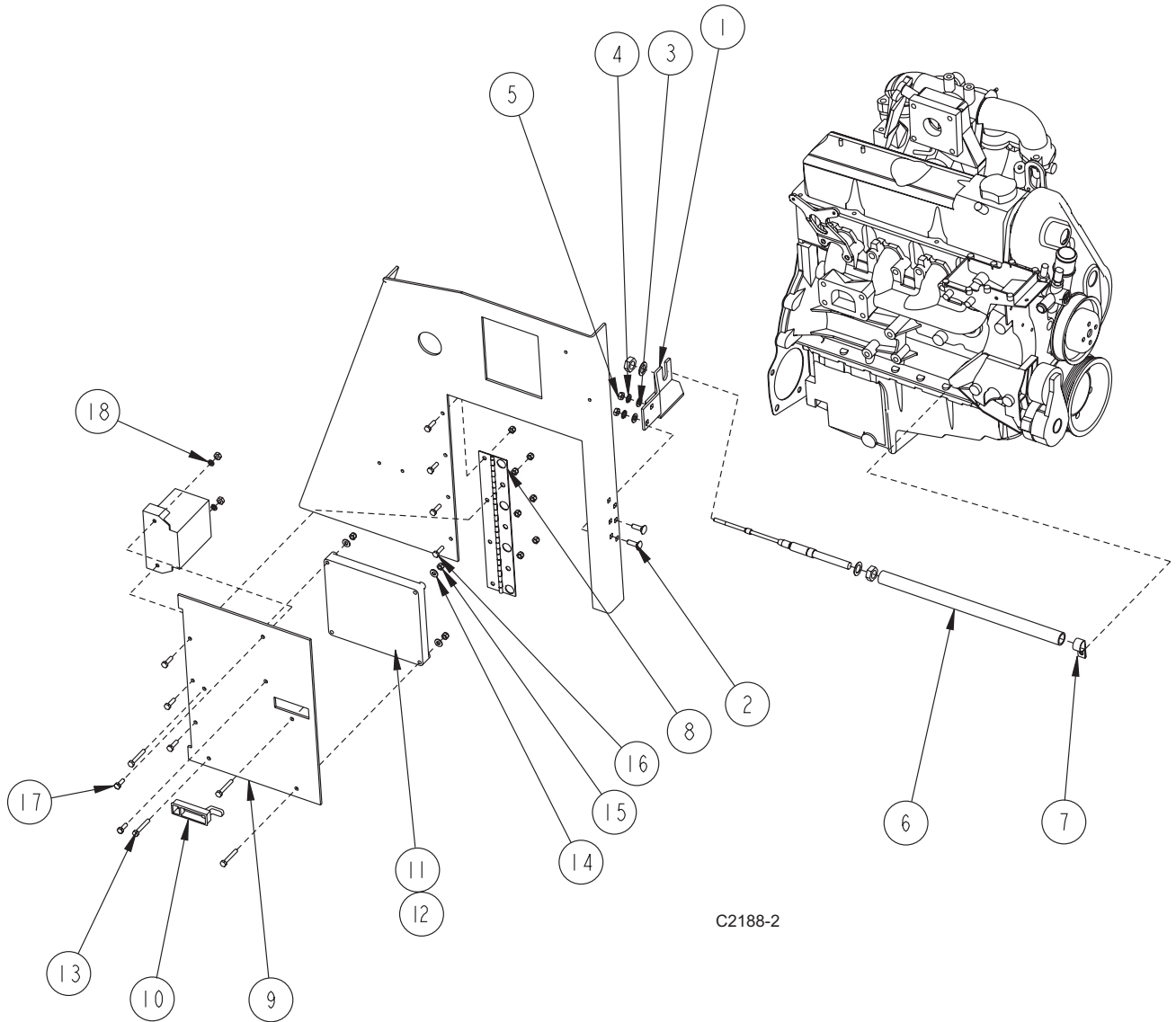
<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-08-00856	Bracket, Cable	1
2	2-00-00196	Carriage Bolt, .31-18 x 1.00	2
3	2-00-00409	Flat Washer, .687 x .344 x .062	2
4	2-00-02310	Lock Washer, 3/8" Helical Spring	2
5	2-00-00585	Nut, 5/16-18 Hex	2
6	7-34-09018	Insulating Sleeve	1
7	2-00-04564	Clamp, Cable	1
8	7-89-06545	Hinge	1
9	8-19-08069	Door, Lintel	1
10	8-41-00044	Latch	1
11~	0769-033	EPM with Calibration	1
12~	0769-034	EPM with Calibration	1
13	2-00-01769	Screw, 1/4-20 x 1.75 HHC	4
14	2-00-03702	Washer, .625 x .281 x .063	4
15	2-00-00641	Nut, 1/4-20 Fiber Insert	11
16	2-00-01490	Screw, 1/4-20 x .875 Hex Head	7
17	2-00-00221	Bolt, 1/4-20 x 3/4 Fin. Hex Head	2
18	2-00-00518	Lock Washer, 1/4" Helical Spring	2

~Comes with Engine Assembly

C2188-2/6-04



# FORD 425EFI GAS ENGINE (FUEL SYSTEM)



## FORD 425EFI GAS ENGINE (FUEL SYSTEM con't)

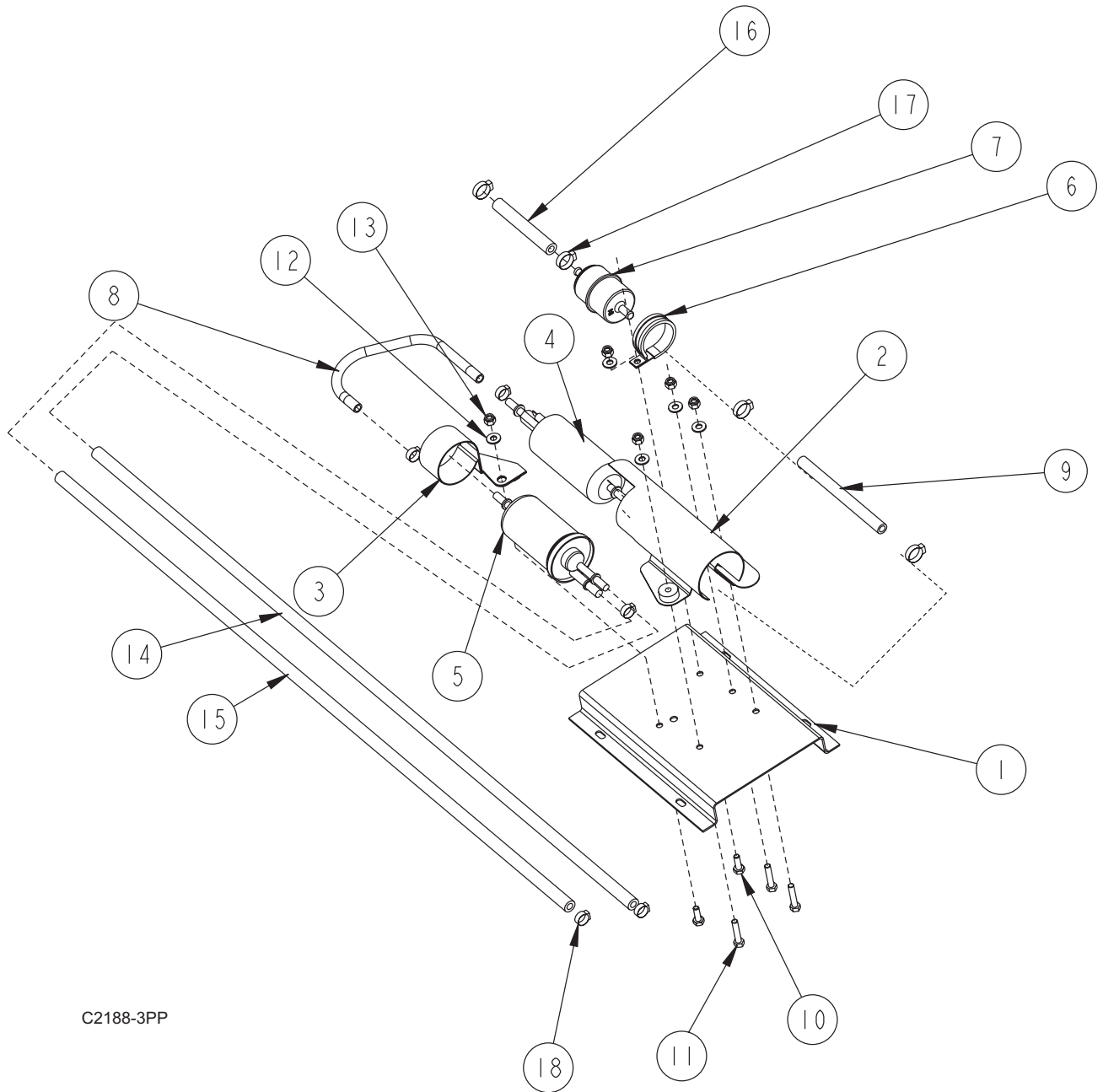
---

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-08-00943	Bracket, Fuel Pump	1
2~	7-08-01212	Bracket, Fuel Pump	1
3~	7-08-01213	Bracket, HP Fuel Filter	1
4~	7-60-05051	Pump, Fuel Injector	1
5~	7-63-05003	Filter, HP Fuel w/Bypass	1
6~	2-00-05971	Clamp, Cushioned Clamp, 1.75" ID	1
7~	7-24-04080	Filter, Fuel	1
8	8-33-02407	Hose, HP Fuel	1
9	7-33-02625	Hose, Gasoline Fuel (25")	1
10	2-00-00221	Bolt, 1/4-20 x .75 Fin. Hex Head	2
11	2-00-02587	Cap Screw, 1/4-20 x 1.25 Hex Head	3
12	2-00-03702	Washer, .625 x .281 x .063	5
13	2-00-00641	Nut, 1/4-20 Fiber Insert	5
14	8-33-02378	Hose, Fuel	1
15	8-33-02379	Hose, Fuel	1
16	8-33-02380	Hose, Fuel	1
17	2-95-04388	Clamp, Hose	4
18	2-00-06113	Clamp, Hose	5

~Comes with Engine Assy.

C2188-3PP/7-04

FORD 425EFI GAS ENGINE (FUEL SYSTEM con't)



C2188-3PP

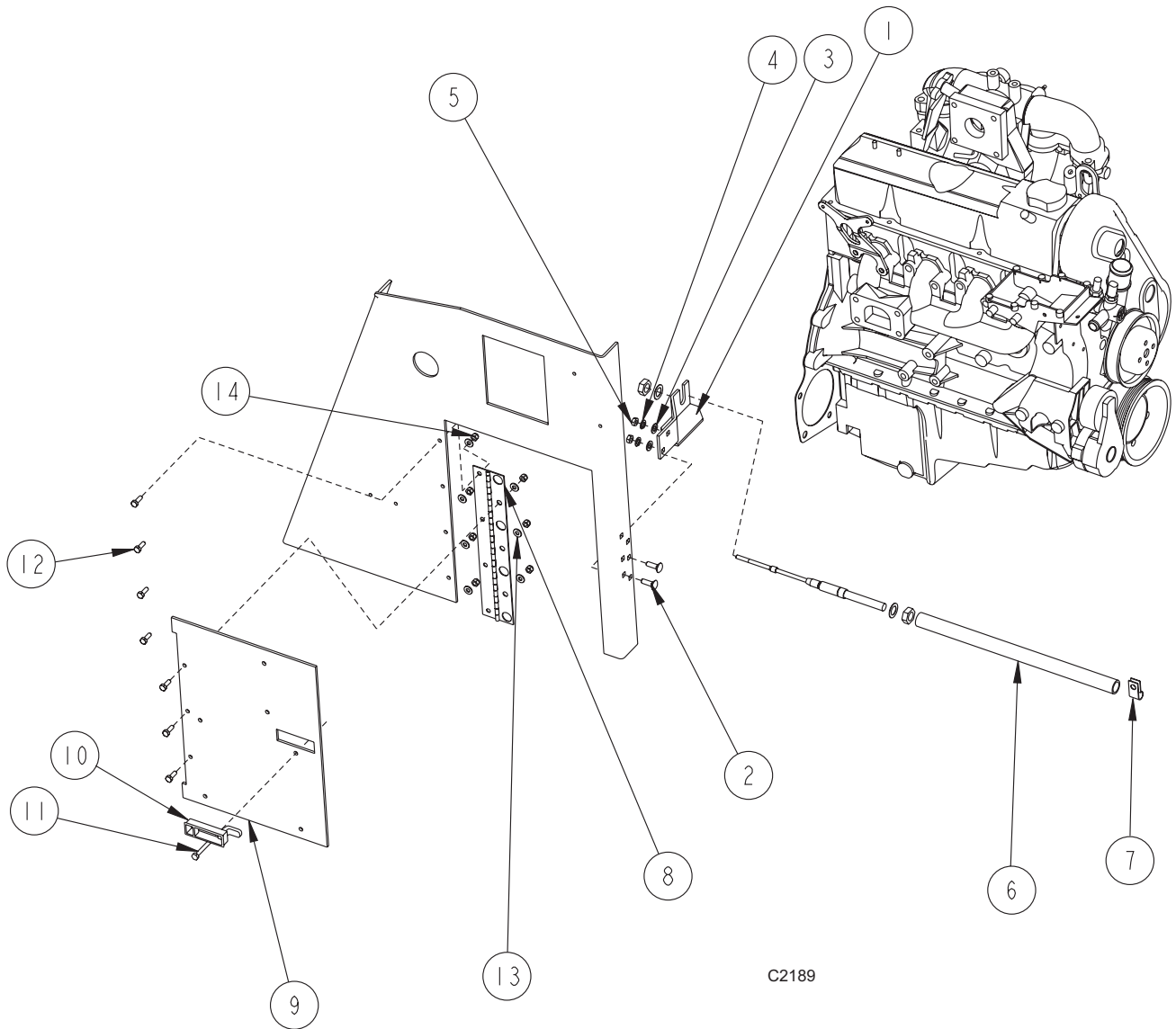
## FORD 425EFI LP ENGINE (FUEL SYSTEM)

---

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-08-00856	Bracket, Cable	1
2	2-00-00196	Carriage Bolt, .31-18 x 1.00	2
3	2-00-00409	Flat Washer, .687 x .344 x .062	2
4	2-00-02310	Lock Washer, 3/8" Helical Spring	2
5	2-00-00585	Nut, 5/16-18 Hex	2
6	7-34-09018	Insulating Sleeve	1
7	2-00-04873	Clamp, Cable	1
8	7-89-06545	Hinge	1
9	8-19-08069	Door, Lintel	1
10	8-41-00044	Latch	1
11	2-00-01769	Screw, 1/4-20 x 1.75 HHC	1
12	2-00-00221	Bolt, 1/4-20 x 3/4 long Fin. Hex Head	7
13	2-00-03702	Washer, .625 x .281 x .063	7
14	2-00-00641	Nut, 1/4-20Fiber Insert	7

C2189/3-04

# FORD 425EFI LP ENGINE (FUEL SYSTEM)



C2189

## FORD 425EFI LP ENGINE (FUEL SYSTEM-N. AMERICA)

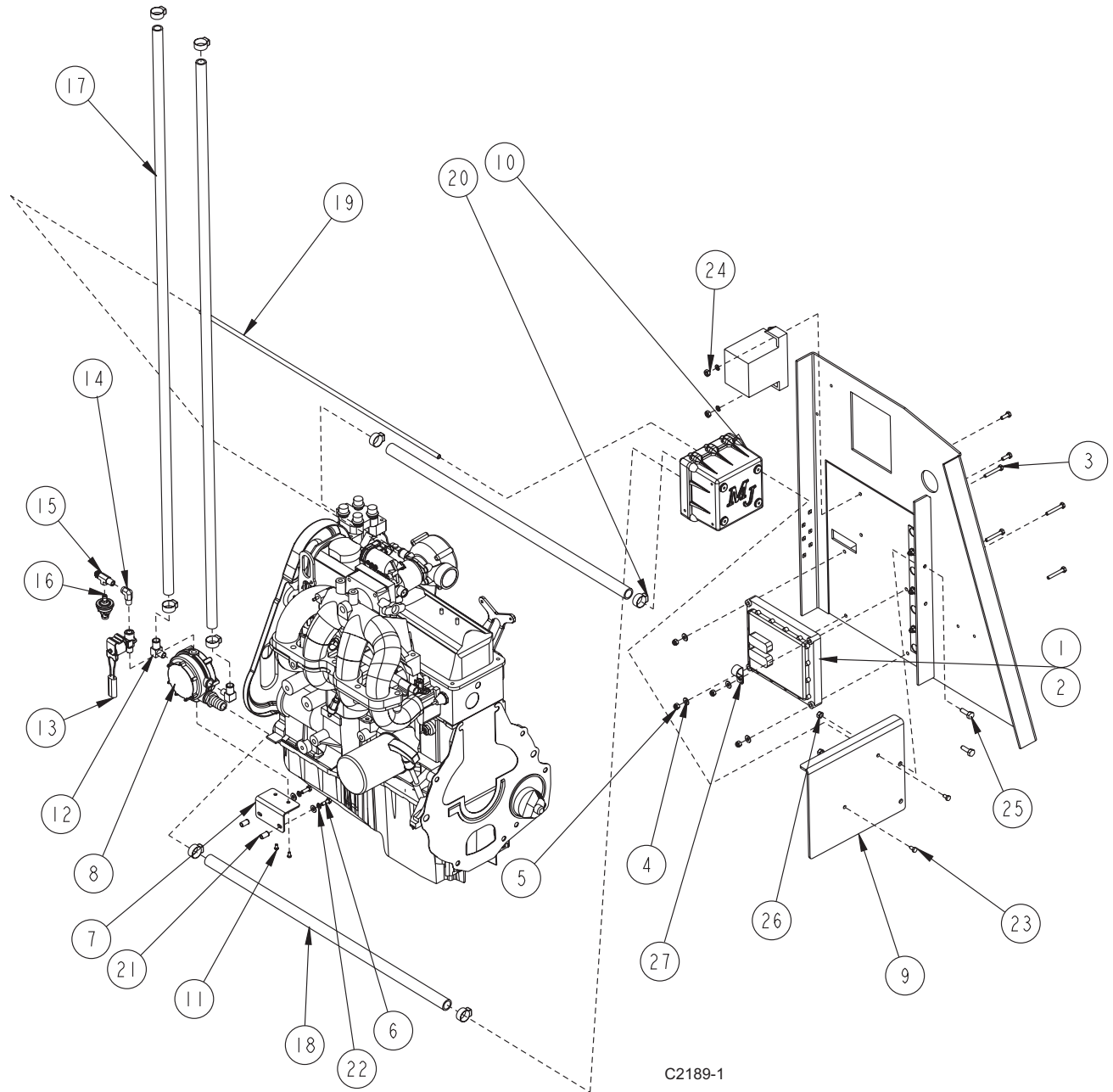
---

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1~	0769-033	EPM with Calibration	1
2~	0769-034	EPM with Calibration	1
3	2-00-01769	Screw, 1/4-20 x 1.75 HHC	4
4	2-00-03702	Washer, .625 x .281 x .063	13
5	2-00-00641	Nut, 1/4-20 Fiber Insert	11
6	2-00-00221	Bolt, 1/4-20 x .75 Fin. Hex Head	11
7	8-08-00947	Bracket, LP Regulator	1
8~	7-11-04043	LP Regulator	1
9	8-08-00949	Bracket, Megajector	1
10~	7-11-04045	Megajector	1
11	2-00-00052	Screw, #10-24 x .38 RHMS	2
12	2-00-05972	Fitting, 3/8 NPT x 5/8 90° Hose	2
13~	7-88-00109	Valve, LP Safety	1
14	2-00-05678	Fitting, 1/4 NPT 90° Brass Street Elbow	1
15	2-00-05942	Fitting, 1/4 NPT x 1/8 NPT x 3/8 JIC Tee	1
16	8-82-00046	Switch, Oil Pressure	1
17	8-33-02381	Hose, LP Heater	2
18	8-33-02383	Hose, LP	2
19	8-33-02385	Hose, LP	1
20	2-00-03407	Clamp, Wittek #10P	8
21	2-00-05261	Insert, 1/4-20 Threaded	2
22	2-00-00518	Lock Washer, 1/4 Helical Spring	4
23	2-00-05528	Screw, M6 x 1.0 x 12mm HHC	2
24	2-00-00585	Nut, 5/16-18 Hex	2
25	2-00-02708	Screw, 5/16-18 x 1.0 Hex Head	2
26	2-00-00644	Nut, 5/16-18 Fiber Insert Hex	2
27	2-00-04564	Clamp, Cable	1

~Comes w/Engine Assy.

C2189-1/3-04

# FORD 425EFI LP ENGINE (FUEL SYSTEM-N. AMERICA)



C2189-1

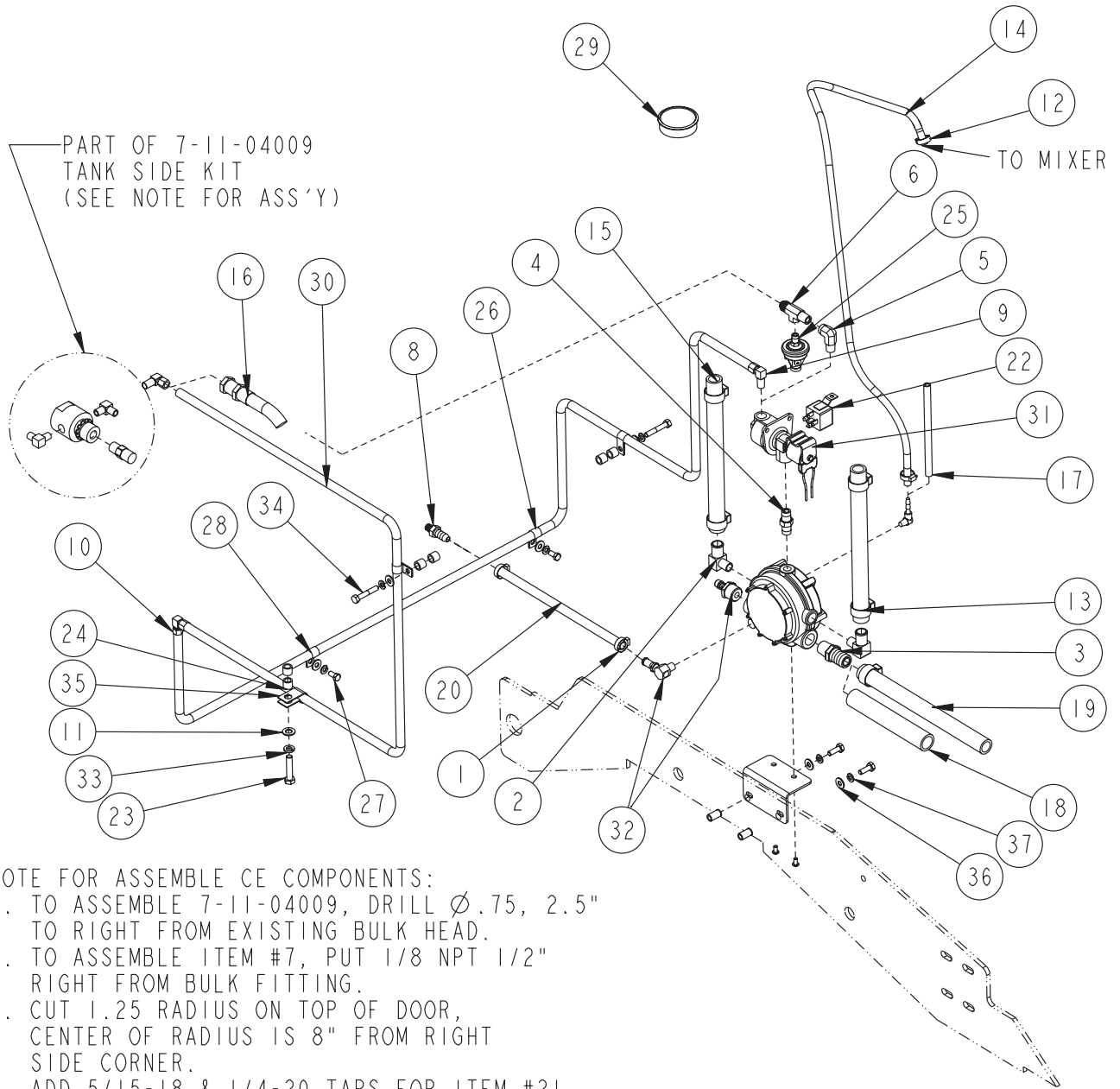
**FORD 425EFI LP ENGINE (FUEL SYSTEM - "CE" & "EX" MODELS)**

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	2-95-04388	Clamp, Hose	2
2	2-00-05972	Fitting, 3/8 NPT x 5/8 90° Hose	2
3	2-00-06108	Fitting, 1/2 NPT x 5/8 Barb Str.	1
4	2-00-03792	Fitting, 1/4 NPT Hex Nipple	1
5*	2-00-05678	Fitting, 1/4 NPT 90° Street Elbow (Brass)	1
6*	2-00-05942	Fitting, 1/4 NPT x 1/8 NPT x 3/8 JIC Tee	1
7~	2-00-04787	Fitting, 1/8 NPT x 1/4 Hose Barb 90° Elbow	Ref
8<	2-00-05997	Fitting, 3/8 Hose Barb x 1/8 NPT	1
9<	2-00-06099	Fitting, 3/8 Tube x 1/4 NPT, 90° Elbow (SS)	2
10<	2-00-06114	Fitting, 3/8 Tube x 1/4 NPT, 90° Union (SS)	1
11<	2-00-00409	Flat Washer, .687 x .344 x .062	1
12	2-00-05363	Clamp, Hose	2
13	2-00-03407	Clamp, Wittek #10P	6
14<	7-33-02647	Hose, 1/4 ID Vapor (44")	1
15*	7-33-02673	Hose, 5/8 ID Heater (60")	2
16*	8-33-02262	Hose, LP High Pressure (88")	1
17*	7-33-02638	Hose, 1/4 ID LP Low Pressure (59")	1
18<	7-33-02637	Hose, 5/8 ID LP Low Pressure (48")	1
19<	7-33-02674	Hose, 5/8 ID LP Low Pressure (50")	1
20	7-33-02682	Hose, LP (89")	1
21<~	7-11-04046	LP Regulator	Ref
22<	2-00-06107	Relay, Lektron Safety	1
23<	2-00-00225	Screw, 5/16-18 x 1.5 HHC	1
24<	7-75-01209	Spacer	6
25*	8-82-00046	Switch, Oil Pressure	1
26<	8-87-02254	Tube, LP High Pressure	1
27<	2-00-00219	Bolt, 1/4-20 x 1/2 Fin. Hex Head	2
28<	2-00-04602	Clamp, Hose	4
29<	2-00-05281	Plug, Fuel Gauge	1
30<	7-87-02255	Tube, LP High Pressure	1
31~	7-88-00110	Valve, LP Safety	1
32	7-88-00117	Valve Kit, LP Safety	1
33<	2-00-00530	Lock Washer, 5/16	1
34<	2-00-00203	Bolt, 1/4-20 x 1.5 Hex Head	2
35<	2-00-04873	Clamp, Cable	1
36	2-00-03702	Washer, .625 x .281 x .063	6
37	2-00-00518	Lock Washer, 1/4 Helical Spring	6

C2189-2PP/7-04



# FORD 425EFI LP ENGINE (FUEL SYSTEM - "CE" & "EX" MODELS)



C2189-2PP

## LP TANK SYSTEM - PARTS LIST

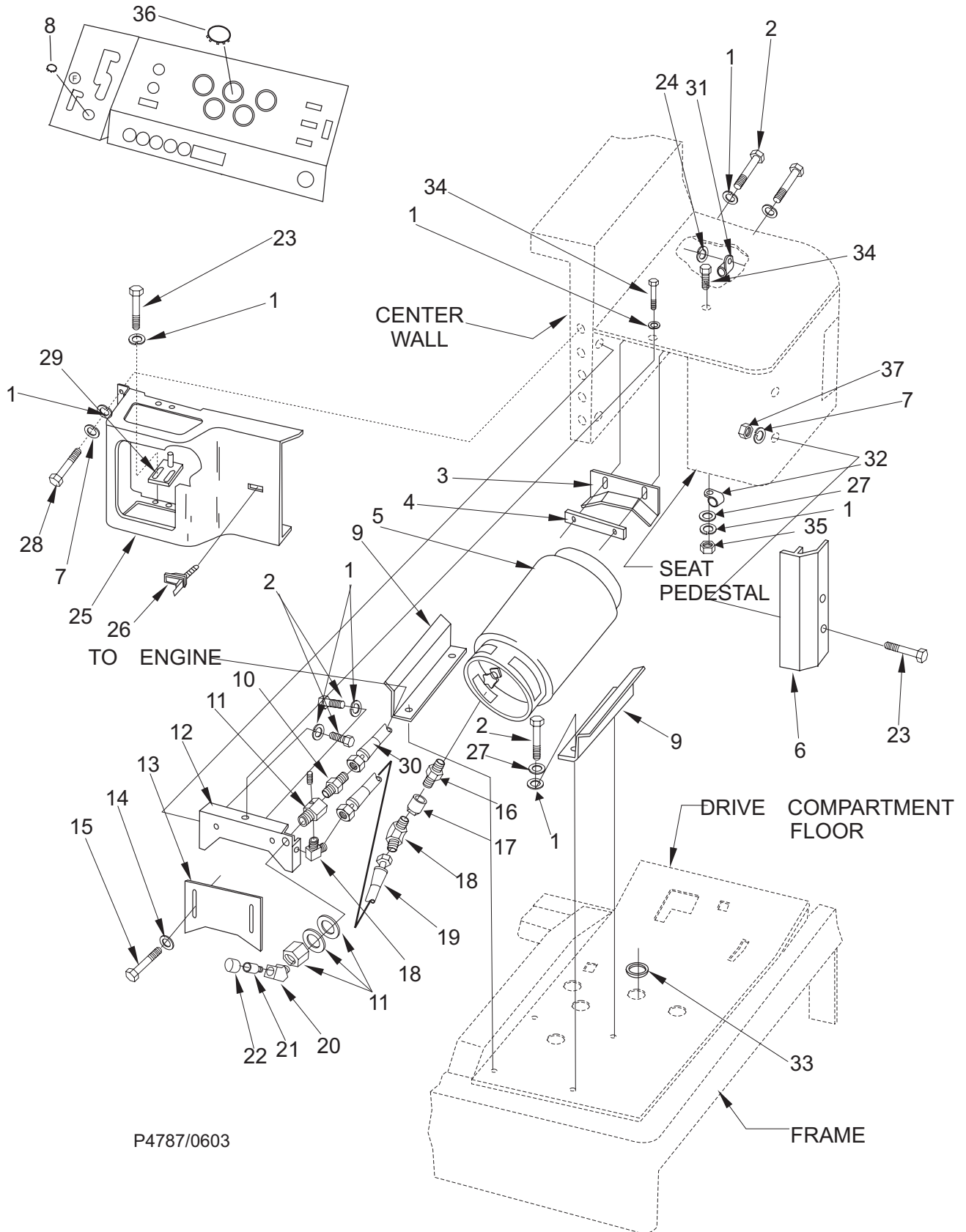
<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	2-00-00518	Lock Washer, Helical Spring 1/4 Med	12
2	2-00-00219	Screw, 1/4-20 x .500 HHC	9
3	8-65-00041	Rear Retainer	1
4	8-08-00619	Bracket, Tapped	1
5	8-83-04016	LP Tank	1
6	8-78-05018	Bumper, LP Tank Stop	1
7	2-00-02312	Lock Washer, Helical Spring 1/2 Med	5
8~	REF	Light, Check Engine (Gas/LP)	
	2-00-04757	Hole Plug (Diesel)	1
9	8-81-00144	Tank Support	2
10*		Fitting, 1/4 NPT x 3/8 SAE Str.	1
11*		Fitting, Bulk Head Plus Hardware	1
12	8-52-00122	Wall, Seat Compartment	1
13	8-65-00042	Retainer, LP Tank	1
14	2-00-00409	Flat Washer, 5/16	2
15	2-00-04867	Screw, 5/16-18 x 1.000 Thumb	2
16*		Fitting (comes with LP tank)	1
17*		Coupling	1
18*		Fitting, 1/4 NPT x 3/8 SAE 90 elbow	2
19*		Hose, Tank to Relief Valve	1
20*		Fitting, 1/4 NPT x 1/4 FM 45 Elbow	1
21*		Relief Valve	1
22*		Plastic Cap	1
23	2-00-00239	Screw, 1/2-13 x 1.000 HHC	5
24	2-00-02310	Lock Washer, 3/8	1
25	8-08-07052	Bumper, LP Tank Stop	1
26	8-41-00040	Latch, Bumper	1
27	2-00-00407	Flat Washer, .562 x .265 x .062	7
28	2-00-00221	Screw, 1/4-20 x .750 HHC	2
29	8-08-00620	Bracket, Locating Pin	1
30	8-33-02262	Hose, 88", Engine to Relief Valve (FORD)	Ref
31	8-13-07091	Clamp, LP Hose	1
32	2-00-04564	Clamp, Cable	1
33	8-09-01077	Grommet	1
34	2-00-00205	Screw, 1/4-20 x 1.00 HHC	1
35	2-00-00594	Nut, Hex 1/4-20 x .437 x .218	1
36	7-11-04035	Kit, Low LP Indicator Light	1
37	2-00-00596	Nut, 1/2-13	2

\*All Parts without a number are contained in LP Kit Number 8-11-04014

~Comes with Engine Assembly

P4787/2-04

# LP TANK SYSTEM- EXPLODED VIEW



P4787/0603

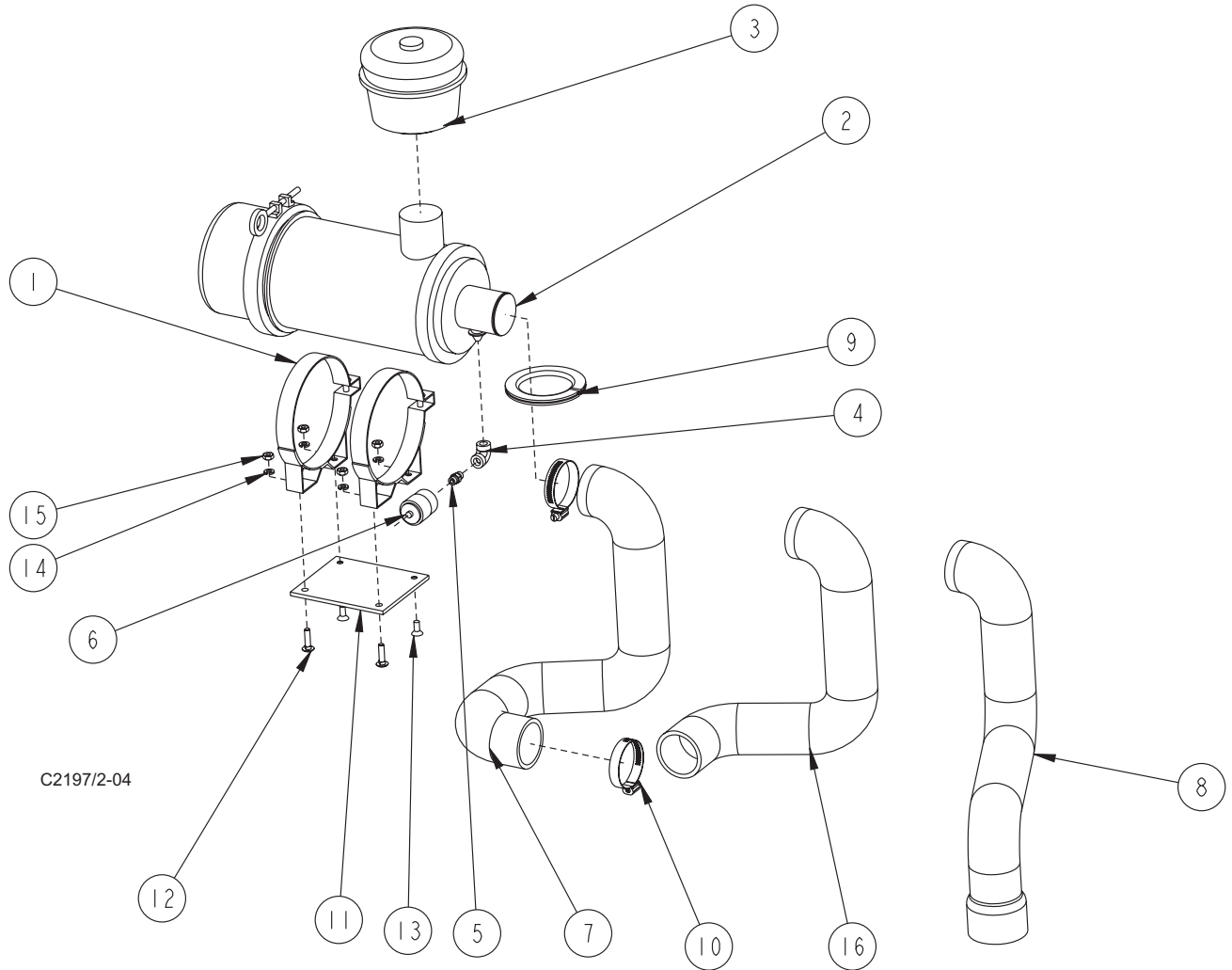
## AIR CLEANER ASSY. (GAS, LP & DIESEL) - PARTS LIST

---

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-24-04093	Clamp, Air Cleaner	2
2	8-24-04100	Air Cleaner	1
3	8-24-04092	Filter, Dust Bowl	1
4	2-00-03641	Elbow, 1/8 NPT	1
5	2-95-02519	Nipple, 1/8 NPT Close	1
6	7-24-04087	Filter Service Indicator 20" WC	1
7	8-33-02375	Hose, Intake	1
8	8-33-02369	Hose, Intake	1
9	7-21-04022	Edging	1
10	2-00-02217	Clamp, Hose	2
11	8-58-05263	Plate, Filter Assy.	1
12	2-00-02196	Carriage Bolt, 1/4-20 x 1.00	2
13	2-00-03027	Screw, 1/4-20 x .63 Cap	2
14	2-00-00518	Lock Washer, 1/4 Helical Spring	4
15	2-00-00594	Nut, 1/4-20 Hex	4
16	8-33-02376	Hose, Intake	1

C2197/2-04

# AIR CLEANER ASSY. (GAS, LP & DIESEL) - EXPLODED VIEW

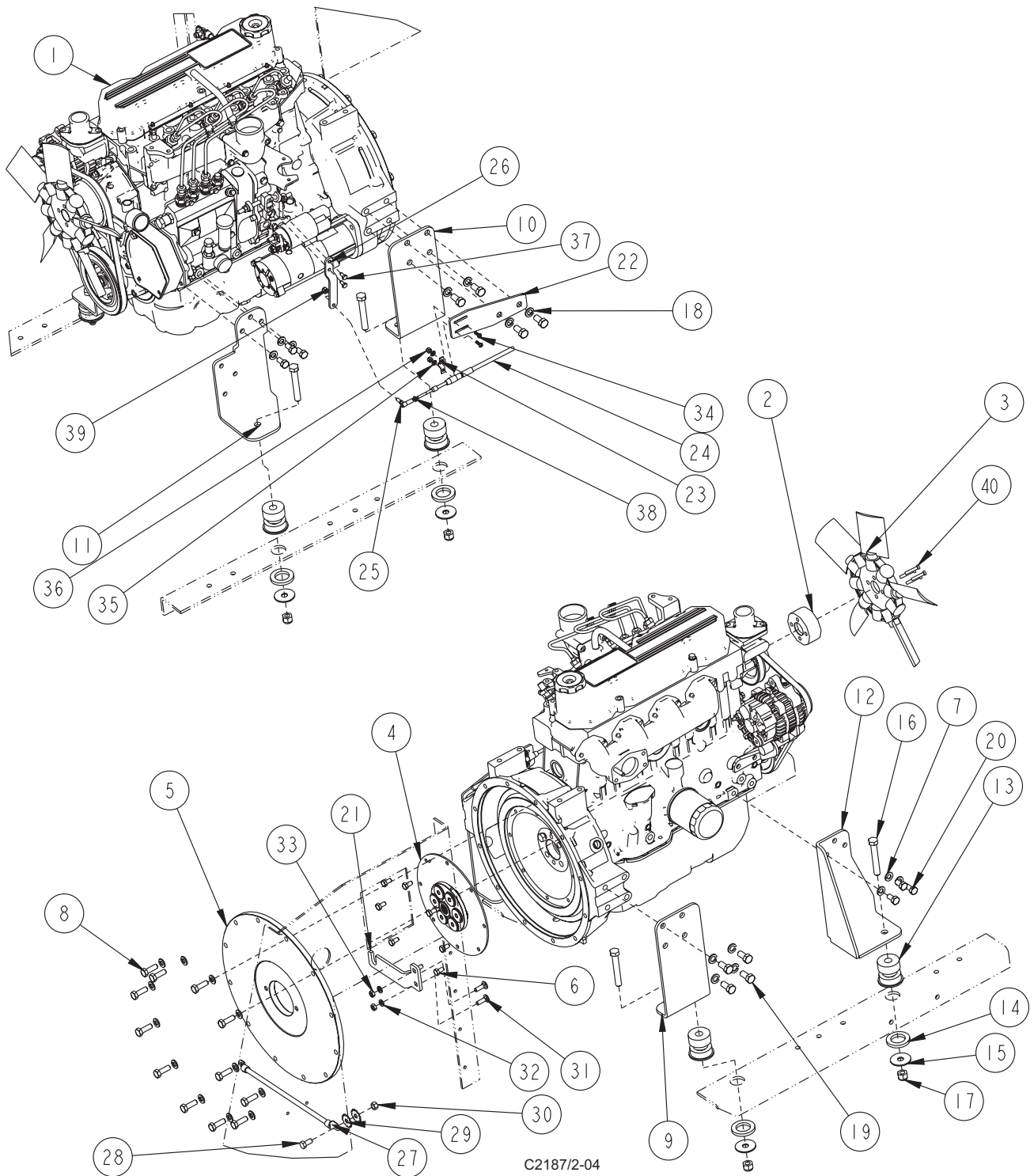


## MITSUBISHI S4Q2 DIESEL ENGINE (FAN, BRACKETS, THROTTLE)

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	0777-052	Engine Assy., Mitsubishi S4Q2 Diesel	1
2	7-75-01248	Spacer, S4Q2 Engine Fan	1
3	7-23-00022	Fan, S4Q2 Engine	1
4	7-16-05045	Coupling, Engine	1
5	7-33-05144	Casting, Pump Plate	1
6	2-00-05963	Screw, M8 x 1.25 x 15mm 8.8 Blox	8
7	2-00-05042	Lock Washer, M10 Helical Spring	18
8	2-00-05961	Screw, M10 x 1.25 x 30mm HHC	12
9	7-08-01192	Bracket, Engine Mount	1
10	7-08-01193	Bracket, Engine Mount	1
11	7-08-01194	Bracket, Engine Mount	1
12	7-08-01195	Bracket, Engine Mount	1
13	7-35-00017	Isolator, Engine Mount (Red Dot)	4
14	2-00-05955	Washer, 1.25 ID x 2.00 OD x .25	4
15	2-00-05067	Spacer, Snubbing Washer	4
16	2-00-02317	Screw, 1/2-13 x 3.5 LG SS	4
17	2-00-04936	Nut, 1/2-13 Elastic Lock	4
18	2-00-05043	Washer, 25/64 ID x 3/4 OD Plain	8
19	2-00-05957	Screw, M12 x 1.75 x 25mm HHC	8
20	2-00-05958	Screw, M10 x 1.25 x 20mm HHC	6
21	8-08-00937	Bracket, Forward/Reverse	1
22	8-08-00938	Bracket, Throttle	1
23	8-13-07094	Clamp, Conduit	1
24	7-10-00024	Cable, Throttle (80")	1
25	8-25-02036	Connector, Ball Joint	1
26	8-03-04321	Arm, Throttle	1
27	8-90-07328	Wire, Ground to Frame	1
28	2-00-00232	Bolt, 3/8-16 Fin. Hex Head	1
29	2-00-03829	Lock Washer, 3/8 Int./Ext. Tooth	2
30	2-00-02360	Nut, 3/8-16 Hex	1
31	2-00-00196	Carriage Bolt, .31-18 x 1 GR 5 ZN	2
32	2-00-00530	Lock Washer, 5/16	2
33	2-00-00585	Nut, 5/16-18 Hex	2
34	2-00-04794	Screw, #10-24 x .63 BHS	2
35	2-00-00426	Flat Washer, .500 x .219 x .063	2
36	2-00-01246	Nut, #10-24 Elastic Stop	2
37	2-00-05528	Screw, M6 x1.0 x 12mm HHC	2
38	2-00-00626	Nut, 10-32	1
39	2-00-00633	Nut, 1/4-28 Fiber Insert	1
40	2-00-05981	Screw, M8 x 1.25 x 55mm HHC	4

C2187/2-04

# MITSUBISHI S4Q2 DIESEL ENGINE (FAN, BRACKETS, THROTTLE)



C2187/2-04

## **mitsubishi S4Q2 Diesel Engine (Exhaust System)**

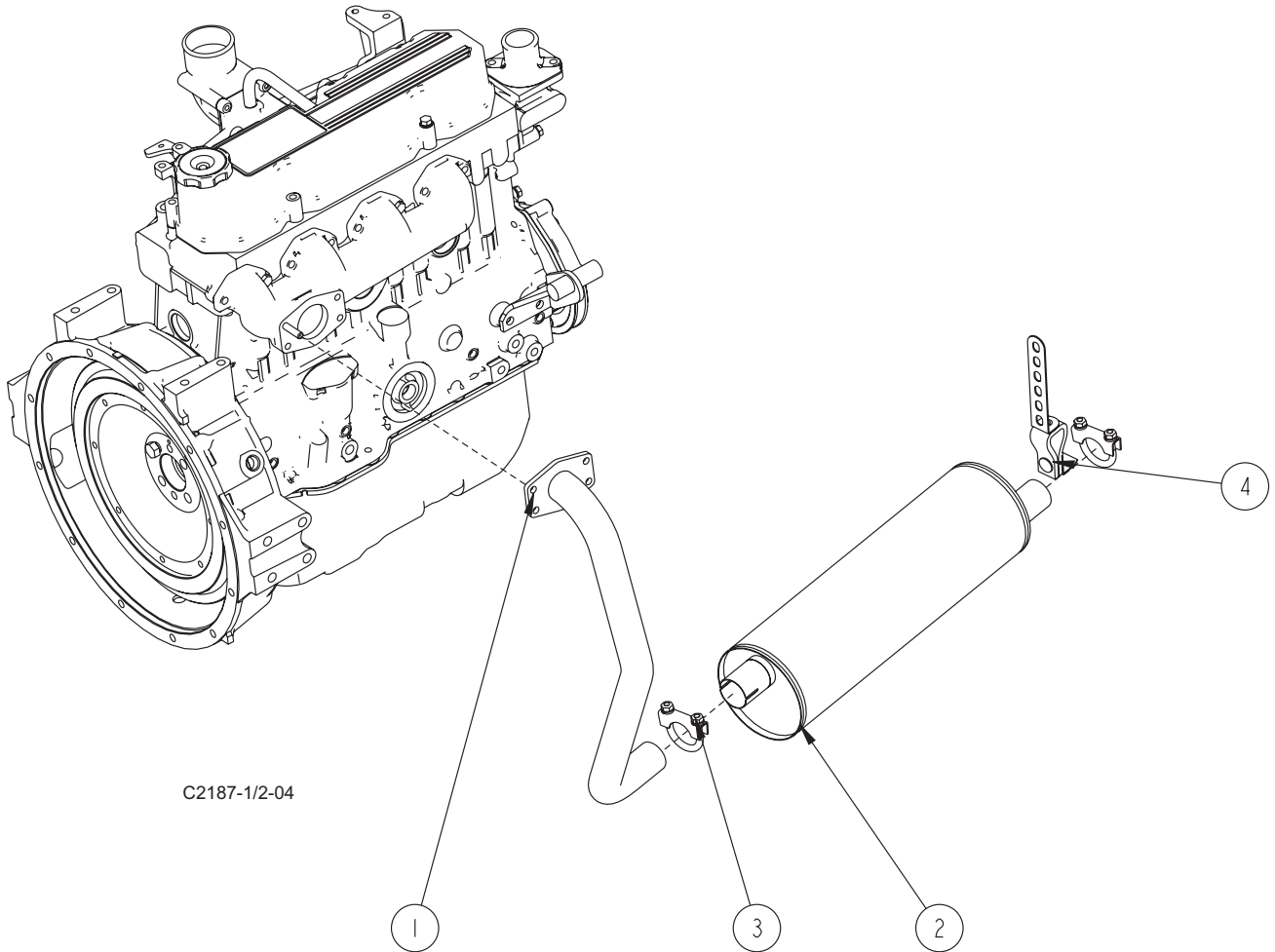
---

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	7-87-02933	Tube, Exhaust	1
2	7-49-00031	Muffler	1
3	2-00-04040	Clamp, 1/4" Muffler	2
4	7-31-07017	Hanger, Muffler	1

C2187-1/2-04



# MITSUBISHI S4Q2 DIESEL ENGINE (EXHAUST SYSTEM)



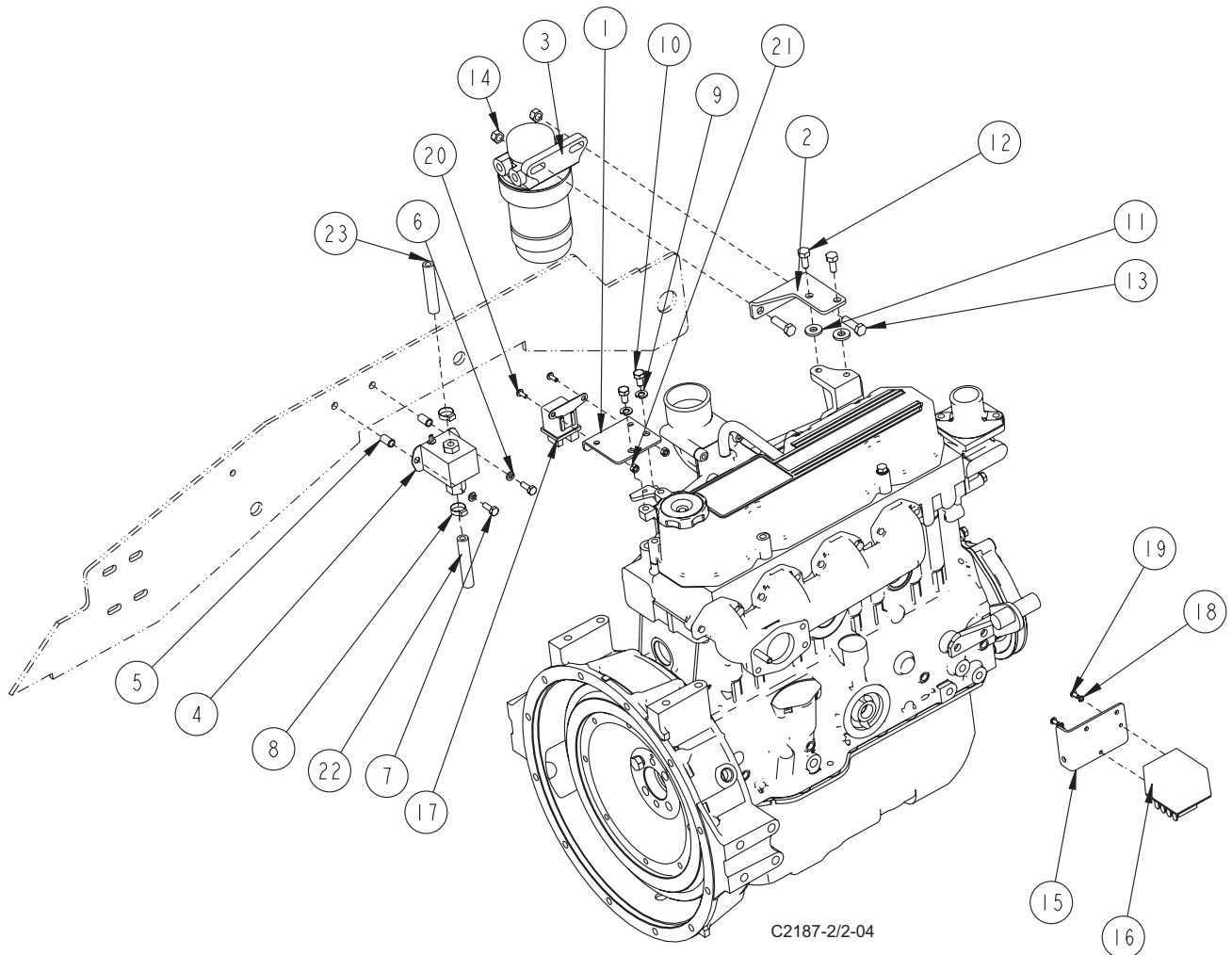
## MITSUBISHI S4Q2 DIESEL ENGINE (FUEL SYSTEM)

---

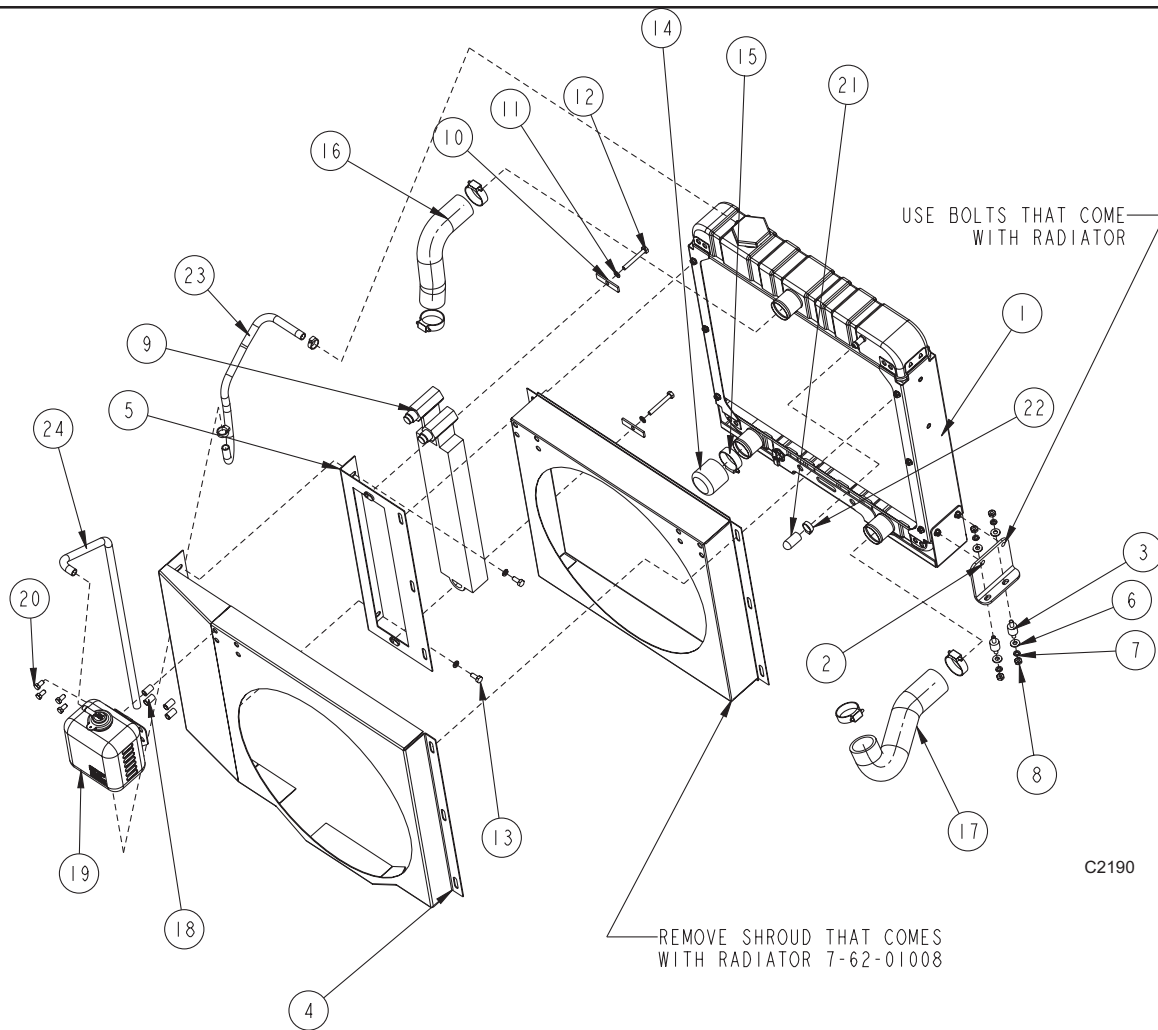
<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-08-00939	Bracket, Murphy	1
2	8-08-00940	Bracket, Fuel Filter	1
3	7-24-04078	Filter, Diesel Fuel	1
4	8-60-05028	Pump, Fuel	1
5	2-00-05261	Insert, 1/4-20 Threaded	2
6	2-00-00518	Lock Washer, 1/4" Helical Spring	2
7	2-00-00221	Bolt, 1/4-20 x .75 Fin. Hex Head	2
8	2-00-04388	Clamp, Hose	2
9	2-00-05041	Lock Washer, M8 Helical Spring	2
10	2-00-05963	Screw, M8 x 1.25 x 15mm 8.8 Blox	2
11	2-00-04801	Flat Washer, 1.00 x .39 x .06	2
12	2-00-04363	Screw, M8 x 1.25 x 20mm	2
13	2-00-00209	Bolt, 3/8-16 x 1.25 Hex Head	2
14	2-95-04182	Nut, 3/8-16 Hex Stop	2
15	8-08-00936	Bracket, Murphy	1
16	7-64-00040	Relay, Glow Plug	1
17	7-64-00041	Relay, Murphy	1
18	2-00-00512	Star Washer	2
19	2-00-00052	Screw, #10-24 x .38 RHMS	2
20	2-00-00049	Screw, 10-24 x .50 RHM	2
21	2-00-01246	Nut, #10-24 Elastic Stop	2
22	8-33-02338	Hose, Fuel	1
23	8-33-02154	Hose, Fuel	1

C2187-2/1-04

# MITSUBISHI S4Q2 DIESEL ENGINE (FUEL SYSTEM)



# RADIATOR & SHROUD - FORD 425EFI GAS/LP

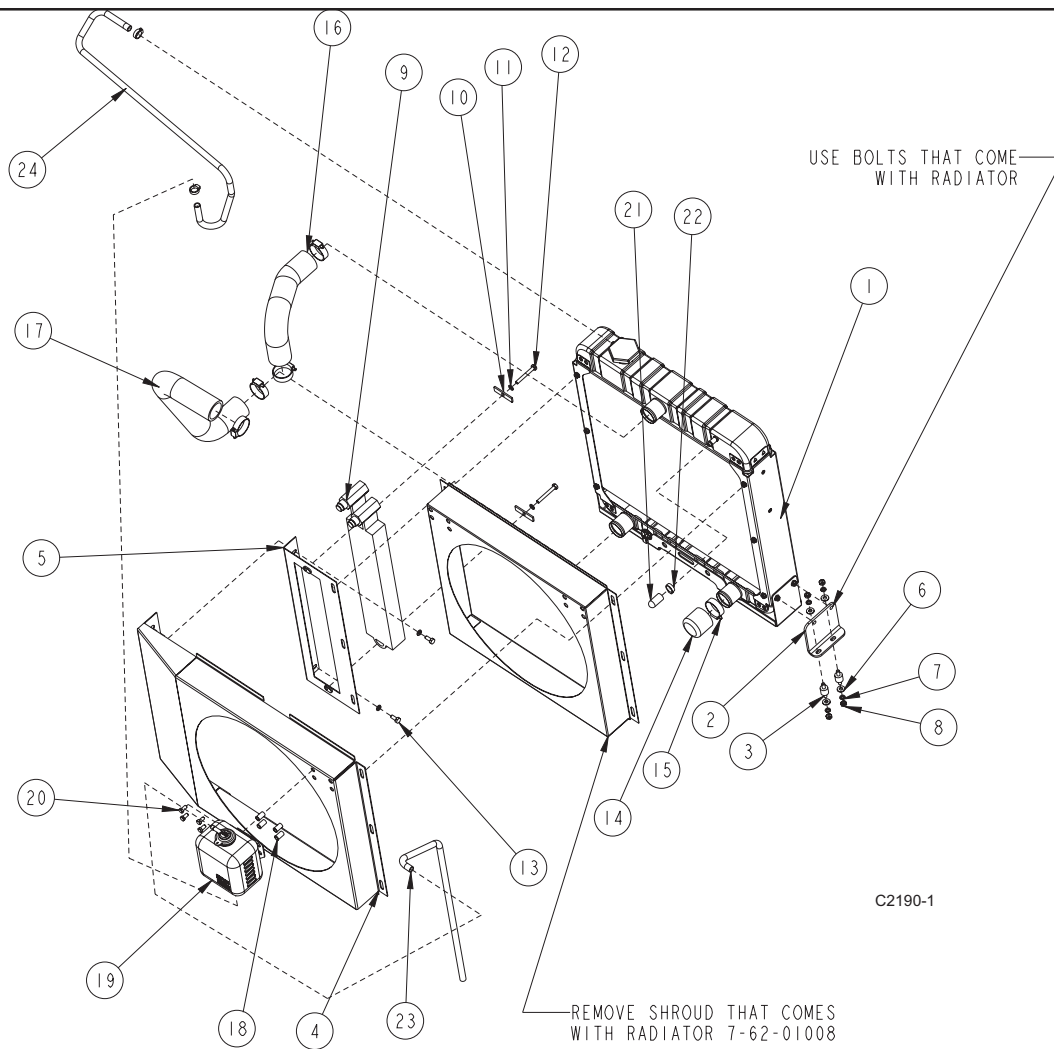


C2190

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	7-62-01008	Radiator	1
2	8-08-00946	Bracket, Radiator Mounting	1
3	8-50-05053	Isolator, Radiator Mount	2
4	8-72-00018	Shroud, Radiator	1
5	8-72-00019	Shroud, Oil Cooler	1
6	2-00-03702	Washer, .625 x .281 x .063	4
7	2-00-00501	Washer, .25 ID x .44 OD x .046	4
8	2-00-00594	Nut, 1/4-20 Hex	4
9	8-62-01010	Oil Cooler	1
10	8-13-07088	Clip	2
11	2-00-00518	Lock Washer, 1/4" Helical Spring	4
12	2-00-02589	Bolt, 1/4-20 Fin. Hex Head	2
13	2-00-00220	Screw, 1/4-20 x .625 HHC	2
14	2-00-05956	Plug, Radiator Outlet	1
15	2-00-03404	Clamp	5
16	8-33-02404	Hose, Upper Radiator	1
17	8-33-02403	Hose, Lower Radiator	1
18	2-00-05261	Insert, 1/4-20 Threaded	4
19	7-07-02002	Overflow Bottle Assy. (1 liter)	1
20	2-00-00219	Bolt, 1/4-20 Fin. Hex Head	4
21	2-00-05985	Cap, 3/8 ID x 1 Inside Length (Rubber)	1
22	2-00-05363	Clamp, Hose	3
23	7-33-02342	Hose, 1/4" ID x 18" long (Black)	1
24	7-33-02344	Hose, 1/4" ID x 24" long (Clear)	1

C2190/6-04

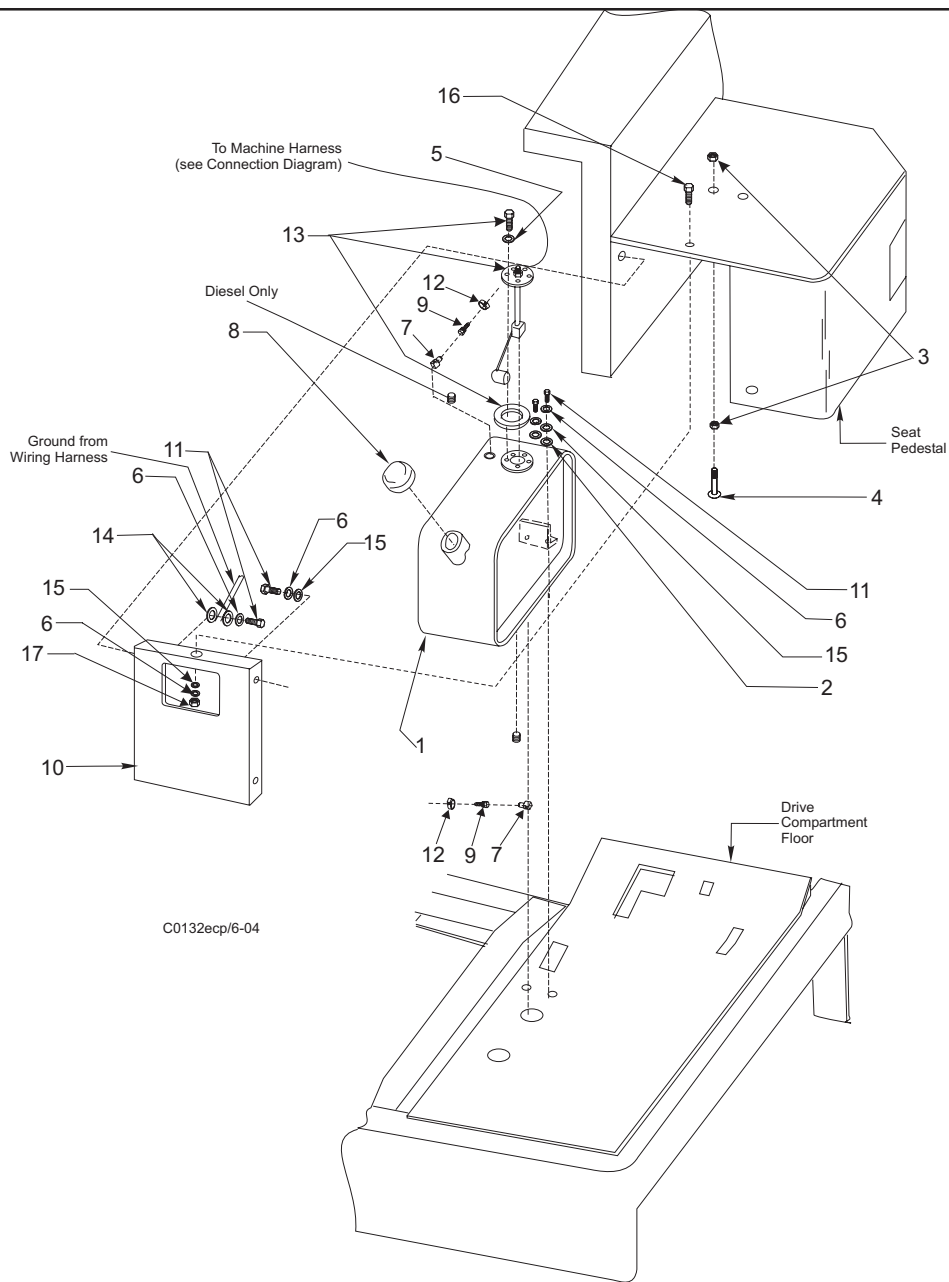
# RADIATOR & SHROUD - MITSUBISHI S4Q2 DIESEL



KEY NO.	PART NUMBER	DESCRIPTION	QTY
1	7-62-01008	Radiator	1
2	8-08-00946	Bracket, Radiator Mounting	1
3	8-50-05053	Isolator, Radiator Mount	2
4	8-72-00020	Shroud, Radiator	1
5	8-72-00019	Shroud, Oil Cooler	1
6	2-00-03702	Washer, .625 x .281 x .063	4
7	2-00-00501	Washer, .25 ID x .44 OD x .046	4
8	2-00-00594	Nut, 1/4-20 Hex	4
9	8-62-01010	Oil Cooler	1
10	8-13-07088	Clip	2
11	2-00-00518	Lock Washer, 1/4" Helical Spring	4
12	2-00-02589	Bolt, 1/4-20 Fin. Hex Head	2
13	2-00-00220	Screw, 1/4-20 x .625 HHC	2
14	2-00-05956	Plug, Radiator Outlet	1
15	2-00-03404	Clamp	5
16	8-33-02367	Hose, Upper Radiator	1
17	8-33-02368	Hose, Lower Radiator	1
18	2-00-05261	Insert, 1/4-20 Threaded	4
19	7-07-02002	Overflow Bottle Assy. (1 liter)	1
20	2-00-00219	Bolt, 1/4-20 Fin. Hex Head	4
21	2-00-05985	Cap, 3/8 ID x 1 Inside Length (Rubber)	1
22	2-00-05363	Clamp, Hose	3
23	7-33-02342	Hose, 1/4" ID x 18" long (Black)	1
24	7-33-02344	Hose, 1/4" ID x 24" long (Clear)	1

C2190-1/3-04

# FUEL TANK - GAS/DIESEL



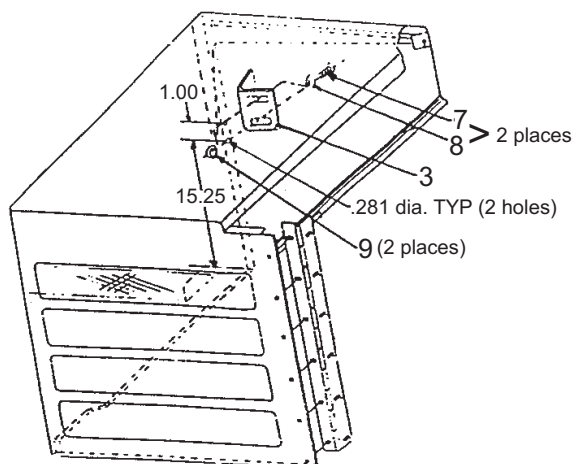
C0132ecp/6-04

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-83-04029	Fuel Tank	1
2	2-00-03829	Star Washer	1
3	2-00-02369	Nut, Hex Jam 3/8 - 16 x .562 x .218	2
4	7-50-05144	Pad	1
5	2-00-00512	Star Washer	1
6	2-00-00518	Lock Washer, Helical Spring 1/4 Med	7
7	8-56-05021	Fitting	2
8	7-11-00029	Fuel Tank Cap	1
9	2-00-04618	Barb Fitting	2
10	8-52-00127	Rear Wall - Seat Compartment	1
11	2-00-00221	Screw, 1/4 - 20 x .750 HHC	6
12	2-95-04388	Clamp	2
13	8-26-04003	Float, Fuel Tank Sender	1
14	2-00-00503	Lock Washer, 1/4 Int/Ext	2
15	2-00-00407	Flat Washer, .562 x .265 x .062	6
16	2-00-00183	Screw - 1/4 - 20 x .75 THM	1
17	2-00-00594	Nut - 1/4 - 20 Hex.	2

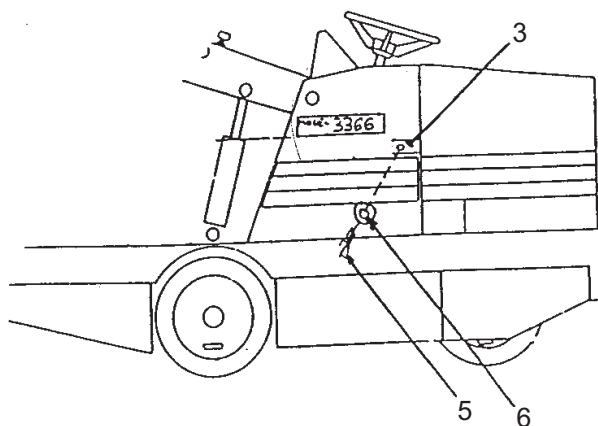
C0132ecp/6-04

ENGINE COVER MOUNT INSTALLATION

STEP 1: INSTALL MOUNT ON ENGINE AS SHOWN  
 NOTE: REMOVE EXISTING COVER LATCH



STEP 2: MOVE ENGINE COVER TO DESIRED CLOSED POSITION; MARK AND DRILL .530 DIAMETER HOLE FOR 5/16" INSERT NUT (2-00-00530); FASTEN MOUNT WITH SHOWN HARDWARE.



KEY NO.	PART NUMBER	DESCRIPTION	QTY
1	8-79-00030	Static Strap	1
2	8-41-05085	Engine Cover Mount	1
3	7-41-05099	Brake Handle (replaces 7-41-05083)	2
4	8-50-00016	Serial Number Plate (see decals)	1
5	2-00-00224	Screw, .313 x .50	1
6	2-00-00530	Lock Washer, 5/16 Med.	1
7	2-00-00220	Screw, 1/4-20 x .63 HHC	2
8	2-00-00518	Lock Washer, 1/4 Med.	2
9	2-00-00594	Nut, 1/4-20 Hexs	2

CEKIT/2-04

## DECALS - PARTS LIST

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-18-00518	Hopper Controls	1
2	8-18-00512	Instrument Panel	1
3	8-18-00519	Main Broom & Throttle (Diesel only)	1
	8-18-00555	Main Broom & Throttle (Gas/LPonly)	1
4*	REF	Hydraulic Fluid Only	1
5	8-18-00490	Bi-directional Pedal (horizontal)	1
6	8-18-00487	Blank Squares - Option Cover	1
7<	REF	Gasoline Only	1
	REF	Diesel Only	1
8*<	REF	Do Not Use With Flammables	1
9*<	REF	Exhaust Warning	1
10<	REF	Fire Hazard	1
11<	REF	Moving Belts - Stay Clear	1
12<	REF	Moving Fan Blade-Stay Clear	1
13*<	REF	Patent/Patent Pending	1
14<	REF	Surface Hot - Stay Clear	1
15<	REF	Turn Off - Lock Wheel	1
16*<	REF	Put Hopper in Forward Dump Position	2
17*<	REF	Split rim (Pneumatic Tire)	3
18<	REF	Pinch Point - Stay Clear	4
19	8-18-00532	3366XP	1
	8-18-00556	3366XP (Export Only)	1
20	8-18-00549	American-Lincoln Technology (Export only)	1
21	8-18-00525	American-Lincoln (Medium)	1
	8-18-00528	Alto (Export only)	1
22	8-18-00524	American-Lincoln (Small)	2
	8-18-00548	American-Lincoln Technology (Export only)	1
23	REF	Serial Number Plate	1
24	7-50-05136	Non-Skid, Frame Edge	1
25	8-50-05055	Non-Skid, Forward/Reverse Pedal	1
26	8-50-05050	Non-Skid, Brake Pedal	1
27	8-50-05052	Non-Skid, Drive Compartment Floor	1
28	2-00-04115	Pop Rivet	2

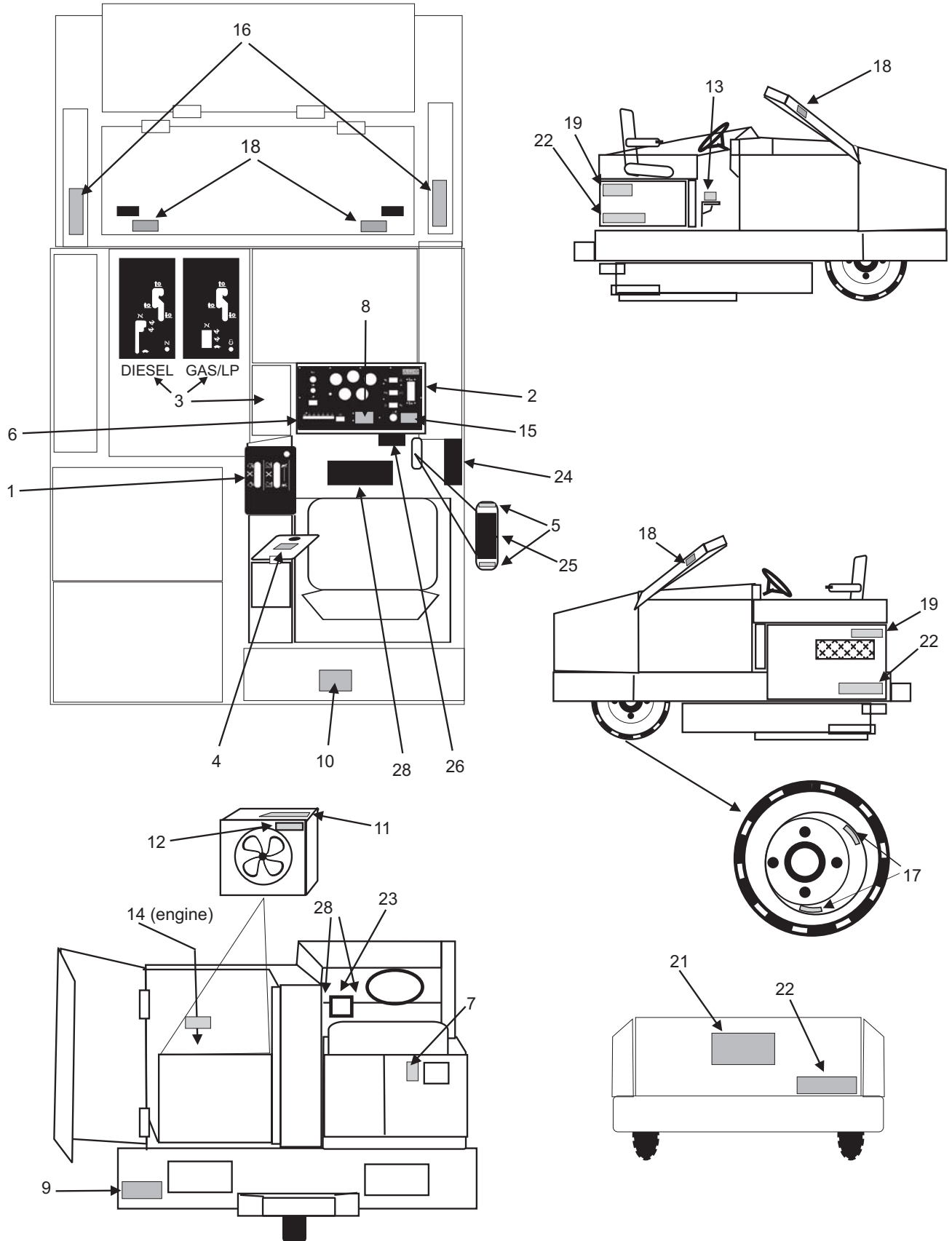
<English Text and 3366 No-text warning decals contained in kit 0760-871

**\*ALL WARNING/SAFETY DECALS WITH TEXT SOLD IN A KIT BY LANGUAGE:**

<b>DANISH</b>	<b>0760-850</b>	<b>ITALIAN</b>	<b>0760-851</b>
<b>DUTCH</b>	<b>0760-849</b>	<b>FRENCH</b>	<b>0760-847</b>
<b>NORWEGIAN</b>	<b>0760-852</b>	<b>SPANISH</b>	<b>0760-846</b>
<b>SWEDISH</b>	<b>0760-853</b>	<b>PORTUGUESE</b>	<b>0760-854</b>
<b>GERMAN</b>	<b>0760-848</b>		



# DECALS - EXPLODED VIEW

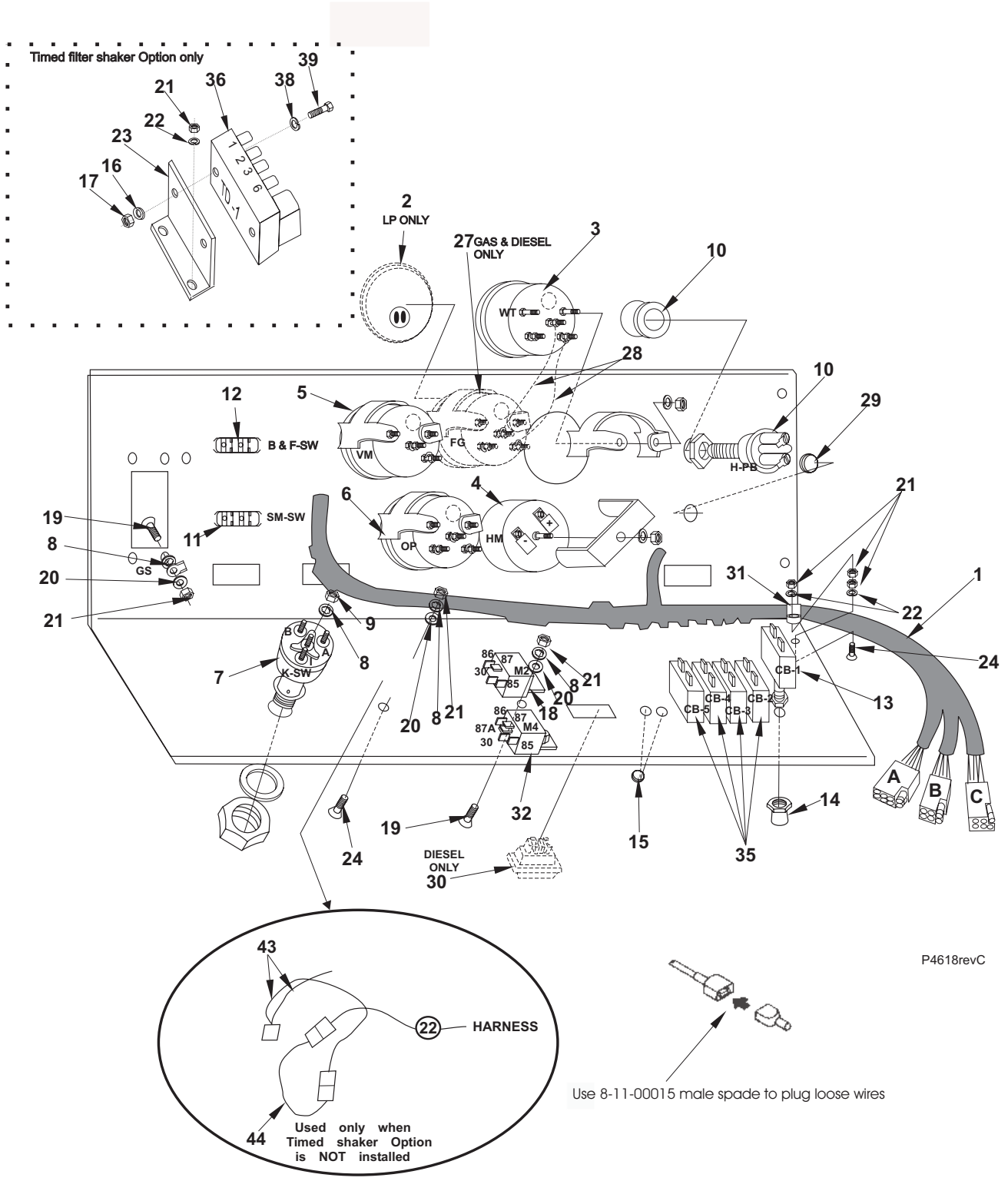


## INSTRUMENT PANEL - PARTS LIST

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	0895-132	Instrument Panel Harness	1
2	7-11-04035	Kit, Low LP Indicator Light (LP only)	1
3	8-48-05028	Water Temperature Gauge	1
4	8-48-05023	Hour Meter Gauge	1
5	8-48-00016	Volt Meter Gauge	1
6	8-48-05027	Oil Pressure Gauge	1
7	7-82-00026	Key Switch (Key only: 2-60-02272)	1
8	2-00-00512	Lock Washer #10 Int	8
9	2-00-04694	Nut, Hex MS #10 - 32 x .375 x .125	4
10	8-82-00024	Horn Push Button	1
11	8-82-00062	Switch - SPST (Momentary) ON-OFF	1
12	8-82-00059	Switch - SPST ON-OFF	1
13	8-64-00013	Circuit Breaker (25 Amp)	1
14	8-11-00044	Boot (Circuit Breaker)	5
15	2-00-04757	Plug Button, .375 Circuit Breaker	2
16	2-00-01499	Lock Washer, #6	2
17	2-00-00624	Nut, Hex #6-32	2
18	8-64-00012	Shaker Motor Relay	1
19	2-00-03063	Screw, #10 - 24 x .750 THM	3
20	2-00-00466	Flat Washer, .625 x .203 x .031	4
21	2-00-00605	Nut, Hex MS #10 - 24 x .375 x .125	12
22	2-00-00519	Lock Washer, Helical Spring #10 Med	8
23	8-08-00748	Relay Bracket	1
24	2-00-04897	Screw, #10 - 24 x 1.250 THM	2
27	8-48-05032	Fuel Gauge (Gas & Diesel only)	Ref
28	8-90-07357	Wire, W.T. Gauge to F.G. (Gas & Diesel only)	Ref
29	2-00-04942	Plug Button, .530 (Light Switch)	2
30	8-82-00062	Switch -SPST (Momentary)ON-OFF (Diesel)	1
31	2-00-04937	Tie Cable	1
32	8-64-05009	Relay, Broom and Fan	1
33	2-00-03061	Screw, #10 - 24 x .500 THM	9
35	8-64-00008	Circuit Breaker (15 AMP)	4
36	8-64-05011	Relay (20 Sec. Time Delay) (Option)	1
38	2-00-00455	Flat Washer, #6	2
39	2-00-00067	Screw, #6-32 x 1.00 RHM	2
43	8-90-07361	Wire - TD-1 #6 to #7 to M2 #86 to M4 #68	1
44	8-90-07385	Wire - Jumper	1

P4618/3-05

# INSTRUMENT PANEL - EXPLODED VIEW

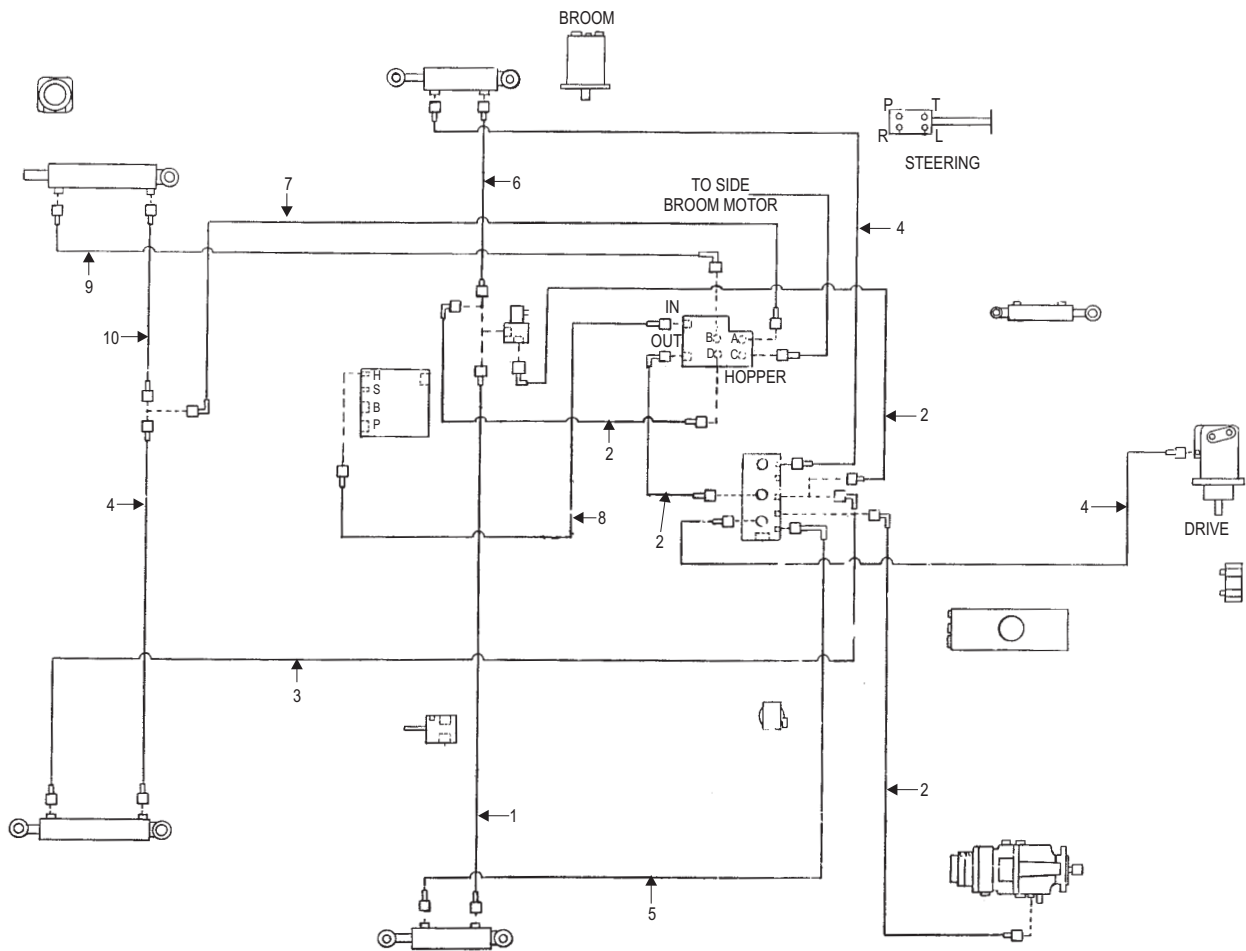


## HYDRAULIC HOSE SYSTEM (VARIABLE DUMP) - PARTS LIST

---

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-33-02184	Hose, #4 x 50.50" -0-0-ORS-1WB	1
2	7-33-02225	Hose, #4 x 38.00" -0-90-ORS-1WB	4
3	8-33-02198	Hose, #4 x 107.00" -0-90-ORS-1WB	1
4	8-33-02185	Hose, #4 x 56.00" -0-0-ORS-1WB	3
5	7-33-02193	Hose, #4 x 49.00" -0-90-ORS-1WB	1
6	8-33-02217	Hose, #4 x 32.00 -0-0-ORS-1WB	1
7	8-33-02174	Hose, #4 x 16.50" -0-90-ORS-1WB	1
8	8-33-02178	Hose, #4 x 15.000 -0-0-ORS-1WB	REF
9	8-33-02204	Hose, #4 x 76.00" -0-90-ORS-1WB	1
10	8-33-02179	Hose, #4 x 46.00 -0-0-ORS-1WB	1

# HYDRAULIC HOSE SYSTEM (VARIABLE DUMP) - EXPLODED VIEW



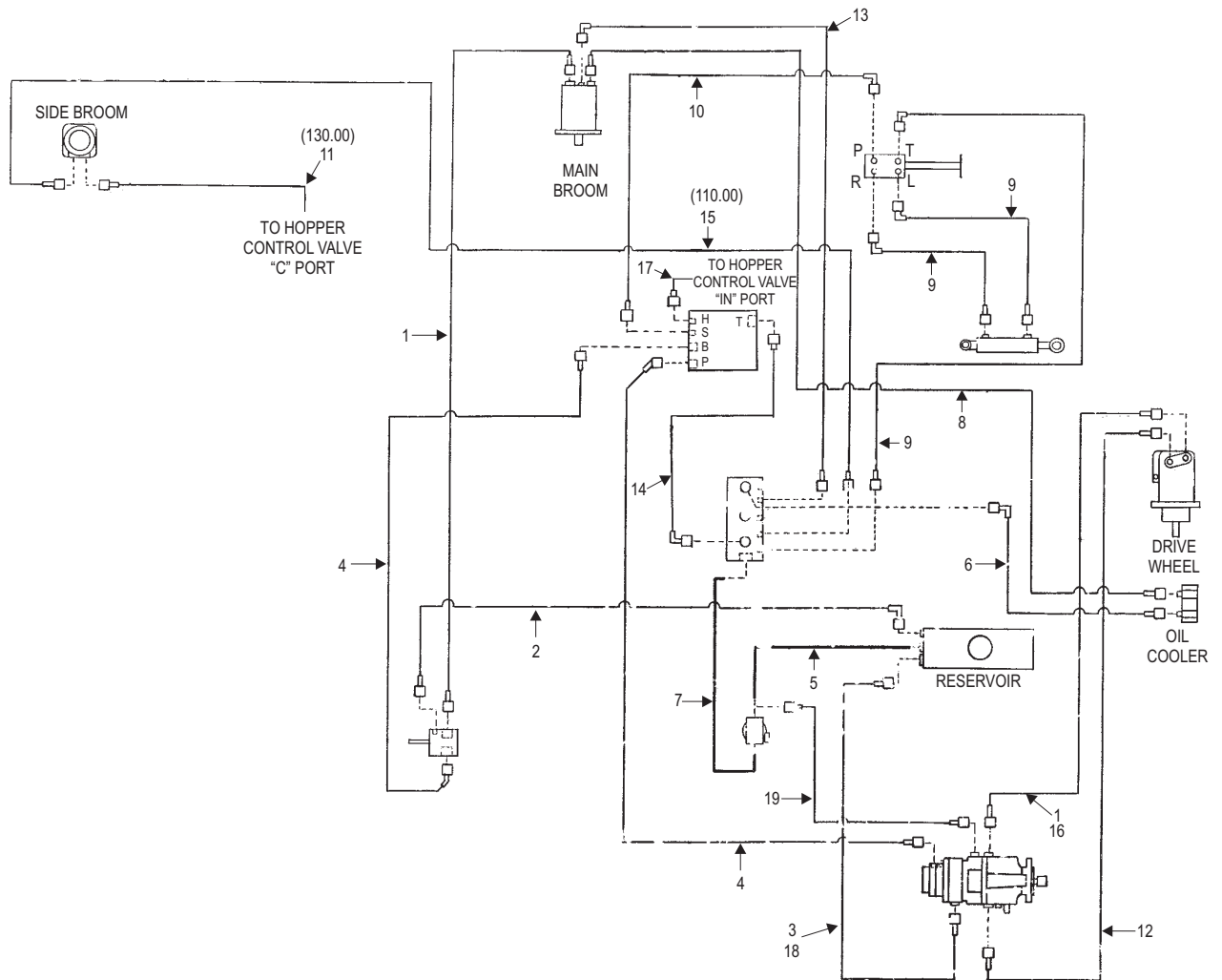
## HYDRAULIC HOSE SYSTEM (COMMON TO VARIABLE & LOW DUMPS)

---

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1*<	8-33-02267	Hose, #8 x 62.000 -0-0-ORS-2WB	2
2*<	7-33-02189	Hose, #4 x 26.000 -0-90-ORS-1WB	1
3*	8-33-02215	Hose, #12 x 36.000 -0-0-ORS-1WB	1
4*<	8-33-02265	Hose, #8 x 23.000 -0-45-ORS-2WB	2
5	8-33-02273	Hose, 1 x 15.000 Return	1
6*<	8-33-02264	Hose, #8 x 52.000 -0-JIC-90-ORS-1WB	1
7	7-33-02317	Hose, 1 x 15.000 Return	1
8*<	8-33-02246	Hose, #8 x 90.000 -0-JIC-0-ORS-1WB	2
9*<	7-33-02190	Hose #4 x 67.000 -0-90-ORS-1WB	3
10*<	7-33-02200	Hose, #4 x 56.000 -0-90-ORS-1WB	1
11*<	8-33-02278	Hose, #4 x 130.000 -0-0-ORS-1WB	1
12*<	8-33-02195	Hose, #8 x 69.500 -0-0-ORS-2WB	1
13*<	7-33-02193	Hose, #4 x 49.000 -0-90-ORS-1WB	1
14*<	7-33-02206	Hose, #8 x 14.250 -0-90-ORS-1WB	1
15*<	8-33-02277	Hose, #4 x 110.00 -0-0-ORS-1WB	1
16<	8-33-02191	Hose, #8 x 56.50"-0-0-ORS - 2 WB	1
17*<	8-33-02178	Hose, #4 x 15.000 -0-0-ORS-1WB	1
18<	8-33-02194	Hose, #12 x 32.00"-0-0-ORS-1WB	1
19*<	8-33-02217	Hose, #4 x 32.000 -0-0-ORS-1WB	1

\*USED ON DIESEL MODELS  
<USED ON GAS/LP MODELS

# HYDRAULIC HOSE SYSTEM (COMMON TO VARIABLE & LOW DUMPS)



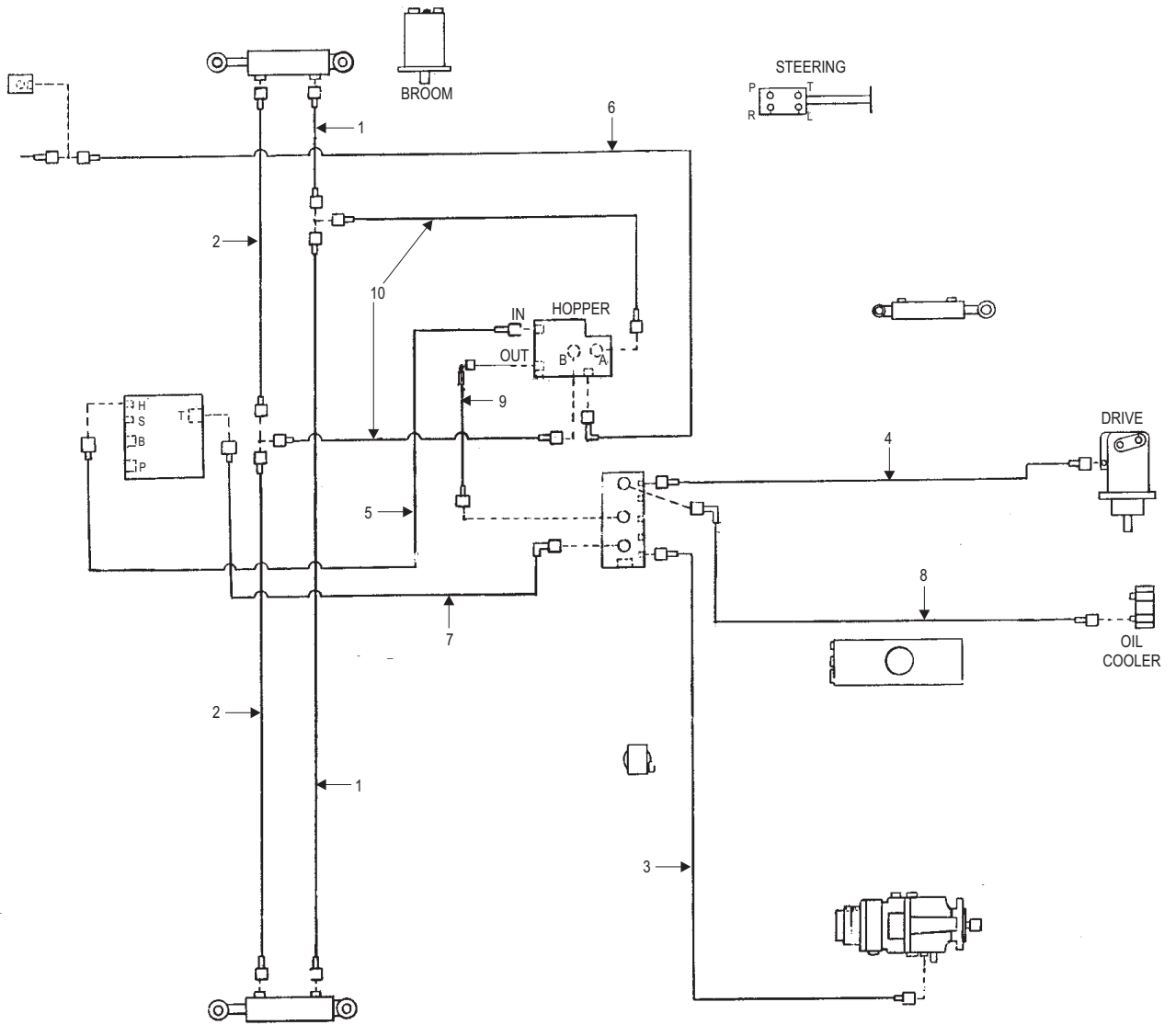
## HYDRAULIC HOSE SYSTEM (LOW DUMP) - PARTS LIST

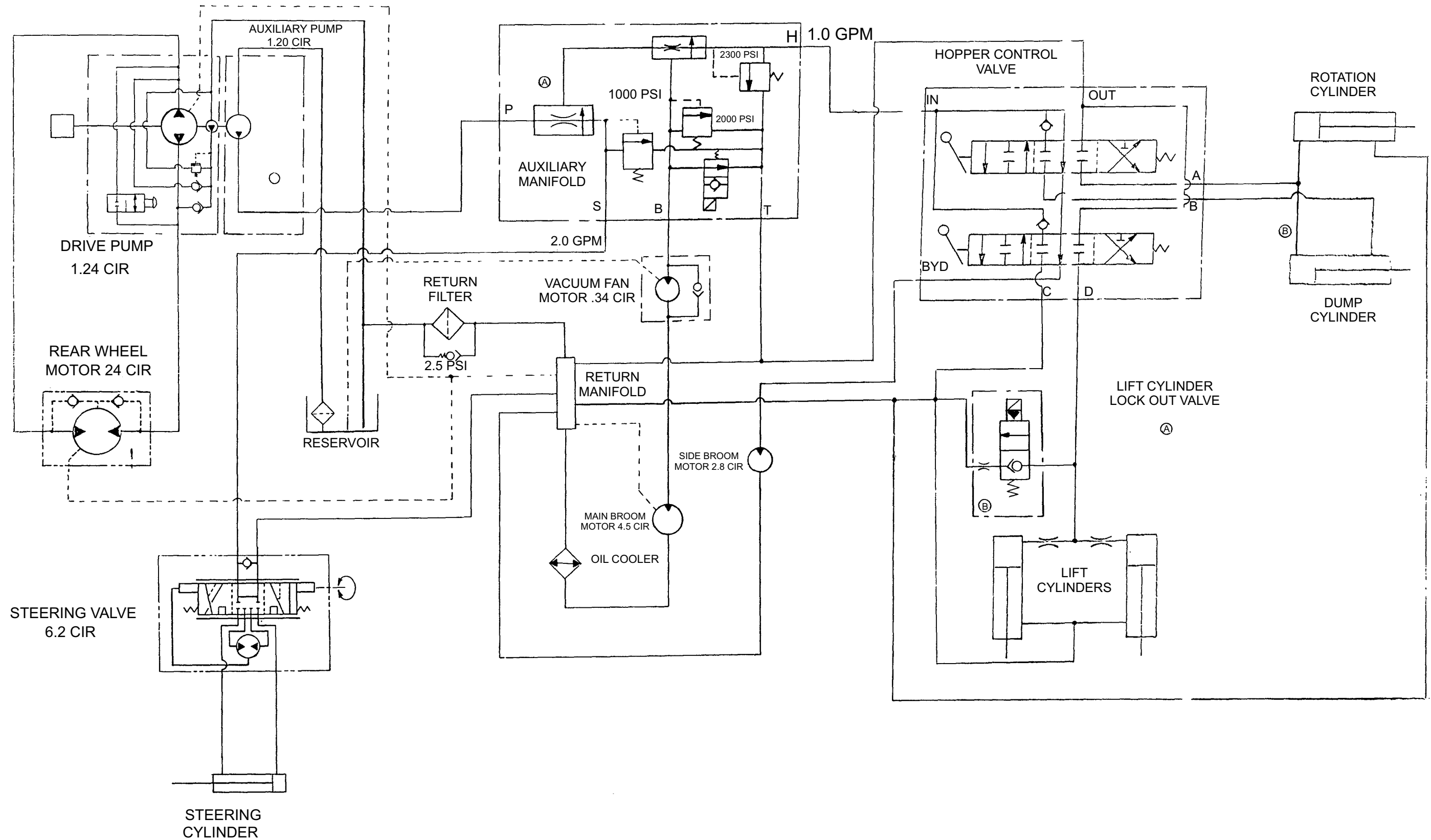
---

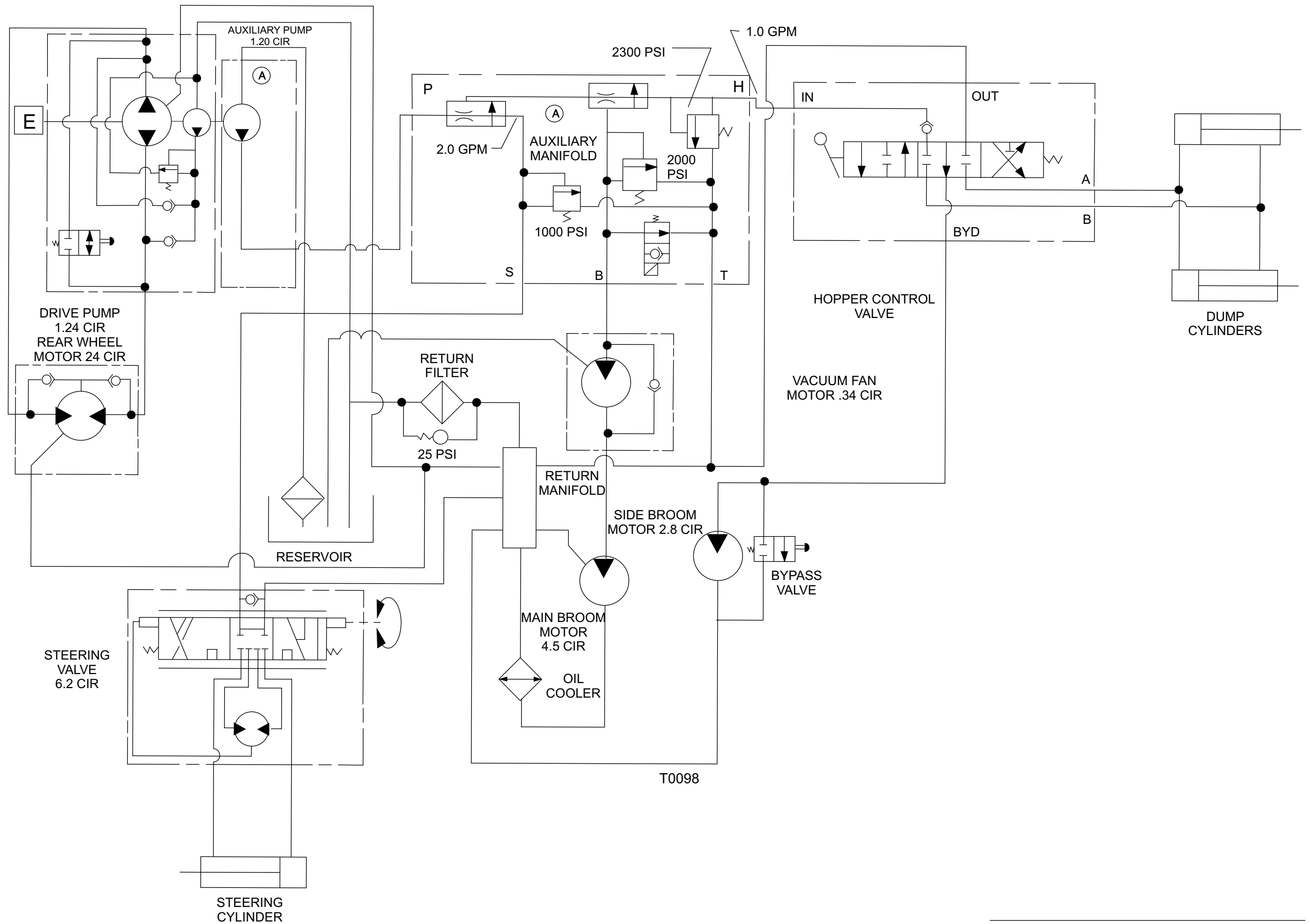
<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-33-02185	Hose, #4 x 56.000 -0-0-ORS-1WB	2
2	8-33-02177	Hose, #4 x 73.000 -0-0-ORS-1WB	2
3	8-33-02217	Hose, #4 x 32.000 -0-0-ORS-1WB	1
4	8-33-02184	Hose, #4 x 50.5.000 -0-0-ORS-1WB	1
5	8-33-02178	Hose, #4 x 15.000 -0-0-ORS-1WB	REF
6	8-33-02198	Hose #4 x 107.000 -0-90-ORS-1WB	REF
7	7-33-02206	Hose, #8 x 14.25" -0-90-ORS-1WB	REF
8	8-33-02264	Hose, #8 x 52.00" -0-JIC-90-ORS-1WB	REF
9	7-33-02225	Hose, #4 x 38.000 -0-ORS-1WB	1
10	7-33-02186	Hose, #4 x 30.000 -0-ORS-1WB	2



# HYDRAULIC HOSE SYSTEM (LOW DUMP) - EXPLODED VIEW





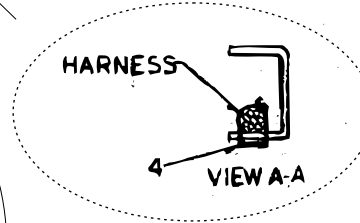
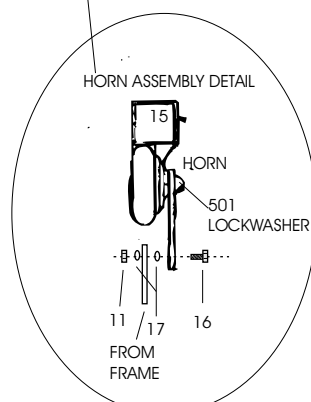
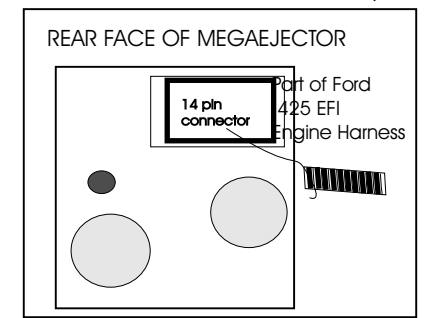
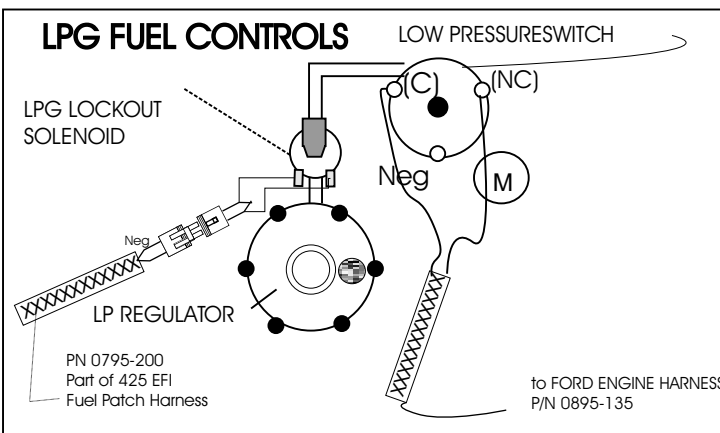
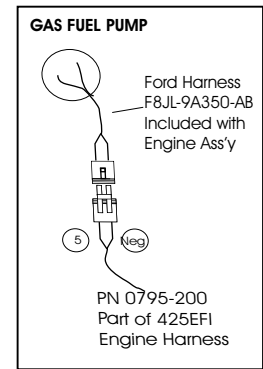
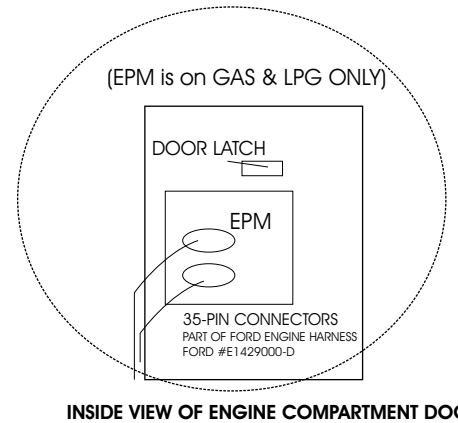
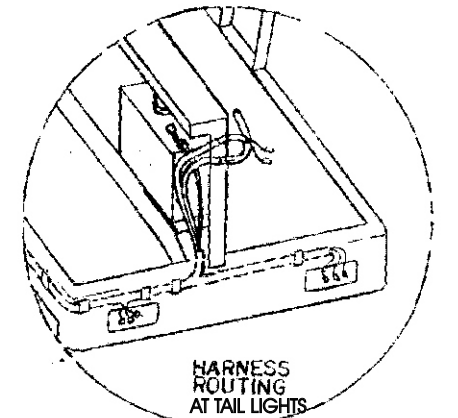
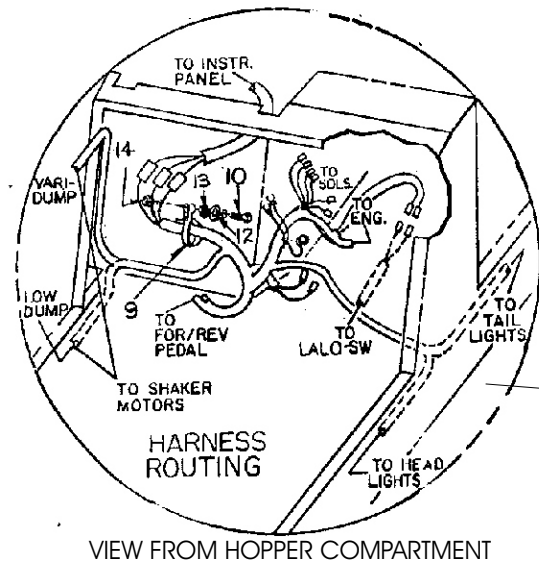
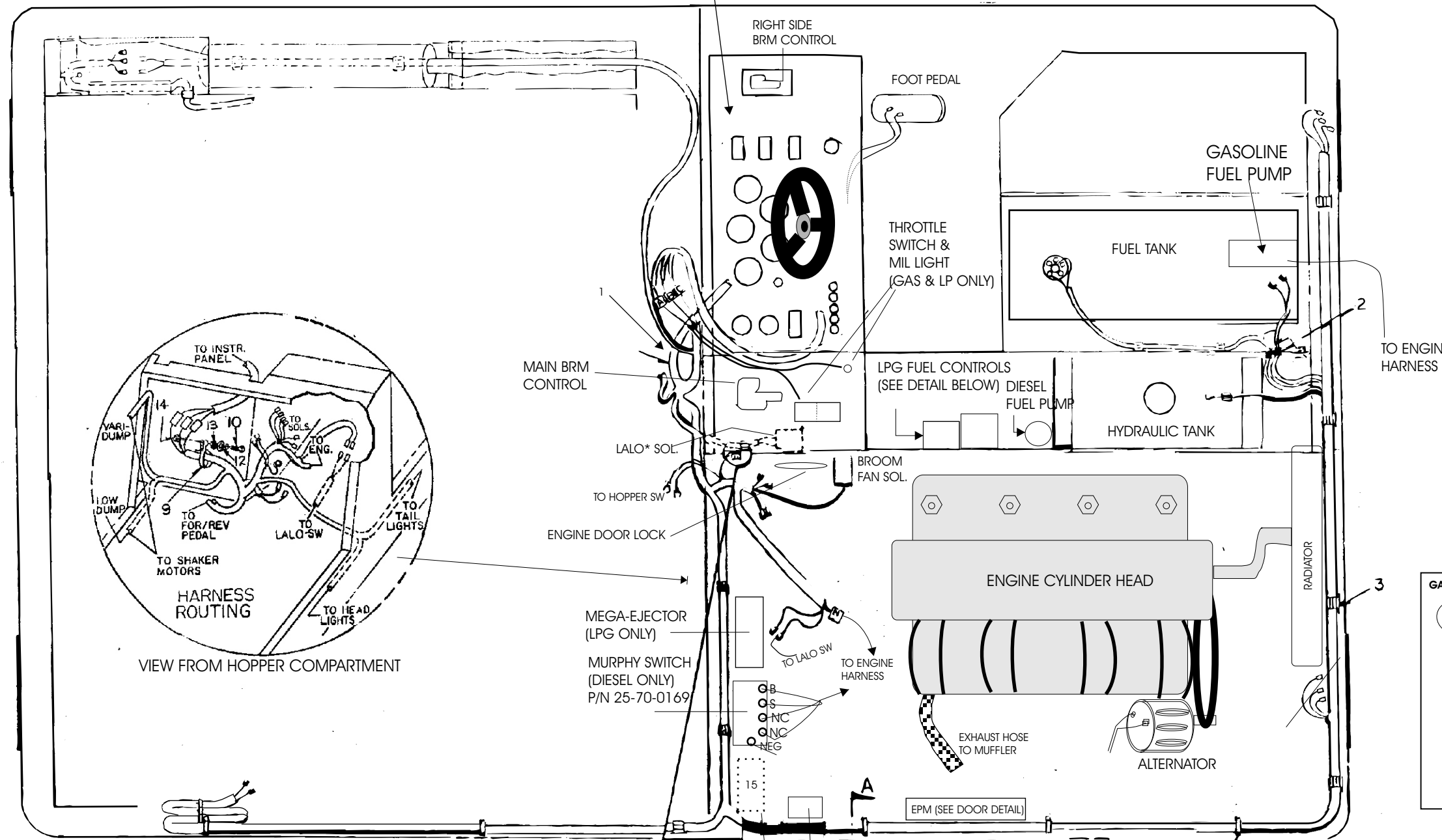


## HARNESS ROUTING (GAS/LP/DIESEL)

---

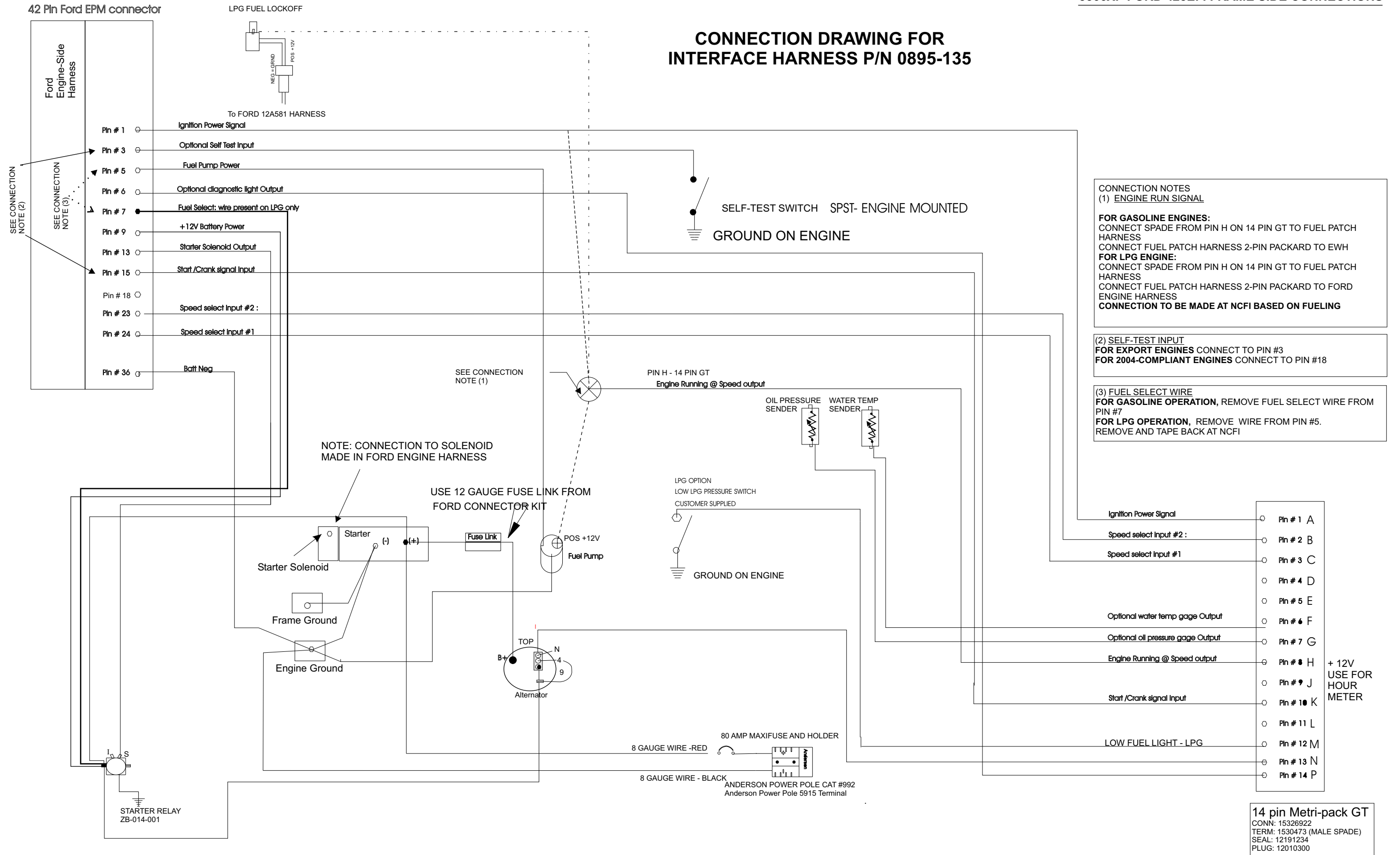
<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	0895-131	Machine Harness	1
2	8-09-01081	Bushing, Snap	2
3	7-13-07096	Clamp, Adjustable	17
4	2-00-04345	Ty-Rap	5
5	2-00-00594	Nut, 1/4-20 Hex	1
6	2-00-00641	Nut, 1/4-20 Fiber Lock	1
7	2-00-00503	Washer, 1/4 Int. - Ext.	2
8	2-00-00205	Screw, 1/4-20 x 1.00 HHC	1
9	2-00-04937	Cable Tie	1
10	2-00-03063	Screw, 10-24 x .750 THM	1
11	2-00-00585	Nut, Hex 5/16-18 x .500 x .265	1
12	2-00-00519	Lock Washer, Helical Spring #10	1
13	2-00-00605	Nut, Hex MS #10-24 x .375 x .125	1
14	2-00-01246	Nut, #10-24 Fiber Lock	1
15	8-32-09013	Horn	1
16	2-00-00208	Screw, 5/16-18 x .75 HHC	1
17	2-00-02303	Lock Washer, 5/16	2

SEE INSTRUMENT PANEL ASSEMBLY

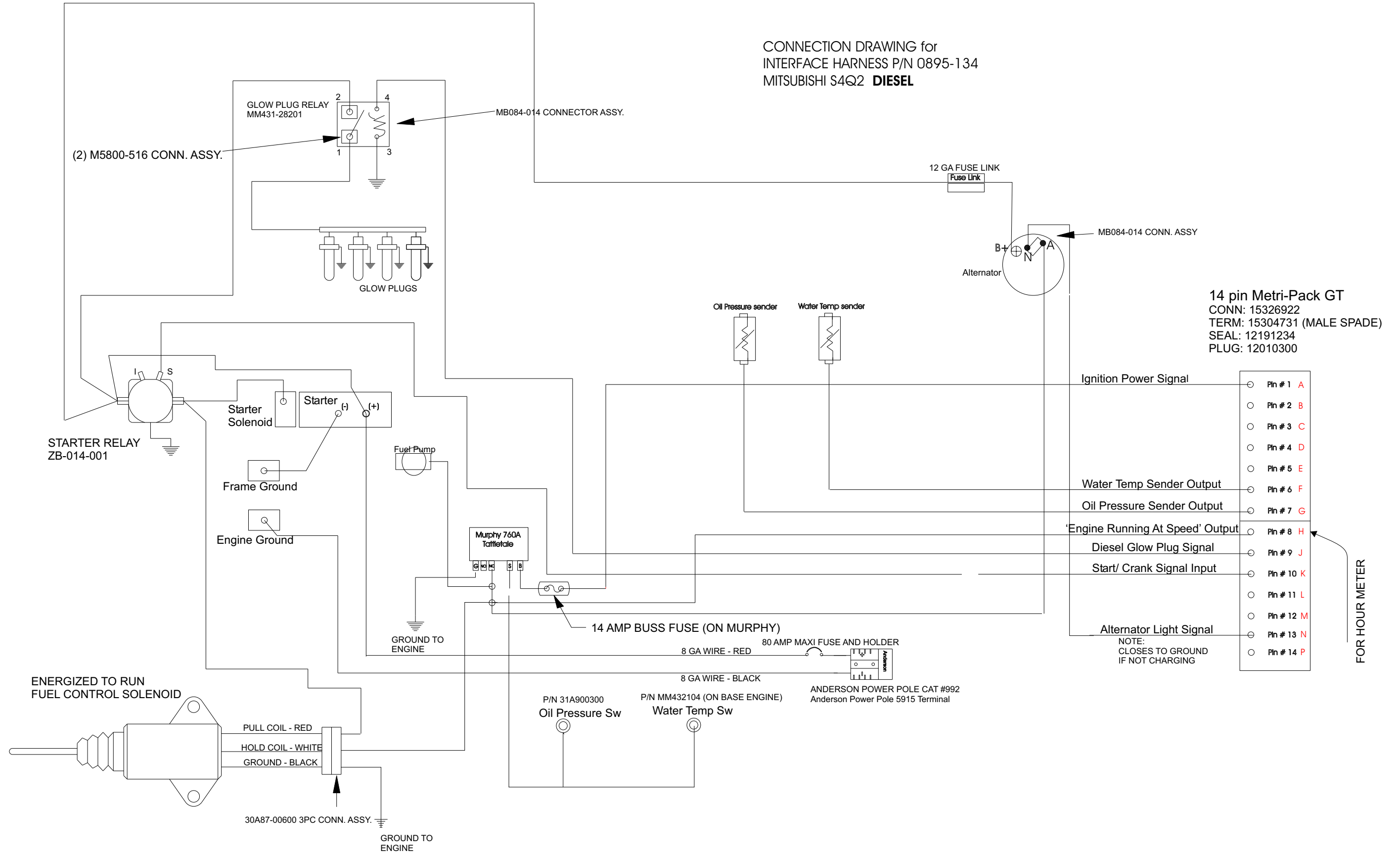


\* LALO = LIFT ARM LOCK OUT

# CONNECTION DRAWING FOR INTERFACE HARNESS P/N 0895-135



CONNECTION DRAWING for  
INTERFACE HARNESS P/N 0895-134  
MITSUBISHI S4Q2 **DIESEL**



14 pin Metri-Pack GT  
CONN: 15326922  
TERM: 15304731 (MALE SPADE)  
SEAL: 12191234  
PLUG: 12010300

- Pin # 1 A
- Pin # 2 B
- Pin # 3 C
- Pin # 4 D
- Pin # 5 E
- Pin # 6 F
- Pin # 7 G
- Pin # 8 H
- Pin # 9 J
- Pin # 10 K
- Pin # 11 L
- Pin # 12 M
- Pin # 13 N
- Pin # 14 P

Ignition Power Signal

Water Temp Sender Output

Oil Pressure Sender Output

'Engine Running At Speed' Output

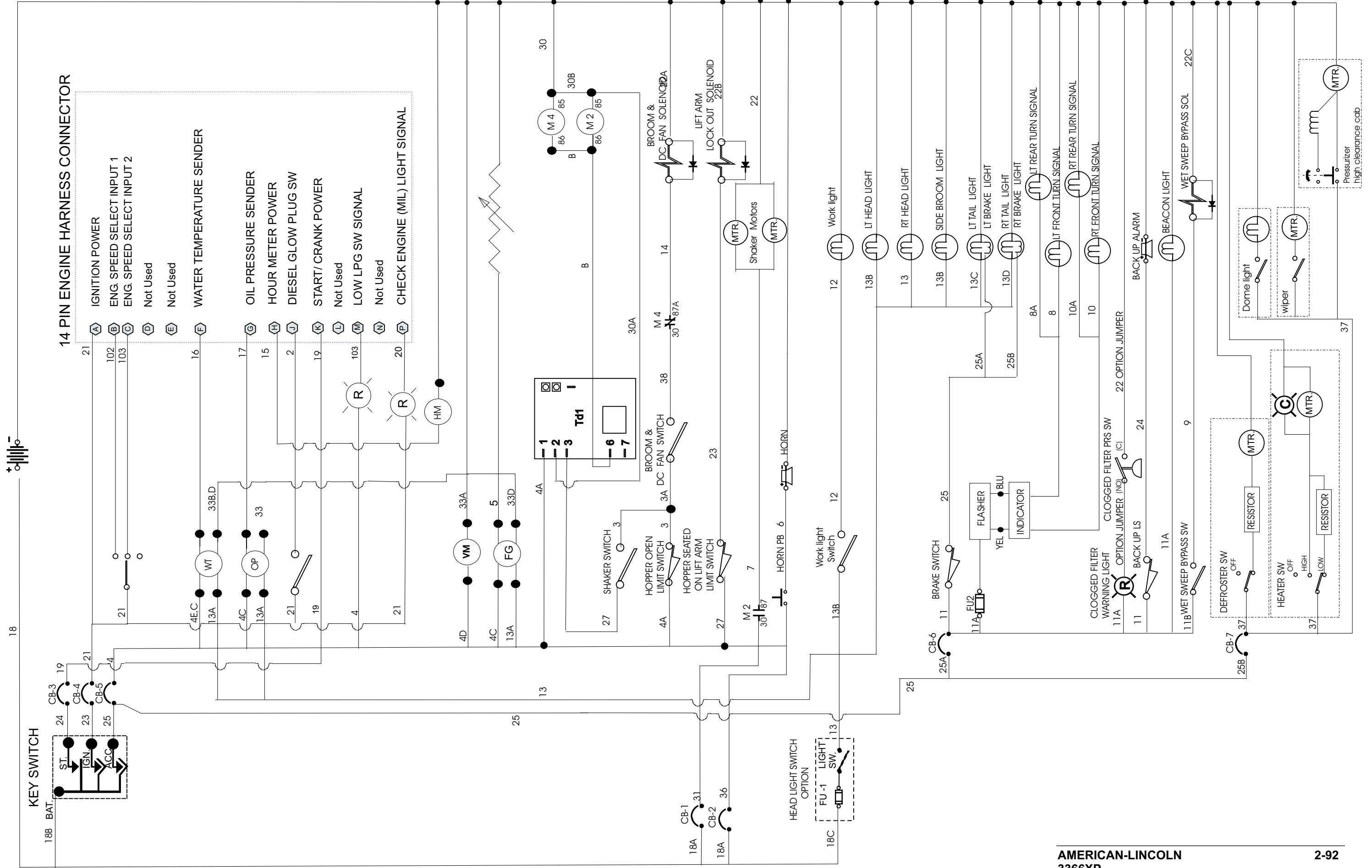
Diesel Glow Plug Signal

Start/ Crank Signal Input

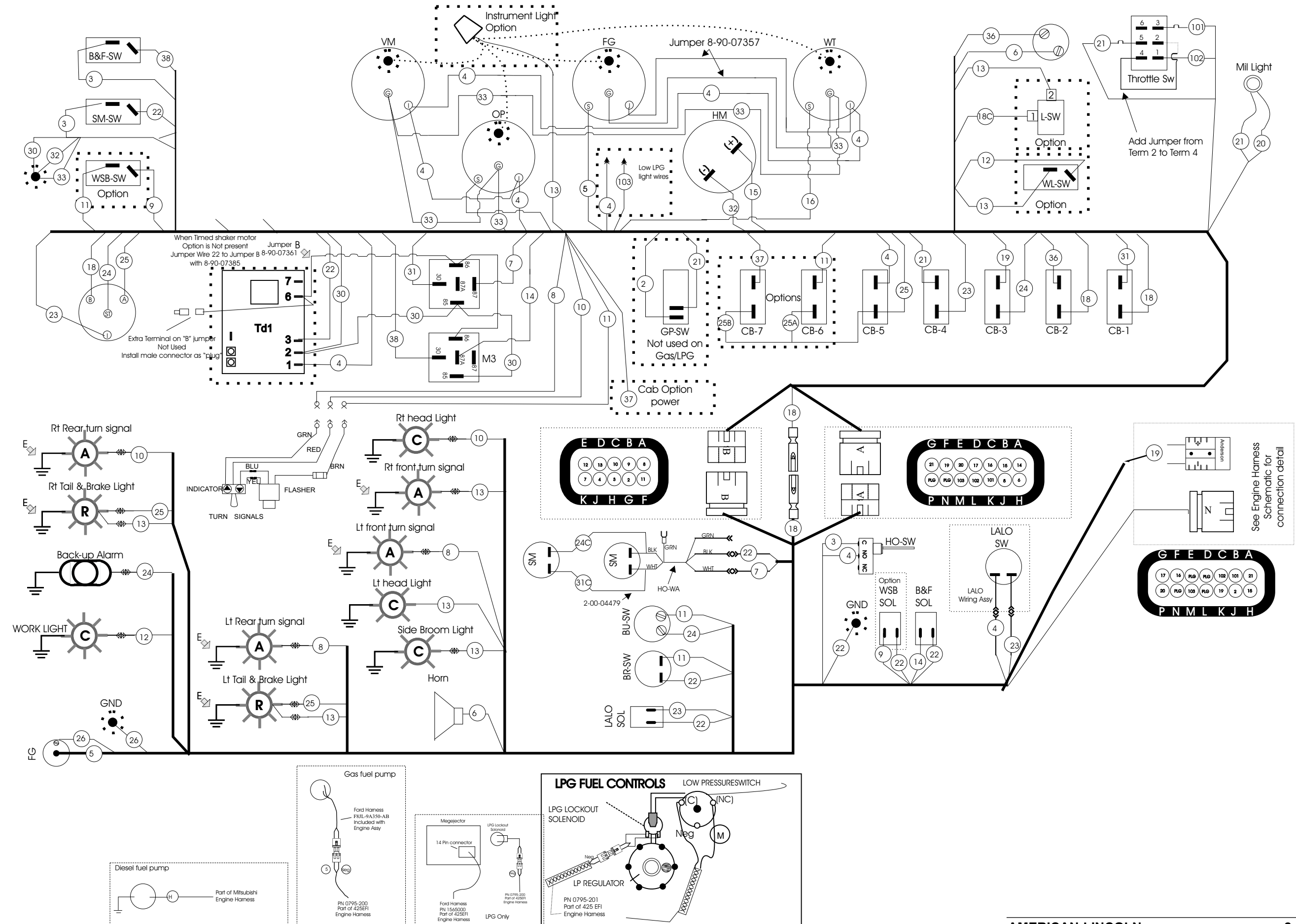
Alternator Light Signal

NOTE:  
CLOSES TO GROUND  
IF NOT CHARGING

FOR HOUR METER







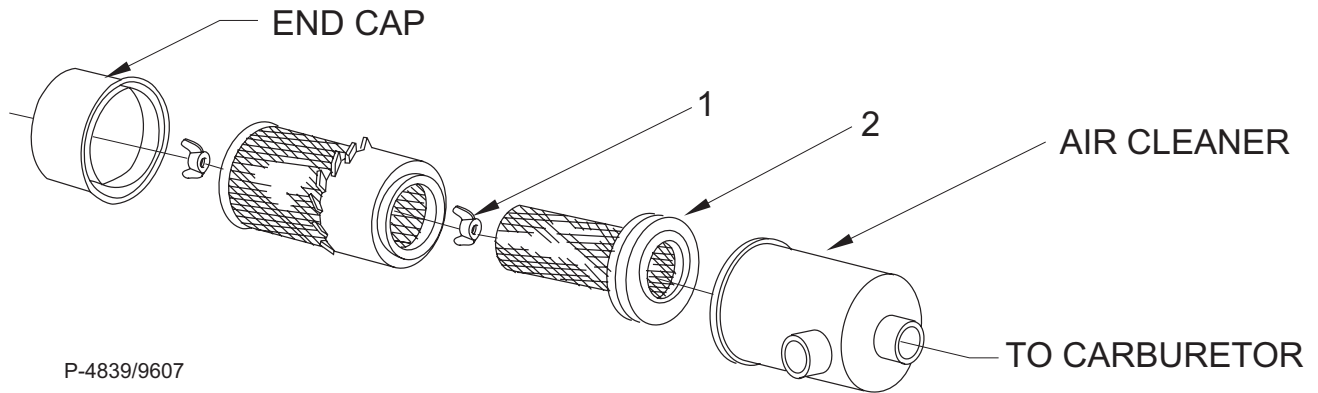
## TABLE OF CONTENTS - CHAPTER 3

---

Safety Air Cleaner .....	3-2
Broom Options .....	3-3
Back-up Alarm .....	3-4
Blower Attachment .....	3-6
Tire Options .....	3-7
Fire Extinguisher .....	3-8
Flame Arresting Gas Cap .....	3-9
Lights Option .....	3-10
Turn Signal & Brake Light Options .....	3-12
Turn Signal & Brake Light (con't) .....	3-14
Side Broom Light .....	3-16
Warning Light Option .....	3-18
Warning Light Option w/ Overhead Guard .....	3-20
Overhead Guard .....	3-22
Work Light Option .....	3-23
Suspension Seat Option .....	3-24
Timed Shaker Motors .....	3-25
Left Side Broom Option .....	3-26
Vacuum Side Brooms Option .....	3-28
Vacuum Wand Option .....	3-30
Wet Sweep Bypass Option .....	3-32
Filter Warning System Option .....	3-34
Pulse - Air <sup>3</sup> .....	3-36
Pulse – Air <sup>3</sup> - Electrical Schematic .....	3-38
Pulse – Air <sup>3</sup> - Hydraulics .....	3-40
Engine Service Parts - Ford 425EFI Gas/LP .....	3-41
Engine Service Parts - Mitsubishi S4Q2 Diesel .....	3-42
Warranty .....	3-43

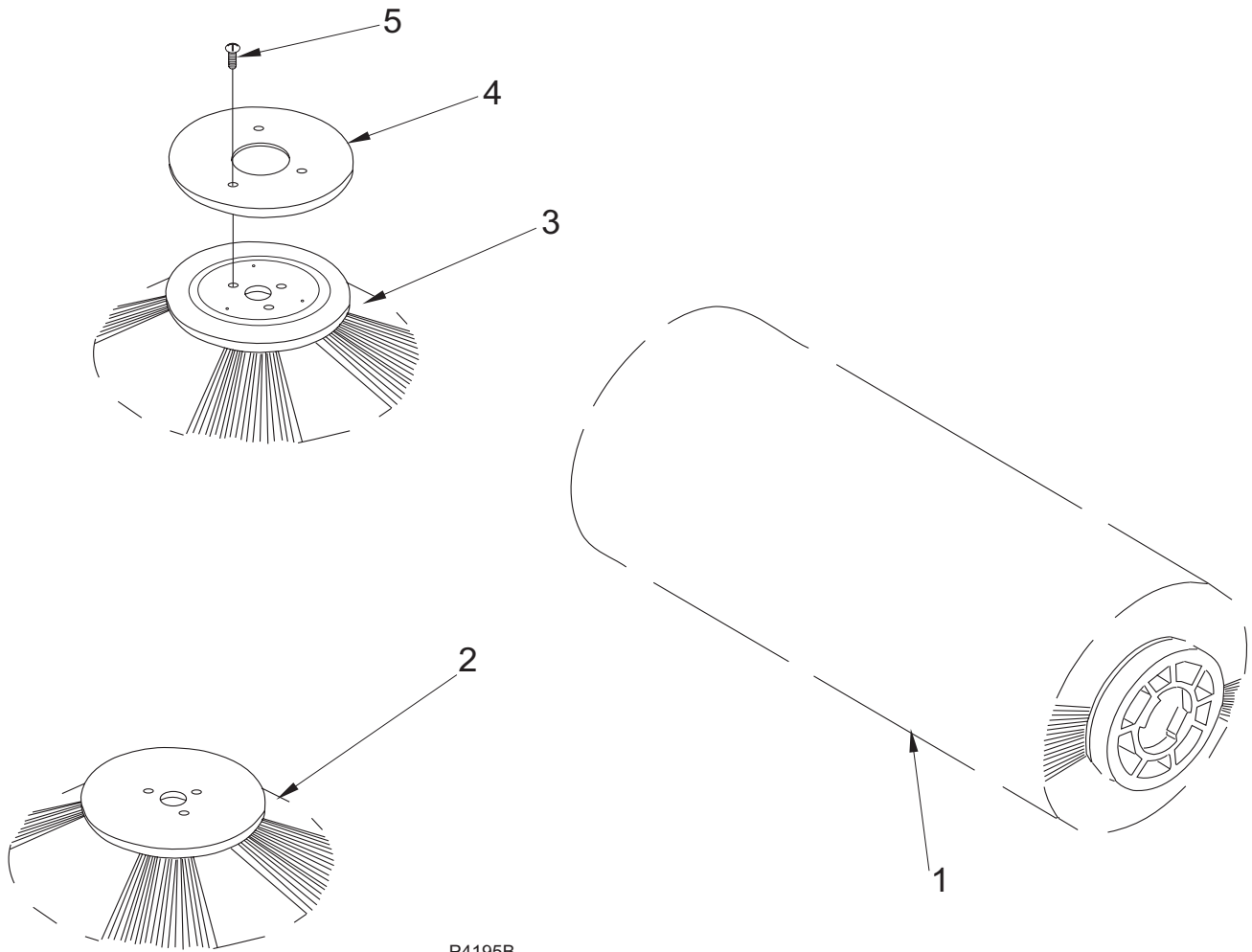
# SAFETY AIR CLEANER

---



<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-23-03064	Wing Nut Assembly	1
2	8-24-04111	Filter Element	1
3	8-24-04106	Filter Element	1

P-4839



P4195B

<b>KEY NO.</b>	<b>PART NUMBER</b>	<b>DESCRIPTION</b>	<b>QTY</b>
1	8-08-03202	Proex and Wire	1
1	8-08-03204	Proex	1
1	8-08-03191	Natural Fiber and Wire	1
1	8-08-03207	Nylon	1
1	8-08-03209	Nylon (Herringbone)	1
1	8-08-03210	Fiber and Wire, High Density	1
1	8-08-03214	Poly and Wire	1
2	8-08-03212	Black Prolene	1
2	8-08-03211	Nylon	1
3	8-08-03199	Wire Broom	1
4	8-58-05248	Plate	1
5	2-00-04121	Screw, #10 - 13 x .750 RHW	3

P-4195-1

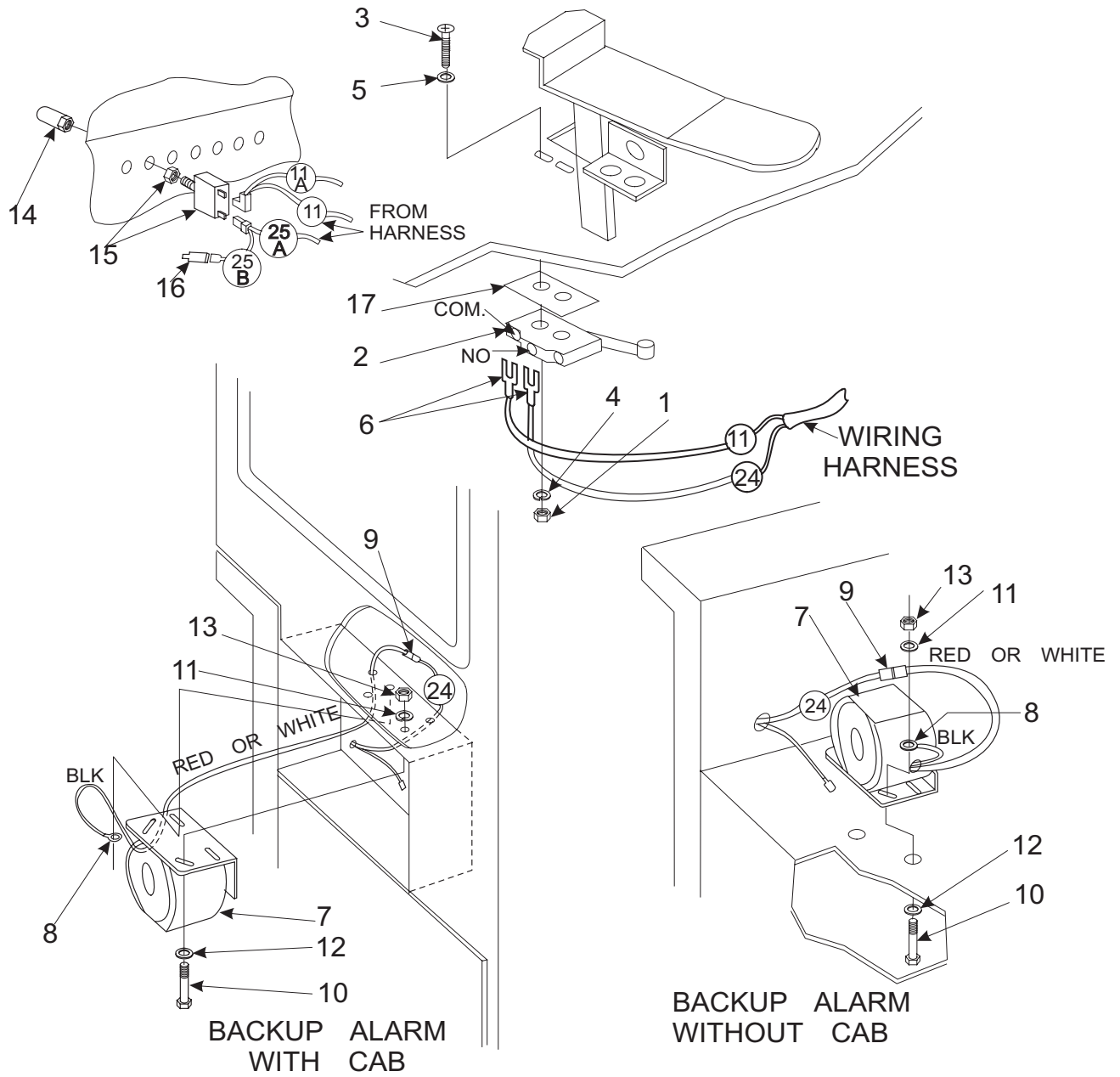
## BACK-UP ALARM - PARTS LIST

---

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	2-00-00624	Nut, Hex MS #6-32 x .312 x .109	2
2	7-82-00009	Mechanical Switch	1
3	2-00-05060	Screw, #6-32 x 1.250 RHM	2
4	2-00-01499	Lock Washer, Helical Spring #6 Med	2
5	2-00-00455	Flat Washer, .375 x .156 x .046	2
6	2-00-04808	Terminal, #8 Screw	2
7	8-32-09009	Backup Alarm	1
8	2-00-04282	Terminal, .31 Ring	1
9	2-00-04578	Terminal, Male Bullet	1
10	2-00-00213	Screw, 5/16 - 18 x .625 HHC	2
11	2-00-02303	Lock Washer, 5/16 Int.	2
12	2-00-00409	Flat Washer, .687 x .343 x .062	2
13	2-00-00585	Nut, Hex 5/16 - 18 x .500 x .265	2
14	8-11-00044	Boot	1
15	8-64-00008	Circuit Breaker	1
16	8-11-00015	Terminal	1
17	7-35-00013	Insulation	1

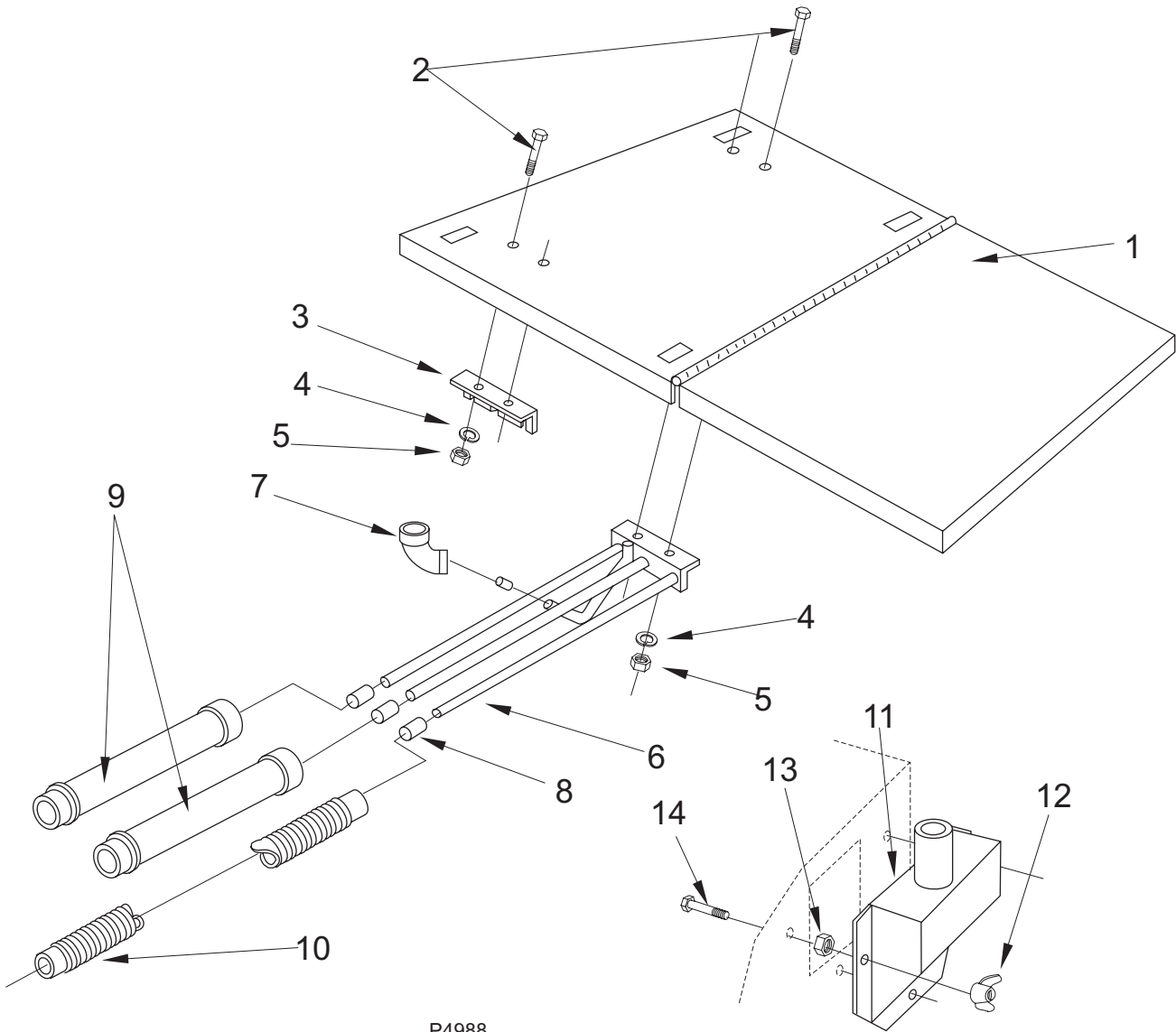
P-4879

# BACK-UP ALARM - EXPLODED VIEW



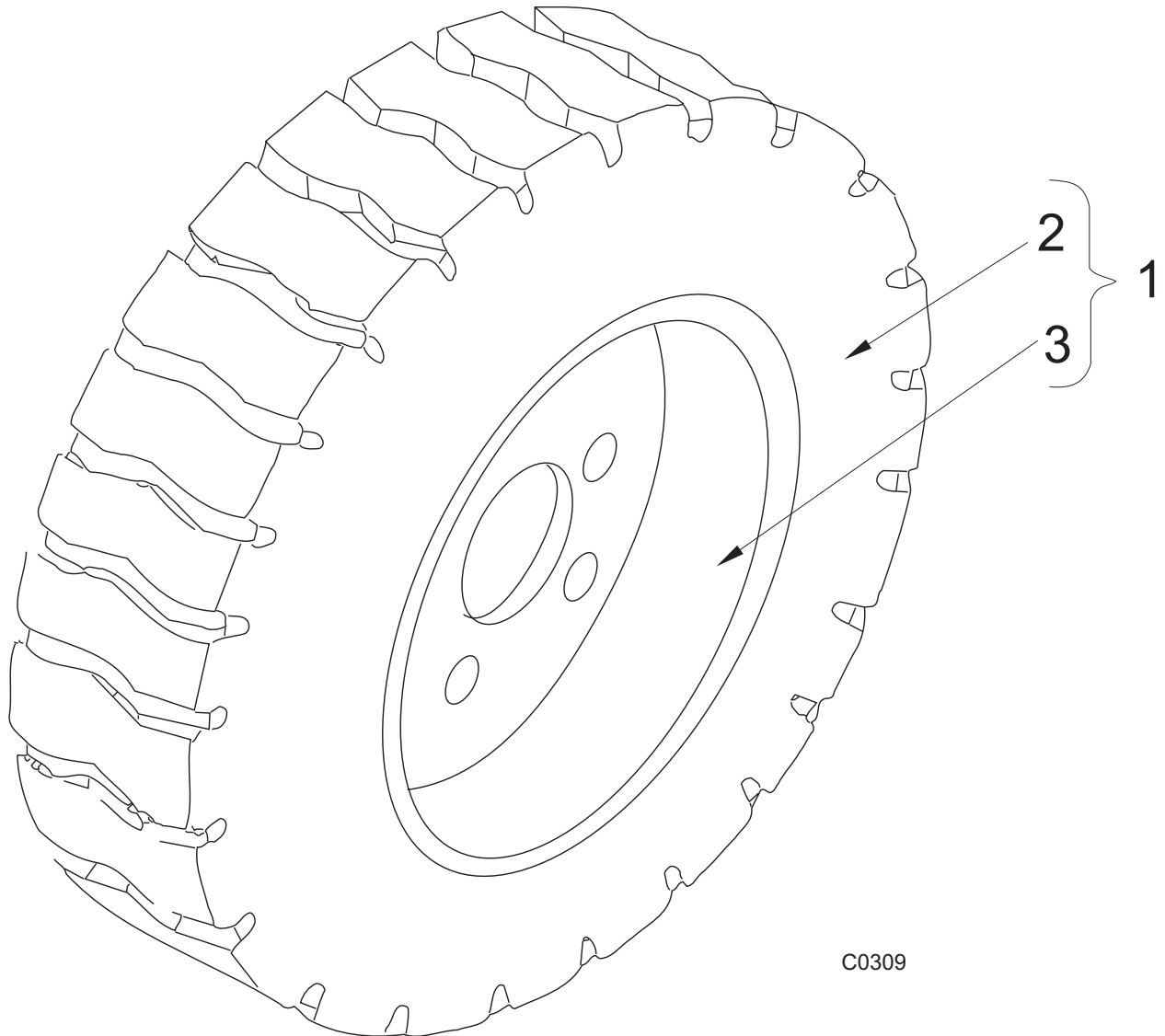
P4879

# BLOWER ATTACHMENT



P4988

KEY NO.	PART NUMBER	DESCRIPTION	QTY
1	8-16-07319	Hopper Lid	Ref.
2	2-00-01481	Screw, 5/16 - 18 x 1.000 RHM	4
3	8-08-00622	Latch Bracket	1
4	2-00-00530	Lock Washer, Helical Spring 5/16 Med	4
5	2-00-00585	Nut, Hex 5/16 - 18 x .500 x .265	4
6	8-08-00670	Blower Component Storage Bracket	1
7	8-21-07019	90° Elbow Adapter	1
8	8-11-00034	Cap	4
9	8-89-00002	Wand Section	2
10	8-33-02121	Hose	1
11	8-07-06018	Transition Box	1
12	2-00-00672	Wing Nut, 1/4 - 20	3
13	2-00-00594	Nut, Hex 1/4 - 20 x .437 x .218	3
14	2-00-02706	Screw, 1/4 - 20 x 1.000 HHM	3



**SOLID CUSHION FRONT WHEEL - 0880-515**

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-89-08055	Solid Cushion Front Wheel Assembly 21.5" 2	
2	8-85-06019	Solid Cushion Tire, 6.00 x 9	-
3	8-70-00081	Split Rim Assembly, 6.00x 9	-

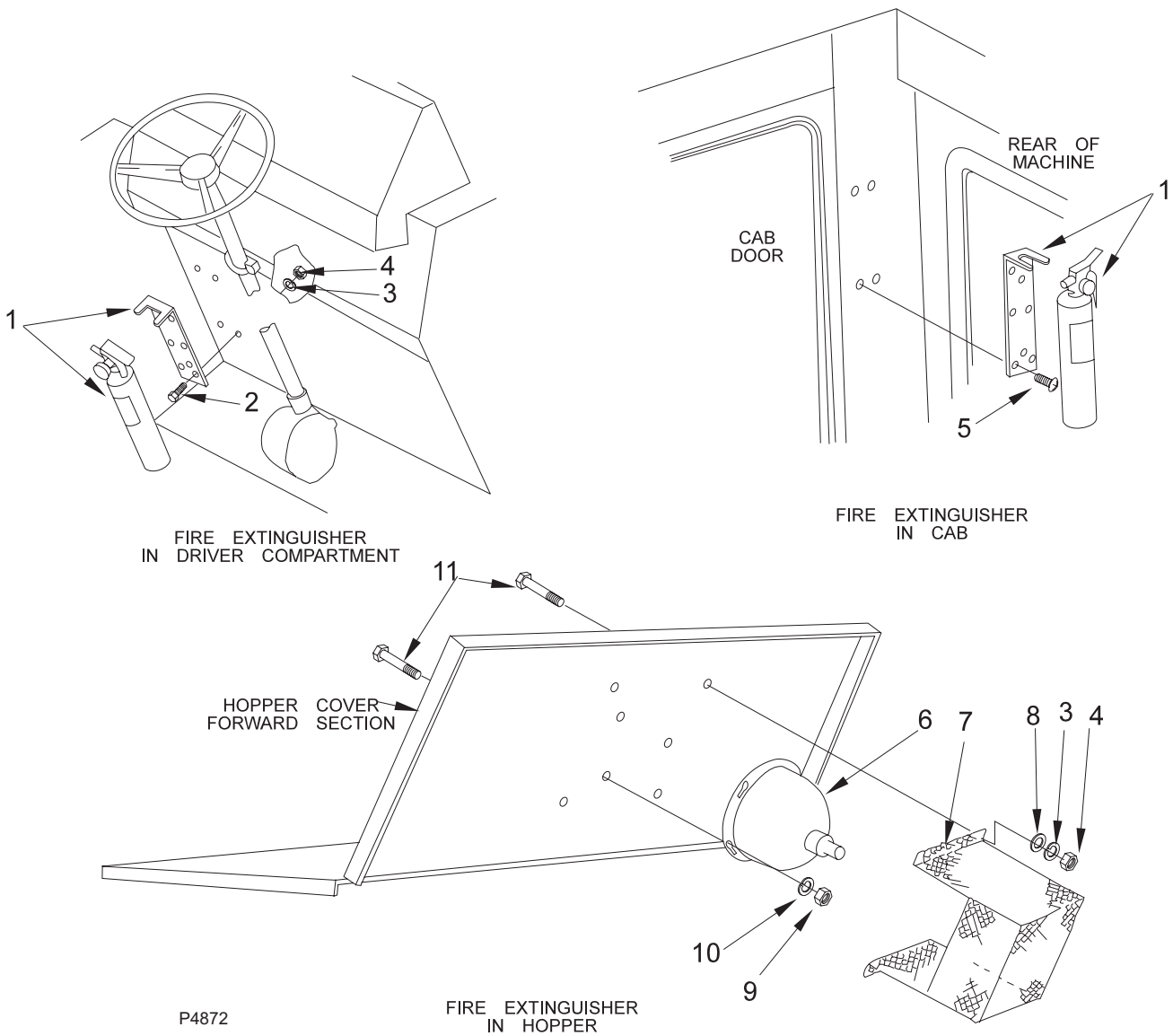
**SOLID CUSHION REAR WHEEL - 0880-518**

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-89-08060	Solid Cushion Rear Wheel Assembly, 21.5" 1	
2	8-85-06019	Split Cushion Tire, 6.00 x 9	
3	8-70-00083	Lock Ring Rim Assembly, 4.00 x 9	

C-0309



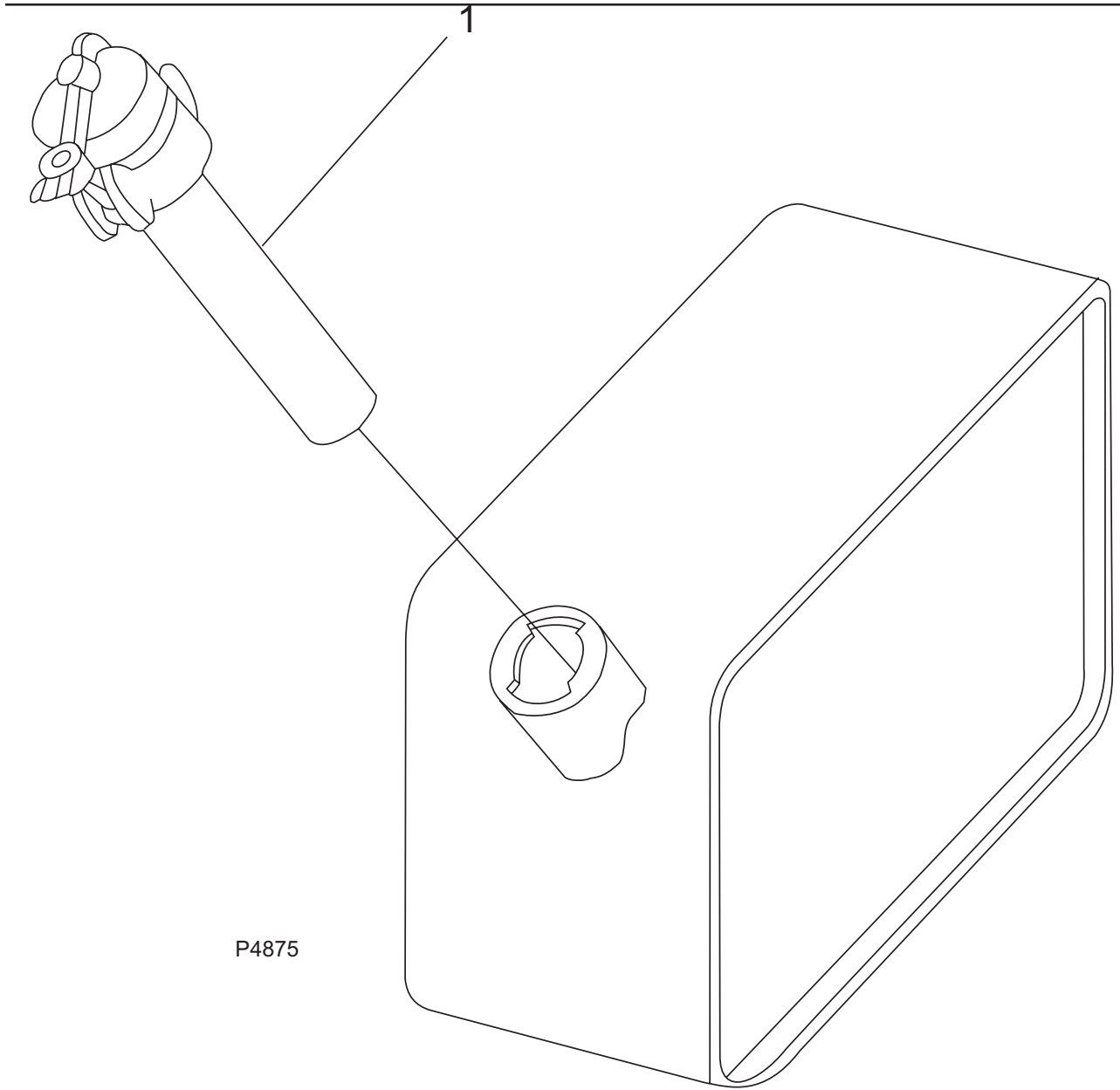
# FIRE EXTINGUISHER



P4872

KEY NO.	PART NUMBER	DESCRIPTION	QTY
1	8-83-04033	Fire Extinguisher	1
2	2-00-00221	Screw, 1/4 - 20 x .750 HHC	4
3	2-00-00518	Lock Washer, Helical Spring 1/4 Med	8
4	2-00-00594	Nut, Hex MS 1/4 - 20 x .437 x .187	8
5	2-95-01998	Screw, #1/4 - 10 x .750 T/F RH	4
6	8-83-04023	Fire Extinguisher (In Hopper)	1
7	8-30-05111	Fire Extinguisher Cover	1
8	2-00-00447	Flat Washer, 1.250 x .281 x .089	4
9	2-00-00641	Nut, Hex Fiber Insert 1/4 - 20	3
10	2-00-03702	Flat Washer, .625 x .281 x .062	3
11	2-00-00051	Screw, 1/4 - 20 x .750 RHM	7

**PROTECTO-SEAL GAS CAP**



<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-11-00024	Protecto-Seal Gas Cap	1

P4875/3-04

**LIGHTS OPTION - PARTS LIST**

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	7-08-01178	Bracket, Light	2
2	7-08-01173	Bracket, Rear Light	2
3	7-40-05046	Headlight, 12VDC, 55W	1
4	7-08-01174	Bracket, Headlight Mount	4
5	7-40-05047	Light, Tail/Brake/Turn (Red)	2
6	2-00-00049	Screw, 10-24 x .50 RHM	20
7	2-00-01246	Nut, #10-24 Elastic Stop	20
9	8-40-05030	Light, Instrument	4
10	2-00-04588	Nut, Wire	1
11	8-82-00027	Switch, Push/Pull Light	1
12	2-00-00501	Washer, 1/4 Int. Lock	16
13	2-00-04876	Screw, 1/4-20 x .50 RHS Nylok	16
14	2-00-04578	Plug, Male Bullet	4
15	8-90-07358	Wire (Ground for Lights)	4
17	8-64-00008	Circuit Breaker (15 amp)	1
18	8-11-00044	Boot	1
19	8-11-00015	Terminal	1
20	8-82-00058	Switch, Brake	1
21	2-00-00090	Screw, #8-32 x 1.50 RH	2
22	2-00-01372	Nut, #8-32 Hex	2
23	2-00-00221	Screw, 1/4-20 x .75 HHM	1
24	2-00-03702	Flat Washer, 1/4	1
25	8-08-00865	Bracket, Brake Switch Mount	1
30	2-00-00518	Lock Washer, 1/4 Helical Spring	1
31	2-00-00594	Nut, 1/4-20 Hex	1
32	2-00-05261 (not shown)	Insert	16

**OPTION 0880-354**

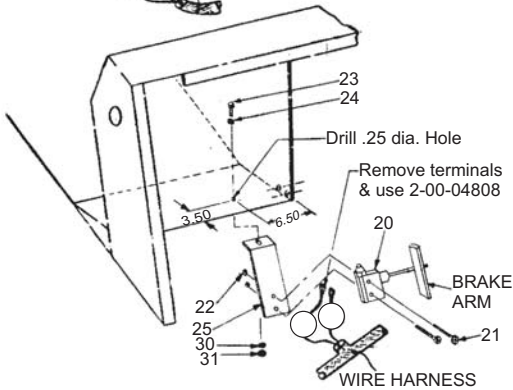
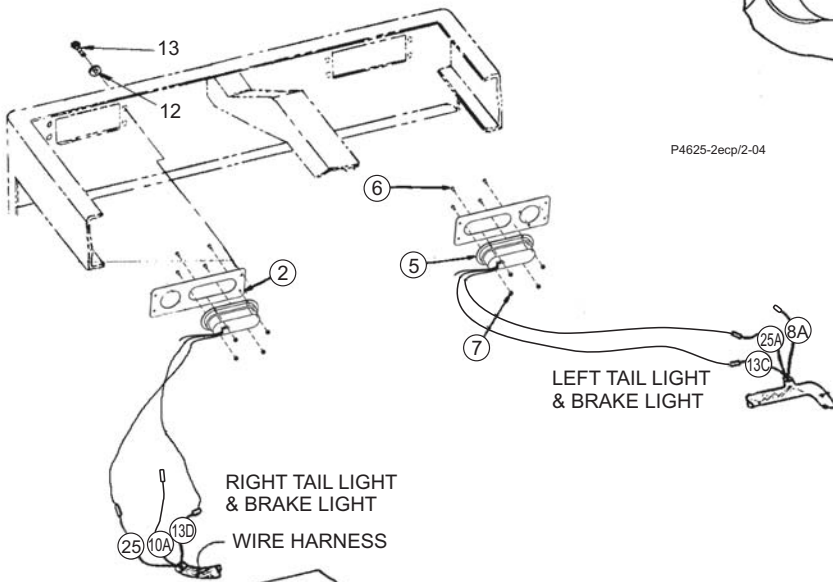
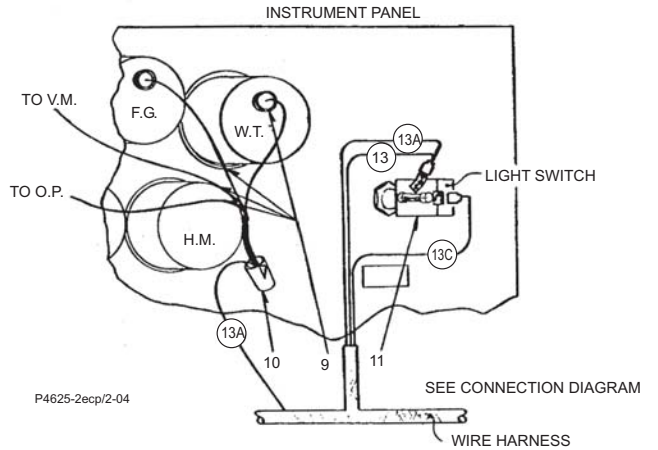
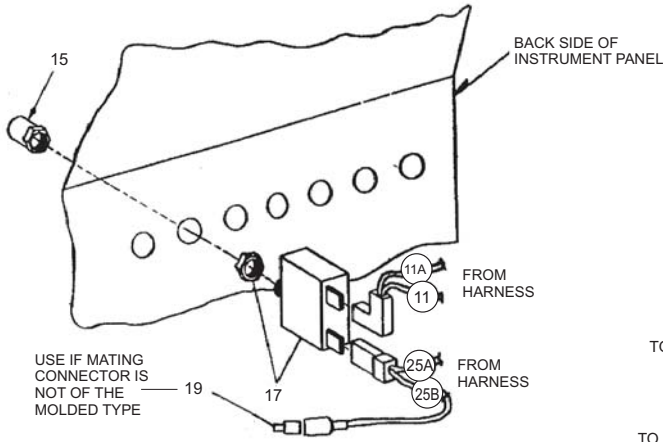
**Includes head & tail lights, instrument lights& brake lights**

**OPTION 0880-351**

**Includes head & tail lights& instrument lights  
(Items 1-7, 9-15, 32 only)**

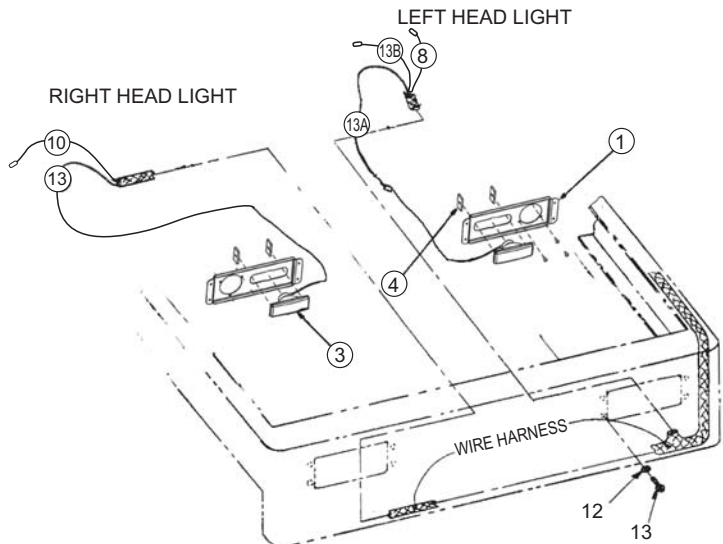
P4625ecp/2-04

# LIGHTS OPTION - EXPLODED VIEW



NOTE: INSERT BRAKE SWITCH BEHIND BRAKE ARM AS SHOWN WITH BRAKES OFF, THEN ADJUST BRAKE SWITCH IN SLOTS UNTIL BRAKE LIGHTS GO OUT AND STAY OUT. TEST SEVERAL TIMES TO MAKE SURE BRAKE LIGHTS COME ON WHEN BRAKES ARE APPLIED AND GO OFF WHEN BRAKES ARE RELEASED.

P4625ecp/2-04



## TURN SIGNAL & BRAKE LIGHT OPTIONS - PARTS LIST

---

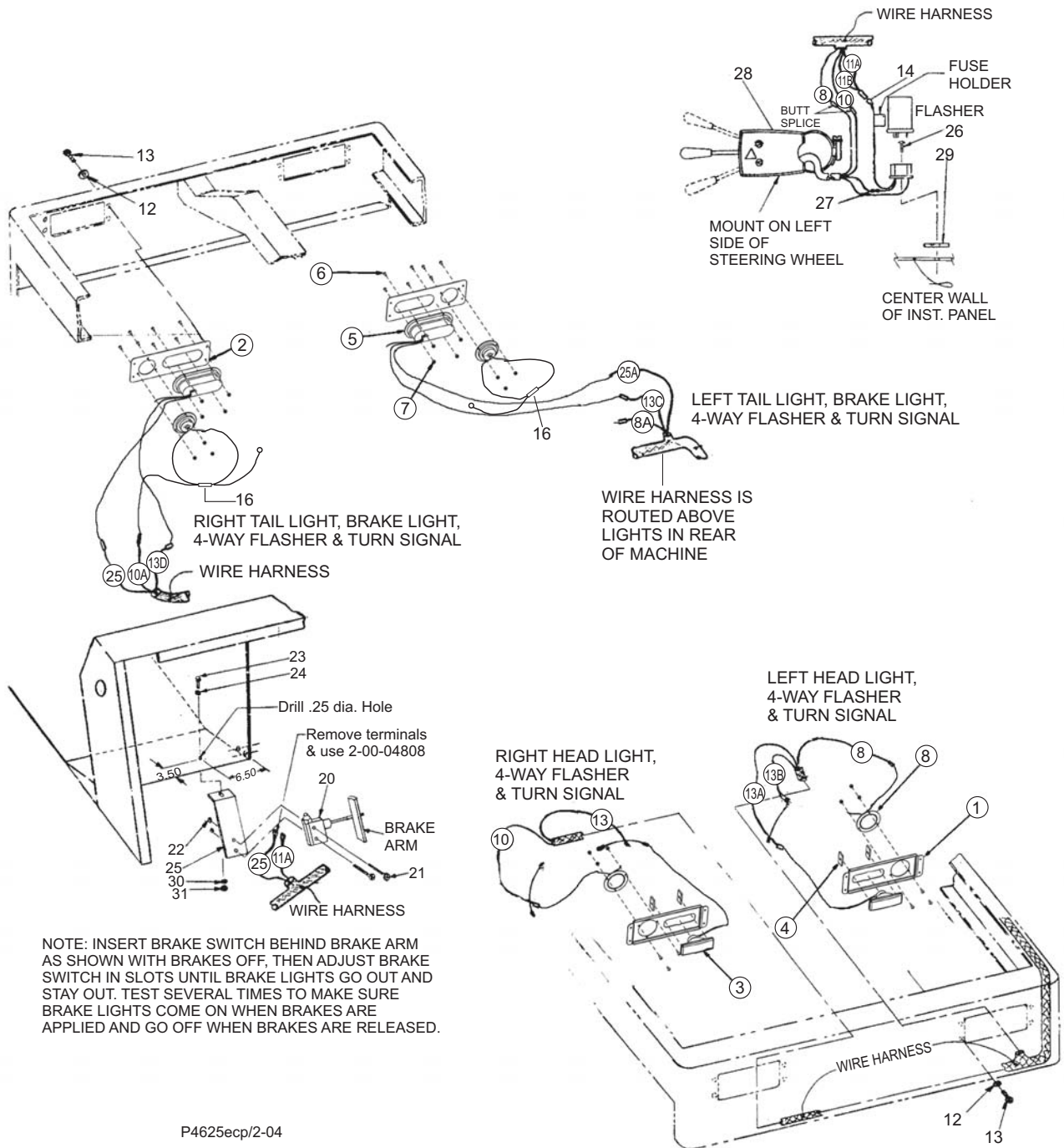
### OPTION 0880-355

(Includes head & tail lights, instrument lights, brake lights & turn signals)

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	7-08-01178	Bracket, Light	2
2	7-08-01173	Bracket, Rear Light	2
3	7-40-05046	Headlight, 12VDC, 55W	1
4	7-08-01174	Bracket, Headlight Mount	4
5	7-40-05047	Light, Tail/Brake/Turn (Red)	2
6	2-00-00049	Screw, 10-24 x .50 RHM	20
7	2-00-01246	Nut, #10-24 Elastic Stop	20
8	7-40-05048	Light, Side Marker (Amber)	4
9	8-40-05030	Light, Instrument	4
10	2-00-04588	Nut, Wire	1
11	8-82-00027	Switch, Push/Pull Light	1
12	2-00-00501	Washer, 1/4 Int. Lock	16
13	2-00-04876	Screw, 1/4-20 x .50 RHS Nylok	16
14	2-00-04578	Plug, Male Bullet	4
15	8-90-07358	Wire (Ground for Lights)	4
16	0795-294	Resistor Assembly	2
17	8-64-00008	Circuit Breaker (15 amp)	1
18	8-11-00044	Boot	1
19	8-11-00015	Terminal	1
20	8-82-00058	Switch, Brake	1
21	2-00-00090	Screw, #8-32 x 1.50 RH	2
22	2-00-01372	Nut, #8-32 Hex	2
23	2-00-00221	Screw, 1/4-20 x .75 HHM	1
24	2-00-03702	Flat Washer, 1/4	1
25	8-08-00865	Bracket, Brake Switch Mount	1
26	2-00-01994	Screw, 8-15 x .75 Sht. Mtl.	1
27	2-00-01128	Terminal, Butt Splice	2
28	8-82-00025	Switch, Turn Signal	1
29	2-00-03197	Washer, Rubber	1
30	2-00-00518	Lock Washer, 1/4 Helical Spring	1
31	2-00-00594	Nut, 1/4-20 Hex	1
32	2-00-05261 (not shown)	Insert	16

P4625ecp/2-04

# TURN SIGNAL & BRAKE LIGHT OPTIONS - EXPLODED VIEW



P4625ecp/2-04

## TURN SIGNAL & BRAKE LIGHT OPTIONS (CON'T) - PARTS LIST

---

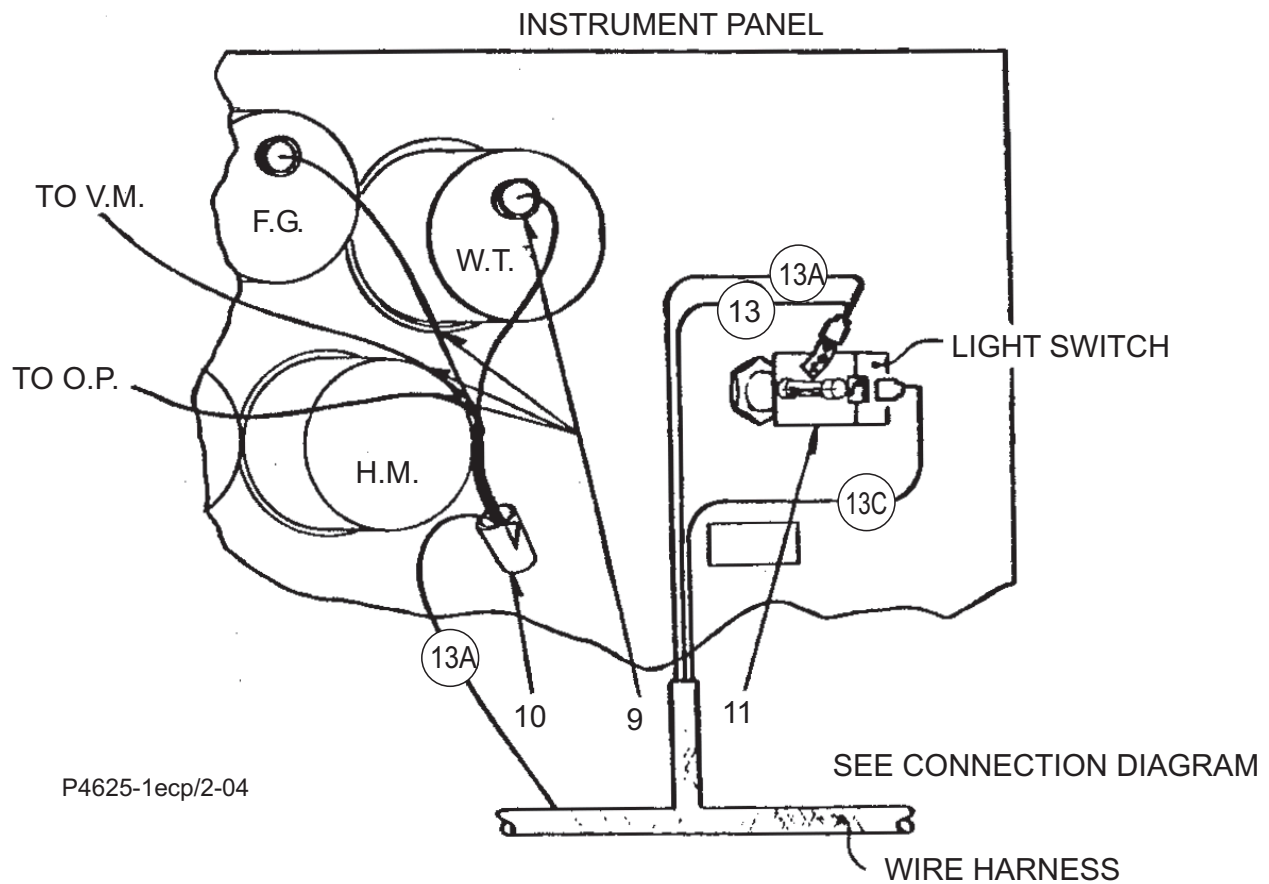
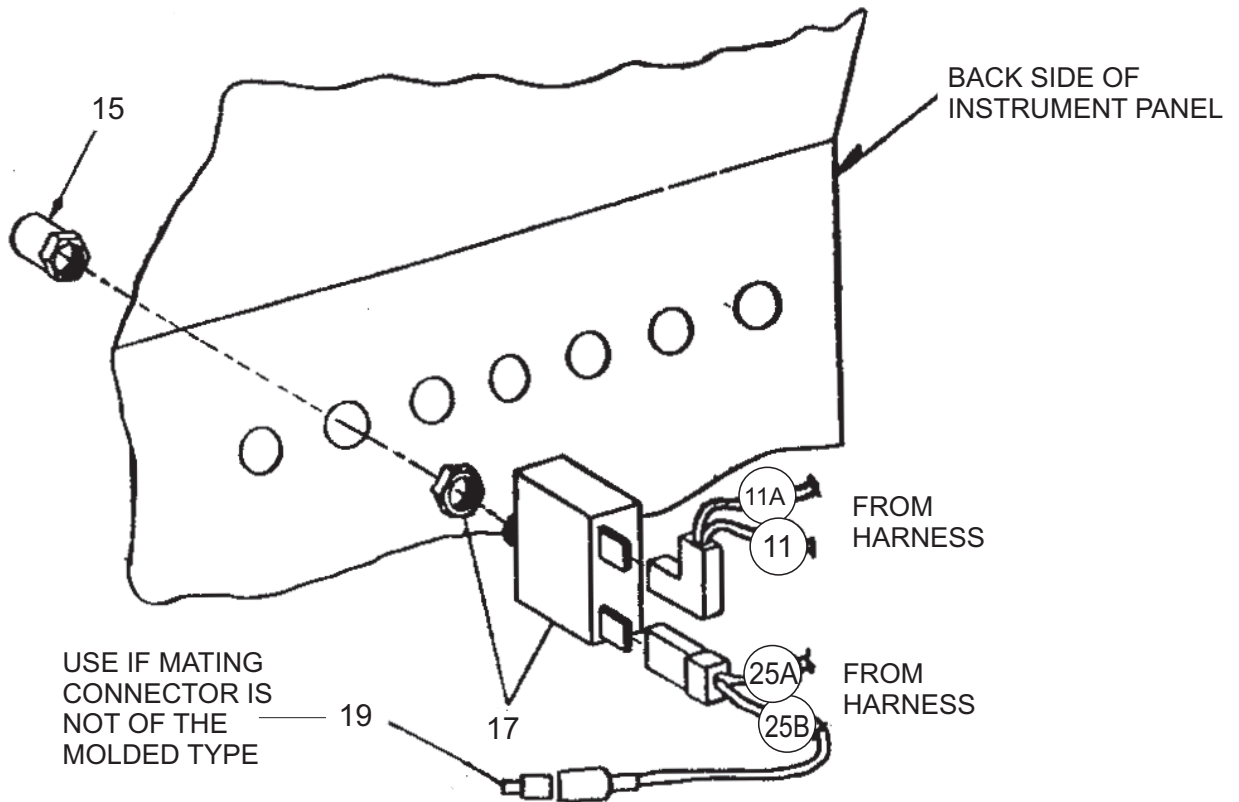
### OPTION 0880-355

(Includes head & tail lights, instrument lights, brake lights & turn signals)

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	7-08-01178	Bracket, Light	2
2	7-08-01173	Bracket, Rear Light	2
3	7-40-05046	Headlight, 12VDC, 55W	1
4	7-08-01174	Bracket, Headlight Mount	4
5	7-40-05047	Light, Tail/Brake/Turn (Red)	2
6	2-00-00049	Screw, 10-24 x .50 RHM	20
7	2-00-01246	Nut, #10-24 Elastic Stop	20
8	7-40-05048	Light, Side Marker (Amber)	4
9	8-40-05030	Light, Instrument	4
10	2-00-04588	Nut, Wire	1
11	8-82-00027	Switch, Push/Pull Light	1
12	2-00-00501	Washer, 1/4 Int. Lock	16
13	2-00-04876	Screw, 1/4-20 x .50 RHS Nylok	16
14	2-00-04578	Plug, Male Bullet	4
15	8-90-07358	Wire (Ground for Lights)	4
16	0795-294	Resistor Assembly	2
17	8-64-00008	Circuit Breaker (15 amp)	1
18	8-11-00044	Boot	1
19	8-11-00015	Terminal	1
20	8-82-00058	Switch, Brake	1
21	2-00-00090	Screw, #8-32 x 1.50 RH	2
22	2-00-01372	Nut, #8-32 Hex	2
23	2-00-00221	Screw, 1/4-20 x .75 HHM	1
24	2-00-03702	Flat Washer, 1/4	1
25	8-08-00865	Bracket, Brake Switch Mount	1
26	2-00-01994	Screw, 8-15 x .75 Sht. Mtl.	1
27	2-00-01128	Terminal, Butt Splice	2
28	8-82-00025	Switch, Turn Signal	1
29	2-00-03197	Washer, Rubber	1
30	2-00-00518	Lock Washer, 1/4 Helical Spring	1
31	2-00-00594	Nut, 1/4-20 Hex	1
32	2-00-05261	Insert	16

P4625-1ecp/2-04

**TURN SIGNAL & BRAKE LIGHT OPTIONS (CON'T) - EXPLODED VIEW**



P4625-1ecp/2-04



## SIDE BROOM LIGHT - PARTS LIST

---

### SIDE BROOM LIGHT

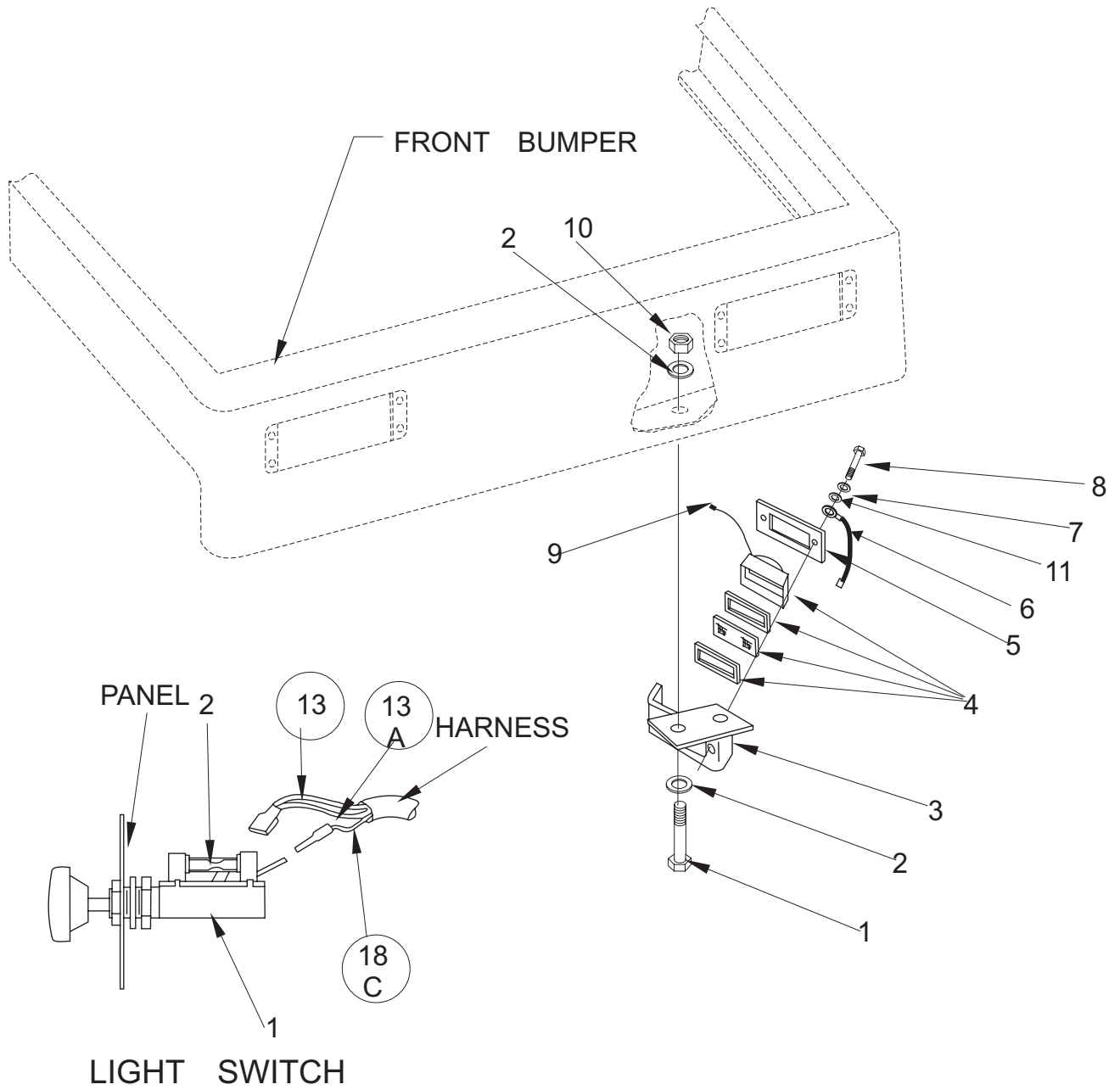
<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	2-00-00233	Screw, 3/8-16 x 1.00 HHC	2
2	2-00-00505	Lock Washer, 3/8 Int	4
3	8-08-00612	Side Light Bracket	1
4	8-40-05028	Light	1
5	8-58-05233	Retainer Plate	1
6	8-90-07358	Ground Wire	1
7	2-00-00501	Lock Washer, 1/4 Int	2
8	2-00-00221	Screw, 1/4-20x.750 HHC	2
9	2-00-04578	Male Connector	1
10	2-00-00584	Nut, Hex 3/8-24 x.562 x.328	2

### LIGHT SWITCH

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-82-00027	LightSwitch	1
2	8-28-05012	Fuse-20Amp	1

P-4729

# SIDE BROOM LIGHT - EXPLODED VIEW



P-4729/9511

# WARNING LIGHT OPTION - PARTS LIST

## ROTATING LIGHT

<u>KEYNO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-40-05010	Red	1
1	8-40-05039	Yellow	1
2	2-00-04578	Connector	1
3	2-00-00491	Grommet, .750 x .375 x .375 x .125	1
4	2-00-00512	LockWasher, #10 Int	1

## FLASHING LIGHT

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
5	8-40-05033	Red	1
5	8-40-05041	Amber	1
6	2-00-04578	Connector	1
7	2-00-00491	Grommet, .750 x .375 x .375 x .125	1
8	2-00-00512	Lock Washer, #10 Int	2
9	2-00-04897	Screw, #10-24 x1.250 TH	2
10	2-00-00605	Nut, HexMS#10-24 x .375 x .125	2
11	2-00-00426	FlatWasher, .500 x .218 x .062	2

## STROBE LIGHT

<u>KEYNO.</u>	<u>PARTNUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
12	8-40-05018	Red	1
12	8-40-05018-1	Yellow	1
13	2-00-00838	Terminal	1
14	2-00-00491	Grommet, .750 x .375 x .375 x .125	1
15	2-00-00512	Lock Washer, #10 Int	2
16	2-00-04578	Connector	1
17	2-00-04341	Grommet, .875 x .375 x .375 x .125	1
18	2-00-03063	Screw, #10-24 x.750 TH	2
19	2-00-00605	Nut, Hex MS #10-24 x .375 x .125	2

## LIGHT SUPPORT

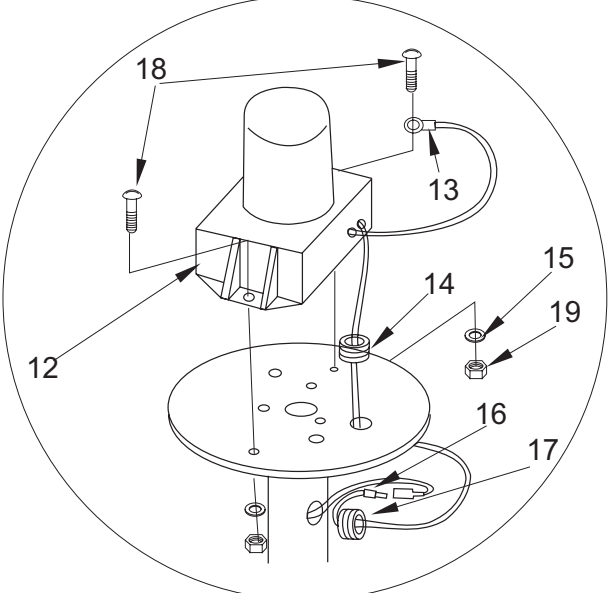
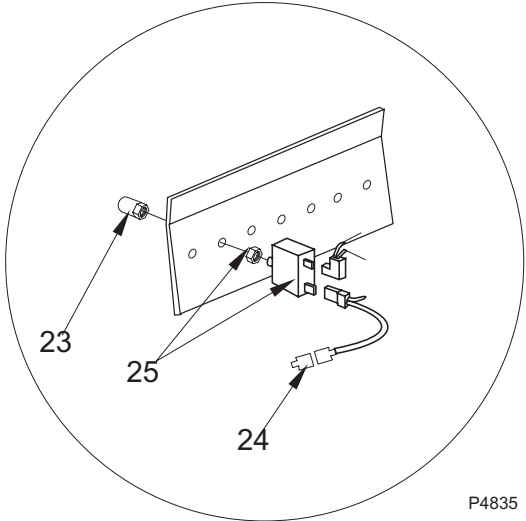
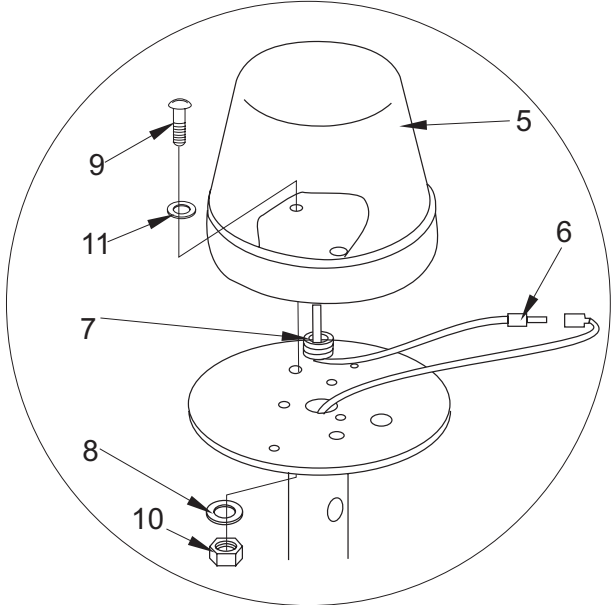
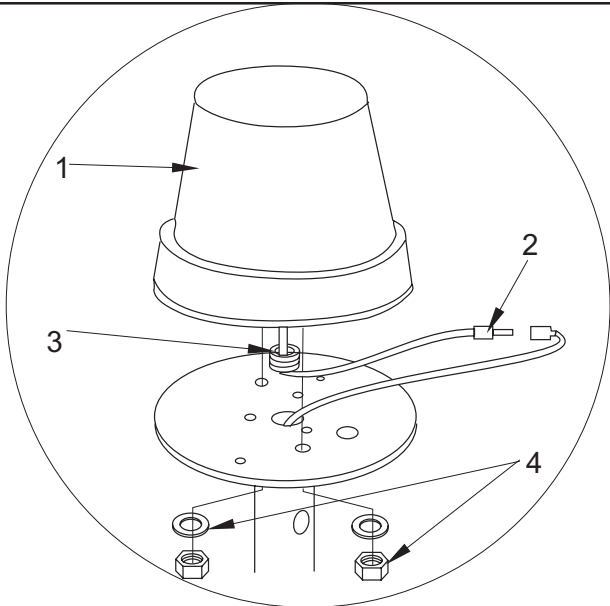
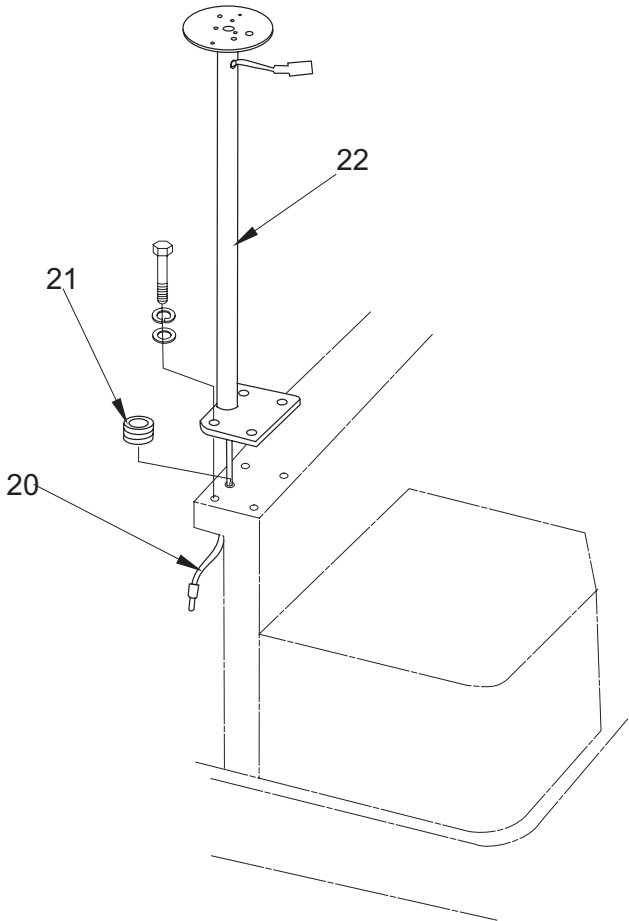
<u>KEYNO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
20	8-90-07362	Wire Assembly	1
21	2-00-00491	Grommet, .750 x .375 x .375 x .125	1
22	8-81-00145	Weldment	1

## INSTRUMENT PANEL

<u>KEYNO.</u>	<u>PARTNUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
23	8-11-00044	Boot	1
24	8-11-00015	Terminal	1
25	8-64-00008	Circuit Breaker (15AMP)	1

P-4835

**WARNING LIGHT OPTION - EXPLODED VIEW**



P4835

## WARNING LIGHT OPTION W/ OVERHEAD GUARD - PARTS LIST

---

### ROTATING LIGHT

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-40-05010	Red	1
1	8-40-05039	Yellow	1
2	2-00-04578	Connector	1
3	2-00-00491	Grommet, .750 x .375 x .375 x .125	1
4	2-00-00512	Lock Washer, #10 Int	1

### FLASHING LIGHT

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
5	8-40-05033	Red	1
5	8-40-05041	Amber	1
6	2-00-04578	Connector	1
7	2-00-00491	Grommet, .750 x .375 x .375 x .125	1
8	2-00-00512	Lock Washer, #10 Int	2
9	2-00-04897	Screw, #10-24 x1.250 TH	2
10	2-00-00605	Nut, Hex MS #10-24 x .375 x .125	2
11	2-00-00426	Flat Washer, .500 x .218 x .062	2

### STROBE LIGHT

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
12	8-40-05018	Red	1
12	8-40-05018-1	Yellow	1
13	2-00-00838	Terminal	1
14	2-00-00491	Grommet, .750 x .375 x .375 x .125	1
15	2-00-00512	Lock Washer, #10 Int	2
16	2-00-04578	Connector	1
17	2-00-00605	Nut, Hex MS #10-24 x.375 x.125	1
18	2-00-03063	Screw, #10-24 x.750 TH	2

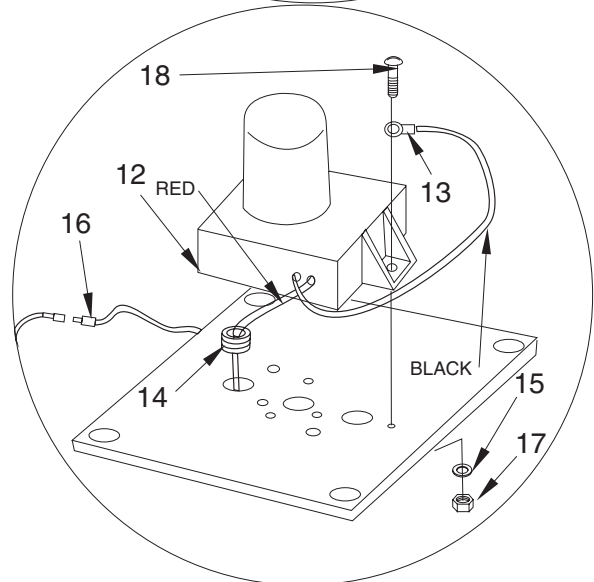
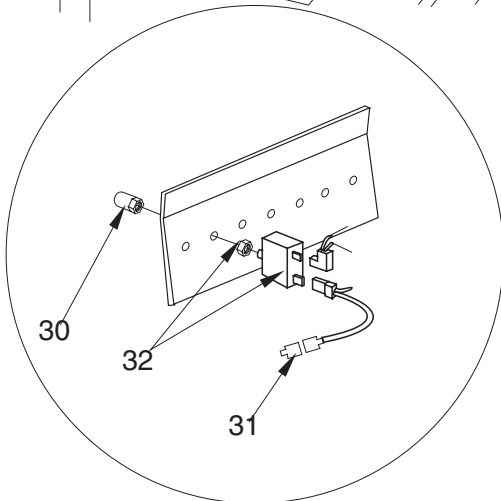
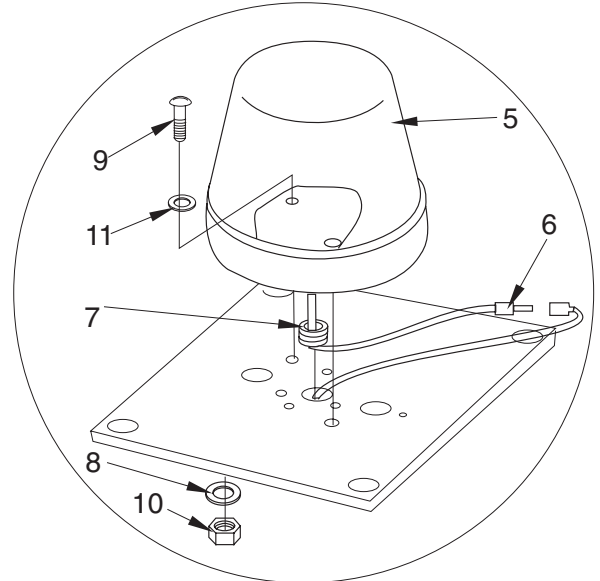
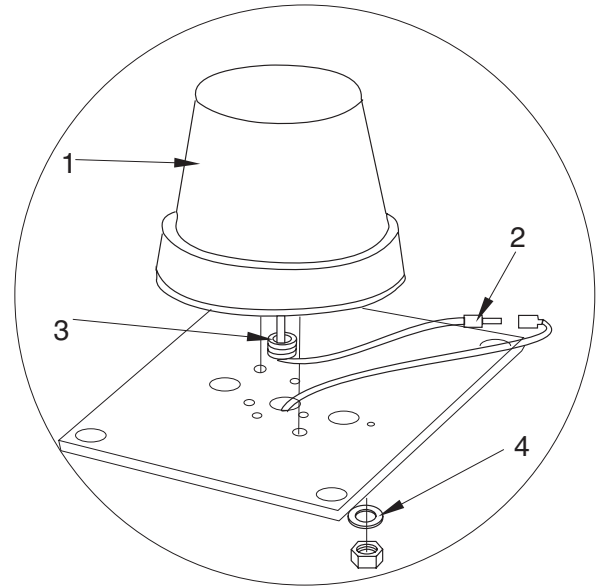
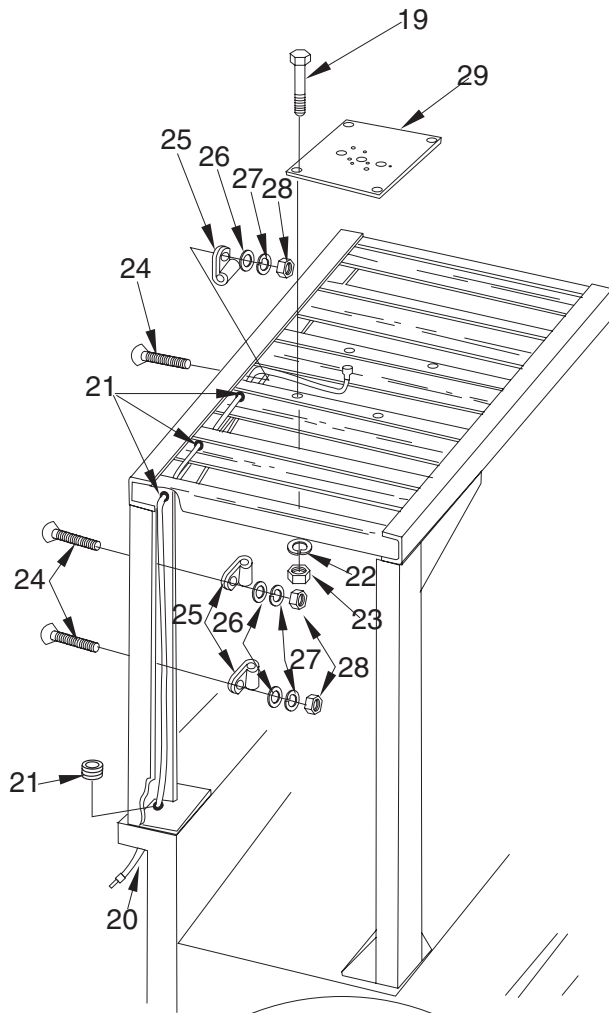
### GUARD WIRE & SUPPORT ASSEMBLY

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
19	2-00-00221	Screw, 1/4-20 x.750 HHC	4
20	8-90-07363	Wire Assembly	1
21	2-00-00491	Grommet, .750 x .375 x .375 x .125	1
22	2-00-00518	Lock Washer, Helical Spring 1/4 Med	4
23	2-00-00594	Nut, Hex 1/4-20 x .437 x .218	4
24	2-00-03063	Screw, #10-24 x.750 TH	3
25	2-00-04209	Cable Clamp,	3
26	2-00-00426	Flat Washer, .500 x .218 x .062	3
27	2-00-00512	LockWasher, #10 Int	3
28	2-00-00605	Nut, Hex MS #10-24 x .375 x .125	3
29	8-58-05228	Light Support	1

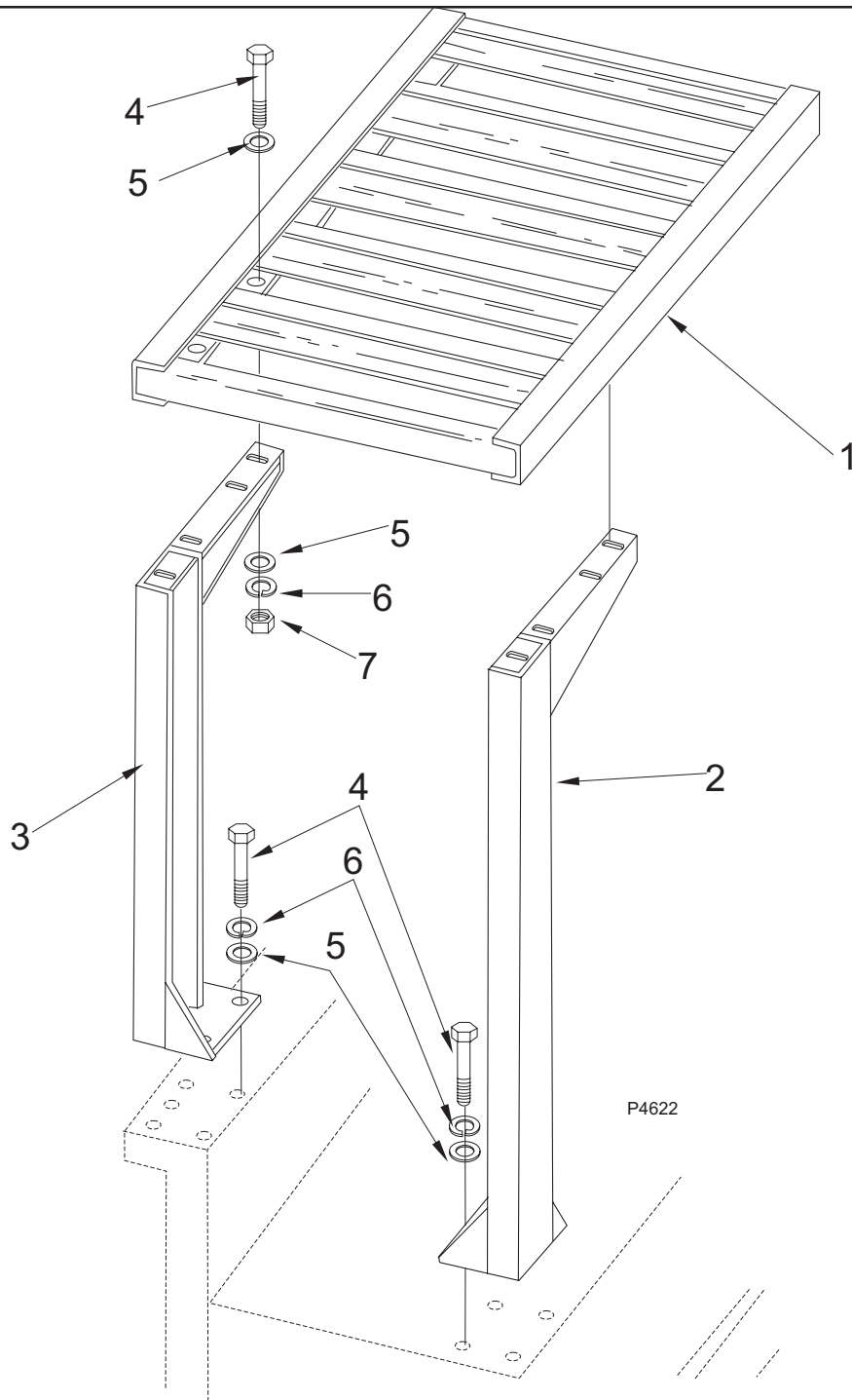
### INSTRUMENT PANEL

<u>KEYNO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
30	8-11-00044	Boot	1
31	8-11-00015	Terminal	1
32	8-64-00008	Circuit Breaker (15AMP)	1

**WARNING LIGHT OPTION W/ OVERHEAD GUARD - EXPLODED VIEW**

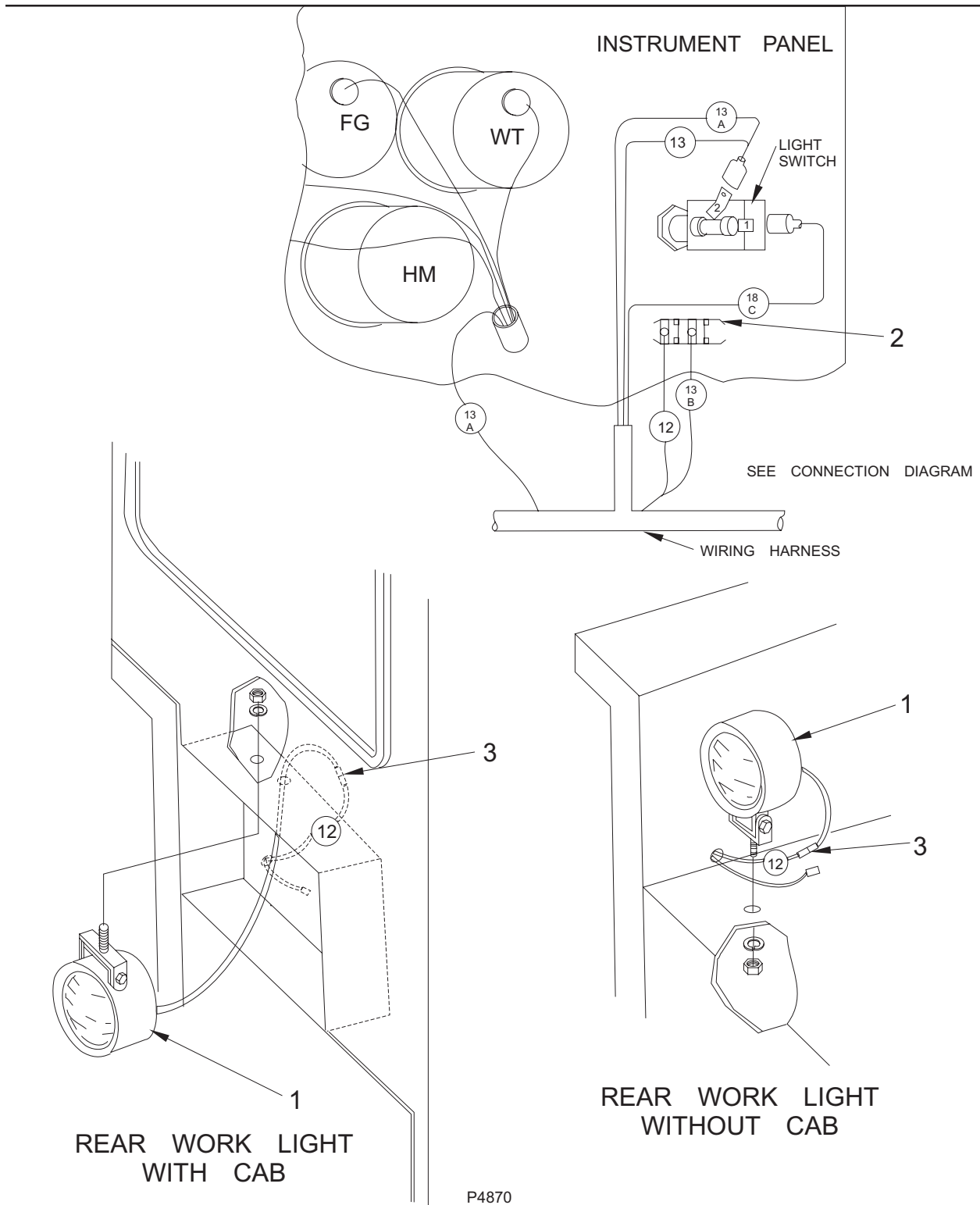


# OVERHEAD GUARD



<u>KEYNO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	7-30-05086	Guard	1
2	8-30-05131	Right Hand Upright Guard	1
3	8-30-05130	Left Hand Upright Guard	1
4	2-00-00240	Screw, 1/2-13 x1.250 HHC	16
5	2-00-00420	Flat Washer, 1.000 x .515 x .0622	4
6	2-00-02312	Lock Washer, Helical Spring 1/2 Med	16
7	2-00-00596	Nut, Hex 1/2-13 x.750 x .515	8

**WORK LIGHT OPTION**



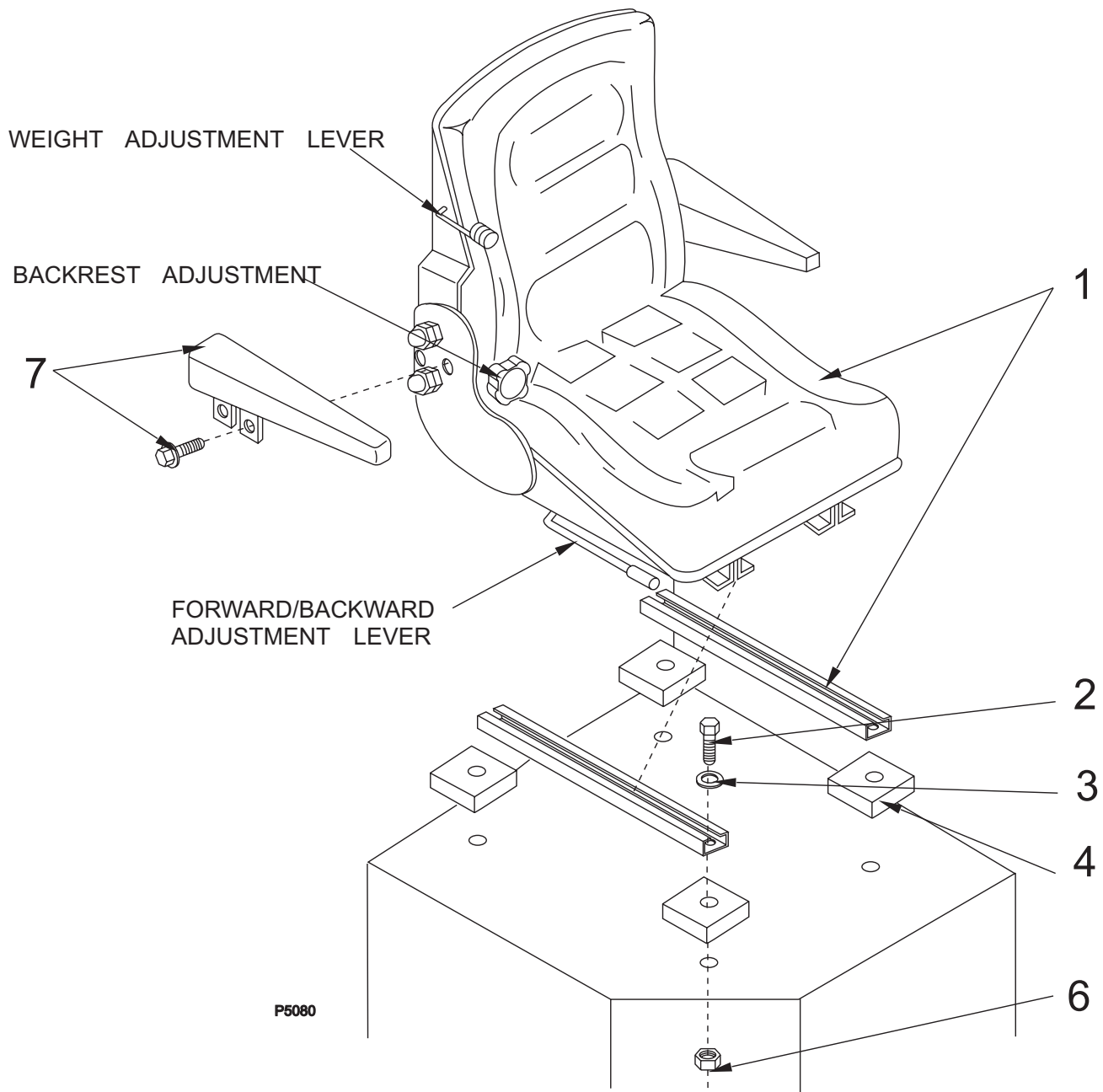
P4870

<b>KEY NO.</b>	<b>PART NUMBER</b>	<b>DESCRIPTION</b>	<b>QTY</b>
1	8-40-05049	Rear Work Light	1
2	8-82-00044	Switch, SPST on/off	1
3	2-00-04578	Terminal, Male Bullet	1

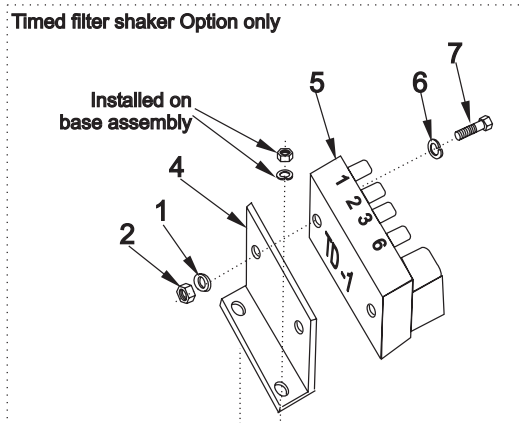
P-4870



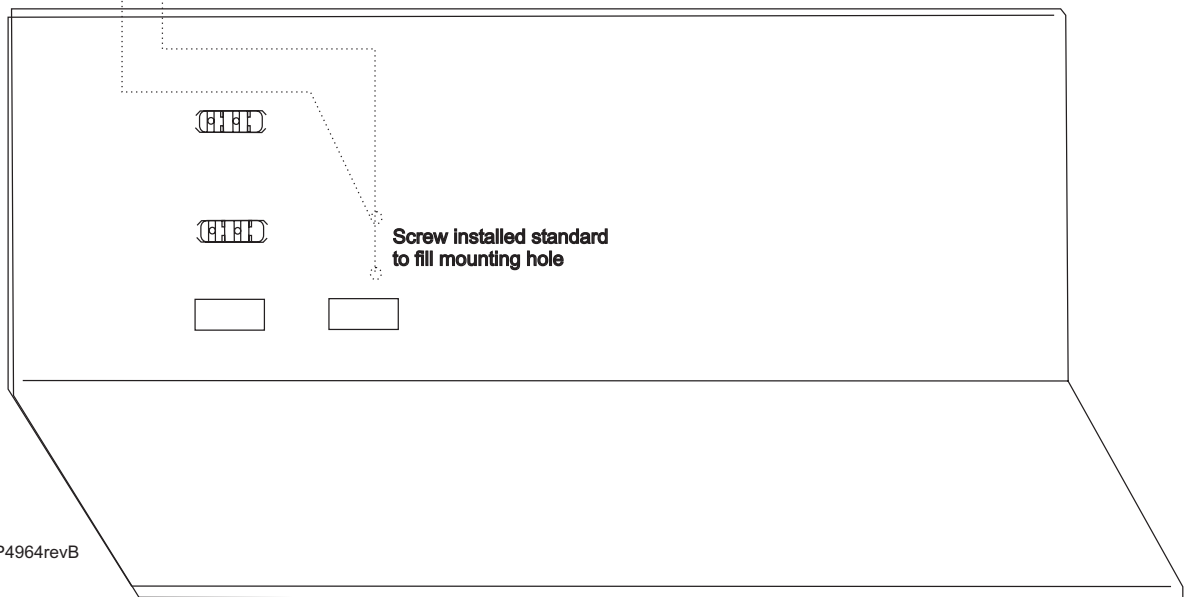
# SUSPENSION SEAT OPTION



<u>KEYNO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-69-00019	Seat without armrests	1
2	2-00-00225	Screw, 5/16-18 x 1.500 HHC	4
3	2-00-00409	Flat Washer, .750 x .343 x .062	4
4	8-71-00016	Shim Block	4
6	2-00-00585	Nut, 5/16-18 x .500 x .265	4
7	8-03-04320	Armrest Kit (Includes both Armrests)	1
	0880-474	Suspension Seat Option (Includes all the Above)	1



Refer to instrument panel connection diagram for assembly instructions.  
(Wires existing in standard assembly)



P4964revB

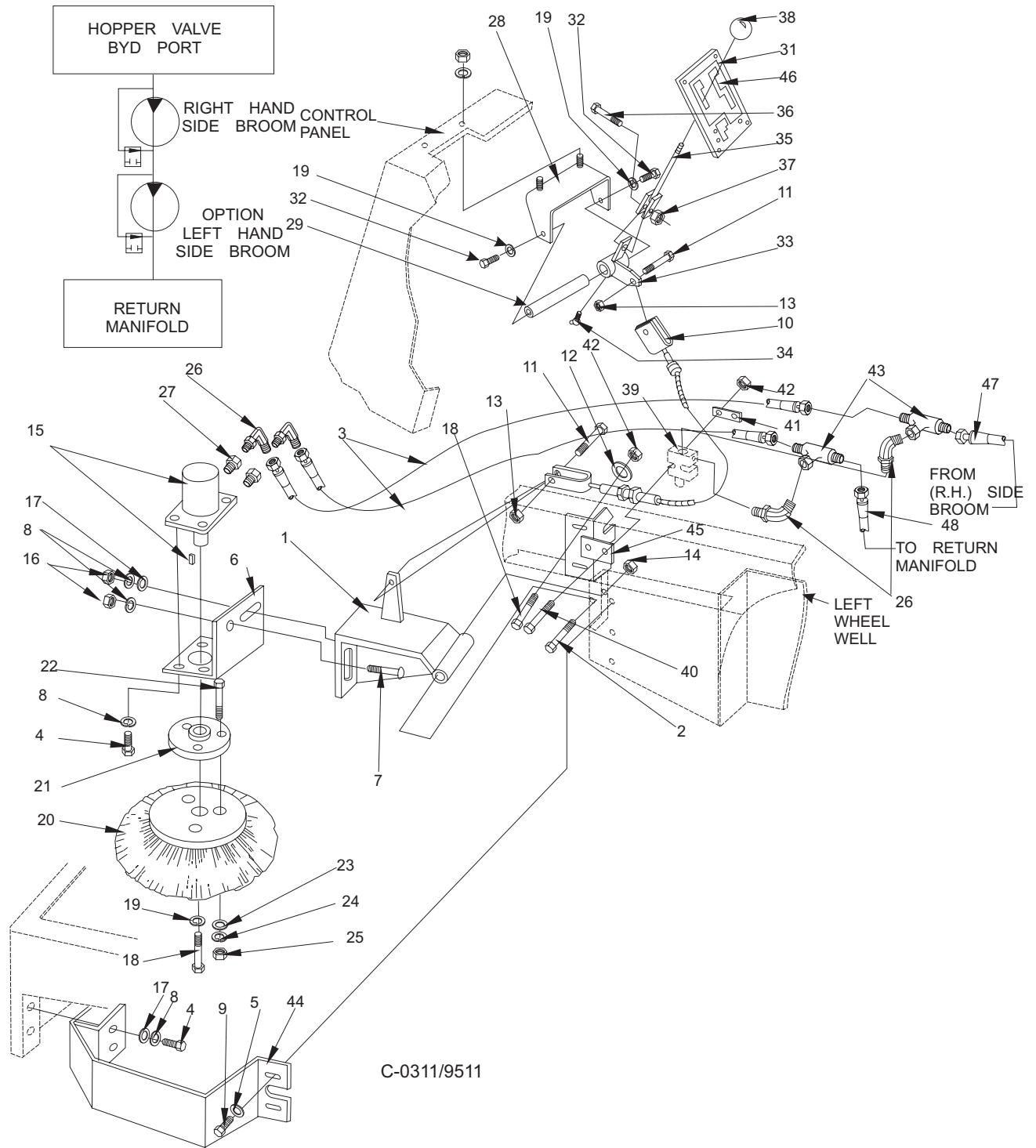
<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-90-07356	Wire, TD-1#4 toTD-1#5	1
2	2-00-00605	Nut, Hex MS #10-24 x .375 x .125	1
3	2-00-00512	Lock Washer, #10Int.	1
4	2-00-00466	Flat Washer, .625 x .203 x .031	1
5	8-64-05010	Timer	1

P4964revB/11-04

## LEFT SIDE BROOM OPTION - PARTS LIST

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-03-04284	Side Broom Arm Weldment L.H.)	1
2	2-00-04914	Screw, 1/2 - 13 x 4.250 HHC	1
3	8-33-02181	Hose, Hydraulic ORS 4 Str. Ends 18"	2
4	2-00-00233	Screw, 3/8 - 16 x 1.000 HHC	8
5	2-00-04159	Flat Washer, 1/2	5
6	8-08-00740	Side Broom Arm Bracket L.H.	1
7	2-00-05187	Bolt, Carriage 3/8-16 x 1.25	2
8	2-00-02310	Lock Washer, Helical Spring 3/8 Med	10
9	2-00-01254	Screw, 1/2-13 x 1.500 HHC	4
10	8-10-00030	Cable, L.H. Side Broom	1
11	2-00-02708	Screw, 5/16-18 x 1.000 HHC	2
12	2-00-00407	Flat Washer, .562 x .265 x .062	3
13	2-00-00644	Nut, Hex Fiber Insert 5/16 - 18	2
14	2-00-04936	Nut, Hex Fiber Insert 1/2 - 13	2
15	0882-047	Side Broom Motor,	1
15	2-00-00722	Woodruff Key, 1/4	1
16	2-00-00584	Nut, Hex 3/8-16	2
17	2-00-04801	Flat Washer, 3/8	3
18	2-00-01490	Screw, 1/4 - 20 x .875 HHC	4
19	2-00-00518	Lock Washer, Helical Spring 1/4 Med	1
20	8-08-03211	Side Broom	1
21	8-25-06008	Side Broom Flange	1
22	2-00-00211	Screw, 5/16 - 18 x 1.750 HHC	3
23	2-00-00409	Flat Washer, 5/16	3
24	2-00-00530	Lock Washer, Helical Spring 5/16 Med	3
25	2-00-00585	Nut, Hex 5/16 - 18 x .500 x .265	3
26	2-00-04926	ORFS 90° Elbow, 9/16-18	4
27	2-00-04915	ORFS Boss Reducer, 7/8-14 to 9/16-18	2
28	8-08-00646	Side Broom Pivot Bracket	Ref
29	8-70-05285	Shaft - Broom Pivot L.H.	Ref
30	2-00-00221	Screw, 1/4 - 20 x .750 HHC	Ref
31	8-58-05264	Face Plate, Main and Left Broom	1
32	2-00-00221	Screw, 1/4-20 x .750 HHC	Ref
33	8-57-05021	Side Broom Pivot Weldment	1
34	2-00-02558	Lubrication Fitting, 45° 1/8 NPT	1
35	8-16-00034	Lever Weldment	1
36	2-00-00234	Screw, 3/8 - 16 x 1.50 HHC	1
37	2-95-04182	Nut, Hex Fiber Insert 3/8 - 16	1
38	8-39-00002	Knob	3
39	0891-008	Side Broom Valve	1
40	2-00-00199	Carriage Bolt, 1/4 - 20 x 1.750	2
41	8-08-00590	Valve Mounting Bracket	1
42	2-00-00641	Nut, Hex Fiber Insert 1/4-20	5
43	2-00-04940	ORFS Swivel Nut Branch Tee, #4 ORS	2
44	8-30-05143	Side Broom Guard - L.H.	1
45	8-08-00716	Cable & Valve Mounting L.H. Bracket	1
46	8-18-00352	Decal, Main and Left Broom	1
47	7-33-02181	Hose, Hydraulic ORS 4 Str. Ends 160"	1
48	8-33-02187	Hose, Hydraulic ORS 4 Str. Ends 97"	1
49	8-08-00739	Side Broom Arm Bracket L.H.	1
50	8-08-00759	Side Broom Arm Mounting Bracket L.H.	1

# LEFT SIDE BROOM OPTION - EXPLODED VIEW



## VACUUM SIDE BROOMS OPTION - PARTS LIST

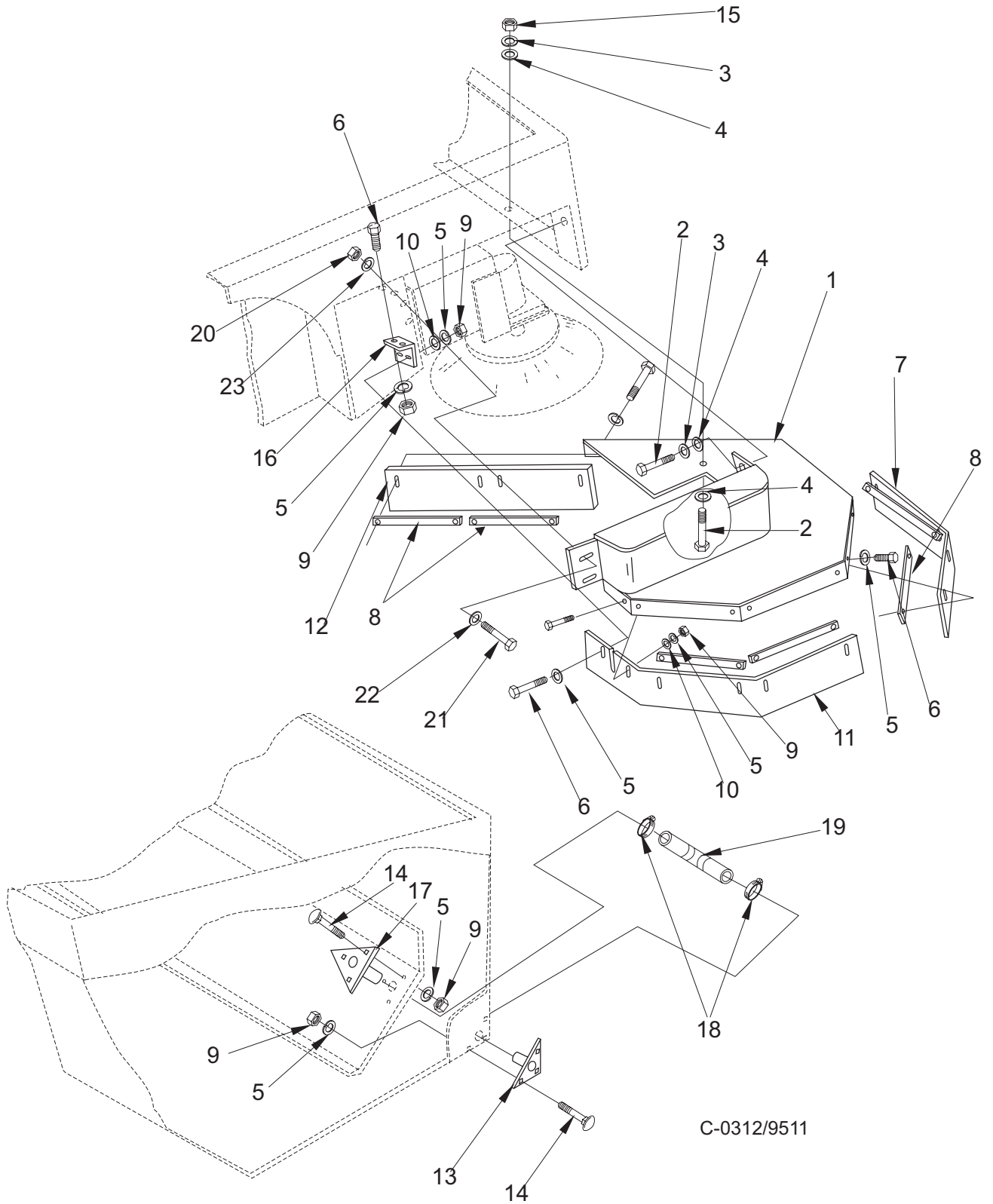
---

RIGHT HAND VACUUM SIDE BROOM (0880-542)  
LEFT HAND VACUUM SIDE BROOM (0880-543)

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-30-05154	Right Hand Guard	1
1	8-30-05155	Left Hand Guard	1
2	2-00-00209	Screw, 3/8 - 16 x 1.250 HHC	3
3	2-00-02310	Lock Washer, Helical Spring 3/8 Med	3
4	2-00-00402	Flat Washer, .750 x .390 x .093	4
5	2-00-00518	Lock Washer, Helical Spring 1/4 Med	22
6	2-00-00221	Screw, 1/4 - 20 x .750 HHC	16
7	8-25-08164	Flap	1
8	8-08-00662	Strap	6
9	2-00-00594	Nut, Hex 1/4 - 20 x .437 x .218	10
10	2-00-00407	Flat Washer, 1/4	7
11	8-25-08165	Flap	1
12	8-25-08163	Flap	1
13	8-03-02041	Tube Adapter	1
14	2-00-03575	Carriage Bolt, 1/4 - 20 x .750	6
15	2-00-02360	Nut, Hex 3/8-16	1
16	8-08-00732	Side Broom Flap Bracket	1
17	8-03-02042	Tube Adapter	1
18	2-00-02217	Clamp	2
19	7-33-02234	Hose	1
20	2-00-00596	Nut, Hex 1/2-13	2
21	2-00-00241	Screw, 1/2-13 x 1.750 HHC	2
22	2-00-04159	Flat Washer, 1.38 x .56 x .109	2
23	2-00-02312	Lock Washer, Helical Spring 1/2	2

C-0312

# VACUUM SIDE BROOMS OPTION - EXPLODED VIEW



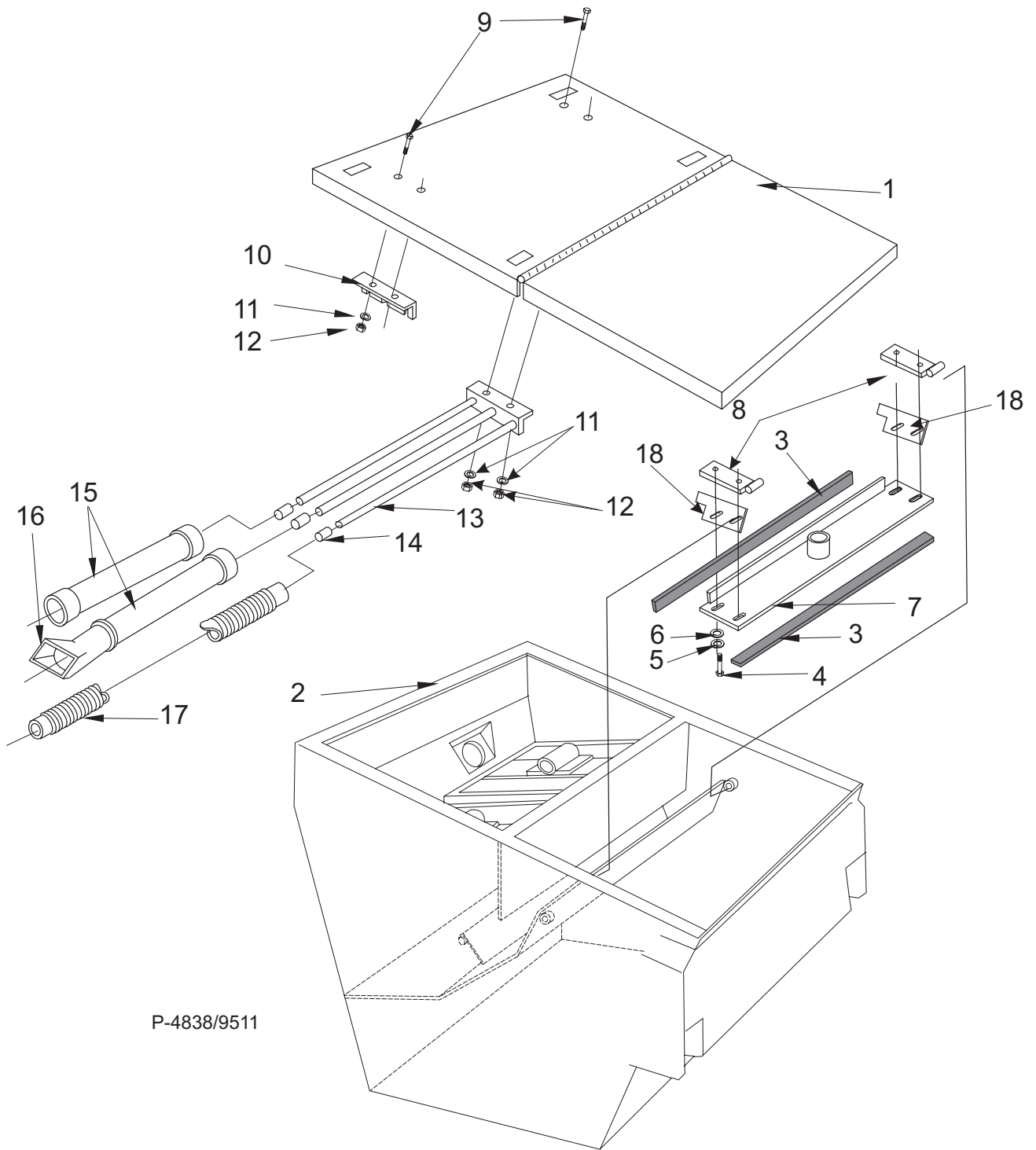
## VACUUM WAND OPTION - PARTS LIST

---

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-16-07320	Hopper Lid	Ref
2	8-32-06081	Hopper Weldment	Ref
3	8-29-00190	Gasket	2
4	2-00-00221	Screw, 1/4 - 20 x .750 HHC	4
5	2-00-00518	Lock Washer, Helical Spring 1/4 Med	4
6	2-00-03702	Flat Washer, .625 x .281 x .062	4
7	8-58-05239	Adapter Plate	1
8	8-57-05019	Pivot	2
9	2-00-01481	Screw, 5/16 - 18 x 1.000 RHM	4
10	8-08-00622	Latch Bracket	1
11	2-00-00530	Lock Washer, Helical Spring 5/16 Med	4
12	2-00-00585	Nut, Hex 5/16 - 18 x .500 x .265	4
13	8-08-00623	Hose Storage Bracket	1
14	8-11-00034	Cap	3
15	8-89-00002	Wand Section	2
16	8-86-08010	Floor Tool	1
17	8-33-02121	Vacuum Hose	1
18	8-25-08183	Flap	2

P-4838

# VACUUM WAND OPTION - EXPLODED VIEW



P-4838/9511



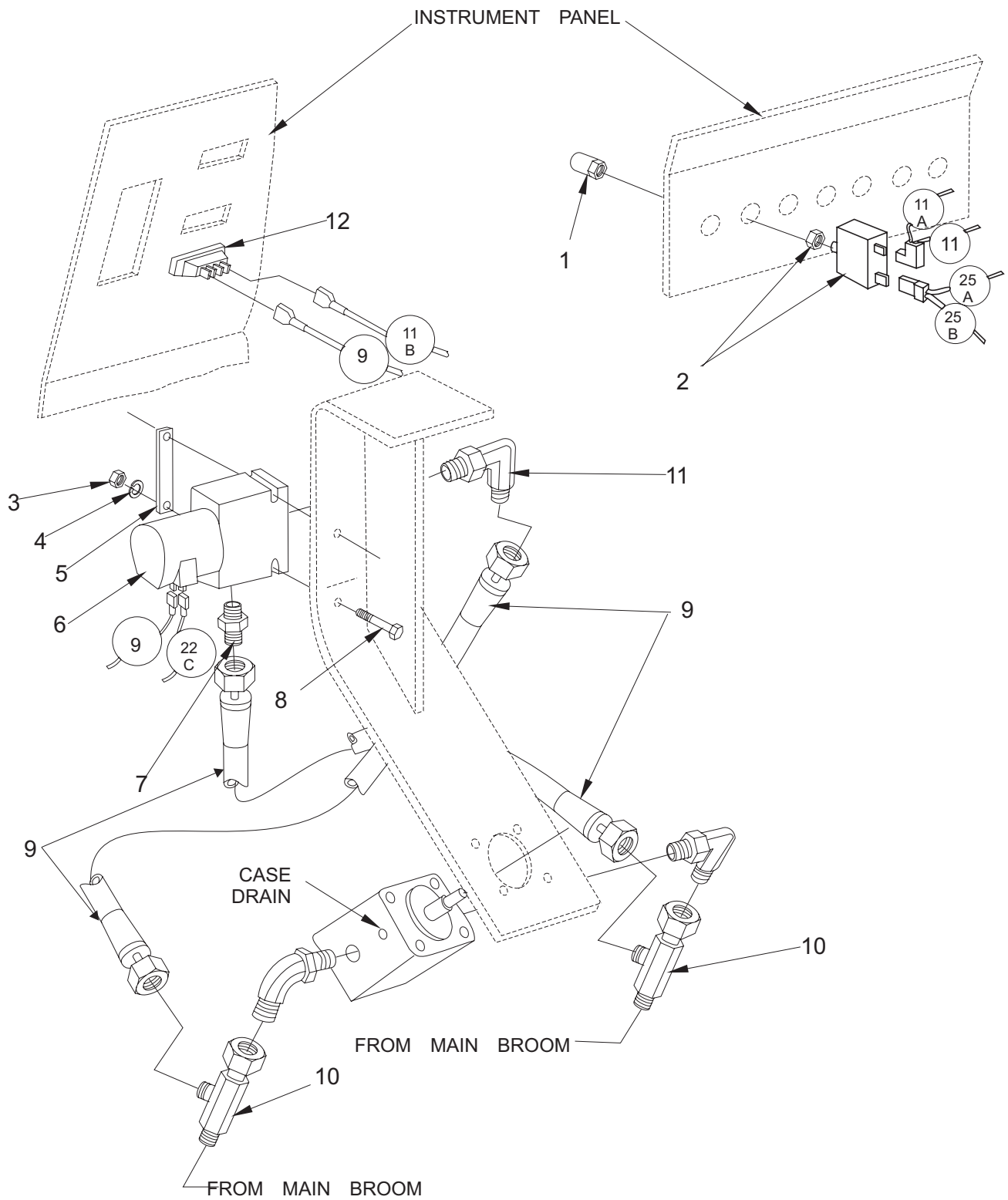
## WET SWEEP BYPASS OPTION - PARTS LIST

---

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	8-11-00044	Circuit Breaker Boot	1
2	8-64-00008	Circuit Breaker (15A)	1
3	2-00-00594	Nut, Hex 1/4 - 20 x .437 x .218	2
4	2-00-00518	Lock Washer, Helical Spring 1/4 Med	2
5	8-08-00590	Bracket	1
6	8-88-00042	Valve, Solenoid N.C.	1
	7-14-07005	Coil	1
7	2-00-04970	ORFS Connector, 3/4-16 / 13/16-16	1
8	2-00-02589	Screw, 1/4 - 20 x 2.000 HHC	2
9	8-33-02193	Hose, Hydraulic ORS 8/ str.ends - 18"	2
10	2-00-04928	ORFS Run Tee, 13/16 - 16	2
11	2-00-04885	ORFS 90° Elbow, 3/4-16 / 13/16-16	1
12	8-82-00044	Switch SPST	1

P-4706

# WET SWEEP BYPASS OPTION - EXPLODED VIEW



P-4706/9511

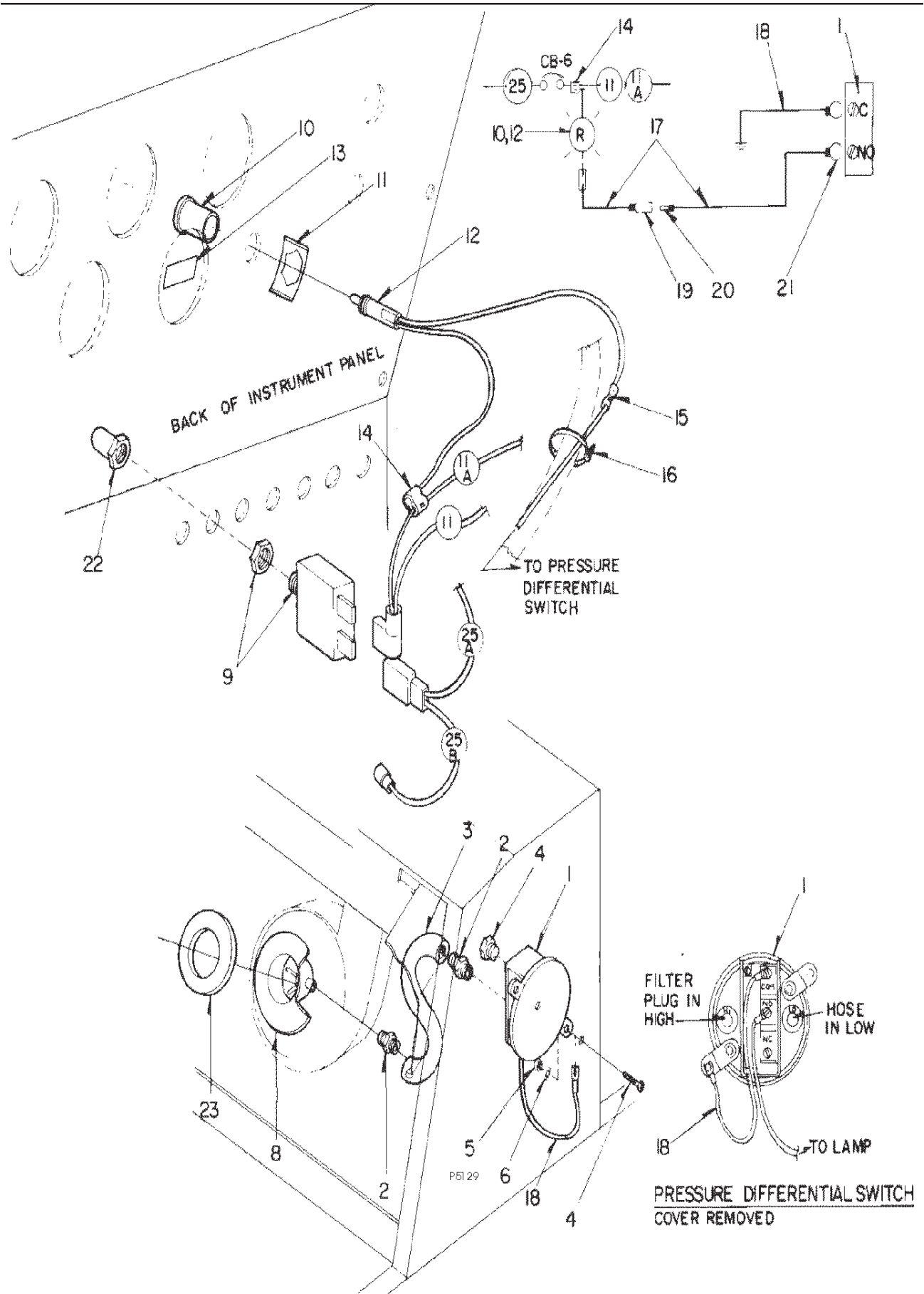
## **FILTER WARNING SYSTEM OPTION - PARTS LIST**

---

<b><u>KEY NO.</u></b>	<b><u>PART NUMBER</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY</u></b>
1	8-63-05014	Pressure Differential Switch	1
2	2-00-04518	Hose Fitting Barbed, Rigid Pipe Male 1/8 NPT	2
3	7-87-02155	Plastic Hose, 8.000 L.	1
4	8-24-04075	Filter Plug,	2
5	2-00-04479	Connector (3) way	2
6	2-00-01128	Butt Splice	1
7	2-00-04345	Wire Tie	10
8	8-11-00044	Boot	1
9	8-64-00008	Circuit Breaker, 15 AMP	1
10	7-41-03004-1	Lens, Red	1
11	2-00-04735	Nut, Spring Clip	1
12	7-40-05027	Lamp Socket, 14 V	1
13	8-18-00144	Decal, Warning Dirty Filter	1
14	3-61-00189	Wire, Bulk Black 16 AWG	16"
15	2-00-04717	Terminal, #6 Spring Spade	1
16	2-00-04626	Terminal, .156 Female Bullet	2
17	2-00-04578	Terminal, .156 Male Bullet	1
18	3-61-00249	Wire - 16 AWG. GRN.	92.50"
18A	3-61-00249	Wire - 16 AWG. GRN.	20.00
19	2-00-03261	Grommet	1

P-5129

# FILTER WARNING SYSTEM OPTION - EXPLODED VIEW



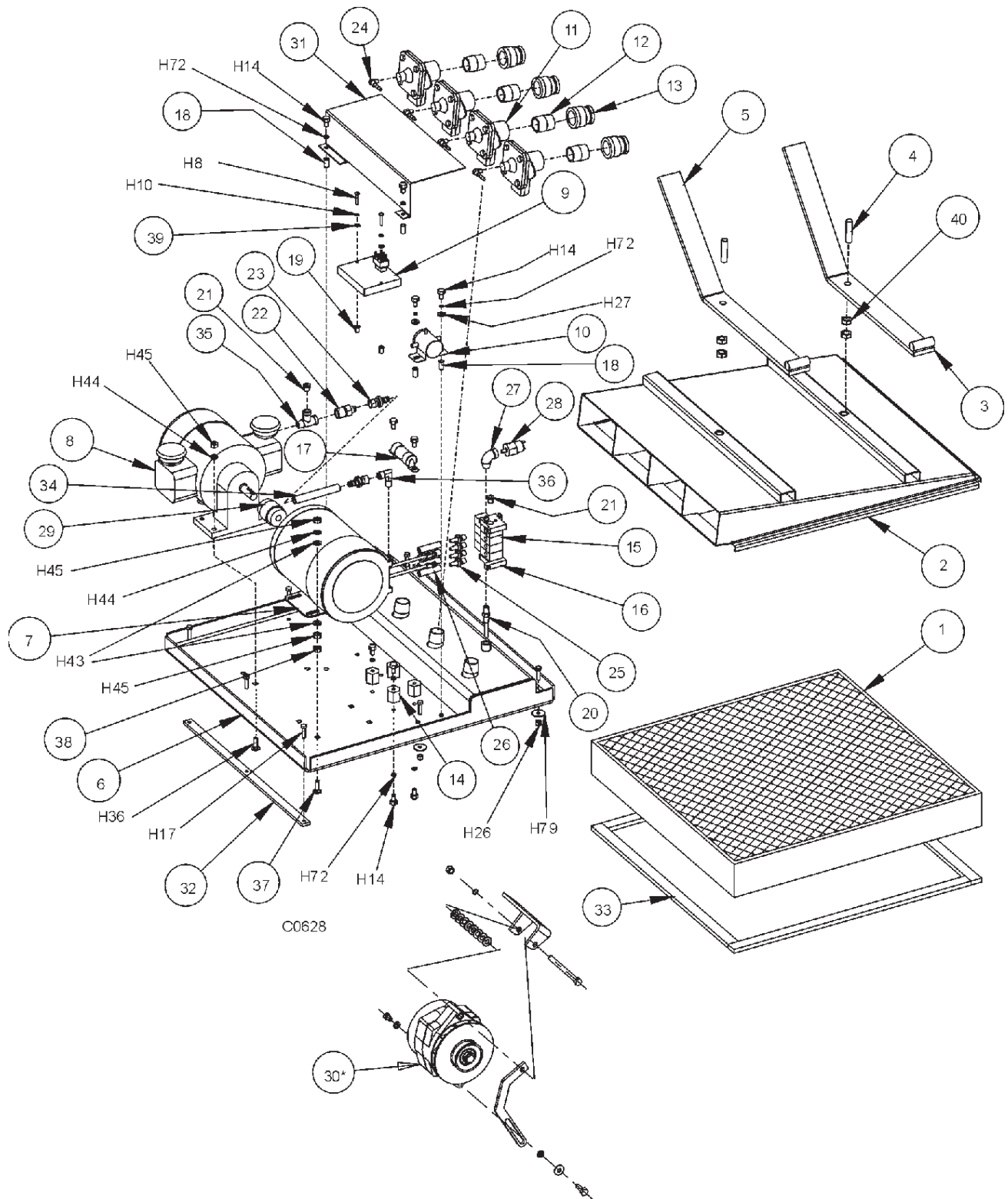
## PULSE - AIR<sup>3</sup> - PARTS LIST

---

### Option 0880-653

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	8-24-04155	Filter Panel	1
2	8-20-06041	Filter Duct Weldment	1
3	8-13-07152	Clamp, Filter Duct	1
4	8-80-05045	Stud	2
5	8-13-07151	Clamp, Filter Duct	1
6	8-48-00022	Manifold Weldment	1
7	0782-091	Motor	1
8	0890-006	Compressor	1
9	8-64-00017	Relay	1
10	7-74-00002	Solenoid	1
11	8-88-00061	Valve, Pilot Operated	4
12	8-56-05080	Fitting, 1" NPT Close Nipple	4
13	2-00-03859	Fitting, Reducer 1-3/4 NPT	4
14	8-35-00021	Isolator	4
15	8-88-00062	Valve	4
16	8-58-05787	End Plate Assembly	1
17	7-28-00002	Fuse, 80 Amp	1
18	2-00-05261	Threaded Insert, 1/4-20	4
19	2-00-05262	Threaded Insert, #10-24	2
20	8-25-02037	Fitting	1
21	2-00-02471	Plug, 1/4" NPT	2
22	2-00-04499	Fitting	1
23	2-00-04856	Fitting	2
24	2-00-04787	Fitting, 1/8 NPT Elbow	4
25	2-00-04518	Fitting, 1/8 NPT Straight	4
26	3-71-00082	Hose (12.0" Long)	4
27	8-56-05061	Fitting, 90° Street Elbow (1/4 NPT)	1
28	8-82-00063	Pressure Switch (1/4 NPT)	1
29	7-16-05021	Coupling	1
30	8-03-03007	Alternator, 12 volt, 94 Amp	1
31	8-16-07379	Fuse Cover	1
32	8-13-07154	Clamp	1
33	3-73-00050	Gasket	8'
34	8-33-02335	Hose, Compressor to Manifold	1
35	2-00-04515	Tee, 1/4 NPT Street	1
36	2-00-04477	90° Fitting	1
Not Shown	8-09-01082	Bushing	2

PULSE - AIR<sup>3</sup> - EXPLODED VIEW

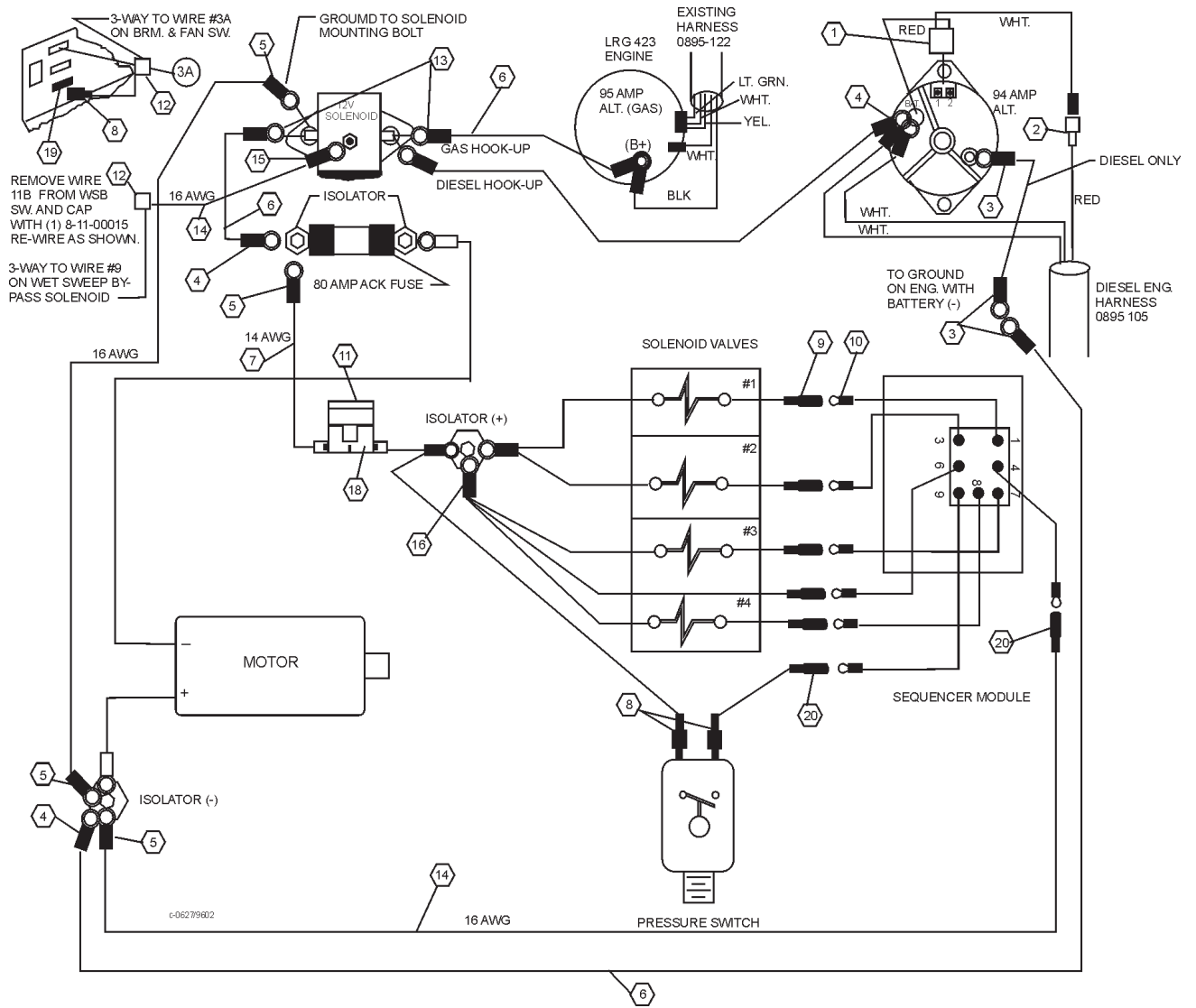


# PULSE – AIR<sup>3</sup> - ELECTRICAL SCHEMATIC - PARTS LIST

C0628/9907

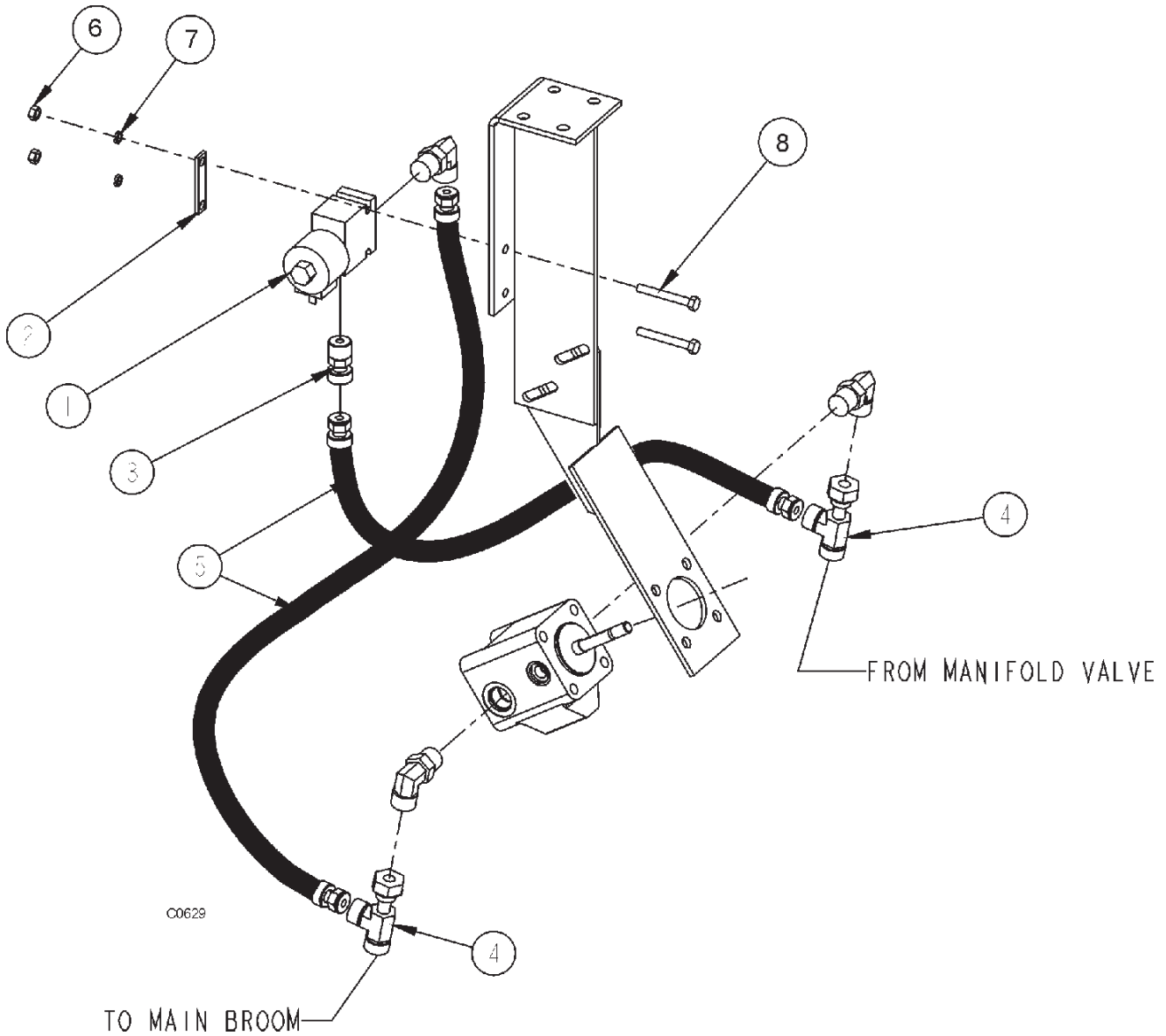
<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	0895-092	Wire Harness Assembly	1
2	2-00-04440	Terminal, .250	1
3	2-00-04738	Terminal, .380 Ring	3
4	2-00-04659	Terminal, .250 Ring	3
5	2-00-04284	Terminal, .310 Ring	4
6	3-61-00021	Wire, 6awg (Black)	35'
7	3-61-00144	Wire, 14 awg (Black)	10'
8	2-00-03418	Terminal, .250 FISO	3
9	2-00-04584	Terminal, .156 Female Bullet	5
10	2-00-04578	Terminal, .156 Male Bullet	7
11	8-28-05020	Fuse, 5 amp ATC	1
12	2-00-04479	Terminal, 3-Way	2
13	2-00-04657	Terminal, .310 Ring	2
14	3-61-00189	Wire, 16 awg (Black)	5'
15	2-00-04281	Terminal, #10 Ring	1
16	2-00-01862	Terminal, .250 Ring	3
17	2-00-04345	Ty-Raps	10
18	7-32-03019	Fuse Holder, In-Line	1
19	8-82-00059	Switch, SPST	1
20	2-00-04626	Terminal, .156 Female Bullet	2

# PULSE – AIR<sup>3</sup> - ELECTRICAL SCHEMATIC - EXPLODED VIEW





# PULSE – AIR<sup>3</sup> - HYDRAULICS



C0629

C0627

<u>KEY NO.</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY.</u>
1	7-88-00038	Solenoid Valve	1
2	8-08-00590	Bracket	1
3	2-00-04970	Fitting, Connector	1
4	2-00-04928	Fitting, Swivel Tee #8	2
5	8-33-02193	Hose, #8 ORS STR 18	2

C0629

## ENGINE SERVICE PARTS - FORD 425EFI GAS/LP

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
7-88-00106	PCV Valve	1
8-24-04156	Oil Filter	1
8-14-07012	Coil Pack	1
7-75-03008	Spark Plug	4
7-90-08021	Spark Plug Wire Set	1
0775-290	New Starter	1
0875-109	Rebuilt Starter	1
7-60-05050	Water Pump	1
7-82-00054	Switch, Water Temperature (Ford Black)	1
7-11-04067	Water Temperature Sender (Ford Gray/White)	1
8-69-00013	Water Temp Sender (Am. Lin. Instrument Panel)	1
2-00-05404	Belt, Water Pump/Alternator	1
7-84-08020	Thermostat	1
0775-289	Alternator	1
7-23-00024	Fan, Ford 425 Breeza	1
7-75-01245	Spacer, 425 Fan (Gas)	1
7-82-00053	Switch, Oil Pressure	1
8-69-00005	Oil Pressure Sender (Am. Lin. Instrument Panel)	1
7-11-04065	Light, Malfunction Indicator	1
7-11-04040	Fuel Rail (gas)	1
7-11-04039	Injector (gas)	4
7-11-04041	Throttle Body	1
7-11-04044	LP Mixer (CE)	1
7-11-04072	2.5 LP Mixer (EXPORT)	1
7-11-04071	1.6 LP Mixer (EXPORT)	1
7-11-04043	LP Regulator (CE)	1
8-33-02377	Intake Hose	1
7-88-00110	LP Safety Valve	1
0895-135	Wiring Harness	1
7-63-05003	Filter, HP Fuel w/bypass	1
7-08-01213	Bracket, HP Fuel Filter	1
7-60-05051	Fuel Injection Pump	1
7-24-04080	Filter, Tank Fuel	1
7-11-04045	MegaJector (N. America)	1
0769-033	Fuel Computer (CE)	1
0769-034	Fuel Computer (EXPORT)	1
7-11-04062	HEGO Sensor	1
7-11-04063	Sensor, Charge Air Temperature	1
7-11-04064	MAP Sensor	1
7-11-04038	Catalytic Converter	1
0769-033	EPM w/Calibration (N. America)	1
0769-034	EPM w/Calibration (EXPORT)	1

## ENGINE SERVICE PARTS - MITSUBISHI S4Q2 DIESEL

---

<u>PART NUMBER</u>	<u>DESCRIPTION</u>	<u>QTY</u>
0775-287	Alternator	1
7-23-00022	Fan, S4Q2 Engine	1
2-00-05968	Belt, Alternator/Fan	1
7-60-05048	Water Pump	1
7-24-04097	Oil Filter	1
7-75-03005	Glow Plug	4
7-64-00041	Relay, Glow Plug (installed on wire harness)	1
7-64-00040	Relay, Murphy (installed on wire harness)	1
0769-029	Injector	1
7-56-04071	Pipe, Cylinder #1	1
7-56-04072	Pipe, Cylinder #2	1
7-56-04073	Pipe, Cylinder #3	1
7-56-04074	Pipe, Cylinder #4	1
7-56-04079	Pipe, Fuel Leak-Off	1
7-29-00312	Gasket, Thermostat	1
7-84-08016	Thermostat	1
0775-285	Starter	1
7-24-04078	Water Separator Assy.	1
7-24-04088	Element, Water Separator	1
7-24-04089	Fuel Filter	1

**AMERICAN-LINCOLN  
RIDER "BUMPER-TO-BUMPER" LIMITED WARRANTY****I. COVERAGE**

**A.** Subject to the terms and limitations stated herein, American-Lincoln warrants, to the original purchaser only, to repair or replace, at American Lincoln's option and upon the terms set out below, this product or any parts thereof (excluding normal maintenance items) which are defective in materials or workmanship, for a period of (2) two years or 2,000 hours of normal operation, from the date of purchase, whichever comes first, provided that the product is operated and maintained in accordance with American-Lincoln's Maintenance and Operations Instruction.

1. **(a)** During the first (90) ninety days from the date of purchase, American-Lincoln will provide, without charge, parts and on-site labor (including up to three (3) hours total round-trip travel time) to remedy a defective product or part.

**(b)** During the next (9) nine months or 1,000 hours (whichever come first) American-Lincoln will provide, without charge, parts and labor to remedy a defective product or part; however all travel time for on-site remedy and all shipping and freight charges for off-site remedy of the product or parts thereof shall be the sole responsibility of the purchaser.

**(c)** During the next (12) twelve months or a total of 2000 hours (whichever comes first) American Lincoln will provide, without charge, parts to remedy a defective product or part, however all labor, travel time for on-site remedy and all shipping and freight charges for off-site remedy of the product or parts thereof shall be the sole responsibility of the purchaser.

**B.** In addition to the terms listed above, if applicable, the following additional warranty coverage is applied.

1. **(a)** American-Lincoln warrants to the original purchaser only, to repair or replace, at American Lincoln's option, and upon the terms set out below, the drive line electrical components including the electric drive propulsion motor, electric wheel drive motor and electronic drive controller, and all hydraulic pumps and motors, to provide replacement parts which are defective in material or workmanship, for a period of (3) years or 3000 hours (whichever comes first) provided that the product is operated and maintained in accordance with American-Lincoln's Maintenance and Operations Instruction.

**(b)** American Lincoln warrants to the original purchaser only, to repair or replace, at American Lincoln's option and upon the terms set out below, the internal combustion liquid cooled engine (long block only), those parts which are found to be defective in material or workmanship for 5 years unlimited hours. American Lincoln reserves the right to have such failures evaluated by a local authorized dealer for those engines to determine warranty eligibility. All labor, travel time, shipping and freight charges shall be the sole responsibility of the purchaser. NOTE: All other parts on the engine, i.e. carburetors alternators, etc. are covered by the two year 2000 hour standard warranty.

**(c)** American-Lincoln, warrants to the original purchaser only, to repair or replace, at American Lincoln's option and upon the terms set out below, the main frame, debris hopper, solution and recovery tank, for the life of the machine against failure caused by defects in workmanship or total rust through. For purposes of this coverage, cosmetic deterioration or surface rust does not constitute a failure.

**(d)** American-Lincoln, warrants to the original purchaser only and upon terms set below, to replace batteries which become unserviceable under normal use, within a period of ninety (90) days from date of sale to the original user with new batteries of equal value. After expiration of the above ninety (90) day period, any battery which fails under normal use will be adjusted to the original user with a new battery of equal specifications on an eighteen (18) months pro rate basis from the date of purchase. Adjustment will be determined using the then current list price, plus transportation costs. Warranty is rendered null and void if battery is not kept filled to the proper level with distilled water.

**II. EXCLUSIONS**

**A.** This warranty **does not** cover normal maintenance parts and labor, including but not limited to, rubber parts, seals, flaps, brushes, engine maintenance parts, hoses, carbon motor brushes, fluids and routine adjustments.

**B.** This warranty **does not** cover damage or failure of the product or any parts thereof which is the result of misuse, negligent operation, handling or repair, or which is the result of modification by any person other than an authorized American-Lincoln service representative.

**III. LIMITATIONS**

**A.** AMERICAN-LINCOLN MAKES NO WARRANTIES OTHER THAN THOSE SPECIFIED HEREIN. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED. AMERICAN-LINCOLN LIABILITY UNDER THIS WARRANTY IS LIMITED TO REPAIR AND/OR REPLACEMENT OF PRODUCTS OR PARTS AS SET OUT HEREIN. AMERICAN-LINCOLN SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES WHICH MAY RESULT FROM A PRODUCT OR PART DEFECT OR FAILURE. ANY EXTENSIONS OF OR MODIFICATIONS MADE TO THIS WARRANTY BY A DISTRIBUTOR OF AMERICAN-LINCOLN ARE THE SOLE RESPONSIBILITY OF THE DISTRIBUTOR.

**IV. Warranty eligibility terms and conditions:**

1. The original purchaser shall promptly complete and return the warranty and installation registration form included with the product at the time of the purchase;
2. Upon product or part failure, the original purchaser shall promptly contact the nearest authorized American-Lincoln Servicing Representative.
3. American Lincoln reserves the rights to request that defective parts or product are returned to American Lincoln for determination of claim eligibility.

American-Lincoln Technology reserves the right to make changes and improvements to its machines without notice. For best results, use only the correct American-Lincoln Service parts.

Revised 2/03