

DA8100: 99900117: 19961206



# Model DA8100 Air Compressor

(Replaces Model V8-100)



**IOWA MOLD TOOLING CO., INC.**

BOX 189, 500 HWY 18 WEST, GARNER, IA 50438

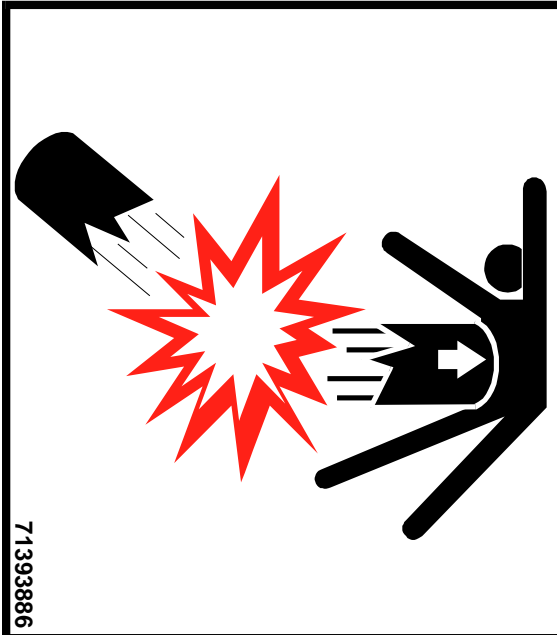
TEL: 515-923-3711

TECHNICAL SUPPORT FAX: 515-923-2424

MANUAL PART NUMBER 99900117

# PRECAUTIONS

## Read before operating your compressor!



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### **DANGER**

**EXPLODING TANK WILL CAUSE DEATH, SERIOUS INJURY OR PROPERTY DAMAGE**

- Drain air tank after each use to prevent moisture build-up and corrosion which leads to tank failure.
- Assure that tank and compressor relief valves work properly, and are at correct pressure settings.
- **DO NOT** modify or repair air tank.
- **NEVER** drive vehicle with pressure in air tank.



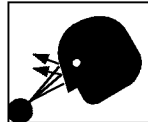
Failure to follow operating and maintenance procedures as outlined in this manual could result in equipment damage, personal injury or death. Follow all maintenance procedures and intervals.



Do not use air from this compressor for breathing or food processing. Air from this compressor will cause severe injury or death if used for breathing or food processing.



Maintenance must be performed only by trained and qualified personnel, using correct tools, specified torques and approved replacement parts.



Hot oil under pressure can cause severe injury or death. Shut down, let cool and relieve pressure in compressor before servicing.



All electrical components and cable wiring must be installed and grounded in accordance with NFPA, national electrical codes and applicable state and local codes.



Do not overfill the compressor with oil. Use correct quantity of manufacturer's lubricant. Repair leaks and clean spills immediately.



Before removing guards or servicing the compressor, disconnect all power supplies. Display warning signs and lock out electrical circuits.



Compressors generate high temperatures. Do not touch or otherwise come in contact with hot surfaces. Doing so can cause severe personal injury.



All guards must be in position and secure before and during operation.

### **WARNING**

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

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# TABLE OF CONTENTS

SECTION TITLE

**Section 1. INTRODUCTION AND SPECIFICATIONS**

**Section 2. INSTALLATION**

**Section 3. COMPONENT DESCRIPTION AND OPERATION**

- PILOT VALVE
- FLOW CONTROL VALVE
- IDLING DEVICE
- GOVERNOR
- OPTIONAL INSTRUMENT PANEL
- OPERATION

**Section 4. MAINTENANCE AND REPAIR**

- MAINTENANCE
- PILOT VALVE
- FLOW CONTROL VALVE
- MAINTENANCE

**Section 5. PARTS**

- ORDERING REPAIR PARTS

## LIST OF ILLUSTRATIONS

FIGURE	TITLE(PART NUMBER)	PAGE
A-1.	Specifications .....	1-1
D-1.	Troubleshooting Chart .....	4-2
E-1.	Miscellaneous Parts Kit DA8100 REG-13(51705684) .....	5-2
E-2.	Miscellaneous Parts Kit DA8100 R-13(51705685) .....	5-3
E-3.	Miscellaneous Parts Kit DA8100 RLC-13(51705686) .....	5-4
E-4.	Miscellaneous Parts Kit DA8100 RLC-32(51705687) .....	5-5
E-5.	Compressor Head Assembly (51705683) .....	5-6
E-6.	Air Filter Assembly(51705696) .....	5-7
E-7.	Idling System Assembly(51705695) .....	5-8
E-7A.	Idling System Assembly(51705695) .....	5-8A
E-8.	Control Panel Assembly - Standard(51705711) .....	5-9
E-9.	Ignition Module Wiring Harness(51705708) .....	5-10
E-10.	Installation Kit(93705563).....	5-11
E-11.	Radiator Shroud Kit(51705680).....	5-12
E-12.	Air Plumbing Kit DA8100 REG(51705690).....	5-13
E-13.	Air Plumbing Kit DA8100 R/RLC-13(51705691) .....	5-14
E-14.	Air Plumbing Kit DA8100 R/RLC-32(51705692) .....	5-15
E-15.	OPTION - Control Panel Kit (51705568) .....	5-16
E-16.	OPTION - Ammeter Kit(51705584).....	5-17
E-17.	OPTION - Alternator Kit(51705697) .....	5-18
E-18.	Engine Accessories(70732274) .....	5-19
E-19.	Aftercooler Kit(51707244) .....	5-20
E-20.	Coolant Recovery Kit(70731733) .....	5-21
E-21.	Air Tank Assembly(51705448) .....	5-22
E-22.	Air Tank Assembly 32-Gallon(51705705) .....	5-23

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# SECTION 1. INTRODUCTION & SPECIFICATIONS

The Diamond Air Model DA8100 compressor is an industrial engine modified so that one bank of cylinders furnishes power and the other bank of cylinders compresses air. Every part of the engine except the air compressor head is an industrial engine. Refer to the specifications for additional information.

Ignition timing is standard factory industrial engine specifications. Engine timing specifications are included in the Specifications Table.

Engine valves for the bank of compressor cylinders have been disabled. Valves for the compressor bank are installed in the compressor head.

**CAUTION**

RECOMMENDED MAXIMUM OPERATING PRESSURE IS 150 PSI (11.6 KG/CM<sup>2</sup>). MAXIMUM WORKING PRESSURE OF AIR RECEIVER IS 200 PSI (14.1 KG/CM<sup>2</sup>).

**NOTE**

MAINTENANCE, SERVICE AND REPAIR ASSISTANCE IS GIVEN OVER THE TELEPHONE BY OUR SERVICE DEPARTMENT HERE AT IMT. CALL (515) 923-3711 DURING NORMAL WORKING HOURS. ALWAYS REFER TO THE MODEL NUMBER AND SERIAL NUMBER WHEN CONTACTING THE FACTORY.

**FIGURE 1-1. SPECIFICATIONS**

SPECIFICATION	DA8100 STANDARD	DA8100 R REAR-MOUNTED WITH COVER	DA8100 RLC REAR-MOUNTED LESS COVER
<b>ENGINE</b> MODEL NO. OF CYLINDERS BORE STROKE ENGINE DISPLACEMENT GOVERNED RPM BRAKE HP AT 2200 RPM SPARK PLUG GAP CONVENTIONAL IGNITION ELECTRONIC IGNITION IGNITION TIMING IDLE RPM COOLING STARTING LUBRICATION OIL FILTER	FORD 302 INDUSTRIAL V-8 4 4.00" 3.00" 151 CI 2200 RPM 50 .032" .050" 6° - 8° BTDC 800 - 1200 RPM WATER/ANTI-FREEZE 12VDC PRESSURE FULL-FLOW SPIN-ON TYPE		
<b>COMPRESSOR</b> DELIVERY NO. OF CYLINDERS BORE STROKE COMPRESSOR DISPLACEMENT FULL-LOAD OPERATING SPEED COOLING	100 CFM @ 100 PSI 4 4.00" 3.00" 151 CI 2200 RPM WATER/ANTI-FREEZE		
<b>CAPACITIES</b> CRANKCASE OIL COOLANT AIR RECEIVER	4 QUARTS (5 QUARTS WITH FILTER) 16 QUARTS 13.8 GALLONS		
<b>DIMENSIONS</b> LENGTH WIDTH HEIGHT	37" (94 CM) 40" (101.6 CM) 29" (73.7 CM)	53" (134.6 CM) 28" (71.1 CM) 29" (73.7 CM)	53" (134.6 CM) 28" (71.1 CM) 29" (73.7 CM)
<b>WEIGHT</b>	743 LBS (337 KG)	753 LBS (342 KG)	743 LBS (337 KG)

## SECTION 2. INSTALLATION

The compressor is furnished with flex tubing and the necessary brass fittings for attaching it to the gasoline line of your service truck. In addition, the compressor is furnished with battery cable for attaching the compressor to the truck electrical system. It is important that the ground cable of the compressor be attached to the truck frame rather than to the body of the truck. The truck battery must also be grounded to the truck frame.

### NOTE

FAILURE TO COMPLY WITH THE INSTRUCTIONS ABOVE MAY RESULT IN A POORLY GROUNDED COMPRESSOR ELECTRICAL SYSTEM. THE BODY OF MANY CARRIER VEHICLES IS ELECTRICALLY ISOLATED FROM THE FRAME WHICH PREVENTS GOOD ELECTRICAL CONDUCTIVITY.

It is recommended that the compressor be positioned as desired in the truck and the floor of the truck marked for drilling for the gasoline line, battery cable, oil drain, tie-down bolts and muffler. We recommend that the muffler be installed under the truck floor. Remove the air compressor and drill the necessary holes. Oil changing is made much easier if a hole is drilled in the truck bed so that the operation may be performed from beneath the truck.

### CAUTION

BE CERTAIN ALL AIR CONNECTIONS ARE MADE FROM THE TOP SIDE OF THE AIR TANK. DO NOT USE THE DRAIN OPENING FOR AN AIR SUPPLY.

## SECTION 3. OPERATION

### PILOT VALVE

The pilot valve controls the “kick-in” and “kick-out” of the compressor and activates the idling device. A flex tube extends from the pilot valve to the idling device and from the idling device to the compressor valves in the head. When the 150 psi (11.6 kg/cm<sup>2</sup>) “kick-out” pressure is reached in the air receiver, the pilot valve charges this flex tubing with air pressure from the tank. This pressure closes the throttle (see idling device) and holds the intake valves open on the compressor cylinders thus allowing the engine to idle. When the air pressure in the tank is reduced to the “kick-in” pressure (125 psi), the pilot valve releases the air pressure in this flex tubing. This allows the throttle to open and the compressor intake valves to close so that air is forced into the air receiver.

### FLOW CONTROL VALVE

The flow control valve allows the free flow of air in one direction and restricts the flow of air in the opposite direction. The flow control valve is in the flex tube line just above the idling device.

Its function is to delay the release of the pressure holding the intake valves open until after the pressure is released from the idling device. This allows a short interval between the time the throttle opens and the compressor begins pumping, thus preventing a tendency to “stall” when the compressor “kicks-in”. This interval may be controlled by adjustment of the small needle valve on the flow control valve. A slight turn of the needle valve will vary the interval considerably.

### IDLING DEVICE

The function of the idling device is to control the idle speed of the compressor. After a long time, the piston or “V” packing in the cylinder on the idling device may become worn to the extent that they should be replaced. Idling speed (800 - 1200 RPM) may be regulated by adjusting a set screw and lock nut on the front of the idling device.

### GOVERNOR

The governor is mounted on the left front of the engine and is driven by belt direct from the crankshaft. The governor opens the throttle and maintains the engine at proper operating speed (2200 RPM) while the compressor is pumping.

### OPTIONAL INSTRUMENT PANEL

Optional instrumentation is shown in the accompanying, separate parts list.

### OPERATION

To start the compressor:

1. Pull the ignition switch.
2. Pull the choke all the way out.
3. Press starter button until the engine starts.
4. Push in choke 1/2 way (leave about 1/2" out).
5. Allow compressor to warm up normally under pumping (compressing) conditions.
6. When throttle rod no longer surges under load, push choke knob all the way in.

## Section 4. MAINTENANCE & REPAIR

### MAINTENANCE

#### DAILY

1. Check oil in compressor/engine.
2. Check oil level in governor.
3. Check oil in air line lubricator and check air line regulator for proper setting. Regulaor should be set for 100 psi (7.03 kg/cm2) air pressure.

#### WEEKLY

1. Check for unloading pressure of approximately 140-150 psi max. (9.84 kg/cm<sup>2</sup> - 10.55 kg/cm<sup>2</sup>). Unloading pressure is controlled by pilot valve.
2. Check system for air leaks and re-tighten piping if leaks are found.
3. Check fan belt for proper tension and belt condition.
4. Check engine for proper idling speed and accelerated speed while pumping. If adjustment is necessary, refer to instrucions concerning governor and idle device.

#### MONTHLY

1. Check valve plugs and if found loose, re-torque to 400 ft-lbs (55kg-m).
2. Replace air filter.3. Check “V” packings in unloader piston.

#### HOURS

1. Change oil and oil filter every 200 hours. Use 10W-30-MSDG motor oil, low ash.
2. Change spark plugs every 500 hours.
3. The governor is factory oil pre-filled. Check oil level every 500 hours of operation or at end of season. Every 1000 hours or annually, drain governor oil and refill with 2-3/4 to 3 ounces of 20W engine oil. Tighten all plugs securely.

### REPAIR

#### PILOT VALVE OPERATION

When the receiver reaches the required pressure, the valve instantly unloads the mechanism in the compressor. The compressor will then run unloaded until the action of the valve is reversed by reaching the minimum pressure (load pressure). This causes the compressor to load and pump air until unload pressure is again reached.

#### INSTALLATION

Connect the end opposite the stem to the air receiver. The side outlet should be connected by tubing on the unloader mechanism in the compressor.

#### SERVICING

The valve has only one moving part and the unit should operate for long periods without servicing - provided the lines are kept clean and the compressor is in good operating order. The wire mesh strainer should be cleaned regularly. It is not necessary to remove air lines to clean the valve. Simply remove the large hex nut and clean out the foreign matter.

#### ADJUSTMENT

The valve was factory set to the correct load and unload pressure. To change the unload pressure:

1. Loosen the lock nut and turn pressure adjusting nut clockwise to increase pressure and counterclockwise to decrease pressure.
2. Tighten lock nut.

To change the pressure differential (the difference between load and unload pressure):

1. To increase, hold lock nut stationary and turn cap nut slowly clockwise. Do not increase more than 1/4 turn at a time.
2. To decrease, hold lock nut stationary and turn cap nut counterclockwise.
3. Check unload pressure and adjust if necessary.

The minimum and maximum pressure differentials at various pressure settings for the valve are as follows:

UNLOAD PRESSURE	MINIMUM DIFFERENTIAL	MAXIMUM DIFFERENTIAL
80 PSI	77 - 80 PSI	68 - 80 PSI
100 PSI	97 - 100 PSI	83 - 100 PSI
120 PSI	97 - 100 PSI	90 - 120 PSI
150 PSI	145 - 150 PSI	122 - 150 PSI
200 PSI	190 - 200 PSI	165 - 200 PSI
300 PSI	280 - 300 PSI	245 - 300 PSI

### FLOW CONTROL VALVE ADJUSTMENT

To adjust the valve, loosen and hold the nut. Turn the handle to the right to decrease flow, and left to increase.

#### CAUTION

THERE IS A LIMIT TO THE FULL OPEN POSITION OF THE VALVE STEM. TURNING TO THE LEFT BEYOND THIS POINT WILL BRING OUT THE COMPLETE GLAND ASSEMBLY.

### MAINTENANCE

Erratic operation is usually caused by contaminated oil or air lines. Chips, dirt and gum will lodge in the valve parts. With air pressure turned off and discharged, you can remove both the needle and check plug for inspection and cleaning without disconnecting the piping. Do not lose or damage the parts and carefully reassemble in the same manner in which they were removed.

#### WARNING

DO NOT ADJUST THE NEEDLE WITH THE LOCK NUT TIGHT OR THE VALVE UNDER PRESSURE.



**FIGURE 4-1. TROUBLESHOOTING**

PROBLEM	PROBABLE CAUSE AND REMEDY
Compressor will not start, hard to start or does not run properly	The engine is an industrial engine with no modification of the ignition system, cam shaft, distributor, carburetor or fuel pump. Customary checks of these items should locate the problem.
Engine dies when it reaches operating temperature, but starts readily when it cools off.	Normally due to ignition coil failure.
Engine tends to "stall" or "stalls" completely when compressor "kicks in".	Flow control should be closed slightly. Idling speed is too low (800 - 1200 RPM). "V" packings in idling device or unloader cylinders should be replaced.
Engine races when it "kicks in", but does not pump air.	Flow control valve should be opened slightly. Pilot valve and flow control valves and lines plugged by sediment - clean or replace. Pistons stuck in unloader valves or fingers hanging up in air valves.
Excessive air leaks in compressor head.	Allow compressor to pump a full tank of air. Turn off ignition switch. If leak stops when compressor "kicks in", check flex tubing from pilot valve to unloaders for broken line. If no breaks are found, replace "V" packings in unloader cylinders. You can see the throttle open and hear the pilot valve unload the air from the flex tubing line.  If leak continues after "kick in" point, it is caused by either a blown seat gasket or blown valve plug gasket or broken discharge disc. Identify the faulty valve by pumping the air receiver full with manifold removed, stopping the compressor and listening to each valve. Leak will be heard clearest at the faulty valve. When repairing or replacing valves, always use a new valve seat gasket and valve plug gasket. Refer to repair instructions.
Leak at holding device.	Replace "V" packings. Remove both bolts securing the idling device to the governor and unscrew idling device casting from idling device governor.
Engine labors at 80 PSI and above.	Broken discharge disc. Check for leaks as outlined under "Excessive leaks in compressor head". Remove and repair defective valve plug and body.
Engine runs hot.	Low on coolant. Low on oil. Thermostat stuck in closed position. Blown gasket or broken disc as outlined above. Alternator or governor belt loose. Clogged radiator cooling fins. Check engine timing. Cracked head allowing exhaust gases into water jacket.
Compressor stops pumping at "kick out", but races instead of idling.	Butterfly plate off carburetor shaft. Piston frozen in idling device.
Will not "crank" when starting unit.	Defective/dead battery, defective battery cables, defective ignition switch wiring, locked engine due to bearing failure.
Unit "cranks but won't start.	Ignition problems such as defective points, plugs, wiring, switches, coil, etc. If plugs have spark, check for fuel system problem - filter, pump, carburetor. Engine must have good compression on all cylinders to operate properly.
Unit starts and runs too fast.	Fan belt loose, defective generator or out of adjustment. Engine speed is critical - 2200 RPM. Excessive engine speed can blow valve gaskets, break valve discs and collapse valve springs. If engine speed is not reduced, engine failure can result.
Compressor reaching excessive pressures.	Pilot valve defective, dirty or out of adjustment. Line from pilot valve to unloader may be plugged. Unloader pistons frozen in cylinders or "V" packings missing or broken. Valve assembly has broken intake disc, broken unloader spring or disc hanging in intake bumper.
Compressor will not start pumping after it unloads.	Linkage from governor to carburetor binding. Governor arm spring between arms is broken. Flow control valve needs adjusting. Engine timing is off or automatic advance on distributor is faulty.
Compressor reaches "kick out" pressure and immediately "kicks in and out" with fluttering action.	Dirty or defective pilot valve. Clean or replace.
Safety valve "pops off" before compressor "kicks out".	"Kick out" set too high on pilot valve. Defective safety valve - replace.

## SECTION 5. PARTS

This section contains the exploded parts drawings and accompanying parts lists for available assemblies of this compressor. These drawings are intended to be used as an aid in the identification of repair parts. For information on the basic engine refer to its manual. All inquiries should be directed to Iowa Mold Tooling Co., Inc., 500 Highway 18 West, Garner, Iowa 50438; telephone (515) 923-3711.

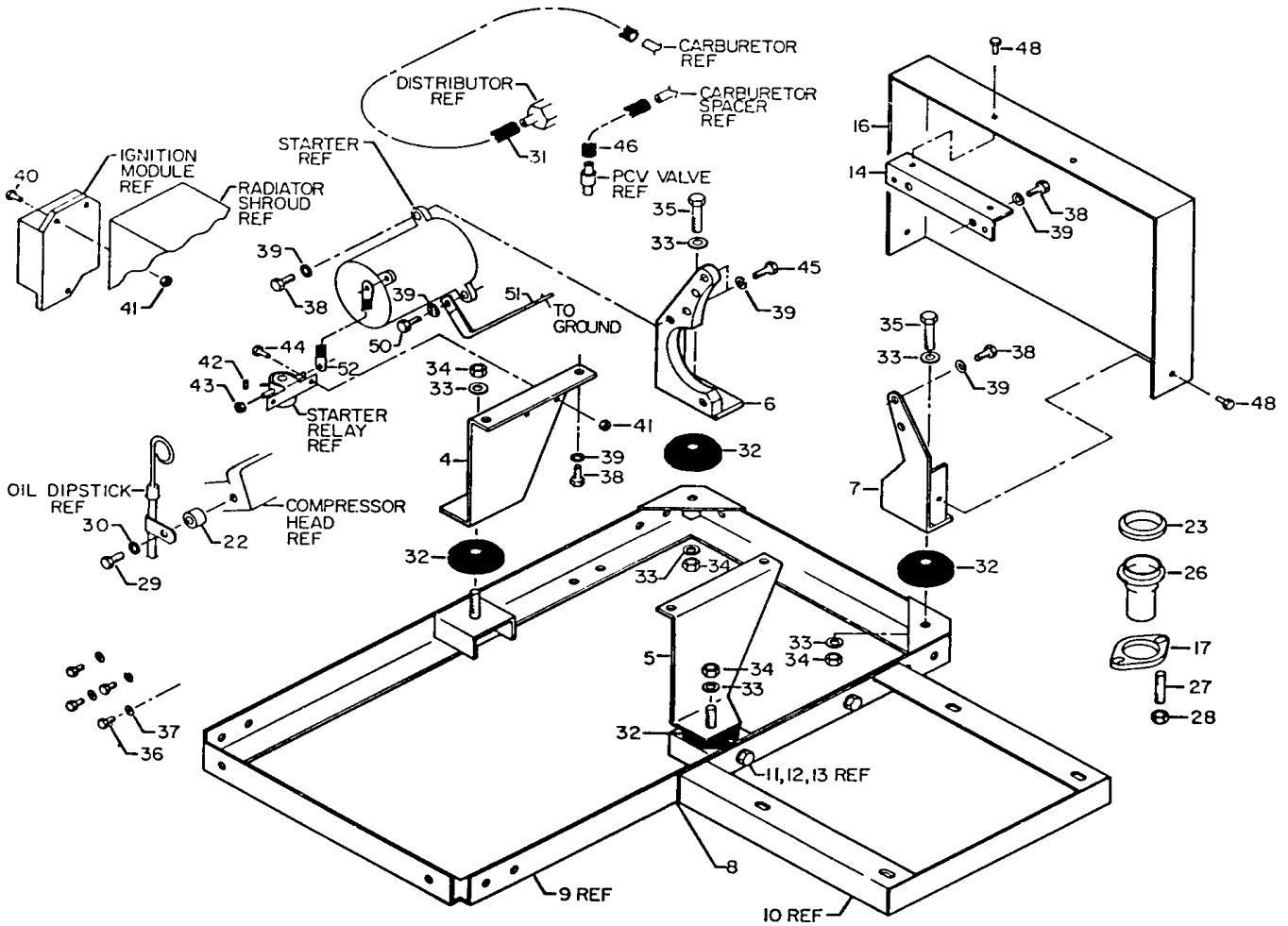
When ordering replacement parts it is important to follow the steps outlined below.

1. Give the compressor model number.
2. Give the compressor serial number as shown on the compressor.
3. Give the part number, description and quantity required.

IMT can not be responsible for parts ordered without the compressor serial number.

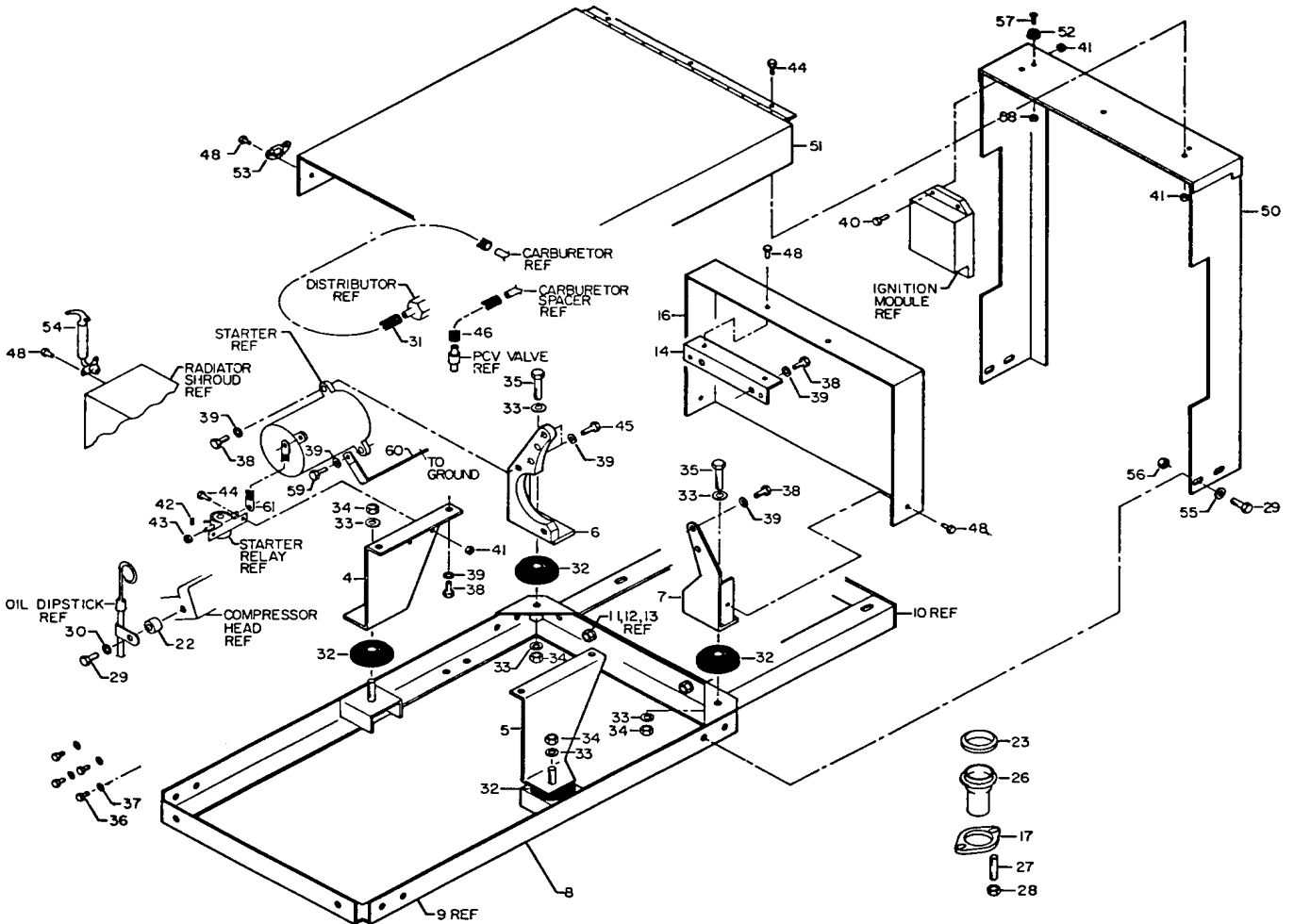
**FIGURE E-1. MISCELLANEOUS PARTS KIT DA8100 REG-13 (51705684)**

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.	51705683	HEAD ASM (SEE DWG)	1	28.	72062183	NUT 7/16-20 HEX BRASS	2
2.	51705695	IDLING KIT (SEE DWG)	1	29.	72060046	CAP SCR 3/8-16 X 1 HH GR5	1
3.	51705696	AIR FILTER KIT (SEE DWG)	1	30.	72063051	WASHER 3/8 LOCK	1
4.	60108722	ENG MTG BRKT - RF	1	31.	89039398	VACUUM HOSE .16 ID	1.5'
5.	60108723	ENG MTG BRKT - LF	1	32.	76392409	MOTOR MOUNT	4
6.	52705700	ENG MTG BRKT - RR	1	33.	72063005	WASHER 1/2 WRT	6
7.	52705701	ENG MTG BRKT - LR	1	34.	72062080	NUT 1/2-13 LOCK	4
8.	51705702	FRAME ASM (INCK: 9-13)	1	35.	72060095	CAP SCR 1/2-13 X 2 HH GR5	2
9.	52705681	FRAME (PART OF 8)	1REF	36.	72060291	CAP SCR 5/16-24 X 3/4 HH GR5	4
10.	52705679	FRAME EXTENSION (PART OF 8)	1REF	37.	72063050	WASHER 5/16 LOCK	4
11.	72060093	CAP SCR 1/2-13 X 1-1/2 (PART OF 8)	2REF	38.	72060062	CAP SCR 7/16-14 X 1 HH GR5	8
12.	72062080	NUT 1/2-13 LOCK (PART OF 8)	2REF	39.	72063052	WASHER 7/16 LOCK	11
13.	72063005	WASHER 1/2 WRT (PART OF 8)	2REF	40.	72060004	CAP SCR 1/4-20 X 1 HH GR5	2
14.	60108554	FLYWHEEL COVER MTG BRKT	1	41.	72062104	NUT 1/4-20 LOCK	4
15.	70029486	SERIAL NO. PLACARD(NOT SHOWN)	1	42.	72062052	NUT #10-32 HEX	2
16.	70142849	FLYWHEEL COVER	1	43.	72062001	NUT 5/16-18 HEX	2
17.	70142857	EXHAUST FLANGE	1	44.	72060002	CAP SCR 1/4-20 X 3/4 HH GR5	2
18.	70392458	DECAL-DA8100 IDENT(NOT SHOWN)	1	45.	72601398	CAP SCR 7/16-14 X 1-3/4 HH GR8	2
20.	70391456	DECAL-IMT DIAMOND(NOT SHOWN)	1	46.	89392426	HOSE 3/8 LOW PRESSURE	14"
21.	89086051	ANTI-FREEZE (NOT SHOWN)	2 GAL	47.	70732274	ENGINE & PARTS (SEE DWG)	1
22.	70142872	DIPSTICK SPACER	12	48.	72061096	SCR #12-14 X 1/2 HH-WH SLFTPG	4
3.	76392417	EXHAUST FLANGE GASKET	1	49.	72661216	GRIPNAIL - PLACARD (NOT SHOWN)	4
25.	76392418	INTAKE GASKET(2/PKG)(NOT SHWN)	1	50.	72060063	CAP SCR 7/16-14 X 1-1/4 HH GR5	1
26.	70142859	FORMED EXHAUST PIPE	1	51.	77044328	GROUND STRAP	1
26.	70142859	FORMED EXHAUST PIPE	1	52.	77044323	STARTER CABLE	1
27.	72601083	STUD 7/16-20 X 2 NC GR5	2	53.	60116792	COVER-PVC (NOT SHOWN)	1



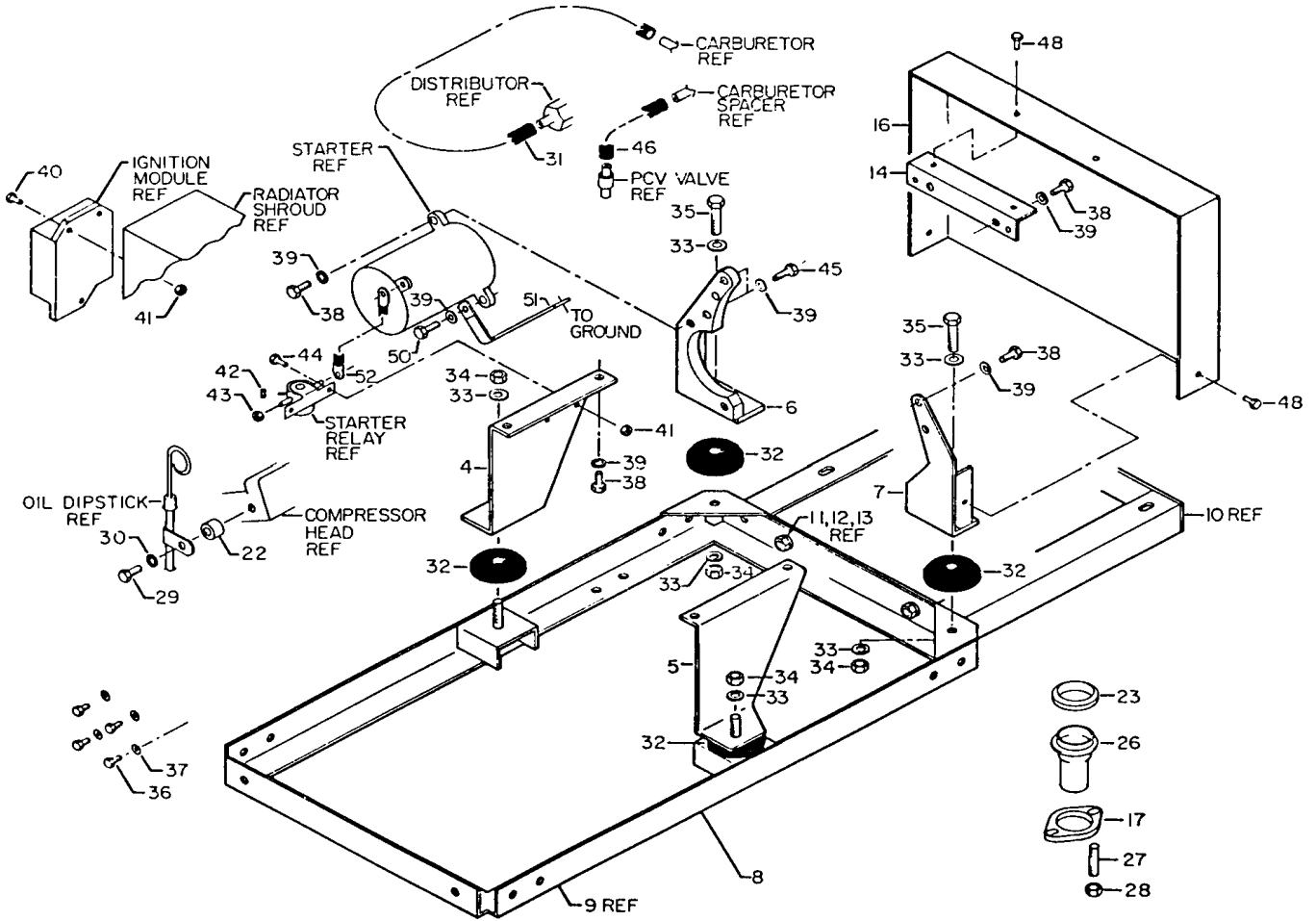
**FIGURE E-2. MISCELLANEOUS PARTS KIT DA8100 R-13 (51705685)**

ITEM	PART NO.	DESCRIPTION	QTY	PART NO.	DESCRIPTION	QTY
1.	51705683	HEAD ASM (SEE DWG)	1	33.	72063005	WASHER 1/2 WRT
2.	51705695	IDLING KIT (SEE DWG)	1	34.	72062080	NUT 1/2-13 LOCK
3.	51705696	AIR FILTER KIT (SEE DWG)	1	35.	72060095	CAP SCR 1/2-13 X 2 HH GR5
4.	60108722	ENG MTG BRKT - RF	1	36.	72060291	CAP SCR 5/16-24 X 3/4 HH GR5
5.	60108723	ENG MTG BRKT - LF	1	37.	72063050	WASHER 5/16 LOCK
6.	52705700	ENG MTG BRKT - RR	1	38.	72060062	CAP SCR 7/16-14 X 1 HH GR5
7.	52705701	ENG MTG BRKT - LR	1	39.	72063052	WASHER 7/16 LOCK
8.	51705703	FRAME ASM (INCK: 9-13)	1	40.	72060004	CAP SCR 1/4-20 X 1 HH GR5
9.	52705681	FRAME (PART OF 8)	1 REF	41.	72062104	NUT 1/4-20 LOCK
10.	52705558	FRAME EXTENSION (PART OF 8)	1 REF	42.	72062052	NUT #10-32 HEX
11.	72060093	CAP SCR 1/2-13 X 1-1/2 (PART OF 8)	2 REF	43.	72062001	NUT 5/16-18 HEX
12.	72062080	NUT 1/2-13 LOCK (PART OF 8)	2 REF	44.	72060002	CAP SCR 1/4-20 X 3/4 HH GR5
13.	72063005	WASHER 1/2 WRT (PART OF 8)	2 REF	45.	72601398	CAP SCR 7/16-14 X 1-3/4 HH GR8
14.	60108554	FLYWHEEL COVER MTG BRKT	1	46.	89392426	HOSE 3/8 LOW PRESSURE
15.	70029486	SERIAL NO. PLACARD(NOT SHOWN)	1	47.	70732274	ENGINE & PARTS (SEE DWG)
16.	70142849	FLYWHEEL COVER	1	48.	72061096	SCR #12-14 X 1/2 HH-WH SLFTPG
17.	70142857	EXHAUST FLANGE	1	49.	72661216	GRIPNAIL - PLACARD (NOT SHOWN)
18.	70392458	DECAL-DA8100 IDENT(NOT SHOWN)	1	50.	52705607	REAR SHELL
20.	70391456	DECAL-IMT DIAMOND(NOT SHOWN)	1	51.	52705706	CANOPY WITH HINGE
21.	89086051	ANTI-FREEZE (NOT SHOWN)	2 GAL	52.	76039990	RUBBER BUMPER
22.	70142872	DIPSTICK SPACER	1	53.	72661224	CATCH
23.	76392417	EXHAUST FLANGE GASKET	1	54.	72661223	CLAMP
25.	76392418	INTAKE GASKET(2/PKG)(NOT SHWN)	1	55.	72063003	WASHER 3/8 WRT
26.	70142859	FORMED EXHAUST PIPE	1	56.	72062103	NUT 3/8-16 LOCK
27.	72601083	STUD 7/16-20 X 2 NC GR5	2	57.	72060636	MACH SCR #10-24 X 3/4 RDHD
28.	72062183	NUT 7/16-20 HEX BRASS	2	58.	72062106	NUT #10-24 LOCK
29.	72060046	CAP SCR 3/8-16 X 1 HH GR5	5	59.	72060063	CAP SCR 7/16-14 X 1-1/4 HH GR5
30.	72063051	WASHER 3/8 LOCK	1	60.	77044328	GROUND STRAP
31.	89039398	VACUUM HOSE .16 ID	1.5'	61.	77044323	STARTER CABLE
32.	76392409	MOTOR MOUNT	4 ITEM	62.	60116792	COVER-PVC (NOT SHOWN)



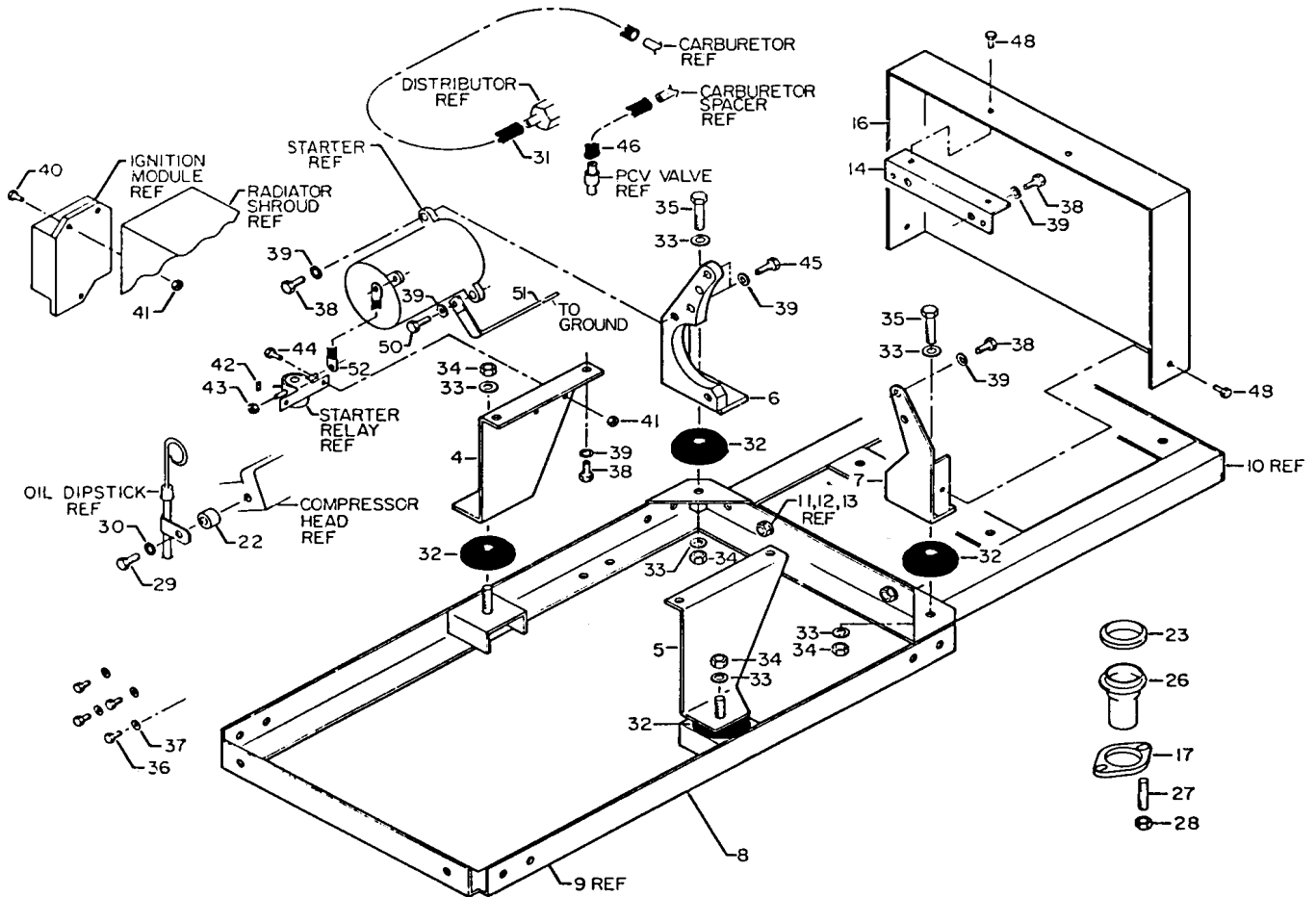
**FIGURE E-3. MISCELLANEOUS PARTS KIT DA8100 RLC-13 (51705686)**

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.	51705683	HEAD ASM (SEE DWG)	1	28.	72062183	NUT 7/16-20 HEX BRASS	2
2.	51705695	IDLING KIT (SEE DWG)	1	29.	72060046	CAP SCR 3/8-16 X 1 HH GR5	1
3.	51705696	AIR FILTER KIT (SEE DWG)	1	30.	72063051	WASHER 3/8 LOCK	1
4.	60108722	ENG MTG BRKT - RF	1	31.	89039398	VACUUM HOSE .16 ID	1.5'
5.	60108723	ENG MTG BRKT - LF	1	32.	76392409	MOTOR MOUNT	4
6.	52705700	ENG MTG BRKT - RR	1	33.	72063005	WASHER 1/2 WRT	6
7.	52705701	ENG MTG BRKT - LR	1	34.	72062080	NUT 1/2-13 LOCK	4
8.	51705703	FRAME ASM (INCK: 9-13)	1	35.	72060095	CAP SCR 1/2-13 X 2 HH GR5	2
9.	52705681	FRAME (PART OF 8)	1REF	36.	72060291	CAP SCR 5/16-24 X 3/4 HH GR5	4
10.	52705558	FRAME EXTENSION (PART OF 8)	1REF	37.	72063050	WASHER 5/16 LOCK	4
11.	72060093	CAP SCR 1/2-13 X 1-1/2 (PART OF 8)	2REF	38.	72060062	CAP SCR 7/16-14 X 1 HH GR5	8
12.	72062080	NUT 1/2-13 LOCK (PART OF 8)	2REF	39.	72063052	WASHER 7/16 LOCK	11
13.	72063005	WASHER 1/2 WRT (PART OF 8)	2REF	40.	72060004	CAP SCR 1/4-20 X 1 HH GR5	2
14.	60108554	FLYWHEEL COVER MTG BRKT	1	41.	72062104	NUT 1/4-20 LOCK	4
15.	70029486	SERIAL NO. PLACARD (NOT SHOWN)	1	42.	72062052	NUT #10-32 HEX	2
16.	70142849	FLYWHEEL COVER	1	43.	72062001	NUT 5/16-18 HEX	2
17.	70142857	EXHAUST FLANGE	1	44.	72060002	CAP SCR 1/4-20 X 3/4 HH GR5	2
18.	70392458	DECAL-DA8100 IDENT(NOT SHOWN)	1	45.	72601398	CAP SCR 7/16-14 X 1-3/4 HH GR8	2
20.	70391456	DECAL-IMT DIAMOND(NOT SHOWN)	1	46.	89392426	HOSE 3/8 LOW PRESSURE	14"
21.	89086051	ANTI-FREEZE (NOT SHOWN)	2 GAL	47.	70732274	ENGINE & PARTS (SEE DWG)	1
22.	70142872	DIPSTICK SPACER	1	48.	72061096	SCR #12-14 X 1/2 HH-WH SLFTPG	4
23.	76392417	EXHAUST FLANGE GASKET	1	49.	72661216	GRIPNAIL - PLACARD (NOT SHOWN)	4
25.	76392418	INTAKE GASKET(2/PKG)(NOT SHWN)	1	50.	72060063	CAP SCR 7/16-14 X 1-1/4 HH GR5	1
26.	70142859	FORMED EXHAUST PIPE	1	51.	77044328	GROUND STRAP	1
27.	72601083	STUD 7/16-20 X 2 NC GR5	2	52.	77044323	STARTER CABLE	1
				53.	60116792	COVER-PVC (NOT SHOWN)	1



**FIGURE E-4. MISCELLANEOUS PARTS KIT DA8100 RLC-32 (51705687)**

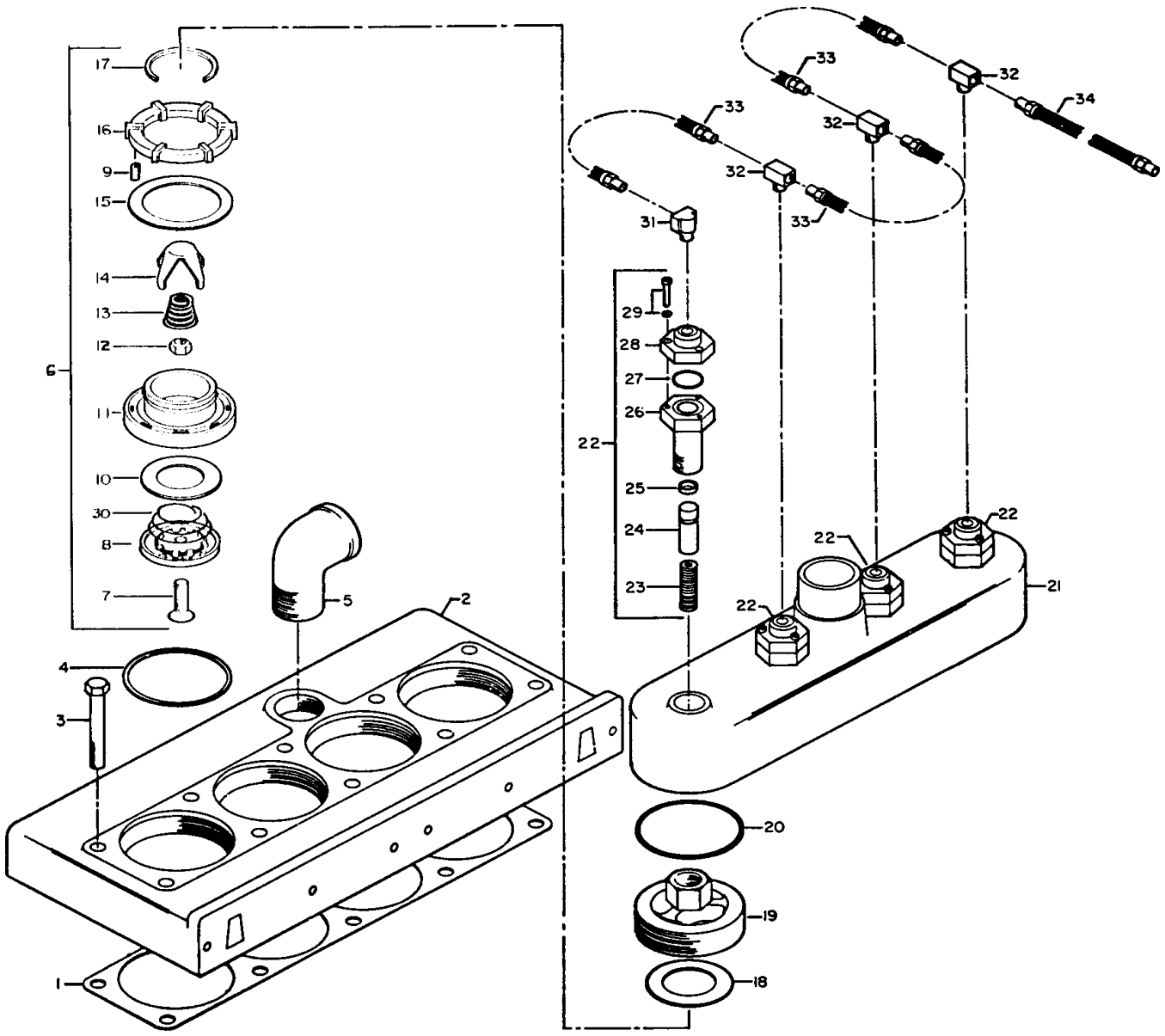
ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.	51705683	HEAD ASM (SEE DWG)	1	28.	72062183	NUT 7/16-20 HEX BRASS	2
2.	51705695	IDLING KIT (SEE DWG)	1	29.	72060046	CAP SCR 3/8-16 X 1 HH GR5	1
3.	51705696	AIR FILTER KIT (SEE DWG)	1	30.	72063051	WASHER 3/8 LOCK	1
4.	60108722	ENG MTG BRKT - RF	1	31.	89039398	VACUUM HOSE .16 ID	1.5"
5.	60108723	ENG MTG BRKT - LF	1	32.	76392409	MOTOR MOUNT	4
6.	52705700	ENG MTG BRKT - RR	1	33.	72063005	WASHER 1/2 WRT	6
7.	52705701	ENG MTG BRKT - LR	1	34.	72062080	NUT 1/2-13 LOCK	4
8.	51705704	FRAME ASM (INCK: 9-13)	1	35.	72060095	CAP SCR 1/2-13 X 2 HH GR5	2
9.	52705681	FRAME (PART OF 8)	1REF	36.	72060291	CAP SCR 5/16-24 X 3/4 HH GR5	4
10.	52705707	FRAME EXTENSION (PART OF 8)	1REF	37.	72063050	WASHER 5/16 LOCK	4
11.	72060093	CAP SCR 1/2-13 X 1-1/2 (PART OF 8)	2REF	38.	72060062	CAP SCR 7/16-14 X 1 HH GR5	8
12.	72062080	NUT 1/2-13 LOCK (PART OF 8)	2REF	39.	72063052	WASHER 7/16 LOCK	11
13.	72063005	WASHER 1/2 WRT (PART OF 8)	2REF	40.	72060004	CAP SCR 1/4-20 X 1 HH GR5	2
14.	60108554	FLYWHEEL COVER MTG BRKT	1	41.	72062104	NUT 1/4-20 LOCK	4
15.	70029486	SER NO. PLACARD(NOT SHOWN)	1	42.	72062052	NUT #10-32 HEX	2
16.	70142849	FLYWHEEL COVER	1	43.	72062001	NUT 5/16-18 HEX	2
17.	70142857	EXHAUST FLANGE	1	44.	72060002	CAP SCR 1/4-20 X 3/4 HH GR5	2
18.	70392458	DECAL-DA8100 IDENT(NOT SHOWN)	1	45.	72601398	CAP SCR 7/16-14 X 1-3/4 HH GR8	2
20.	70391456	DECAL-IMT DIAMOND(NOT SHOWN)	1	46.	89392426	HOSE 3/8 LOW PRESSURE	14"
21.	89086051	ANTI-FREEZE (NOT SHOWN)	2 GAL	47.	70732274	ENGINE & PARTS (SEE DWG)	1
22.	70142872	DIPSTICK SPACER	1	48.	72061096	SCR #12-14 X 1/2 HH-WH SLFTPG	4
23.	76392417	EXHAUST FLANGE GASKET	1	49.	72661216	GRIPNAIL - PLACARD (NOT SHOWN)	4
25.	76392418	INTAKE GASKET(2/PKG)(NOT SHWN)	1	50.	72060063	CAP SCR 7/16-14 X 1-1/4 HH GR5	1
26.	70142859	FORMED EXHAUST PIPE	1	51.	77044328	GROUND STRAP	1
27.	72601083	STUD 7/16-20 X 2 NC GR5	2	52.	77044323	STARTER CABLE	1
				53.	60116792	COVER-PVC (NOT SHOWN)	1





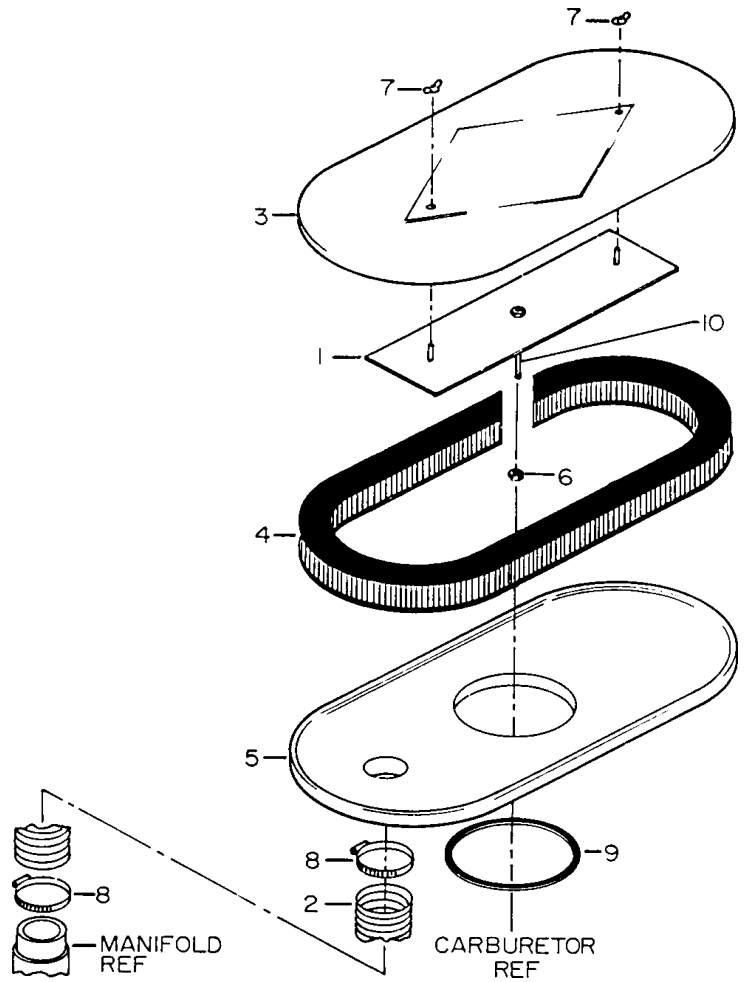
**FIGURE E-5. COMPRESSOR HEAD ASSEMBLY (51705683)**

ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.	76392376	GASKET	1	18.	76392378	GASKET (PART OF 6)	4
2.	70142833	HEAD	1	19.	70142846	VALVE PLUG	4
3.	72601390	CAP SCR 7/16-14 X 3-1/4 HH GR8	10	20.	7Q072339	O-RING	4
4.	76392377	COPPER SEAL	4	21.	70142831	MANIFOLD	1
5.	72053287	STREET ELBOW 1-1/4 X 90°	1	22.	51705368	UNLOADER ASM (INCL:23-29)	4
6.	51705366	AIR VALVE ASM (INCL:7-17 & 30))	4	23.	70142814	SPRING (PART OF 22)	4REF
7.	72601383	SCR 3/8-24 X 1-1/4 SH (PART OF 6)	4REF	24.	70142810	PISTON (PART OF 22)	4REF
8.	60115755	INTAKE BUMPER (PART OF 6)	4REF	25.	76392381	PACKING (PART OF 22)	4REF
9.	70142813	SPRING (PART OF 6)	40REF	26.	70142809	CYLINDER (PART OF 22)	4REF
10.	70142806	INTAKE DISC (PART OF 6)	4REF	27.	7Q072210	O-RING (PART OF 22)	4REF
11.	70024311	VALVE BODY (PART OF 6)	4REF	28.	70024310	CAP (PART OF 22)	4REF
12.	72062177	NUT 3/8-24 LOCK (PART OF 6)	4REF	29.	72601386	MACH SCR #10-32 X 1 (PART OF 22)	12REF
13.	70142816	SPRING (PART OF 6)	4REF	30.	70142823	SPRING (PART OF 6)	4REF
14.	70142845	FINGER (PART OF 6)	4REF	31.	72532880	STREET ELBOW 1/8MPT 1/4INV-FLR	1
15.	70142807	DISCHARGE DISC (PART OF 6)	4REF	32.	72532868	TEE 1/8 1/4 MALE BRANCH INV	3
16.	70024314	DISCHARGE BUMPER (PART OF 6)	4REF	33.	51705447	HOSE ASM 1/4 X 11-1/2	3
17.	72661221	RETAINING RING (PART OF 6)	4REF	34.	51705560	HOSE ASM 1/4 X 11	1
				35.	70142855	VALVE GUIDE PLUG (NOT SHOWN)	8



**FIGURE E-6. AIR FILTER ASSEMBLY (51705696)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	52705657	ADAPTER PLATE	1
2.	60108404	AIR CLEANER HOSE	1
3.	60113586	AIR FILTER COVER	1
4.	70048089	AIR FILTER ELEMENT	1
5.	70142820	AIR FILTER HOUSING	1
6.	72062001	NUT 5/16-18 HEX	1
7.	72062154	NUT 5/16-18 WING	2
8.	72066005	HOSE CLAMP #32	2
9.	76392516	AIR CLEANER GASKET	1
10.	60108706	ROD 5/16-18 X 4-1/2	1

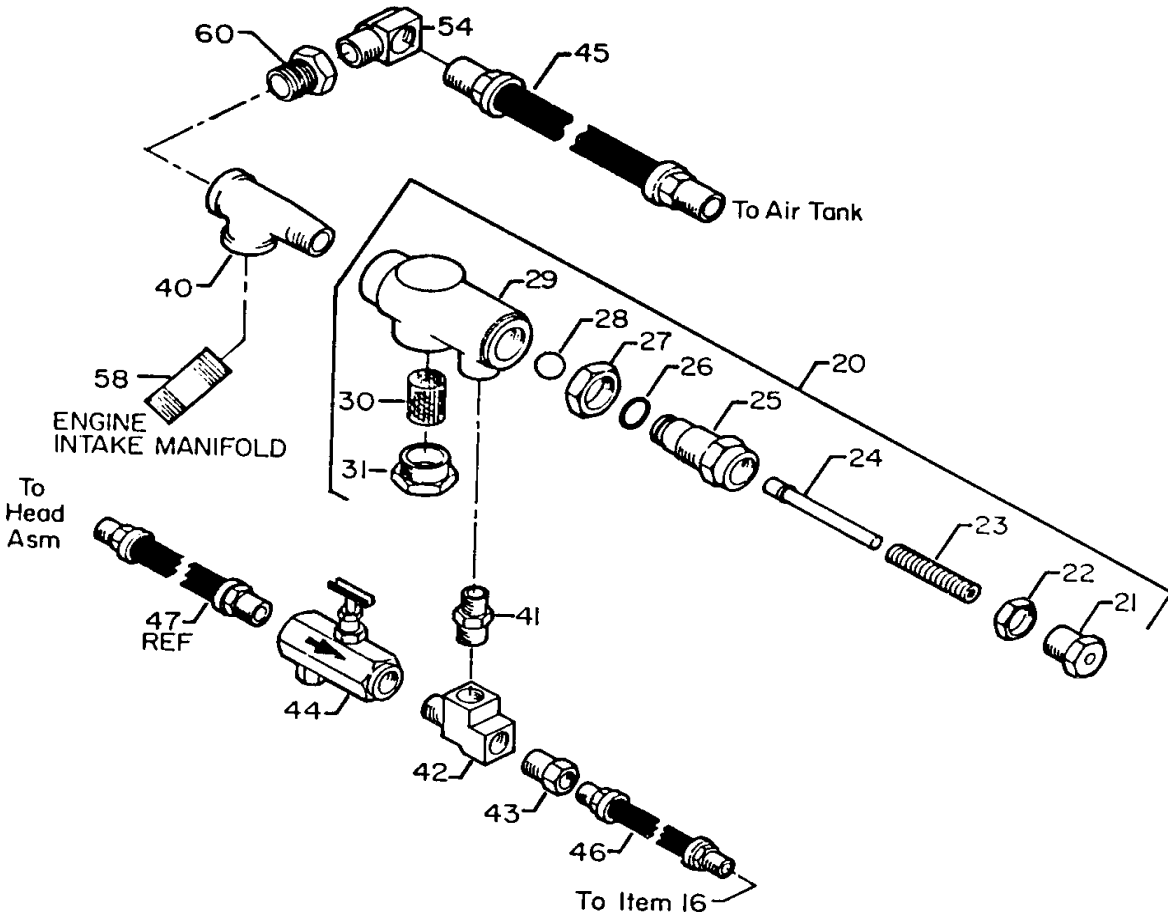




**FIGURE E-7. IDLING SYSTEM ASM (51705695)**

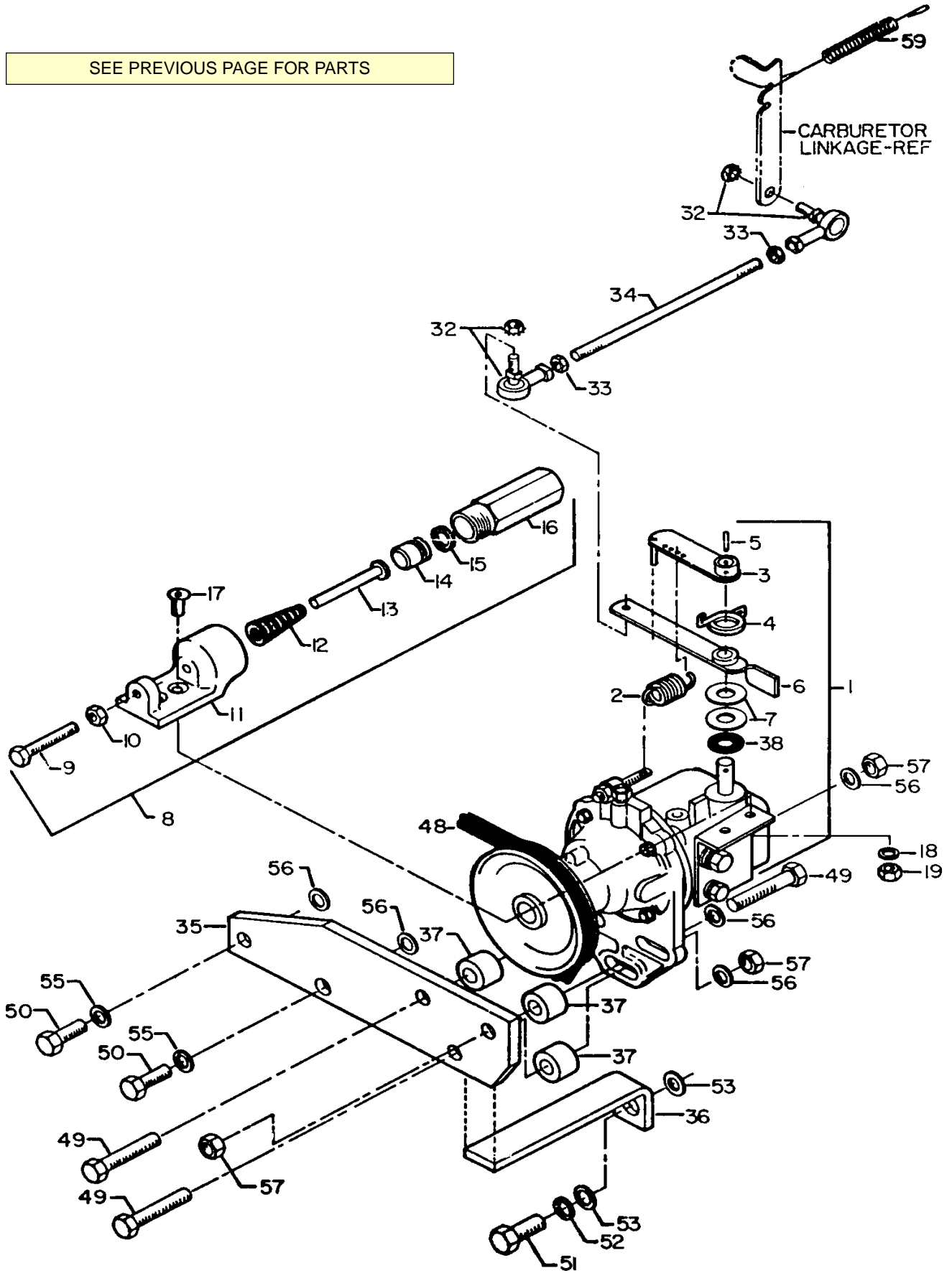
ITEM	PART NO.	DESCRIPTION	QTY	ITEM	PART NO.	DESCRIPTION	QTY
1.	70731666	GOVERNOR ASM (INCL:2-7 & 38)	1	33.	72062052	NUT #10-32 HEX	2
2.	70142812	SPRING (PART OF 1)	1REF	34.	70142848	LINKAGE ROD	1
3.		SPEED LEVER (PART OF 1)	1REF	35.	60108712	GOVERNOR MTG BRKT	1
4.	70142841	SPRING (PART OF 1)	1REF	36.	60108711	BRACKET	1
5.	72066653	ROLL PIN 1/8 X 5/8 (PART OF 1)	1REF	37.	70142872	SPACER	3
6.	70731726	ARM (PART OF 1)	1REF	38.		RUBBER WASHER (PART OF 1)	1REF
7.		SPACER (PART OF 1)	2REF	40.	72531998	STREET TEE 3/8	1
8.	51705367	IDLING DEVICE ASM (INCL:9-19)	1	41.	72531569	ADAPTER 1/4MPT 1/4MPT	1
9.	72601392	CAP SCR 1/4-28 (PART OF 8)	1REF	42.	72532013	STREET TEE 1/4	1
10.	72062035	NUT 1/4-28 HEX (PART OF 8)	1REF	43.	72532386	ADAPTER 1/4MPT 1/4F INV FLR	1
11.	70142832	BODY (PART OF 8)	1REF	44.	73054506	FLOW CONTROL VALVE	1
12.	70142815	SPRING (PART OF 8)	1REF	45.	51705562	HOSE ASM 3/8 X 16	1
13.	72661218	STEM (PART OF 8)	1REF	46.	51705561	HOSE ASM 1/4 X 18	1
14.	60020205	PISTON (PART OF 8)	1REF	47.	51705560	HOSE ASM 1/4X11(PART OF HD ASM)	1REF
15.	76392381	SEAL (PART OF 8)	1REF	48.	70058247	V-BELT	1
16.	70024316	CYLINDER (PART OF 8)	1REF	49.	72060050	CAP SCR 3/8-16 X 2 HH GR5	3
17.	72601397	SCR 1/4-28 X 3/4 FLT SH(PART OF 8)	2REF	50.	72060046	CAP SCR 3/8-16 X 1 HH GR5	2
18.	72063049	WASHER 1/4 LOCK (PART OF 8)	2REF	51.	72060062	CAP SCR 7/16-14 X 1 HH GR5	1
19.	72062035	NUT 1/4-28 HEX (PART OF 8)	2REF	52.	72063052	WASHER 7/16 LOCK	1
20.	73054509	PILOT VALVE ASM (INCL:21-31)	1	53.	72063004	WASHER 7/16 WRT	2
21.	NOTE 1	PRESSURE ADJ NUT (PART OF 20)	1REF	54.	72532877	ELBOW 1/4MPT 3/8F INV FLR	1
22.	NOTE 1	PRESS. ADJ LOCK NUT(PART OF 20)	1REF	55.	72063051	WASHER 3/8 LOCK	2
23.	NOTE 1	SPRING (PART OF 20)	1REF	56.	72063003	WASHER 3/8 WRT	5
24.	NOTE 1	STEM (PART OF 20)	1REF	57.	72062103	NUT 3/8-16 LOCK	3
25.	NOTE 1	CAP (PART OF 20)	1REF	58.	70142861	MTG STUD 3/8	1
26.	7Q072112	O-RING (PART OF 20)	1REF	59.	70143029	CARBURETOR SPRING	1
27.	NOTE 1	DIFF. ADJ LOCK NUT (PART OF 20)	1REF	60.	72053372	REDUCER BUSHING 3/8 1/4	1
28.	NOTE 1	BALL (PART OF 20)	1REF				
29.	NOTE 1	BODY (PART OF 20)	1REF				
30.	NOTE 1	STRAINER SCREEN (PART OF 20)	1REF				
31.	NOTE 1	STRAINER CAP (PART OF 20)	1REF				
32.	70731678	BALL JOINT (INCL: LOCK NUT)	2				

NOTE 1: ITEM 20 IS AVAILABLE ONLY AS A COMPLETE UNIT EXCEPT FOR O-RING (ITEM 26).ITEMS 21-31 ARE AVAILABLE FROM R. CONRADER CO., BOX 924, ERIE, PA 16512.



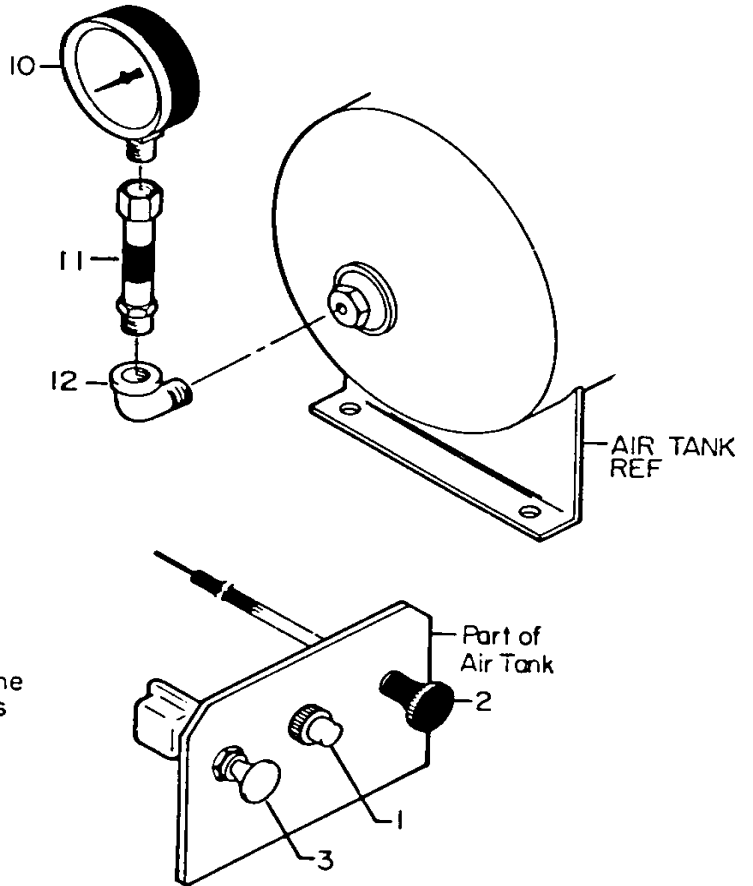
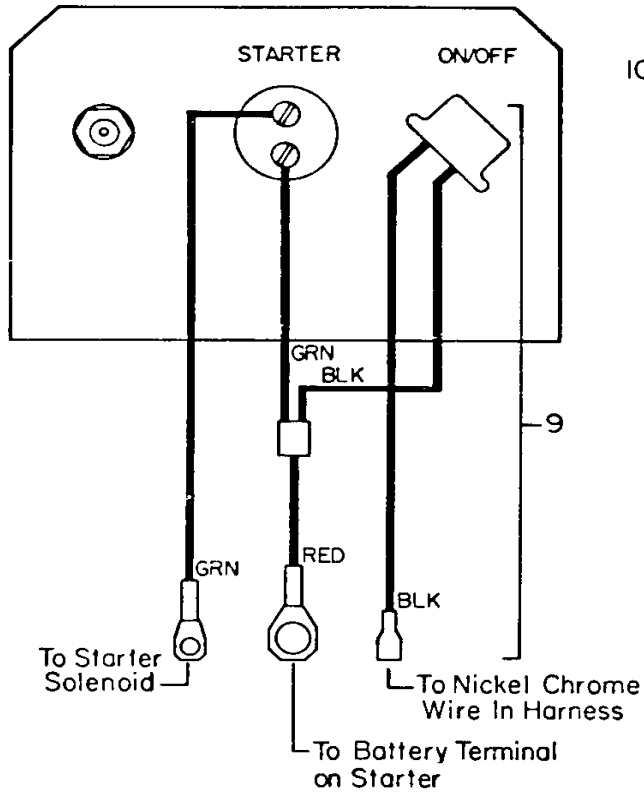
**FIGURE E-7A. IDLING SYSTEM ASM (51705695)**

SEE PREVIOUS PAGE FOR PARTS



**FIGURE E-8. CONTROL PANEL ASM-STD (51705711)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	77041274	STARTER BUTTON	1
2.	70058945	CHOKE CABLE	1
3.		ON/OFF SWITCH	REF
9.	77044322	WIRING HARNESS	1
10.	70048088	AIR PRESSURE GAUGE	1
11.	51392405	HOSE ASM	1
12.	72053282	STREET ELBOW 1/4 X 90o	1

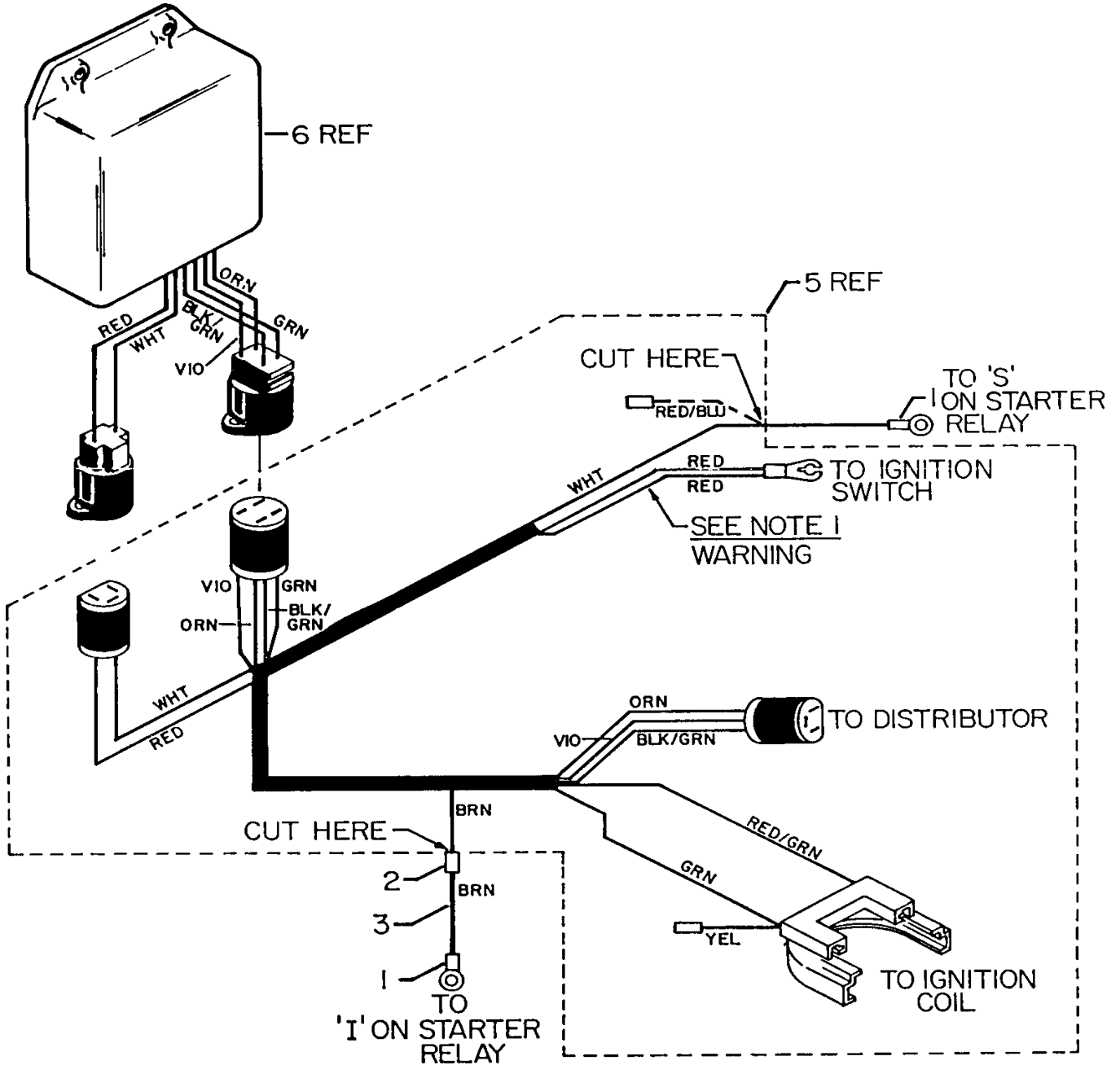


**FIGURE E-9. IGNITION MODULE WIRING HARNESS (51705708)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	77040000	TERMINAL	2
2.	77040048	BUTT CONNECTOR	1
3.	89044233	WIRE 14GA X 9 BRN	1
5.	77044339	WIRING HARNESS (PART OF ENGINE ASM)	REF
6.	77044340	IGNITION MODULE (PART OF ENGINE ASM)	REF

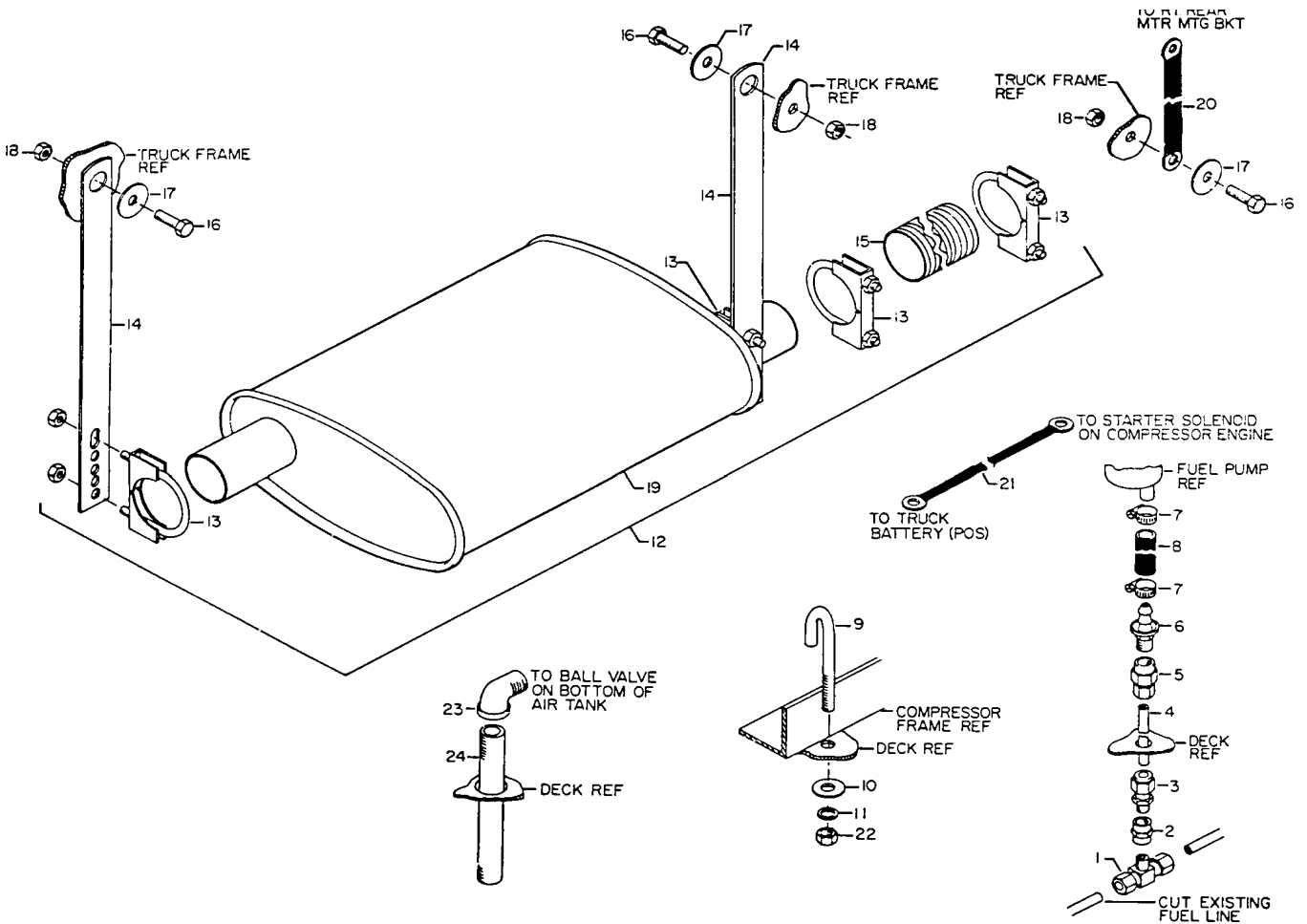
**NOTE 1 - WARNING**

DO NOT CUT OR ALTER THESE WIRES IN ANY WAY. DOING SO WILL RESULT IN SERIOUS DAMAGE.



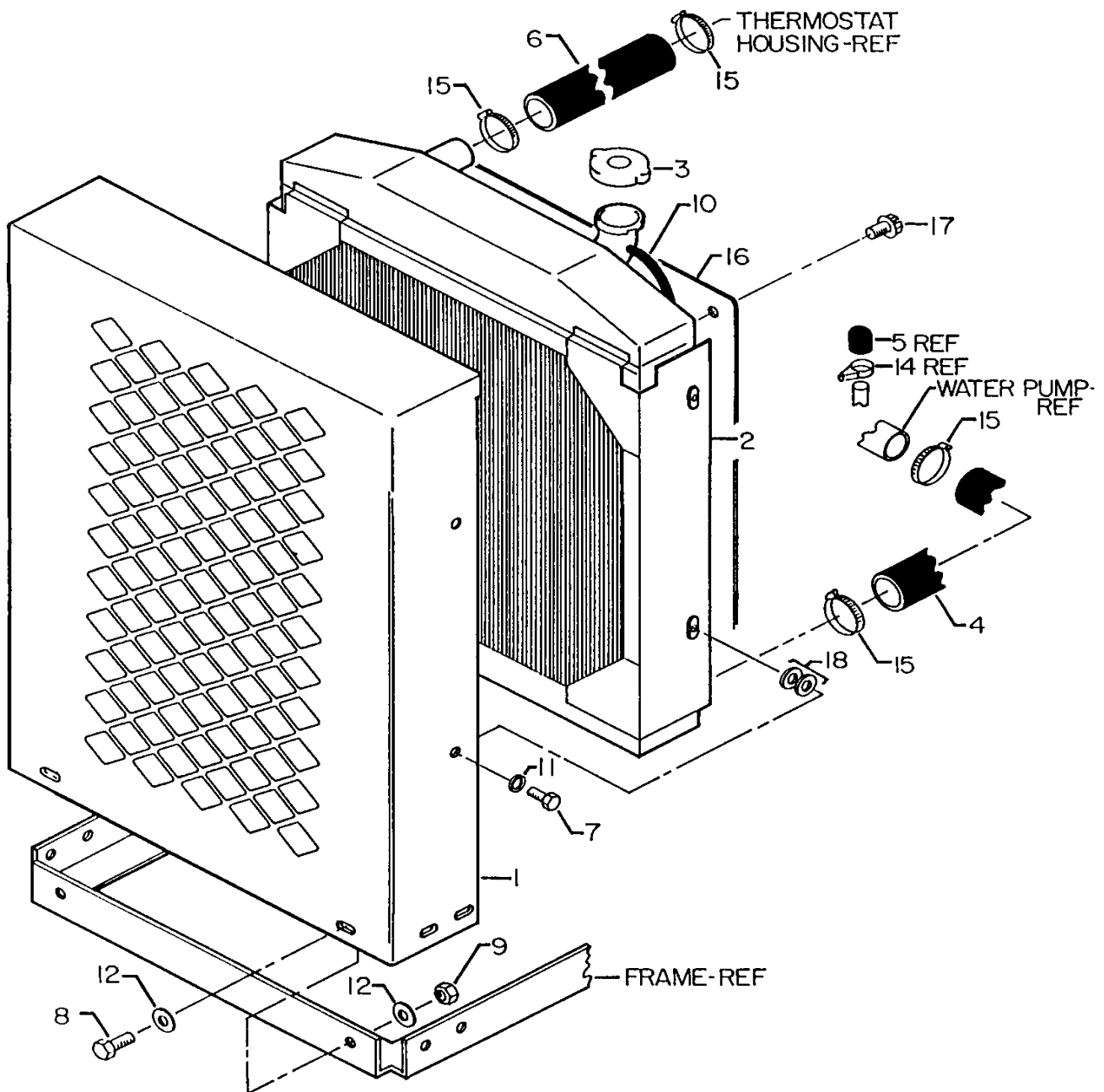
**FIGURE E-10. INSTALLATION KIT (93705563)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	72532896	TEE	1
2.	72053977	COUPLING	1
3.	72532889	CONNECTOR - MALE	1
4.	83022012	COPPER TUBE 5/16X6'	1
5.	72532875	CONNECTOR	1
6.	72532554	BARB NIPPLE	1
7.	72066004	HOSE CLAMP #6	2
8.	89392426	HOSE 3/8X5	1
9.	72601662	J-BOLT 3/8-16X5-3/8	6
10.	72063003	WASHER 3/8 WRT	6
11.	72063051	WASHER 3/8 LOCK	6
12.	70048090	MUFFLER KIT (INCL:13,14,16-19)	1
13.	72066503	MUFFLER CLAMP (PART OF 12)	4REF
14.		STRAP (PART OF 12)	2REF
15.	83142827	EXHAUST TUBE 1-5/8 X 34 FLEX	1
16.	72060025	CAP SCR 5/16-18X1 HH GR5 (PART OF 12)	4REF
17.	72063002	WASHER 5/16 WRT (PART OF 12)	4REF
18.	72062001	NUT 5/16-18 HEX (PART OF 12)	4REF
19.		MUFFLER (PART OF 12)(ORDER 12)	1REF
20.	77044328	GROUND CABLE 28"	1
21.	51705926	CABLE ASM #1WIRE X 144	1
22.	72062002	NUT 3/8-16 HEX	6
23.	72053284	STREET ELBOW 1/2NPT	1
24.	72053098	PIPE NIPPLE 1/2X6	1



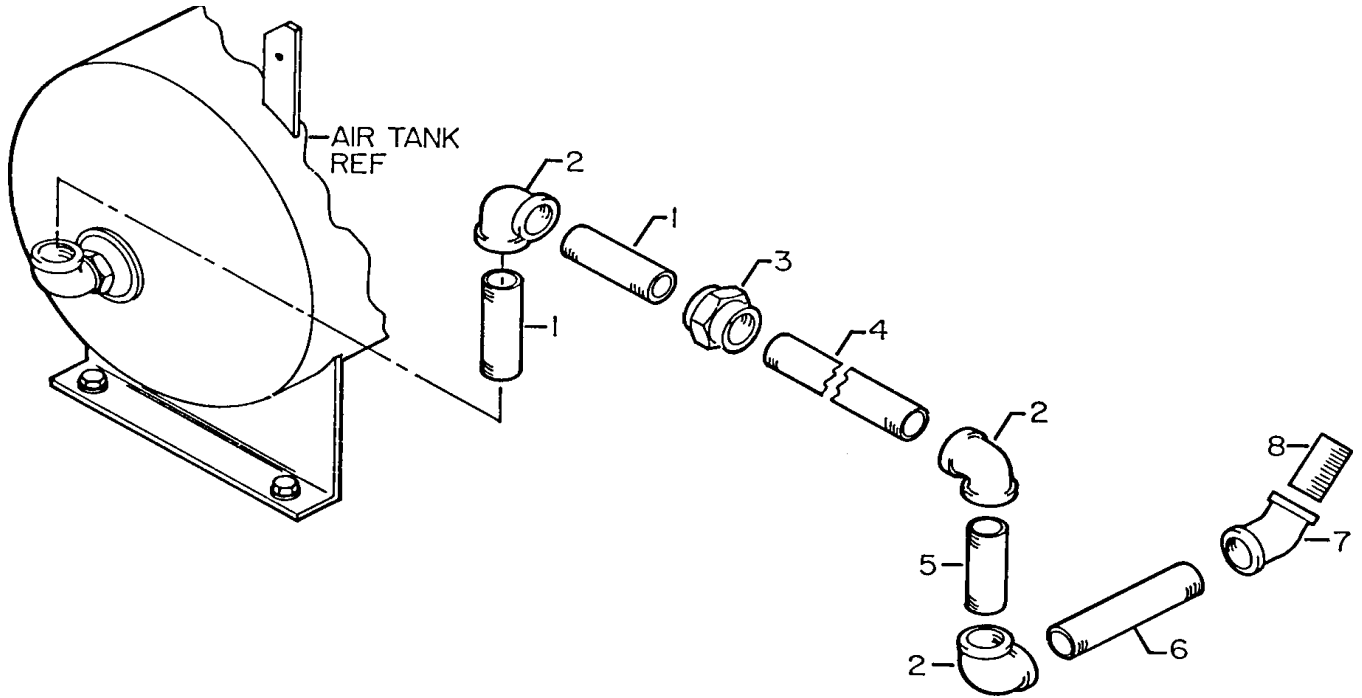
**FIGURE E-11. RADIATOR SHROUD KIT (51705680)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	60117686	SHROUD	1
2.	70143070	RADIATOR	1
3.	70142865	RADIATOR CAP	1
4.	70392415	LOWER RADIATOR HOSE	1
5.	70392423	RUBBER CAP (PART OF ENGINE)	1REF
6.	70392673	UPPER RADIATOR HOSE	1
7.	72060025	CAP SCR 5/16-18 X 1 HH GR5	4
8.	72060046	CAP SCR 3/8-16 X 1 HH GR5	6
9.	72062103	NUT 3/8 LOCK	6
10.	89034221	OVERFLOW TUBE	26"
11.	72063050	WASHER 5/16 LOCK	4
12.	72063003	WASHER 3/8 WRT	12
14.	72661227	CLAMP (PART OF ENGINE)	1REF
15.	72661287	HOSE CLAMP #28	4
16.	70034270	FAN SHROUD	1
17.	72061004	SHT MTL SCR #14 X 3/4	4
18.	72063002	WASHER 5/16 WRT	8



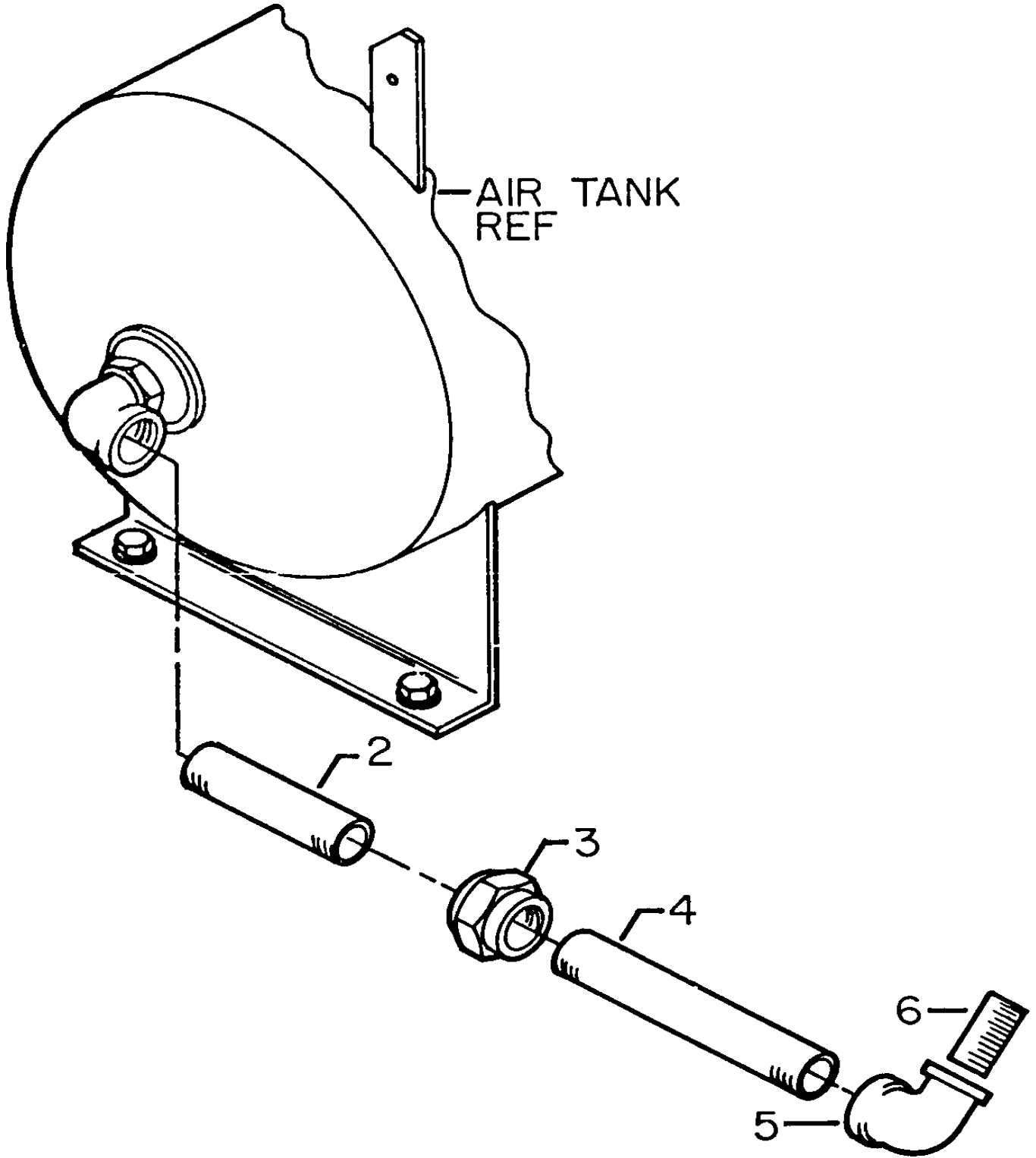
**FIGURE E-12. AIR PLUMBING KIT-DA8100 REG (51705690)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	72053215	PIPE NIPPLE 1-1/4 X 4	2
2.	72053327	ELBOW 1-1/4 X 90o	3
3.	72532059	UNION 1-1/4	1
4.	72532895	PIPE NIPPLE 1-1/4 X 25	1
5.	72053214	PIPE NIPPLE 1-1/4 X 3-1/2	1
6.	72053216	PIPE NIPPLE 1-1/4 X 6	1
7.	72053347	ELBOW 1-1/4 X 45o	1
8.	72053211	PIPE NIPPLE 1-1/4 X CLOSE	1



**FIGURE E-13. AIR PLUMBING KIT DA8100 R/RLC-13 (51705691)**

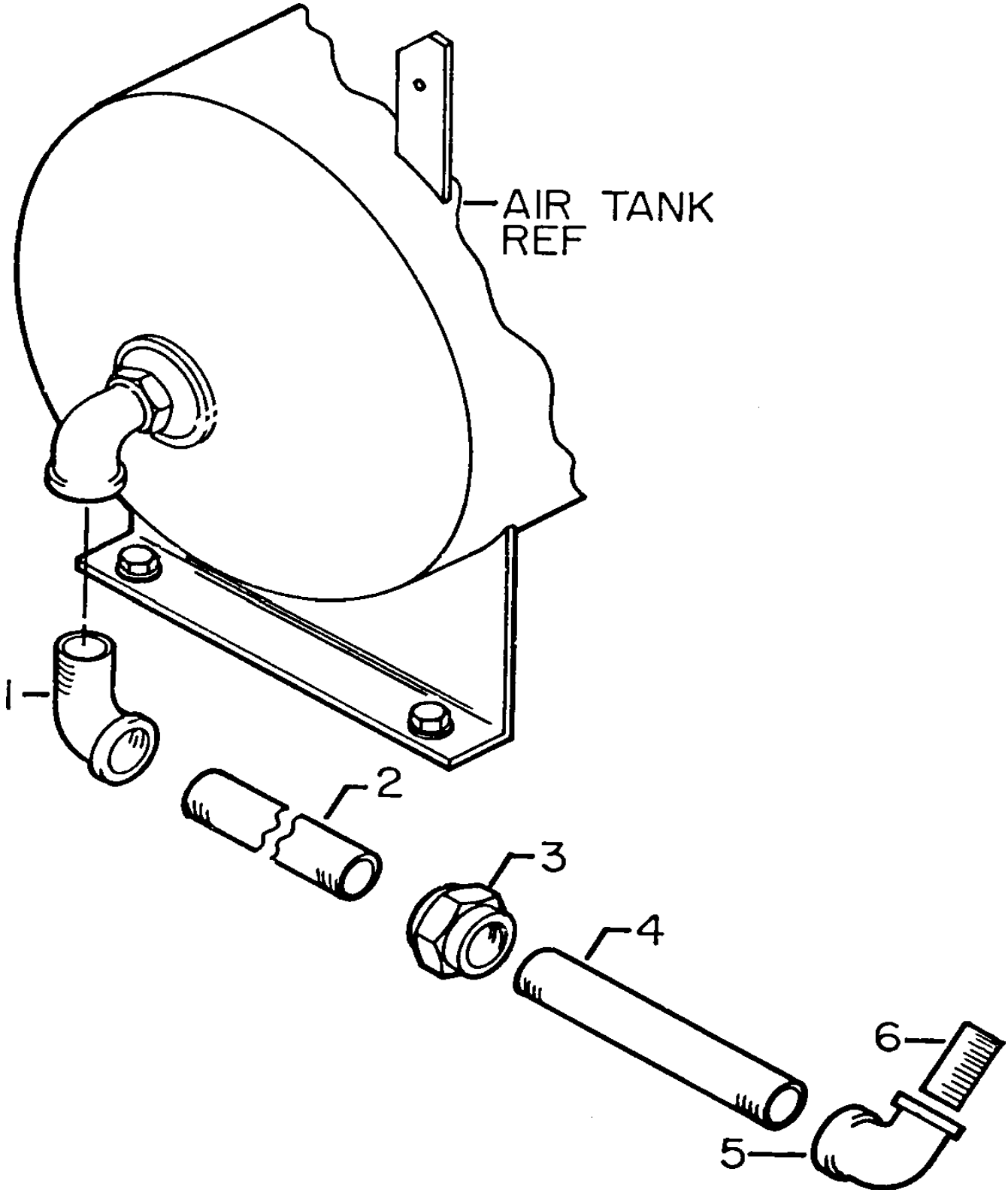
ITEM	PART NO.	DESCRIPTION	QTY
2.	72532840	PIPE NIPPLE 1-1/4 X 5	1
3.	72532059	UNION 1-1/4	1
4.	72532885	PIPE NIPPLE 1-1/4 X 9	1
5.	72053327	ELBOW 1-1/4 X 90o	1
6.	72053211	PIPE NIPPLE 1-1/4 X CLOSE	1





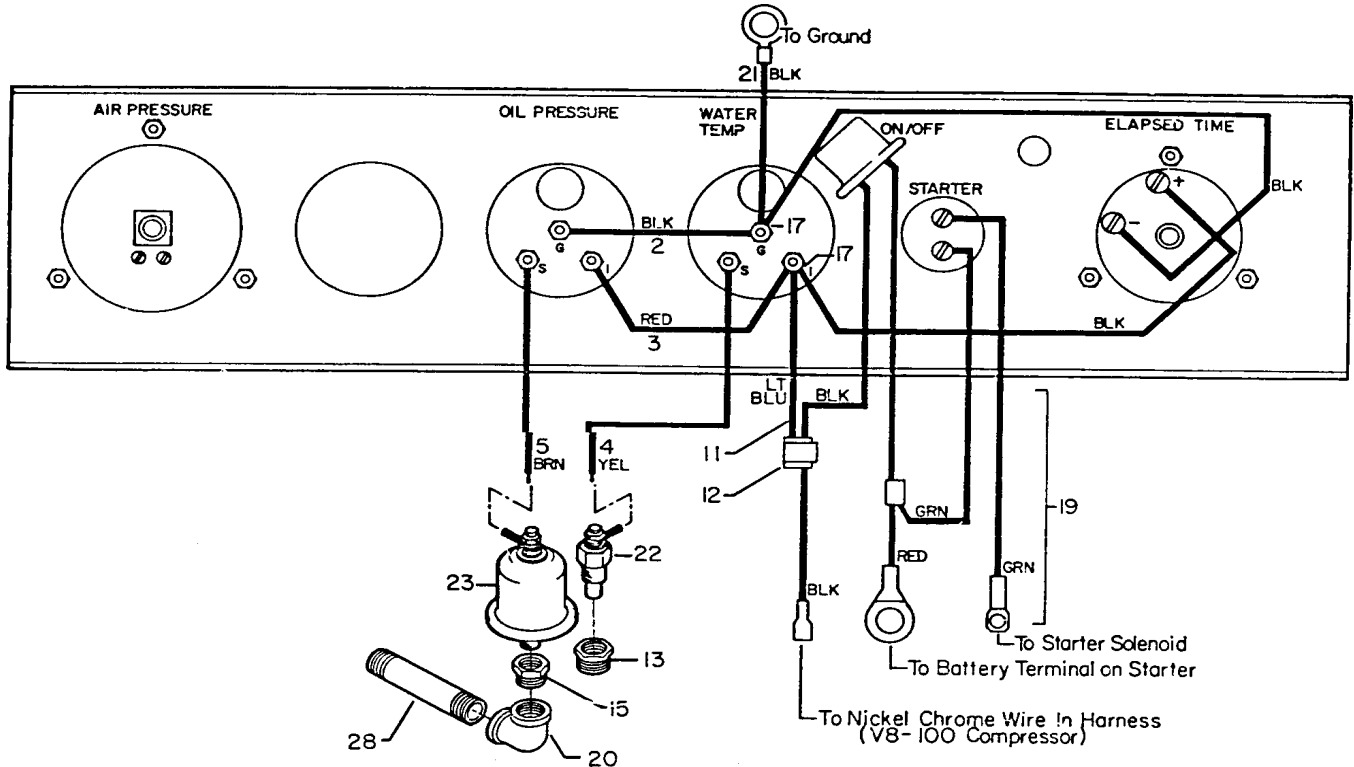
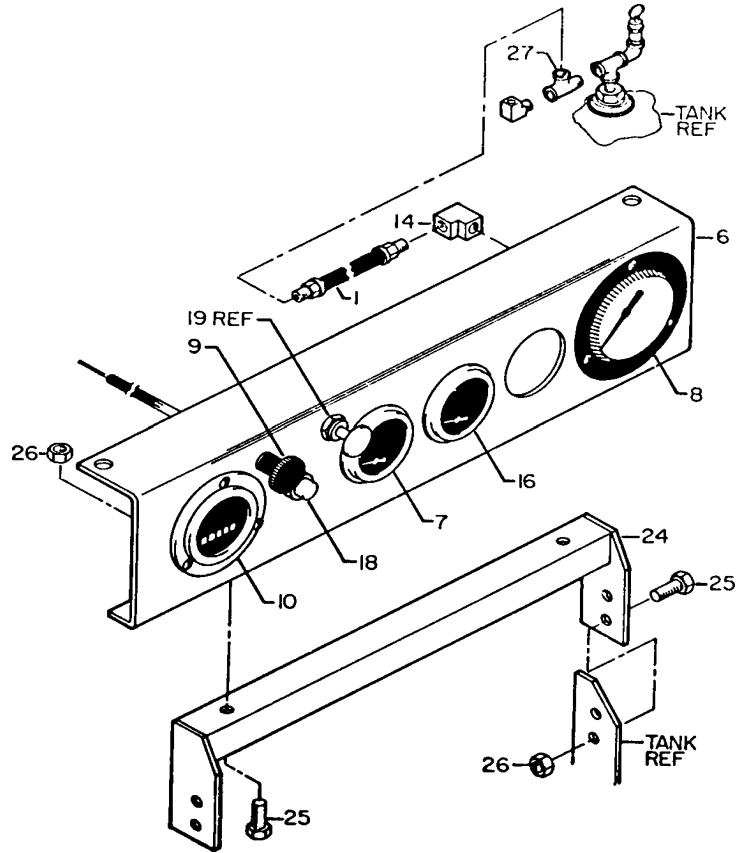
**FIGURE E-14. AIR PLUMBING KIT DA8100 R/RLC-32 (51705692)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	72053287	STREET ELBOW 1-1/4 X 90o	1
2.	72053218	PIPE NIPPLE 1-1/4 X 10	1
3.	72532059	UNION 1-1/4	1
4.	72532885	PIPE NIPPLE 1-1/4 X 9	1
5.	72053327	ELBOW 1-1/4 X 90o	1
6.	72053211	PIPE NIPPLE 1-1/4 X CLOSE	1



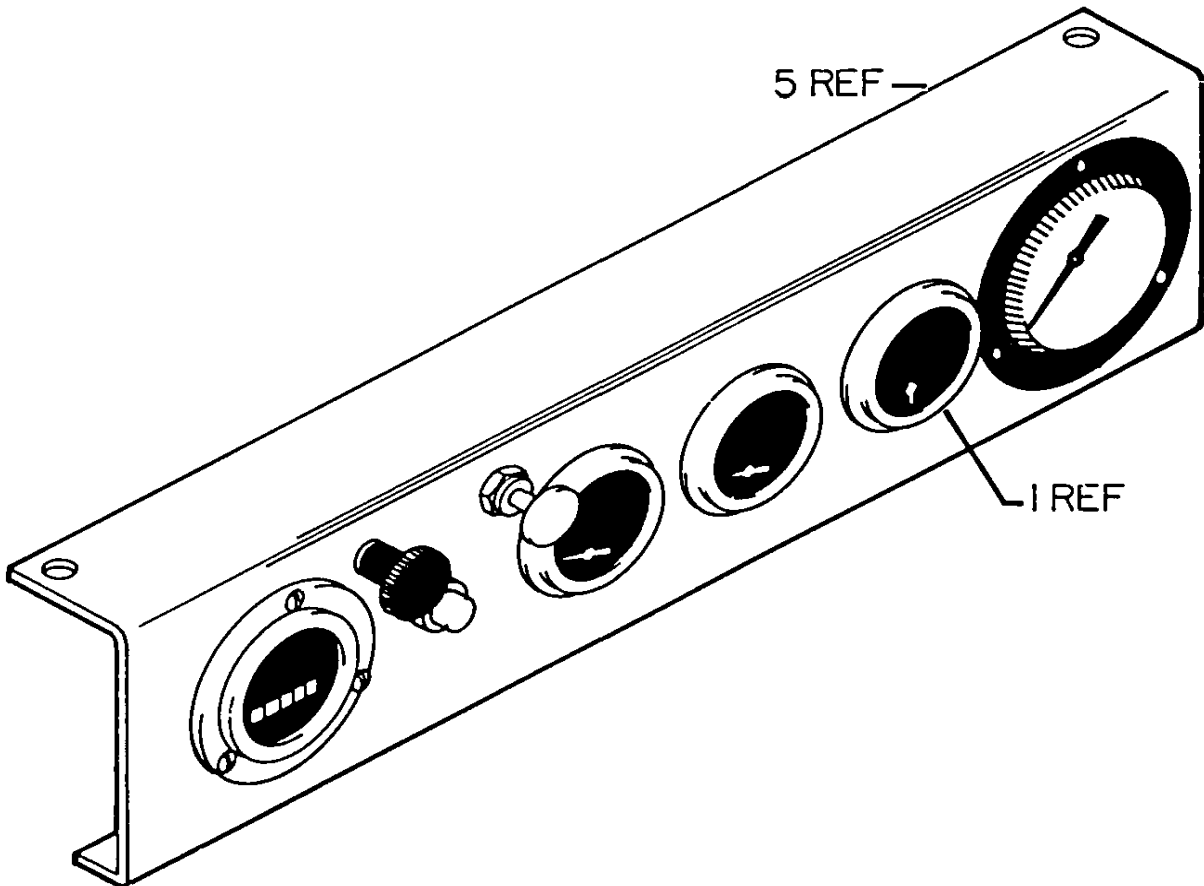
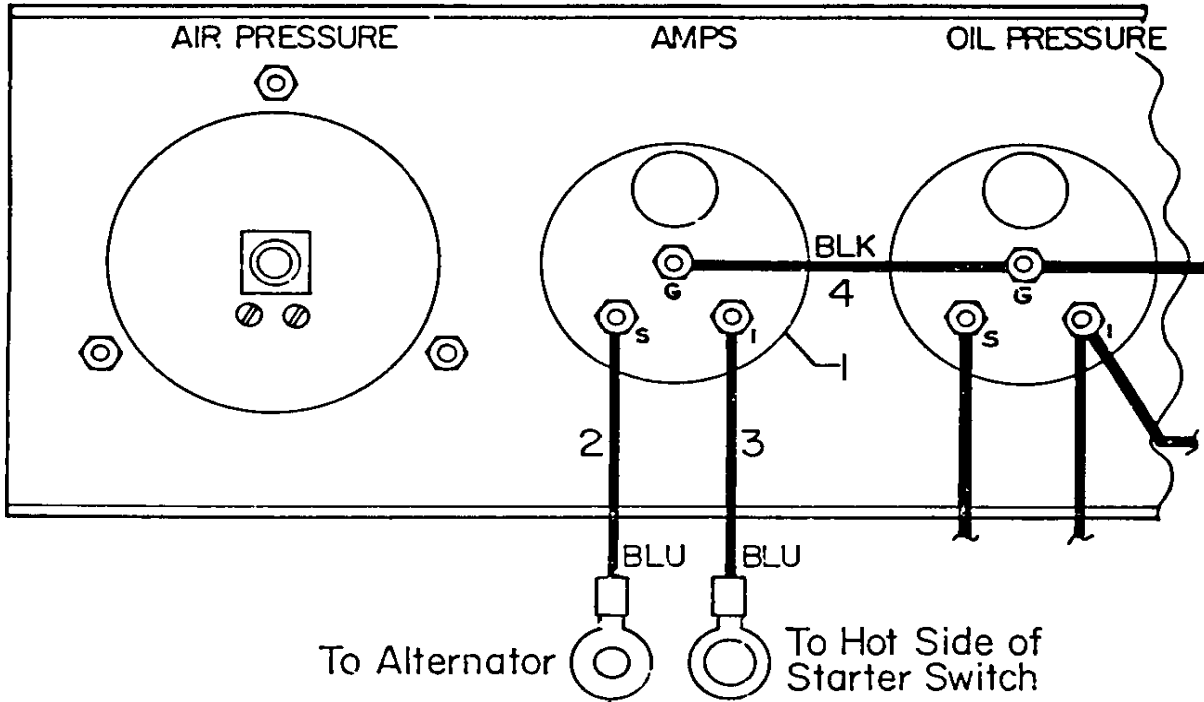
**FIGURE E-15. OPTION-CONTROL PANEL KIT (51705568)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	51705577	HOSE ASM 1/4X8	1
2.	51705578	WIRE ASM 14GA BLK X 2	1
3.	51705579	WIRE ASM 14GA REDX 3	1
4.	51705580	WIRE ASM 14GA YEL X 60	1
5.	51705581	WIRE ASM 14GA BRN X 60	1
6.	60108559	PANEL	1
7.	70048091	WATER TEMP GAUGE	1
8.	70048094	AIR PRESSURE GAUGE	1
9.	70058945	CHOKE CABLE	1
10.	70731671	HOURMETER	1
11.	51705668	WIRE ASM 12GA LT. BLU X 8	1
12.	77040049	BUTT CONNECTOR	1
13.	72053372	REDUCER BUSHING 3/8-1/4NPT	1
14.	72532876	ELBOW FPT/ F INV FLR	1
15.	72531808	REDUCER BUSHING 1/4-1/8NPT	1
16.	73954511	OIL PRESSURE GAUGE	1
17.	77040000	TERMINAL	2
18.	77041274	PUSH BUTTON SWITCH (STARTER)	1
19.	77044322	WIRING HARNESS	1
20.	72053322	ELBOW 1/4NPT 90°	1
21.	51705670	WIRE ASM 14GA BLK X 12	1
22.	77041275	WATER TEMP SENDING UNIT	1
23.	77041276	OIL PRESSURE SENDING UNIT	1
24.	52705576	PANEL MTG BRKT	1
25.	72060002	CAP SCR 1/4-20X3/4 HHGR5	6
26.	72062104	NUT 1/4-20 LOCK	6
27.	72531997	TEE 1/4NPT	1
28.	72053022	PIPE NIPPLE 1/4NPT X 4-1/2	1



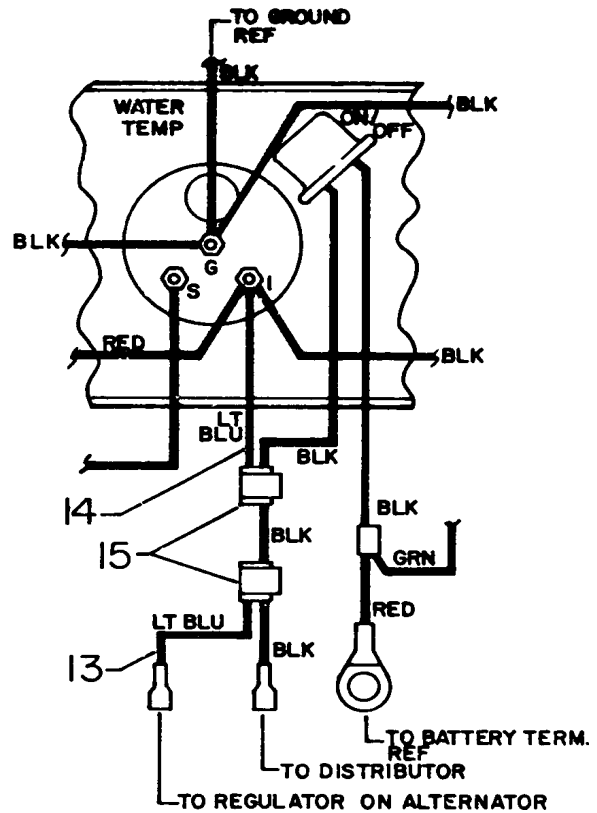
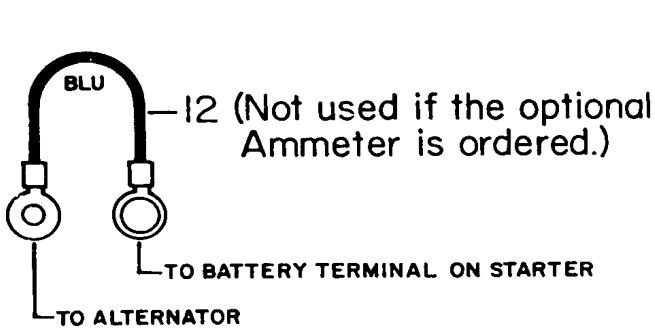
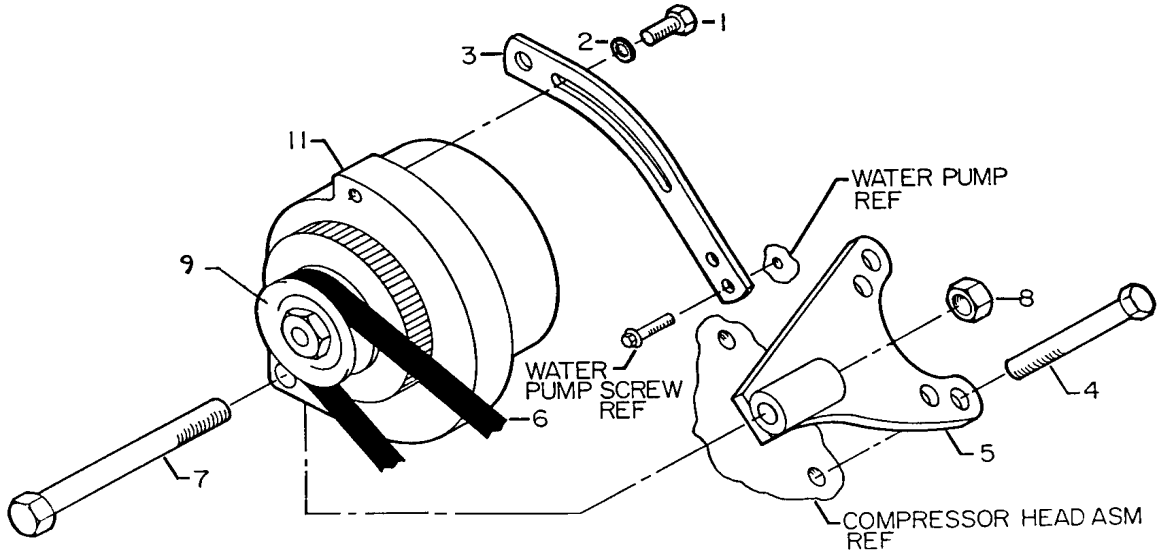
**FIGURE E-16. OPTION-AMMETER KIT (51705584)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	77044324	AMMETER	1
2.	51705665	WIRE ASM 10GA X 48 BLU	1
3.	51705666	WIRE ASM 10GA X 12 BLU	1
4.	51705578	WIRE ASM 14GA X 2 BLK	1
5.	51705569	CONTROL PANEL KIT	REF



**FIGURE E-17. OPTION-ALTERNATOR KIT (51705697)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	72060023	CAP SCR 5/16-18 X 3/4 HH GR5	1
2.	72063050	WASHER 5/16 LOCK	1
3.	70142871	ADJUSTING ARM	1
4.	72601390	CAP SCR 7/16-14 X 3-1/4 HH GR8	2REF
5.	52705611	ALTERNATOR MTG BRKT	1
6.	70058952	ALTERNATOR BELT	1
7.	72060099	CAP SCR 1/2-13 X 4 HH GR5	1
8.	72062080	NUT 1/2-13 LOCK	1
9.	70056347	ALTERNATOR PULLEY	1
11.	77042043	ALTERNATOR	1
12.	51705669	WIRE ASM 10GA X 19 BLU	1
13.	51705667	WIRE ASM 12GA X 29 LT. BLU	1
14.	51705668	WIRE ASM 12GA X 8 LT. BLU	1
15.	77040049	BUTT CONNECTOR	2

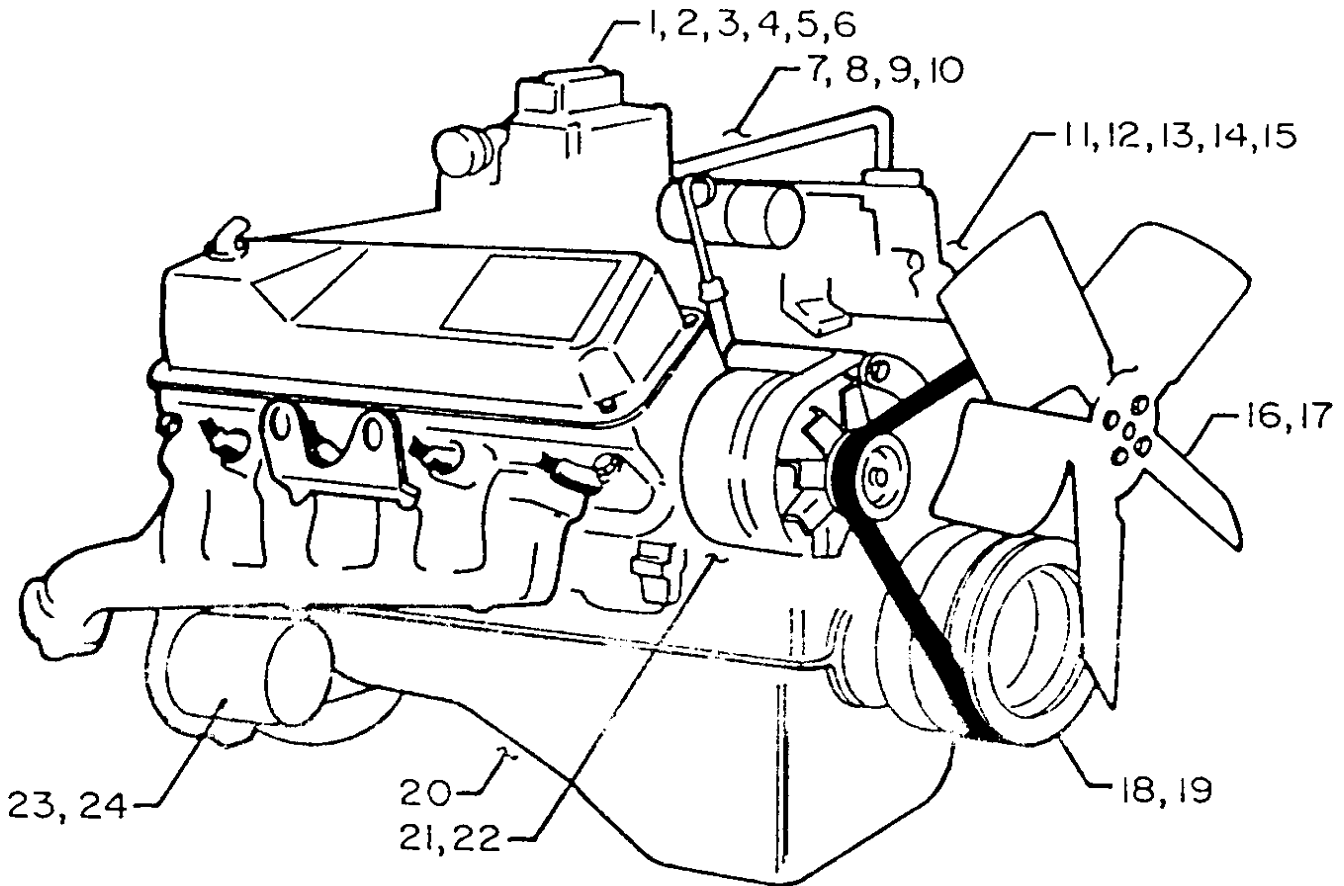


**FIGURE E-18. ENGINE ACCESSORIES (70732274)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	70731665	CARBURETOR	1
2.	70029497	CARBURETOR SPACER	1
3.	76392456	CARBURETOR GASKET	1
4.	76392455	CARBURETOR SPACER GASKET	1
5.	72601404	CARBURETOR MOUNTING STUD	4
6.	72062036	NUT 5/16-24 HEX	4
7.	70142884	EXHAUST MANIFOLD	1
8.	72601402	CAP SCR 3/8-16 X 1-1/8 HH SEMS	4
9.	72601405	CAP SCR 3/8-16 X 2-1/4 HH SEMS	2
10.	72601406	SUD 3/8-16 X 2.82 HEX SHLD	2
11.	77043039	FUEL PUMP	1
12.	76392457	FUEL PUMP GASKET	1
13.	72601403	CAP SCR 3/8-16 X 1.33 HH SEMS	2
14.	70142909	FUEL LINE	1
15.	72532387	ADAPTER 1/8MPT 5/16F INV FLR	1
16.	70142869	FAN - 5 BLADE	1
17.	70056355	WATER PUMP PULLEY	1
18.	70056354	CRANK PULLEY	1
19.	72060974	CAP SCR 3/8-16 X 1 HH GR8	4
20.	77041285	STARTER RELAY	1
21.	70392423	RUBBER CAP	1
22.	72661227	RUBBER CAP CLAMP	1
23.	77042042	STARTER	1
24.	72601401	SLFTPG SCR 1/4-20 X 7/8 HH SEMS	1
27.	99900116	MANUAL - ALTERNATOR	1
28.		DECAL - ALTERNATOR	1
29.		SERVICE DIRECTORY	1
30.		PROTECTIVE ENVELOPE	1
31.		REGISTRATION CARD	1
32.	99900117	MANUAL-MAINT/OPERATION	1
33.		DECAL - 12V ELECTRICAL SYSTEM	1
34.		PLACARD-ENGINE IDENTIFICATION	1

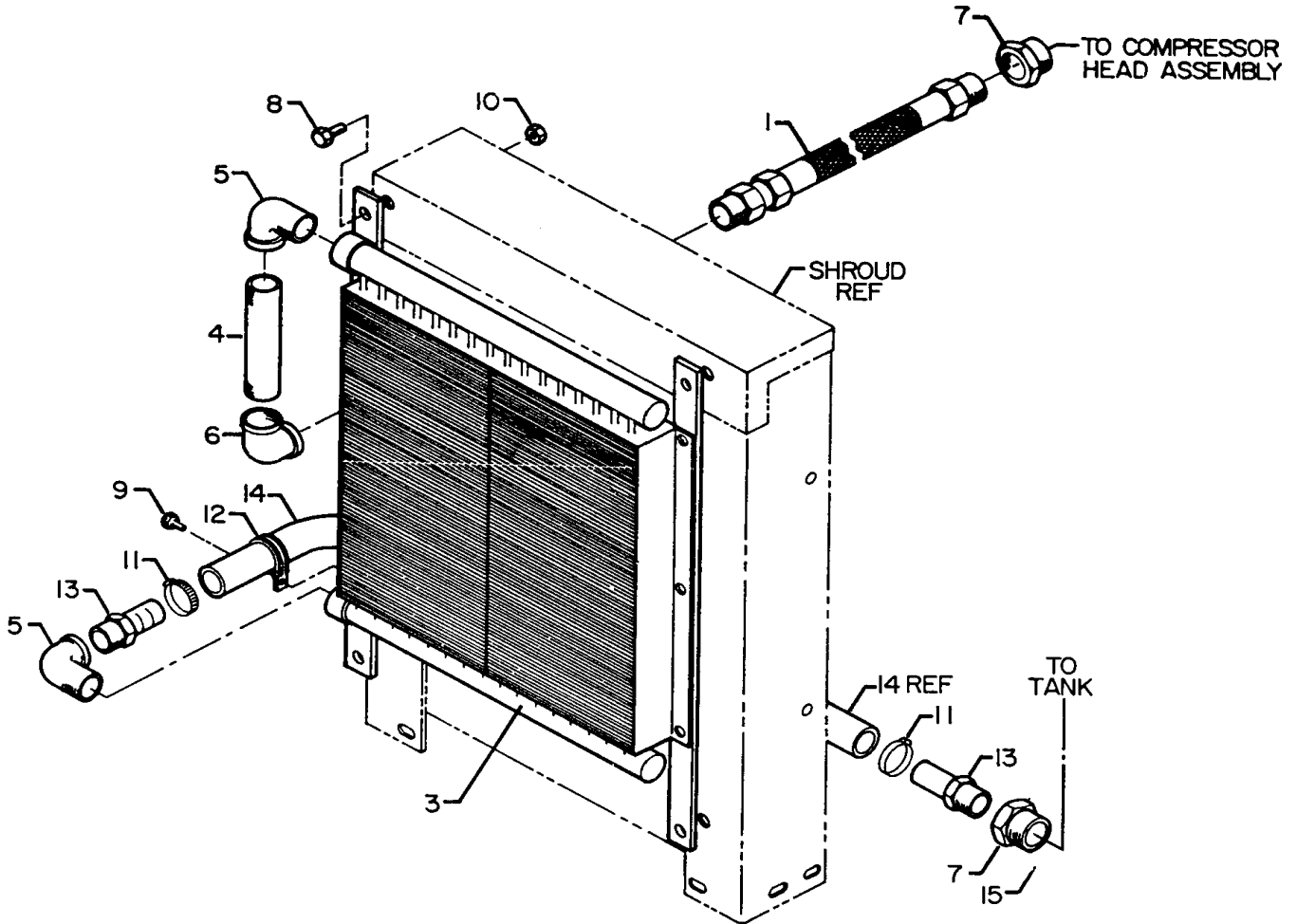
**NOTE**

THE ITEMS LISTED HERE ARE SHIPPED AS PART OF THE ACCESSORY KIT FURNISHED WITH THE ENGINE. THEY ARE SHIPPED SEPARATELY, BUT WHEN RECEIVED ARE FACTORY INSTALLED TO INSURE CORRECT FIT AND PROPER OPERATION. THESE PARTS ARE REPAIR PARTS ONLY.



**FIGURE E-19. AFTERCOOLER KIT (51707244)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	51392605	HOSE ASM 1 X 26	1
3.	70144897	AFTERCOOLER	1
4.	72053189	PIPE NIPPLE 1NPT X 3	1
5.	72053286	STREET ELBOW 1NPT 90°	2
6.	72053346	ELBOW 1NPT 45°	1
7.	72053377	REDUCER BUSHING 1-1/4 1NPT	2
8.	72060046	CAP SCR 3/8-16X1 HH GR5	4
9.	72061004	SHT MTL SCR #14X3/4 SLT HH	1
10.	72062103	NUT 3/8-16 LOCK	4
11.	72066065	HOSE CLAMP SAE#20	2
12.	72066587	CLAMP	1
13.	72532470	BARB NIPPLE 1MPT 1HOSE	2
14.	89393295	HOSE 1" STEAM	6 FT

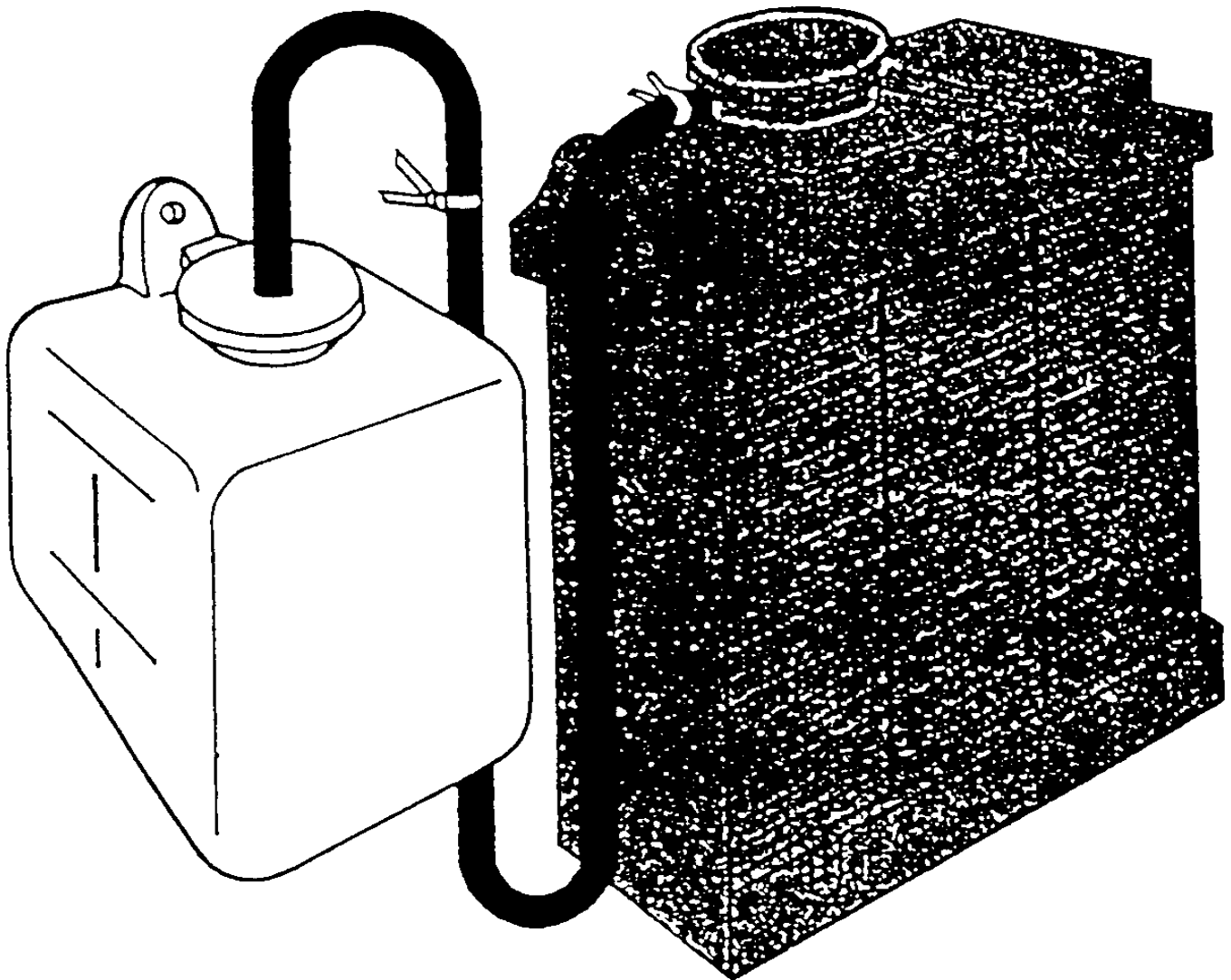


**FIGURE E-20. COOLANT RECOVERY KIT (70731733)****KIT INCLUDES:**

**COOLANT OVERFLOW RESERVOIR  
COOLANT TRANSFER TUBE  
RADIATOR CAP - 14-LB PRESSURE SEALED  
RESERVOIR CAP  
INSTALLATION HARDWARE**

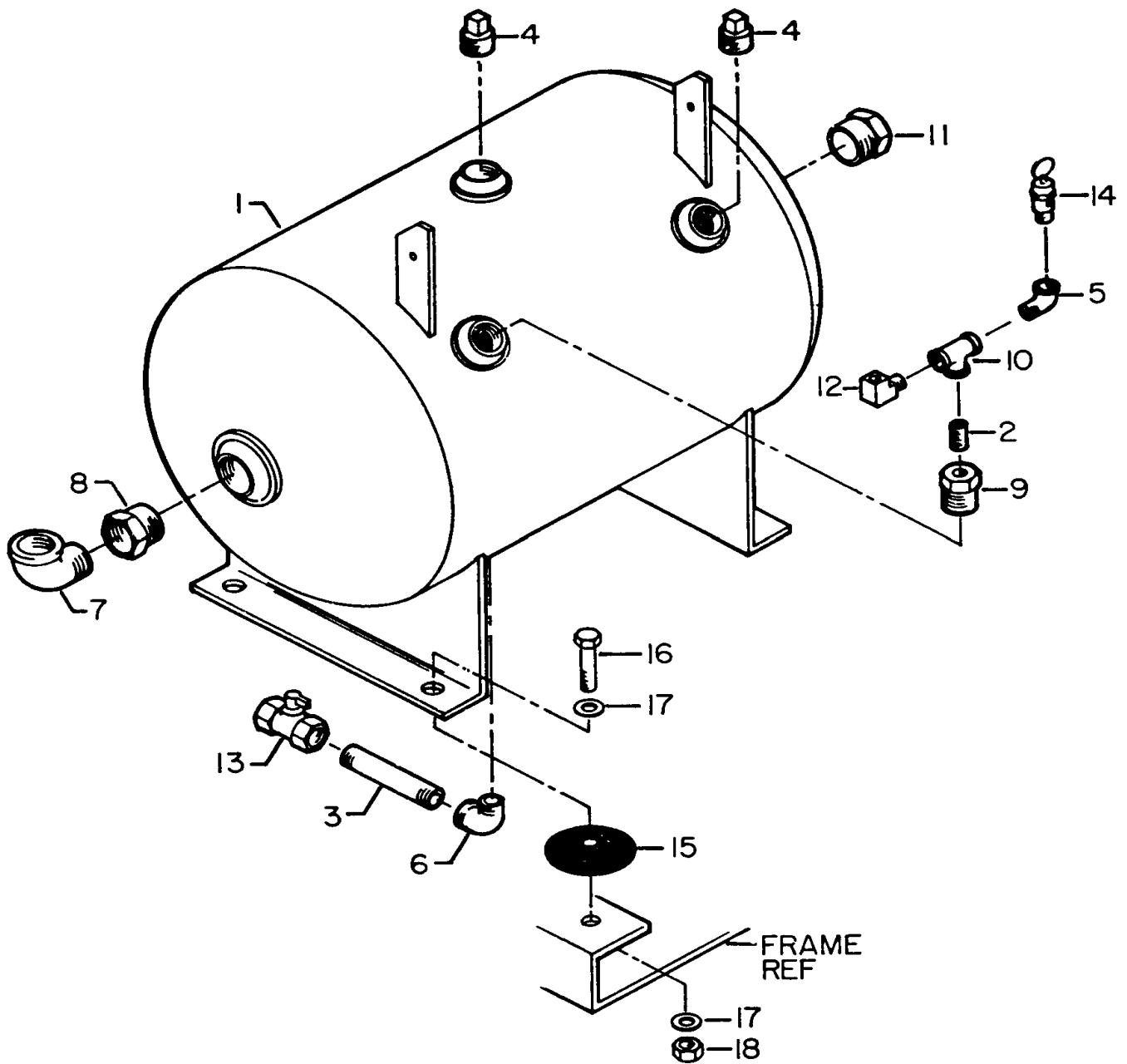
**INSTALLATION INSTRUCTIONS**

1. Mount the reservoir to the radiator shell as high as possible.
2. Trim one end of transfer tube to a 45° angle and slide it through reservoir cap until 7 inches of tubing project below the cap. Snap cap onto reservoir.
3. Remove existing overflow tube from radiator. Install free end of transfer tube to radiator nipple and secure with spring clamp provided.
4. Use the tie-band included, to secure transfer tube. Be sure there are no sharp bends or kinks in the transfer tube.
5. Fill radiator to within 1/4 inch of top. Fill reservoir to line between "ADD COOLANT" and "NORMAL RANGE". Replace original radiator cap with the special 14-lb, pressure sealed cap provided.
6. **IMPORTANT!** After first use, refill reservoir to the "ADD COOLANT" line after the engine has cooled. Check coolant level of reservoir regularly.



**FIGURE E-21. AIR TANK ASSEMBLY (51705448)**

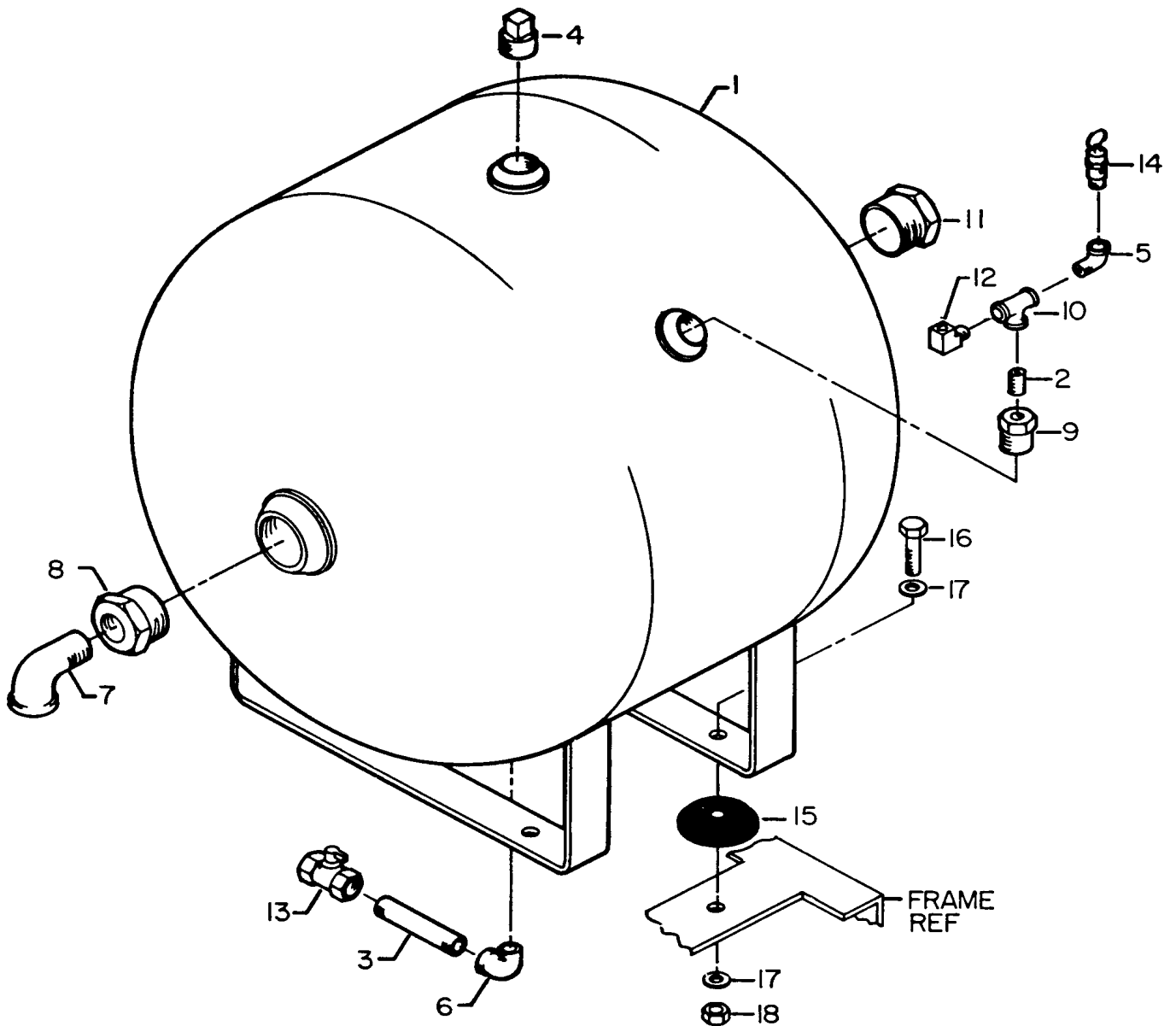
ITEM	PART NO.	DESCRIPTION	QTY
1.	70731672	TANK	1
2.	72053013	NIPPLE 1/4NPT X CLOSE	1
3.	72053096	PIPE NIPPLE 1/2NPT X 4	1
4.	72053248	PIPE PLUG 1NPT SQHD	2
5.	72053282	STREET ELBOW 1/4NPT 90°	1
6.	72053284	STREET ELBOW 1/2NPT 90°	1
7.	72053287	STREET ELBOW 1-1/4NPT 90°	1
8.	72053378	REDUCER BUSHING 1-1/2X1-1/4NPT	1
9.	72053573	REDUCER BUSHING 1X1/4NPT	1
10.	72053601	TEE 1/4NPT	1
11.	72532848	REDUCER BUSHING 1-1/2X1/4NPT	1
12.	72532877	ELBOW 1/4MPT 3/8 INV FLR	1
13.	73054192	BALL VALVE	1
14.	73054266	POP-OFF VALVE	1
15.	76392409	MOTOR MOUNT	4
16.	72060050	CAP SCR 3/8-16X2 HH GR5	4
17.	72063003	WASHER 3/8 WRT	8
18.	72062103	NUT 3/8-16 LOCK	4





**FIGURE E-22. AIR TANK ASM 32-GAL (51705705)**

ITEM	PART NO.	DESCRIPTION	QTY
1.	70731673	TANK	1
2.	72053013	NIPPLE 1/4NPT X CLOSE	1
3.	72053096	PIPE NIPPLE 1/2NPT X 4	1
4.	72053248	PIPE PLUG 1NPT SQHD	1
5.	72053282	STREET ELBOW 1/4NPT 90°	1
6.	72053284	STREET ELBOW 1/2NPT 90°	1
7.	72053287	STREET ELBOW 1-1/4NPT 90°	1
8.	72053579	REDUCER BUSHING 2X1-1/4NPT	1
9.	72053573	REDUCER BUSHING 1X1/4NPT	1
10.	72053601	TEE 1/4NPT	1
11.	72532849	REDUCER BUSHING 2X1/4NPT	1
12.	72532877	ELBOW 1/4MPT 3/8 INV FLR	1
13.	73054192	BALL VALVE	1
14.	73054266	POP-OFF VALVE	1
15.	76392409	MOTOR MOUNT	4
16.	72060050	CAP SCR 3/8-16X2 HH GR5	4
17.	72063003	WASHER 3/8 WRT	8
18.	72062103	NUT 3/8-16 LOCK	4



The information within this manual has been compiled and checked but errors do occur. To provide our customers with a method of communicating those errors we have provided the Manual Change Request form below. In addition to error reporting, you are encouraged to suggest changes or additions to the manual which would be of benefit to you. We cannot guarantee that these additions will be made but we do promise to consider them. When completing the form, please write or print clearly. Submit a copy of the completed form to the address listed below.

## MANUAL CHANGE REQUEST

DATE	PRODUCT MANUAL	MANUAL PART NO.
SUBMITTED BY		
COMPANY		
ADDRESS		
CITY, STATE, ZIP		
TELEPHONE		

ERROR FOUND

LOCATION OF ERROR (page no.): \_\_\_\_\_

DESCRIPTION OF ERROR: \_\_\_\_\_

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REQUEST FOR ADDITION TO MANUAL

DESCRIPTION OF ADDITION: \_\_\_\_\_

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REASON FOR ADDITION: \_\_\_\_\_

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MAIL TO: IOWA MOLD TOOLING Co., Inc.  
Box 189,  
Garner IA 50438-0189  
ATTN: Technical Publications

## LIMITED WARRANTY

**WARRANTY COVERAGE** - Products manufactured by Iowa Mold Tooling Co., Inc. (IMT) are warranted to be free from defects in material and workmanship, under proper use, application and maintenance in accordance with IMT's written recommendations, instructions and specifications as follows:

1. Ninety (90) days; labor on IMT workmanship from the date of shipment to the end user.
2. One (1) year; original IMT parts from the date of shipment to the end user.

IMT's obligation under this warranty is limited to, and the sole remedy for any such defect shall be the repair or replacement (at IMT's option) of unaltered parts returned to IMT, freight prepaid, and proven to have such defect, provided such defect occurs within the above stated warranty period and is reported within fourteen (14) days of its occurrence.

**IMPLIED WARRANTY EXCLUDED** - This is the only authorized IMT warranty and is in lieu of all other express or implied warranties or representations, including any implied warranties of merchantability or fitness for any particular purpose or of any other obligations on the part of IMT.

**ITEMS EXCLUDED** - The manufacturer gives no warranty on any components purchased by the manufacturer, and such components as are covered only by the warranties of their respective manufacturers.

**WARRANTY CLAIMS** - Warranty claims must be submitted and shall be processed in accordance with IMT's established warranty claim procedure.

**WARRANTY SERVICE** - Warranty service will be performed by any IMT distributor authorized to sell new IMT products of the type involved or by any IMT Service Center authorized to service the type of product involved or by IMT in the event of direct sales made by IMT. At the time of requesting warranty service, the purchaser must present evidence of the date of delivery of the product. The purchaser shall pay any premium for overtime labor requested by the purchaser, any charge for making service calls and for transporting the equipment to the place where warranty work is performed.

**WARRANTY VOIDED** - All obligations of IMT under this warranty shall be terminated: (1) if service other than normal maintenance or normal replacement of service items is performed by someone other than an authorized IMT dealer, (2) if product is modified or altered in ways not approved by IMT.

**PURCHASER'S RESPONSIBILITY** - This warranty covers only defective material and workmanship. It does not cover depreciation or damage caused by normal wear, accident, improper protection in storage, or improper use. The purchaser has the obligation of performing the care and maintenance duties discussed in IMT's written recommendations, instructions and specifications. Any damage which results because of purchaser's failure to perform such duties shall not be covered by this warranty. The cost of normal maintenance and normal replacement of service items such as filters, belts, etc. shall be paid by the purchaser.

**CONSEQUENTIAL DAMAGES** - The only remedies the purchaser has in connection with the breach or performance of any warranty on IMT products are those set forth above. In no event will the dealer, IMT or any company affiliated with IMT, be liable for business interruptions, loss of sales and/or profits, rental or substitute equipment, costs of delay or for any other special, indirect, incidental or consequential losses, costs or damages.

**REPRESENTATIONS EXCLUDED** - IMT products are subject to no expressed, implied or statutory warranty other than herein set forth, and no agent, representative or distributor of the manufacturer has any authority to alter the terms of this warranty in any way whatsoever or to make any representations or promises, express or implied, as to the quality or performance of IMT products other than those set forth above.

**CHANGE IN DESIGN** - IMT reserves the right to make changes in design or improvements upon its products without imposing any obligation upon itself to install the same upon its products theretofore manufactured.

Effective January, 1985

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