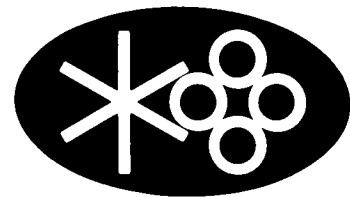


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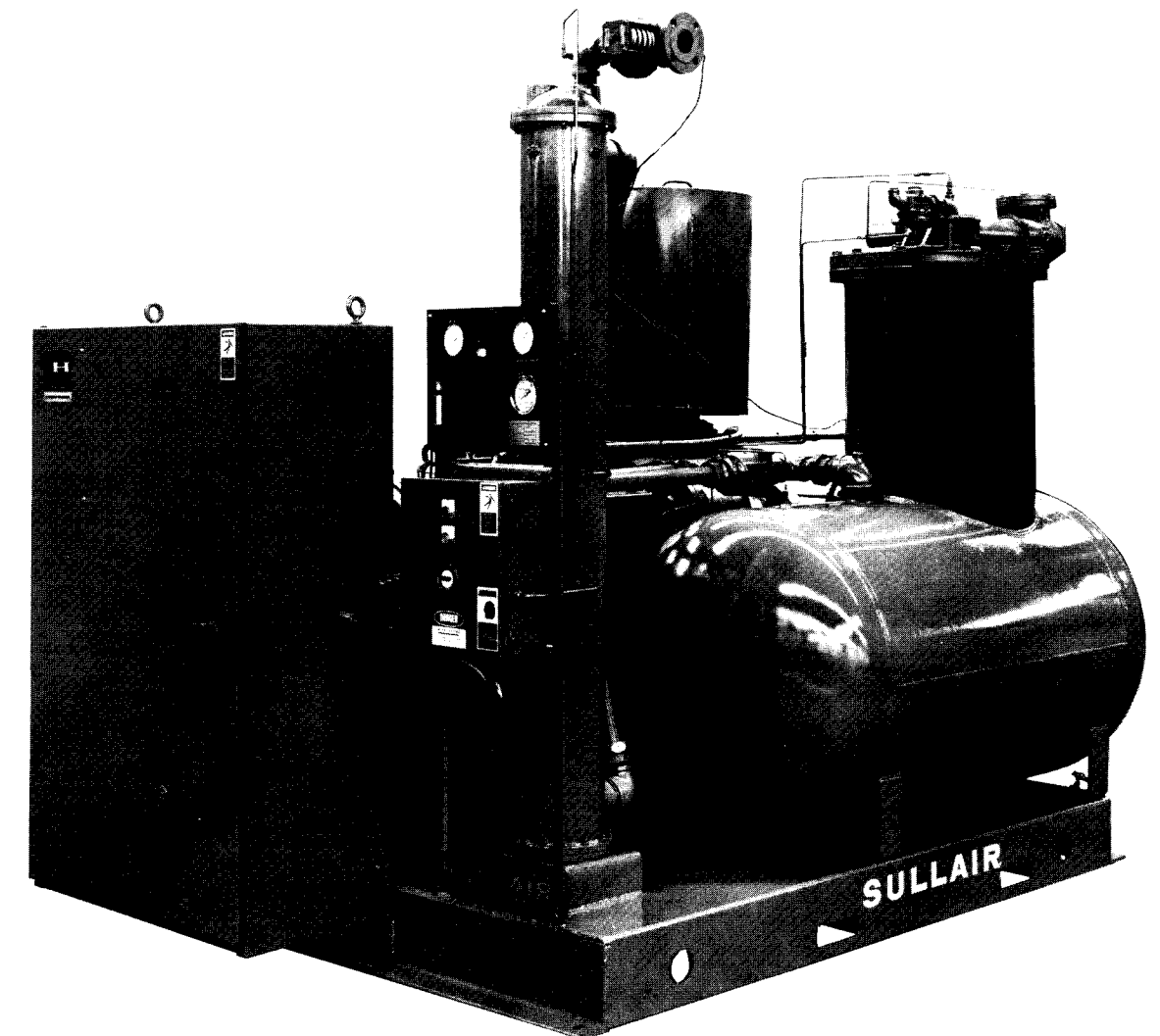
Phone: (219) 879-5451 Telex: 258318



Operators Manual and Parts List

Sullair® Air Compressor

Series 32 300L and 350L Rotary Screw Air Compressor



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Printed in U.S.A. Effective 10/80

Specifications subject to change
without prior notice

Form No. P00122-1

Section 6

ILLUSTRATIONS AND PARTS LISTS

FIGURE 6.16 ELECTRICAL SCHEMATIC



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6.15 AIR-COOLED - AFTER COOLED OPTION

key number	description	part number	quantity
1	aftercooler core	41907	2
2	nipple, close 2"	*	6
3	elbow, 90° 2"	*	6
4	nipple, half 2 x 7 1/2"	*	4
5	coupling, flexible pipe 2"***	40913	4
6	nipple, 2 x 5 1 1/2"	*	2
7	nut, whiz lock 5/16"-18	*	8
8	capscrew, whiz lock 5/16"-18 x 3/4"	*	18
9	nut, retainer	*	12
10	tee, reducing 3 x 2 x 2"	*	2
11	nipple, close 3"	*	2
12	elbow, reducing 4 x 3"	*	2
13	nipple, 2 x 2 1/2"	*	2
14	nipple, 4 x 15 1/2"	*	1
15	nut, hex 3/4"-10	*	8
16	washer, lock 3/4"	*	8
17	bracket, flange	11418	2
18	support, water separator	11417	2
19	capscrew, hex 3/4"-10 x 2 1/4"	*	8
20	flange, threaded 4"	*	1
21	gasket, flange 4"	41645	2
22	separator, 4"****	49408	1
23	moisture trap***	42034	1
24	nipple, close 3/4"	*	3
25	union, 3/4"	*	1
26	elbow, 90° 3/4"	*	1
27	elbow, 45° 3/4"	*	1
28	bushing, reducing 1 1/2 x 3/4"	*	1
29	elbow, flanged 4"	*	1
30	motor, fan	41945	1
31	fan	41946	1
32	capscrew, 5/8"-11 x 3" gr5	*	12
33	washer, lock 5/8"	*	24
34	nut, hex 5/8"-11	*	24

* Standard hardware item, purchase locally.
** For maintenance on coupling 40913, order replacement gasket 46988 (2 required).
*** Do not replace separator or trap with a separator or trap containing polycarbonate bowls.

WHEN ORDERING PARTS, ALWAYS INDICATE SERIAL NUMBER OF MACHINE

Section 1
DESCRIPTION

Oil is injected into the compressor unit in large quantities and mixes directly with the air, as the internal rotors turn compressing the air. The oil has three primary functions:

- As a coolant, it controls the rise of air temperature normally associated with the heat of compression.
- Seals leakage paths between the rotors and stator and between the rotors themselves.
- Acts as a lubricating film between the rotors, allowing one rotor to directly drive the other, which is an idler.

After the air and oil mixture has been discharged from the compressor, the oil is separated from the air. At this time, the air flows to your service line and the oil is cooled in preparation for reinjection.

1.4 COMPRESSOR COOLING AND LUBRICATION SYSTEM, FUNCTIONAL DESCRIPTION

Refer to Figure 1-2. The cooling system (water-cooled version) consists of a shell and tube heat exchanger, water-flow regulating valve, main line filter, bearing lube filter, thermal valve, oil stop valve and inter connecting piping. Air-cooled models are schematically the same as water-cooled models with the exceptions being a radiator-type cooler and a fan used in place of the shell and tube heat exchanger and the water flow regulating valve.

The pressure in the receiver/sump causes oil flow by forcing the oil from the high pressure area of the sump to an area of lower pressure in the compressor unit.

Oil flows from the bottom of the receiver/sump to the thermal valve. The thermal valve is fully open

when the oil temperature is below 170°F. The oil passes through the thermal valve, the main filter and directly to the compressor unit where it lubricates, cools and seals the rotors and the compression chamber.

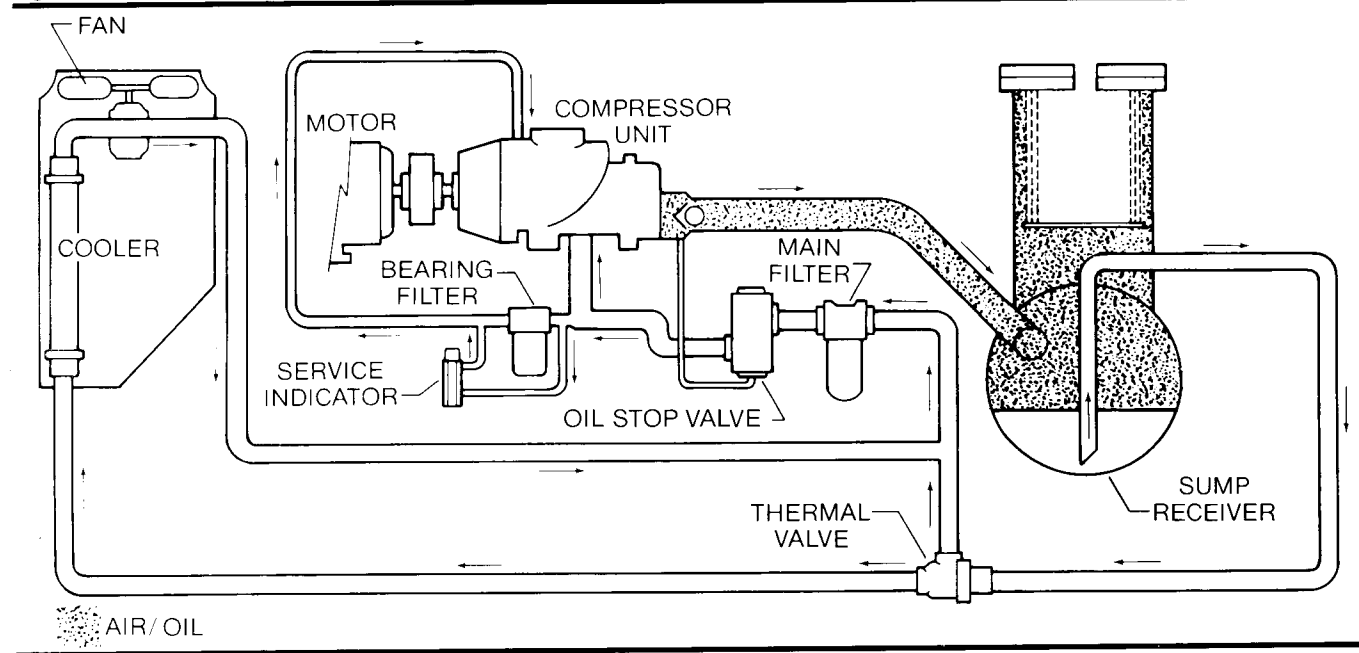
As the discharge temperature rises above 170°F, due to the heat of compression, the thermal valve begins to close and a portion of the oil then flows through the cooler. From the cooler the oil flows to the main filter and on to the compressor unit.

A portion of the oil flowing to the compressor is routed to the anti-friction bearings which support the rotors inside the compressor unit. Prior to entering the compressor unit, this oil is taken through a bearing filter, thus assuring properly filtered lubricant for bearing supply.

The bearing filter has a replacement element and an integral pressure by-pass valve. An associated service indicator shows red when the filter needs servicing. This indicator has a pressure setting lower than that of the bypass valve. After the initial 50 hour filter change, the indicator will rarely show red under normal operating conditions.

The oil stop valve prevents oil from filling the compressor unit when the compressor is shut down. When the compressor is operating, the oil stop valve is held open by air pressure from the compressor unit allowing a free flow of oil from the receiver/sump back to the compressor unit. On shutdown, the compressor unit pressure is reduced, causing the oil stop valve to close and isolate the compressor unit from the cooling system.

Figure 1-2 Compressor Cooling and Lubrication System Diagram (Air-Cooled Shown)



Section 6
ILLUSTRATIONS AND PARTS LISTS

6.14 WATER COOLED - AFTER COOLED OPTION (ADAMS HORIZONTAL MOUNTED.)

key number	description	part number	quantity
1	elbow, tube 2''t x 2''p	*	1
2	tube, 2''	*	1
3	elbow, 2''t x 1 1/2''p	*	1
4	u-bolt, 1/2 x 8''	*	1
5	capscrew, hex 5/8''-11 x 3'' gr5	*	24
6	washer, lock 5/8''	*	24
7	nut, hex 5/8''-11	*	24
8	u-bolt, 1/2 x 4''	*	1
9	flange, threaded 4''	*	3
10	gasket, flange 4''	41645	3
11	separator**	40234	1
12	bushing, reducing 1 x 3/4''	*	1
13	nipple, close 3/4''	*	3
14	elbow, 3/4''	*	1
15	union, 3/4''	*	1
16	moisture trap**	42034	1
17	support, outlet	12347	1
18	plug, pipe 1 1/2''	*	1
19	support, inlet	12346	1
20	nipple, 4 x 38''	*	1
21	nut, hex 3/4''-10	*	8
22	washer, lock 3/4''	*	8
23	capscrew, hex 3/4''-10 x 3'' gr5	*	8
24	gasket, flange	42790	1
25	elbow, flanged reducing 6 x 4''	*	1
26	nipple, half 4 x 4 1/2''	*	2
27	coupling, flexible 4''***	41085	1
28	elbow, 4''	*	1
29	nipple, close 4''	*	1
30	aftercooler	42950	1

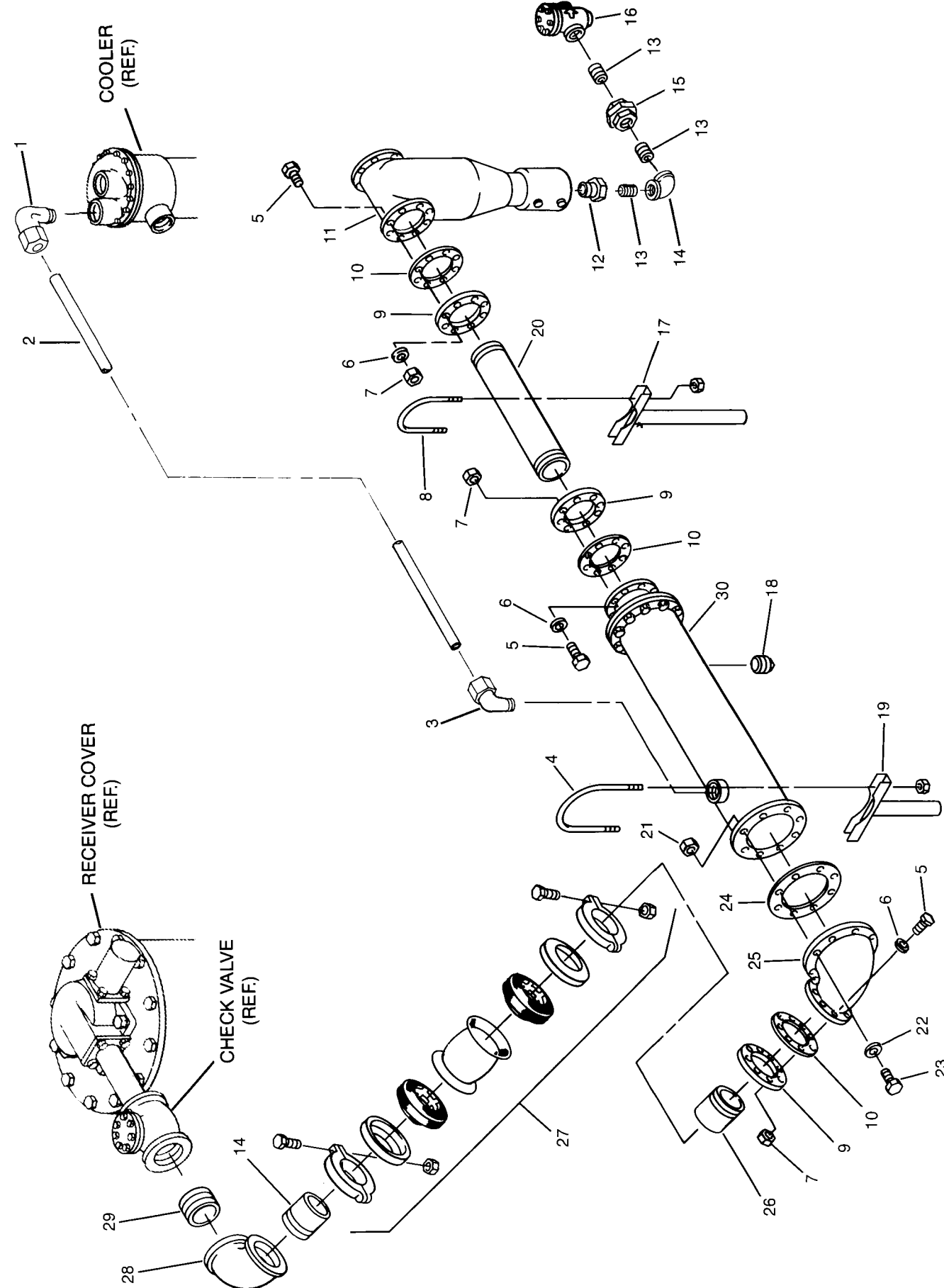
* Standard hardware item, purchase locally.
** Do not replace separator or trap with a separator or trap containing polycarbonate bowls.
*** For maintenance on coupling 41085, order replacement gasket 46291 (2 required).

WHEN ORDERING PARTS, ALWAYS INDICATE SERIAL NUMBER OF MACHINE

Section 6

ILLUSTRATIONS AND PARTS LISTS

FIGURE 6.14 WATER-COOLED - AFTER COOLED OPTION (ADAMS HORIZONTAL MOUNTED.)



Section 1

DESCRIPTION

Water-cooled versions of the compressor have a water-flow regulating valve (not shown) which operates to conserve water during periods of varying load on the compressor. This same valve automatically shuts off the water supply when the compressor is shut down.

1.5 COMPRESSOR DISCHARGE SYSTEM, FUNCTIONAL DESCRIPTION

Refer to Figure 1-3. The compressor unit discharges the compressed air/oil mixture through a discharge check valve into the combination receiver-sump. The discharge check valve prevents air in the receiver from returning to the compression chamber after the machine has been shut down.

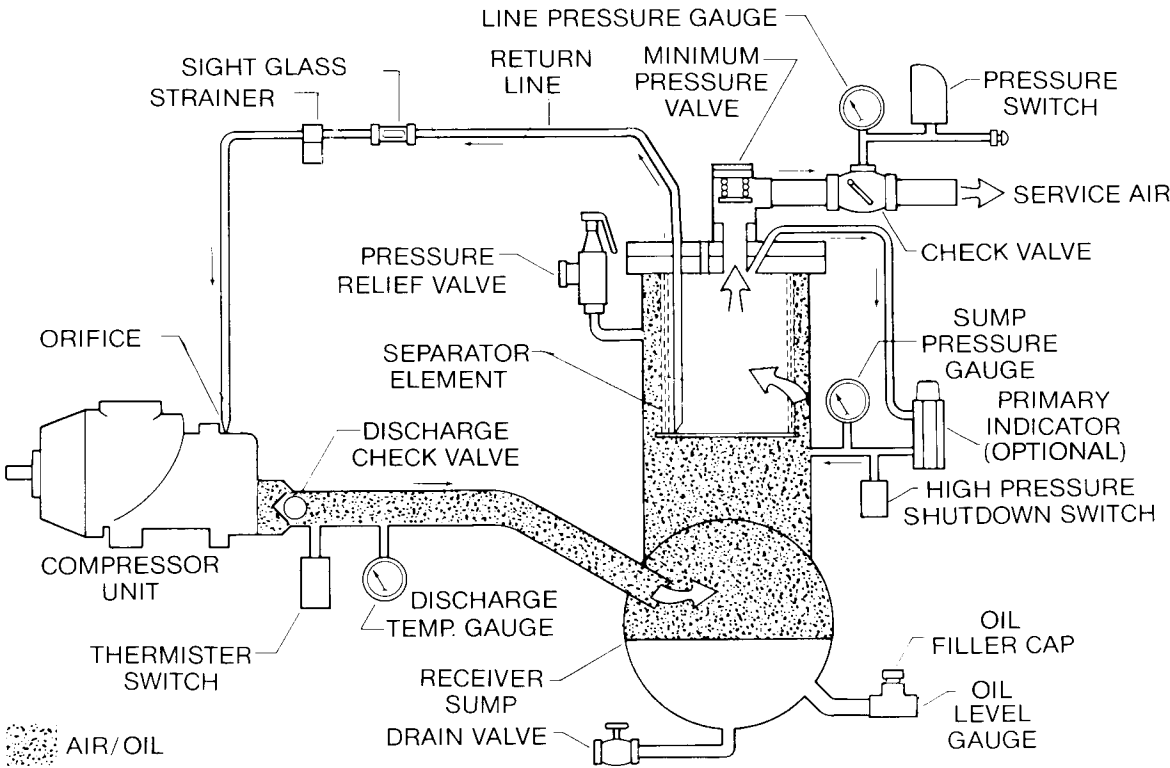
- The receiver has three main functions:
- Acts as the primary oil separator
 - Serves as the compressor oil sump
 - Houses the final oil separator element.

The compressed air/oil mixture enters the receiver and is directed against the far end of the tank. Its

direction of movement is changed and its velocity significantly reduced, causing the larger droplets of oil to fall to the bottom of the receive/sump. The fractional percentage of oil remaining in the compressed air collects on the surface of the separator element as the compressed air flows through the separator. A return line (or scavenge tube) leads from the bottom of the separator element to the inlet region of the compressor unit. Oil collecting on the bottom of the separator element is returned to the compressor by a pressure difference between the receiver and the compressor inlet. A visual sight glass is located in the return line to observe this oil flow. There is also an orifice in the return line (protected by a strainer) to assure proper flow. An optional indicator, located adjacent to the instrument panel, signals red if abnormal pressure drop through the separator develops. At this time, separator element replacement is necessary.

The receiver is ASME Code rated at 150 PSIG working pressure. A minimum pressure valve, located downstream from the separator, assures a minimum receiver pressure of 40 PSIG during all conditions. This pressure is necessary for proper air/oil separation and to assure proper oil circulation.

Figure 1-3 Compressor Discharge System Diagram



Section 1
DESCRIPTION

A terminal check valve at the outlet of the receiver prevents compressed air in the service line from bleeding back into the receiver on shutdown and during operation of the compressor in an unloaded condition.

A pressure relief valve (located on the wet side of the separator) is set to open if the sump pressure exceeds 140 PSIG. A fast-acting temperature switch will shut down the compressor if the discharge temperature reaches 240°F.

All compressor models are equipped with a high pressure shutdown switch to shut down the compressor at 135 PSIG. This prevents the pressure relief valve from opening under routine conditions, thereby preventing oil loss through the pressure relief valve.

⚠WARNING

DO NOT remove caps, plugs, or other components when compressor is running or pressurized.

Stop compressor and relieve all internal pressure before doing so.

Oil is added to the sump via a capped oil filler opening, placed low on the tank to prevent overfilling the sump. A sight-glass enables the operator to visually monitor the sump oil level.

1.6 CONTROL SYSTEM, FUNCTIONAL DESCRIPTION

Refer to Figure 1-4. The purpose of the compressor control system is to regulate the compressor air intake to match the amount of compressed air being used. At a 0 to 10 percent air output, the control system will automatically blow down the machine and greatly reduce the unload power consumption. The Sullimatic Control system consists of a Sullicon control, a butterfly valve (located on the compressor air inlet), a pressure regulator, pressure switch, pilot valve and blowdown valve. The functional description of the control system is described below in four distinct phases of compressor operation. The following descriptive text applies to all Series 32 machines. For explanation purposes this description will apply to a machine with an operating pressure range of 100-110 PSI. A machine with any other pressure range would operate in the same manner excepting stated pressures.

START - 0 TO 40 PSI

When the compressor START button is depressed, the pressure will quickly rise from 0 to 40 PSI. During this period both the pressure regulator and the pilot valve are closed and the Sullicon Control is inoperative. The spring on the control holds the butterfly valve fully open and the compressor pumps at full rated capacity. The rising compressor air pressure is isolated from the service line in this phase by the minimum pressure valve, set at approximately 40 PSI.

NORMAL OPERATING MODE - 40 TO 100 PSI

When the compressed air pressure rises above 40 PSI, the minimum pressure valve opens and delivers compressed air to the service line. From this point on, the line air pressure is continually monitored by a line pressure gauge. The pressure regulator and the pilot valve remain closed during this phase, keeping the Sullicon control inactive.

MODULATING MODE - 100 TO 110 PSI

If less than the rated capacity of compressed air is being used, the service line pressure will rise above 100 PSI. The pressure regulator valve gradually opens, applying air pressure to the diaphragm chamber of the Sullicon control which partially closes the butterfly valve on the compressor air inlet; reducing the amount of air entering the compressor until it matches the amount of air being used. The control system functions continually in this manner, between the limits of 100-110 PSI, in response to varying demands from the service line.

The pressure regulator has an orifice which vents a small amount of air to the atmosphere when the pressure regulator controls the butterfly valve. The orifice also bleeds any accumulated moisture from the Sullicon control.

UNLOAD - IN EXCESS OF 110 PSI LINE PRESSURE

When no air is being used, the service line pressure rises to the setting (cut-out pressure) of the pressure switch. The pressure switch opens, interrupting the electrical power to the solenoid-type pilot valve. At this time, the pilot valve allows dry sump tank air pressure to be applied directly to the control diaphragm, keeping the butterfly valve closed. Simultaneously, the pilot valve sends a pneumatic signal to the blowdown valve. The blowdown valve opens the sump to the atmosphere, reducing the sump pressure to approximately 40-55 PSI. The check valve in the air service line prevents line pressure from returning to the sump.

When the line pressure drops to the low setting (cut-in pressure) of the pressure switch (usually 100 PSI on low pressure machines and 115 PSI on high pressure machines), the pressure switch closes, re-energizing the three-way pilot valve and allowing the blowdown valve to close. The re-energized pilot valve again prevents line pressure from reaching the Sullicon control. Should the pressure begin to rise, the pressure regulator will resume its normal function as previously described.

For a machine with varied periods of time when there are no air requirements, a "Dual-Control" option is available. This option allows you to set the machine in an automatic position whereby the machine will shut down when no compressed air requirement is present and restart as compressed air is needed.

Section 6
ILLUSTRATIONS AND PARTS LISTS

6.13 WATER-COOLED - AFTER COOLED OPTION (BASCO HORIZONTAL MOUNTED)

key number	description	part number	quantity
1	elbow, tube 2"t x 2"p	*	2
2	tube 2"	*	1
3	bushing, reducing 3" x 2"	*	1
4	capscrew, hex 5/8"-11 x 3" gr5	*	40
5	washer, lock 5/8"	*	40
6	nut, hex 5/8"-11	*	40
7	u-bolt, 1/2 x 8"	*	1
8	aftercooler	42950	1
9	gasket, flange 4"	41645	5
10	flange, threaded 4"	*	5
11	u-bolt, 1/2" x 4"	*	1
12	separator**	42953	1
13	bushing, reducing 1 1/4 x 3/4"	*	1
14	nipple, close 3/4"	*	3
15	elbow, 3/4"	*	1
16	union, 3/4"	*	1
17	moisture trap**	42034	1
18	support, outlet	12347	1
19	support, inlet	12346	1
20	nipple, 4 x 11"	*	1
21	nipple, 4 x 7"	*	1
22	elbow, flanged 4"	*	1
23	nipple, half 4 x 8"	*	1
24	coupling, flexible 4"***	41085	1
25	nipple, half 4 x 4 1/2"	*	1
26	elbow, 4"	*	1
27	nipple, close 4"	*	1

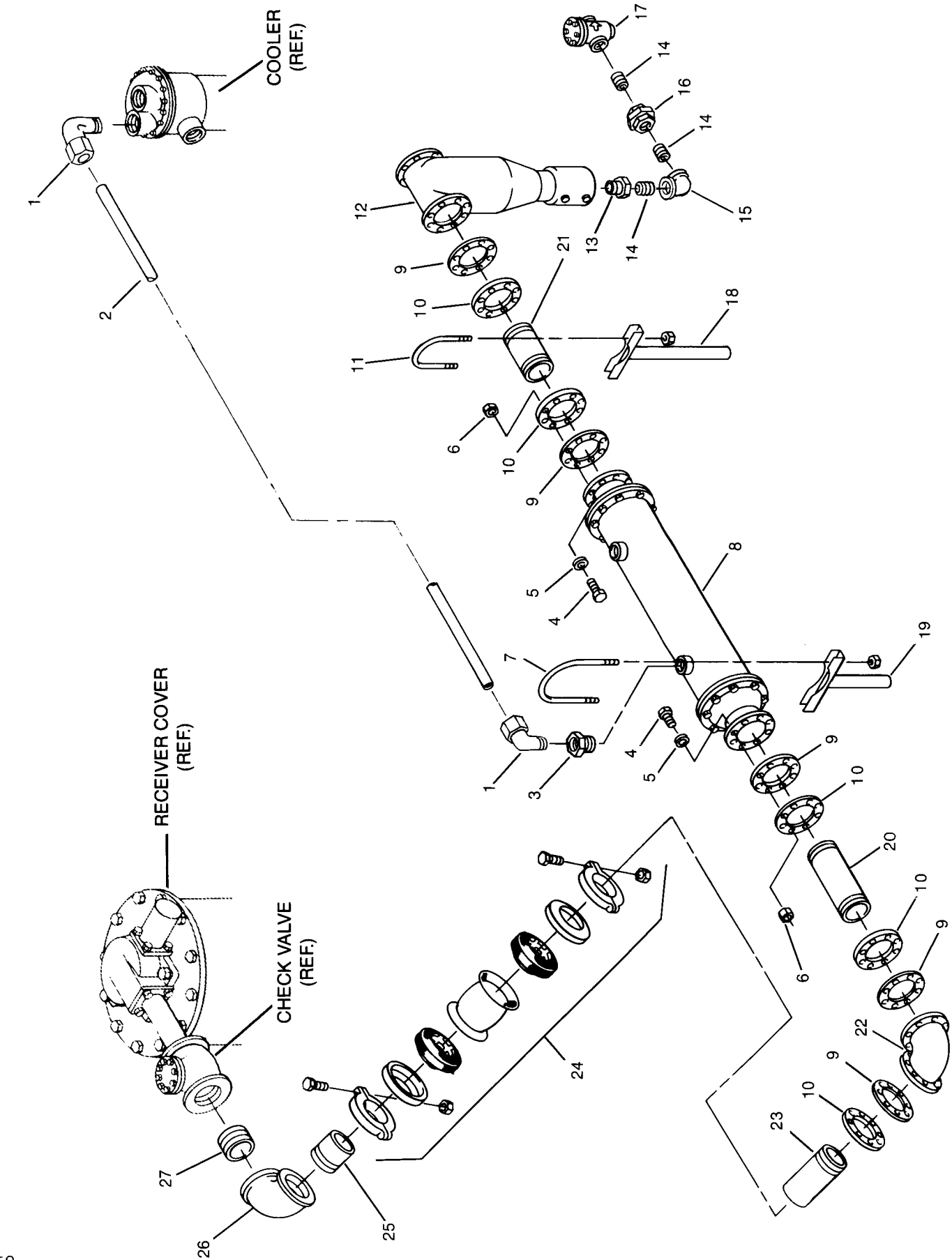
* Standard hardware item, purchase locally.
** Do not replace the separator or trap with a separator or trap containing polycarbonate bowls.
*** For maintenance on coupling 41085, order replacement gasket 46291 (2 required).

WHEN ORDERING PARTS, ALWAYS INDICATE SERIAL NUMBER OF MACHINE

Section 6

ILLUSTRATIONS AND PARTS LISTS

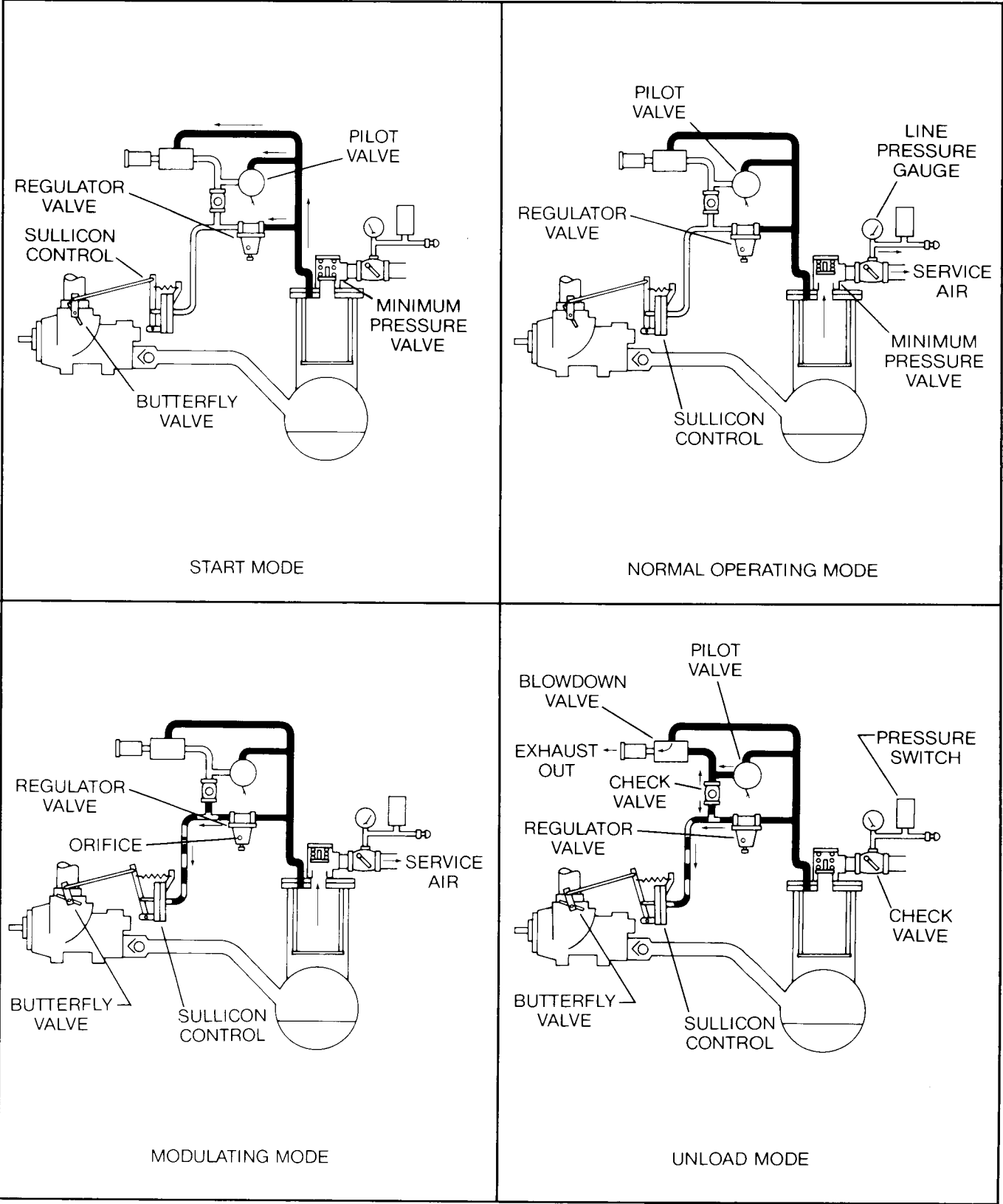
FIGURE 6.13 WATER-COOLED - AFTER COOLED OPTION (BASCO HORIZONTAL MOUNTED)



Section 1

DESCRIPTION

Figure 1-4 Control System, Sequence of Operation



Section 1
DESCRIPTION

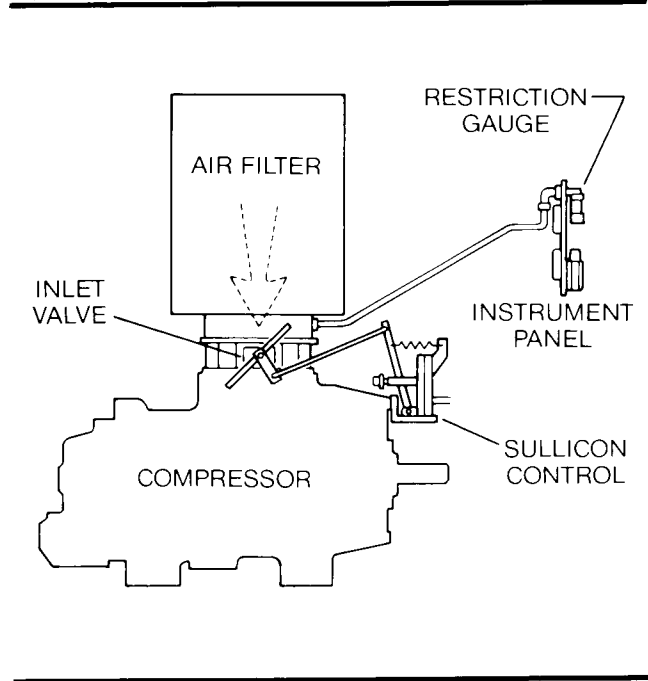
1.7 AIR INLET SYSTEM, FUNCTIONAL DESCRIPTION

Refer to Figure 1-5. The compressor inlet system consists of a dry-type air filter, a restriction gauge and an air inlet valve.

The restriction gauge, located on the compressor instrument panel, indicates the condition of the air filter by showing red when filter maintenance is required.

The butterfly-type air inlet valve directly controls the amount of air intake to the compressor in response to the operation of the Sullicon control (par. 1.6).

Figure 1-5 Compressor Air Inlet System



1.8 INSTRUMENT PANEL GROUP, FUNCTIONAL DESCRIPTION

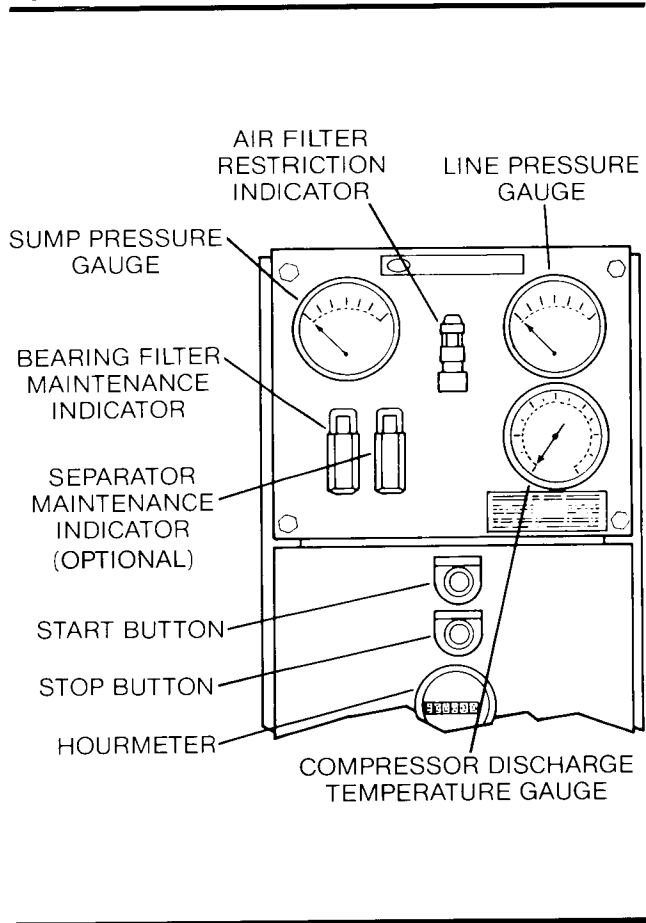
Refer to Figure 1-6 for specific location of parts described. The instrument panel group consists of a panel containing the line pressure and sump pressure gauges, the discharge temperature gauge, the air filter restriction gauge, and the maintenance indicators (one for the separator element and one for the bearing lube filter). Located on the electrical control box door are the stop and start push buttons and the hourmeter.

Refer to Figure 1-3 for functional locations of the following controls and indicators:

- The line (terminal) pressure gauge is connected to the dry side of the receiver downstream from the check valve and continually monitors this air pressure.
- The sump pressure gauge continually monitors the sump pressure at the various load and/or unload conditions.

- The discharge temperature gauge monitors the temperature of the air leaving the compressor unit. For both air-cooled and water-cooled compressors the normal reading is approximately 180°F.
- The air filter restriction gauge monitors the condition of the air intake filter and shows red when filter service is required. This restriction gauge must be reset manually (See Figure 1-5).
- The START pushbutton turns the compressor on (See Figure 1-6).
- The STOP pushbutton turns the compressor off.
- The hourmeter records accumulative hours of operation for the compressor and is useful for planning and logging service operations (See Figure 1-6).
- The optional separator maintenance indicator monitors the condition of the separator element and shows red when element restriction is excessive. This optional indicator is automatically reset after the element has been changed.
- The bearing lube filter maintenance indicator monitors the condition of the bearing lube filter element and shows red when the element should be changed. This indicator is also automatically reset (See Figure 1-2).

Figure 1-6 Instrument Panel Group



Section 6
ILLUSTRATIONS AND PARTS LISTS

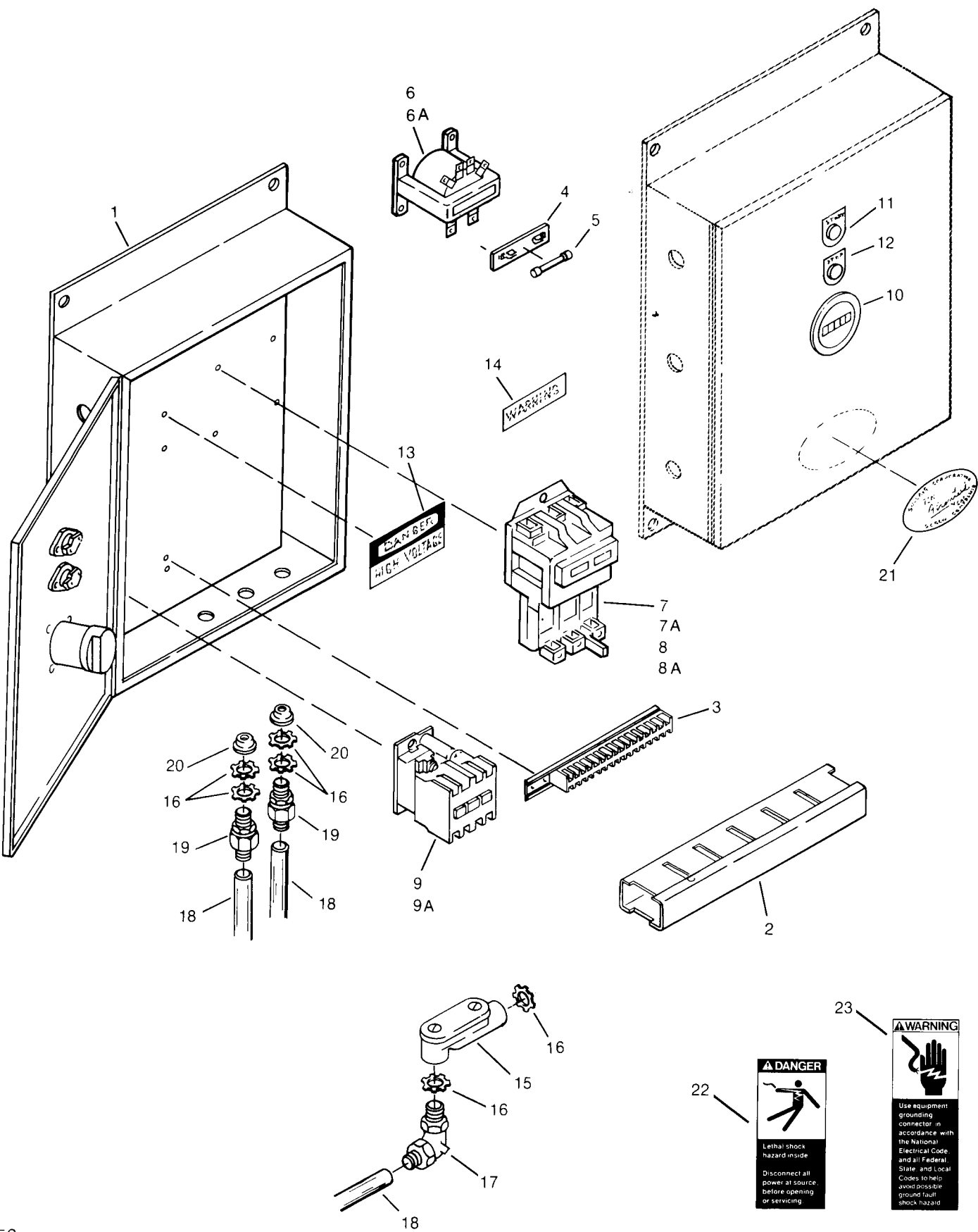
6.12 CONTROL BOX ASSEMBLY

key number	description	air cooled	water cooled	quantity
1	control box (consisting of items 2 thru 12)	40689	40713	1
2	• duct & cover, plastic	41370	41370	2
3	• terminal & track (12 pt.)	41493	41493	1
4	• block, fuse	41147	41147	1
5	• fuse, 6 amp	43002	43002	1
6	• transformer, 230/460v	40618	40618	1
6a	• transformer, 575 v		40872	1
7	• starter, size 1	41966		1
7a	• starter, size 2 (aftercooled)	41141		1
8	• heaters, 460v	43320		3
8a	• heaters, 460v (aftercooled)	41857		3
9	• relay	42090	42090	1
9a	• relay, contacts	42091	42091	1
10	• hourmeter	42988	42988	1
11	• start pushbutton	41967	41967	1
12	• stop pushbutton	42235	42235	1
13	decal, "DANGER"	42218	42218	1
14	decal, "WARNING"	42517	42517	1
15	unilet, w/cover 1/2"	*	*	2
			*	1
16	nut, conduit	*	*	8
17	elbow, 90° conduit 1/2"	*	*	1
18	conduit, 1/2"	*	*	7
			*	5
19	connector, conduit	*	*	4
20	bushing, insulated 1/2"	*	*	6
			*	4
21	decal, "AIRANTEED"	40909	40909	1
22	decal, "DANGER"	49850	49850	1
23	decal, "WARNING"	49852	49852	1

* Standard hardware item, purchase locally.

WHEN ORDERING PARTS, ALWAYS INDICATE SERIAL NUMBER OF MACHINE

Section 6
ILLUSTRATIONS AND PARTS LISTS
FIGURE 6.12 CONTROL BOX ASSEMBLY



Section 2
SPECIFICATIONS

SULLAIR SERIES 32 24KT SPECIFICATIONS

DIMENSIONAL:									
Cooling	Model Series	Length		Width		Height		Weight	
		in	mm	in	mm	in	mm	lb	kg
Water	32-300L	108	2743	72	1829	95	2413	11,100	5035
	32-350L&H	108	2743	72	1829	95	2413	11,100	5035
Air	32-300L	103	2616	79	2007	85	2159	10,850	4899
	32-350L&H	103	2616	79	2007	85	2159	10,850	4899
Remote Cooler	32-300L	56	1422	58	1473	83	2108	1,550	703
	32-350L&H	56	1422	58	1473	83	2108	1,550	703

COMPRESSOR:	
Type	Rotary Screw
Maximum Operating*	110 PSI (L), 125 PSI (H) (Unload press)*
Bearing Type	Anti-Friction
Ambient Temperature (Max) **	105°F (40°C)
Cooling	Pressurized Oil
Lubricant	D-A Torque Fluid (Factory filled)
Sump Capacity	65 Gallons (246 Liters)
Control	Electro-Pneumatic
* Max full load press (L) = 100 psig, (H) 115 psig	
MOTOR:	
Make	General Electric, Reliance, Westinghouse, Lincoln, or Equal
Type	Open Dripproof, 460V, A.C., Three Phase, 60 Cycles, 40°C Maximum Ambient Temperature
Size	Options available: 200-230 and 575 volt/T.E.F.C. also available.
Starter	300 and 350 HP
Speed	460V Full Voltage Magnetic
	Options Available: 200-230 and 575 volt.
	1770 RPM
* Special machines are available for operating at higher pressures.	
** Special machines are available for operation in higher ambient temperatures.	

LUBRICATION GUIDE—COMPRESSOR

Compressor oil should conform to the following specifications:

Table 1

Ambient Temp.	-23°C to 32°C -10°F to 90°F
1,000 HR "Normal" Oil change period.	MIL-L-2104B (API CC) API SE, CD SAE 10W Dexron II ATF D-A Torque Fluid

APPLICATION GUIDE

Sullair Air Compressors are supplied complete with D-A Torque Fluid which is suitable for heavy duty, high temperature conditions. Detergent motor oils (SAE 10W Class SE* or Automatic Transmission Fluid (Dexron II or equivalent) can also be used.

Any of these oils are suitable under conditions where severe oil oxidation can occur.

For light-duty, high-humidity service where condensed moisture and emulsification (mayonnaise) may occur, the oil change interval must be reduced to 300 hours maximum. A non-detergent oil, with rust, oxidation and foam inhibitors and good water separation characteristics is preferred. Water must be drained from receiver periodically.

Do not mix types of oils. Contamination of non-detergent mineral oils with traces of ATF or detergent motor oils may lead to operational problems such as foaming, filter plugging, orifice or line plugging.

When ambient conditions exceed those noted or if conditions warrant use of extended life lubricants, contact Sullair for recommendation.

Sullair encourages the user to participate in an oil analysis program with the oil supplier. This could result in an oil change interval differing from that stated in the manual.

Section 3
INSTALLATION

The following instruction is provided for proper installation.

3.1 LOCATION OF COMPRESSOR

The compressor package may be placed on any level surface able to support its weight. It is not necessary to bolt the unit down unless there is a possibility of externally applied forces or vibration which could disturb the piping or wiring.

3.2 VENTILATION AND COOLING

For water-cooled machines it is necessary to check cooling water supply. The proper water flow should be 49-65 G.P.M. on 300 HP machines; and 57-75 G.P.M. on 350 HP machines. These figures apply to 80°F cooling water on a machine running at full load with an aftercooler. For cooler water or a partially loaded machine, slightly less water is required. However, for hotter water the flow requirements are significantly higher.

For air-cooled compressors, select a location to permit sufficient unobstructed air-flow in and out of the

compressor to keep the operating temperature stable. The minimum distance that the machine should be from the surrounding walls is three (3) feet. Hot fan air discharged from the top of the cooler package must be prevented from recirculating back to the cooler cores.

The table below indicates the ventilation requirements necessary to keep the machine running at a normal operating temperature. The fan air requirement is the volume of air which must flow through the machine for proper ventilation. The specified heat rejection requirement is the amount of heat that is radiated by the machine. This heat must be removed to assure a normal operating temperature. With air-cooled machines it is possible to use this heat for space heating, providing no additional pressure drop is created across the fan. Consult a Sullair office for assistance in utilizing this heat.

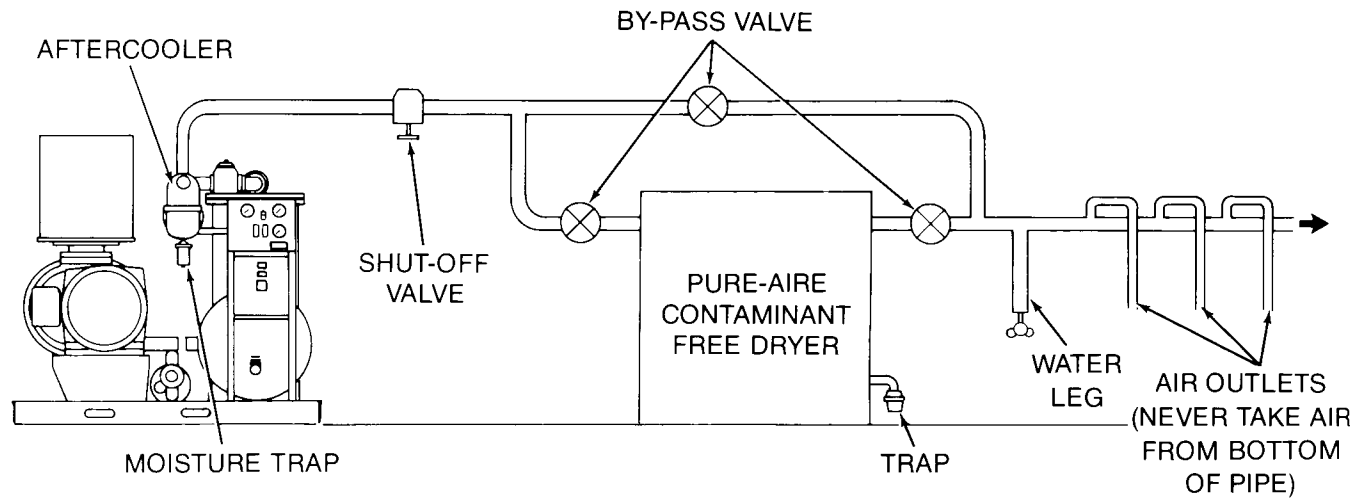
Do not install a water-cooled or an air cooled/aftercooled machine where it will be exposed to temperature less than 32°F.

VENTILATION REQUIREMENTS

Cooling Type	Water-Cooled		Air-Cooled		Air-Cooled w/Aftercooler	
Motor H.P.	300L	350L & H	300L	350L & H	300L	350L & H
Fan Air C.F.M.	6,000*	6,000*	31,500*	31,500*	36,500*	36,500*
Heat Rejection B.T.U./Hr.	72,000	72,000	817,000	817,500	104,900	104,900

*Applies to machines with canopy option only.

Figure 3-1 Service Air Piping with Optional Aftercooler



Section 6
ILLUSTRATIONS AND PARTS LISTS

6.11 INSTRUMENT PANEL ASSEMBLY

key number	description	part number	quantity
1	gauge, line pressure	40313	1
2	gauge, sump pressure	40313	1
3	gauge, temperature	40314	1
4	panel, instrument	29359	1
5	indicator, air filter	40025	1
6	nameplate, serial number	40052	1
7	rivet, "pop" 1/16" x 3/8"	*	4
8	connector, 1/4"t x 1/8"p	*	2
9	indicator, bearing filter	46551	1
10	decal, bearing filter	46607	1
11	nut, acorn 1/4"-20	*	4
12	isolator, vibration	40091	4
13	elbow, 1/4"t x 1/4"p	*	2
14	connector, 1/4"t x 1/4"p	*	1
15	control box assy. AC (See Fig. 6.11)	40689	1
15a	control box assy. WC (See Fig. 6.11)	40713	1
16	capscrew, whiz lock 3/8"-16 x 1"	*	6
17	washer, lock 3/8"	*	2
18	nut, hex 3/8"-16	*	6
19	nut, hex 1/4"-20	*	4
20	washer, lock 1/4"	*	4
21	support, instrument panel	13743	1

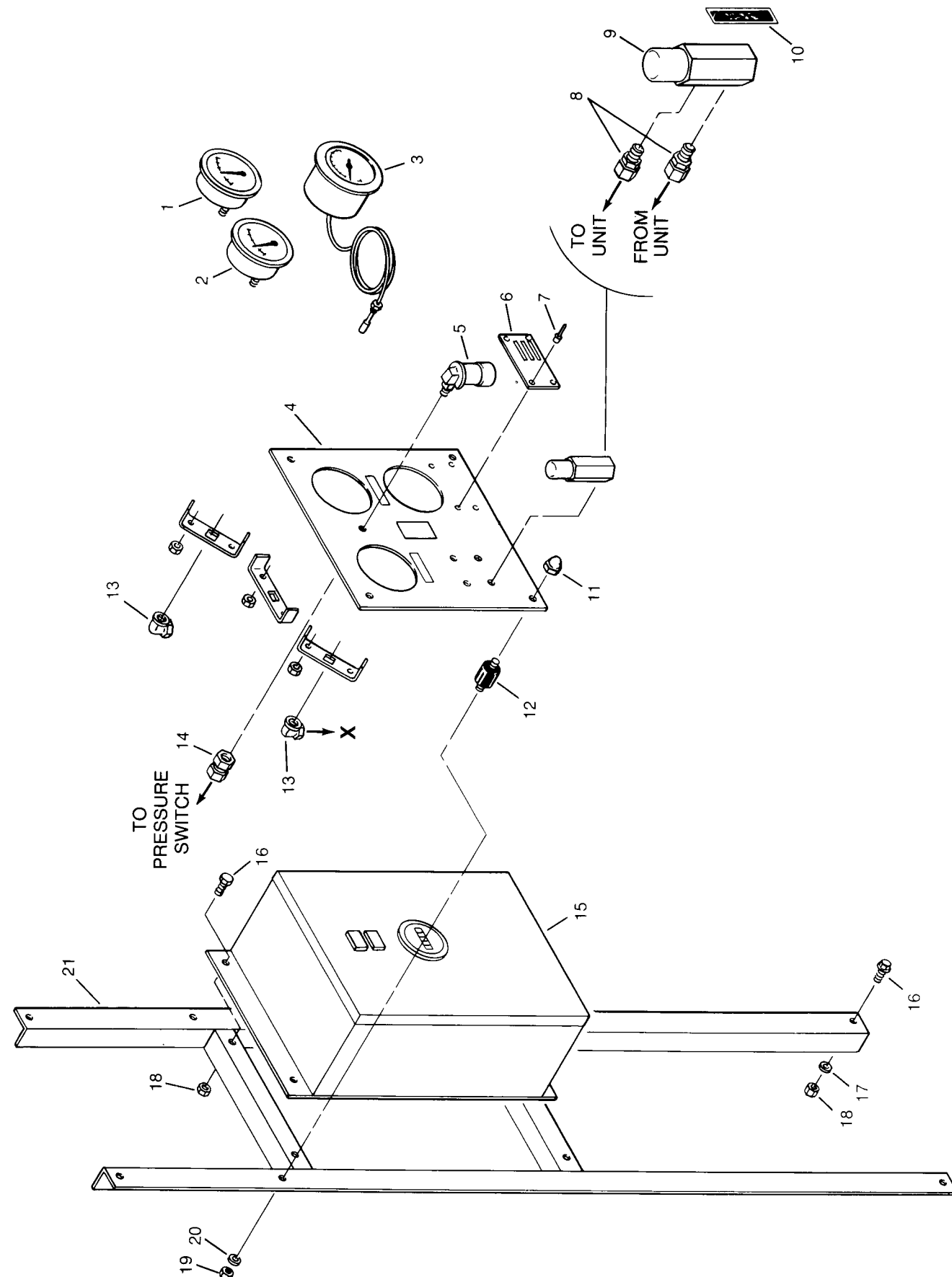
* Standard hardware item, purchase locally.

WHEN ORDERING PARTS, ALWAYS INDICATE SERIAL NUMBER OF MACHINE

Section 6

ILLUSTRATIONS AND PARTS LISTS

FIGURE 6.11 INSTRUMENT PANEL ASSEMBLY



Section 3

INSTALLATION

3.3 SERVICE AIR PIPING

Service air piping should be installed as shown. A shut-off valve should be installed to isolate a machine from the service line if required. Also notice that the service line should be equipped with water legs and condensate drains throughout the system.

3.4 COUPLING ALIGNMENT CHECK

In preparation for the factory test, the coupling supplied with your machine is properly aligned for operation. However, due to shipping and handling, it is necessary to re-check the coupling alignment. Refer to coupling alignment procedure explained in the maintenance section of this manual.

3.5 OIL LEVEL CHECK

Your air compressor is also supplied with the proper amount of oil. However, it is necessary to check the oil level at installation. The level is checked by looking at the sight glass located on the sump.

3.6 MOTOR ROTATION DIRECTION CHECK

After the electrical wiring has been done, it is necessary to check the direction of the motor rotation. This can be done by jogging the start-stop button on the instrument panel. When looking at the motor from the end opposite the compressor unit, the shaft should be turning clockwise. If your motor shaft is not turning clockwise, disconnect the power to the starter and exchange any two of the three power input leads, then re-check rotation.

3.7 ELECTRICAL PREPARATION

Interior electrical wiring is performed at the factory. Required customer wiring is minimal, but should be done by a qualified electrician in compliance with OSHA, National Electrical Code, and any other applicable local electrical code concerning isolation switches, fused disconnects, etc. Sullair provided a wiring diagram for use by the installer.

A few electrical checks should be made to help assure that the first start-up will be trouble free.

⚠ DANGER

Lethal shock hazard inside.

Disconnect all power at source, before opening or servicing.

1. Check incoming voltage. Be sure that the incoming voltage is the same voltage that the machine was wired for.
2. Check starter and overload heater sizes. (See instrument panel and electrical parts in Section 6.)
3. Check all electrical connections for tightness.
4. "DRY RUN" the electrical controls by disconnecting the three (3) motor leads from the starter. Energize the control circuits by pushing the start button and check all protective devices to be sure that they will de-energize the starter coil when activated.
5. Reconnect the three (3) motor leads and jog the motor for a direction of rotation check, as explained in Section 3.6.

Section 4
OPERATION

4.1 GENERAL

While Sullair has built into this compressor a comprehensive array of controls and indicators to assure you that it is operating properly, you will want to recognize and interpret the reading which will call

for service or indicate the beginning of a malfunction. Before starting your Sullair compressor, read this section thoroughly and familiarize yourself with the controls and indicators - their purpose, location and use.

4.2 PURPOSE OF CONTROLS

Control or Indicator	Purpose
START PUSHBUTTON	Depress to turn the compressor ON.
STOP PUSHBUTTON	Depress to turn the compressor OFF.
HOURLMETER	Records accumulative hours of compressor operation; useful for planning and logging service schedules.
LINE PRESSURE GAUGE	Continually monitors service line air pressure. Located on dry side of receiver downstream from check valve.
SUMP PRESSURE GAUGE	Continually monitors receiver/sump pressure at various load and/or unloaded conditions.
DISCHARGE TEMPERATURE GAUGE	Monitors temperature of the air leaving the compressor unit. For both air and water cooled compressors, normal reading is approximately 180° - 195°F.
BEARING FILTER MAINTENANCE INDICATOR	Indicates when a bearing filter element change is required. Will show red when the pressure drop through the filter is excessive.
SEPARATOR MAINTENANCE INDICATOR (OPTIONAL)	Indicates when separator element change is required. Will show red when pressure drop through the separator is excessive. The separator must be replaced. Do not clean.
OIL LEVEL SIGHT GLASS	Monitors oil level in the sump. DO NOT OVER FILL.
SEPARATOR RETURN LINE SIGHT GLASS	Used to indicate oil flow in the return line. When the compressor is running at full load, oil flow should be visible in this sight glass. There may be little or no flow when the compressor is running unloaded, but a sluggish flow from the return line at full load indicates a need to clean the return line strainer.
OIL STOP VALVE	Cuts off flow of oil to compressor unit at machine shutdown and allows flow of oil to the unit on startup.

Section 6
ILLUSTRATIONS AND PARTS LISTS

6.10 SULLICON CONTROL

key number	description	part number	quantity
1	Sullicon control (includes items 2 thru 25)**	11682	1
2	• nut, self-locking 5/16"-18	*	1
3	• cotter pin	*	1
4	• lever	11084	1
5	• yoke	40138	1
6	• yoke pin	40065	1
7	• plunger	20094	1
8	• cup, teflon	42538	1
9	• shoulder screw, socket head	*	1
10	• body	21635	1
11	• diaphragm, external	41269	1
12	• diaphragm, internal	41270	1
13	• washer, back up	21172	1
14	• screw, special sealing	41264	1
15	• cover	21654	1
16	• capscrew, 5/16"-18 x 2 1/2"	*	3
17	• nut, 3/8"-16	*	6
18	• capscrew, 3/8"-16 x 2 1/2"	*	4
19	• screw, spring adjusting	21636	1
20	• spring, (coded red)	41273	1
21	• nut, 5/16"-24	*	3
22	• machine screw, 5/16"-24 x 2"	*	1
23	• washer, lock 5/16"	*	3
24	• nut, 5/16"-18	*	3
25	• washer, lock 3/8"	*	4
26	bracket, control	12127	1
27	stop, control arm	20864	1
28	capscrew, ferry hd. 3/8"-16 x 2"	*	1
29	nut, hex jam 5/16"-24 (r.h.)	*	4
30	nut, hex jam 5/16"-24 (l.h.)	*	1
31	rod end, spherical (r.h.)	40136	1
32	rod end, spherical (l.h.)	42004	1
33	rod, control - compressor	22374	1
34	plug, pipe 1/4"	*	1
35	nipple, close 1/4"	*	2
36	tee, pipe 1/4"	*	1
37	connector, tube 1/4"t x 1/4"p	*	1
38	elbow, reducing 1/4" x 1/8"	*	1
39	valve, moisture bleed	41111	1
40	capscrew, hex 5/16"-24 x 1 1/2"	*	2

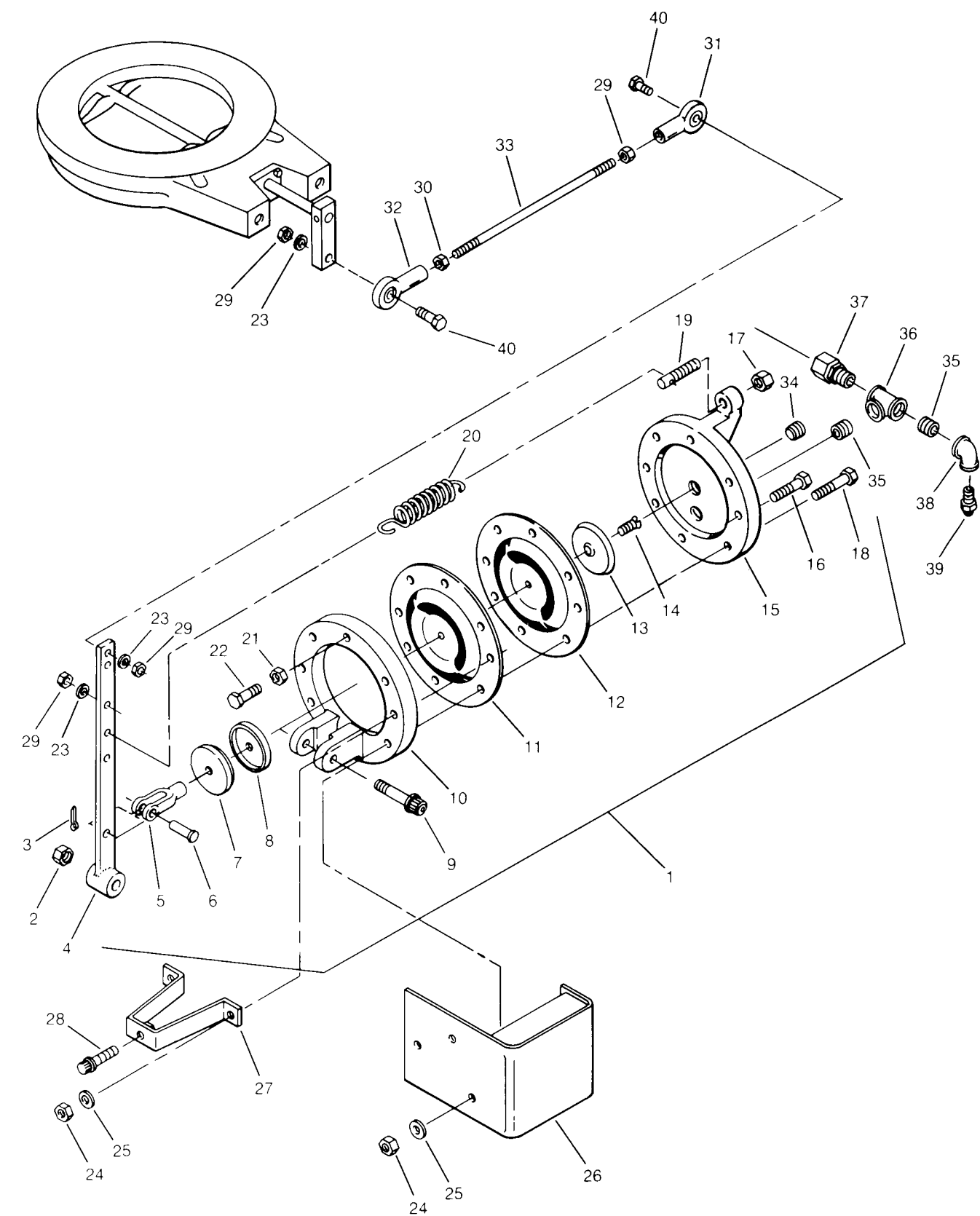
* Standard hardware item, purchase locally.
** For maintenance on Sullicon Control 11682, order repair kit 11579.

WHEN ORDERING PARTS, ALWAYS INDICATE SERIAL NUMBER OF MACHINE

Section 6

ILLUSTRATIONS AND PARTS LISTS

FIGURE 6.10 SULLICON CONTROL



Section 4

OPERATION

4.2 PURPOSE OF CONTROLS (continued)

Control or Indicator	Purpose
DISCHARGE CHECK VALVE	Cuts off the reverse flow of air/oil mixture through compressor discharge system at compressor shutdown.
THERMAL VALVE (AIR-COOLED ONLY)	Regulates flow of oil to and around the cooler. Designed to maintain a minimum operating temperature (180°F); used for fast warmup on startup.
MINIMUM PRESSURE VALVE	Maintains minimum of 40 PSI in compressor sump. Valve piston restricts receiver air discharge from the receiver/sump when the pressure falls to 40 PSI.
HIGH PRESSURE SHUTDOWN SWITCH (OPTIONAL)	An optional feature designed to shut down the machine when the pressure becomes too high. This switch is set for shutdown at approx. 135 PSI.
PRESSURE RELIEF VALVE	Opens sump pressure to the atmosphere should pressure inside the sump become too high (140 PSI). Operation of this valve indicates that the high pressure switch is either faulty or out of adjustment.
LINE CHECK VALVE	Prevents line pressure backflow into the sump during unload conditions and after shutdown.
SULLICON CONTROL	Regulates the amount of air allowed to enter the air inlet valve. This regulation is determined by the amount of air being used at the service line.
PRESSURE REGULATOR	Opens a pressure line between the sump and Sullicon Control allowing the Sullicon Control to regulate air delivery to air demand.
PILOT VALVE	Bypasses the pressure regulator valve causing the Sullicon control to close the inlet valve when the machine reaches maximum operating pressure.
PRESSURE SWITCH	Senses service line pressure. When line pressure reaches maximum setting, the pressure switch signals the control valves to unload the machine. Also activates blow down valve.
BLOWDOWN VALVE	Vents sump pressure to the atmosphere during unload conditions and shutdown.
WATER REGULATING VALVE (Water-cooled only)	Regulates the amount of cooling water used in the cooler to keep the machine running at a normal operating temperature.

4.3 INITIAL STARTUP PROCEDURE

The following procedure is to be used to make the initial startup of the machine:

- 1. Read the preceding pages of this manual thoroughly.
- 2. Be sure that all preparations and checks described in the INSTALLATION section have been made.
- 3. Crack open the shut off valve to your service line.
- 4. Start the machine by pushing the start button.
- 5. Check for possible leaks in piping.
- 6. Slowly close the shut-off valve and check that the setting on the pressure switch is set correctly. If set correctly, the machine will unload at your desired unload pressure. If adjustments are necessary, see Control System Adjustments in the Maintenance Section of this manual.

- 7. Observe the operating temperature. If the operating temperature exceeds 210°F, your cooling system or installation environment should be checked.
- 8. Observe return line sight glass and maintenance indicators.
- 9. Open Shut-off valve to service line.
- 10. Reinspect the machine for temperature and leaks the following day.

4.4 SUBSEQUENT STARTUP PROCEDURE

On subsequent startups, check that the proper level is visible in the oil level sight glass and simply press the start button. When the machine is running, observe the instrument panel and maintenance indicators.

4.5 SHUTDOWN PROCEDURE

To shut the machine down simply press the stop button.

6.9 ELECTRO-PNEUMATIC CONTROL SYSTEM

key number	description	part number	quantity
1	bracket, mounting	25987	1
2	nut, whiz lock 3/8"-16	*	4
3	screw, whiz lock 3/8"-16 x 1"	*	4
4	locknut, conduit 1/2"	*	8
5	nipple, close 1/2"	*	2
6	switch, pressure (Penn) ¹	40427	1
7	nipple, close 1/4"	*	5
8	tee, tube 1/4"t x 1/4"p	*	1
9	nipple, 1/4" x 4"	*	1
10	tee, 1/4"	*	4
11	bushing, reducing 1/4" x 1/8"	*	1
12	valve, moisture bleed	41111	1
13	decal, water drain	40345	1
14	valve, pilot air**	40528	1
15	connector, tube 1/4"t x 1/4"p	*	3
16	valve, regulator***	41517	1
17	tube, copper 1/4"	*	4
18	tee, tube 1/4"t x 1/4"p	*	1
19	elbow, tube 1/4"t x 1/4"p	*	2
20	bushing, reducing 1 x 3/4"	*	1
21	nipple, close 3/4"	*	1
22	elbow, 3/4"	*	1
23	silencer, air	42858	1
24	valve, blowdown ²	47192	1
25	nipple, 1 x 5"	*	1
26	nipple, close 1"	*	2
27	union, 1"	*	1
28	tee, reducing 1 x 1/2 x 1"	*	1
29	bushing, reducing 1/2 x 1/4"	*	1
30	union, tube 1/4"	*	1
31	decal, "DANGER"	49850	1
32	switch, pressure (Barksdale) ¹	241963	1
33	elbow, conduit	*	1

* Standard hardware item, purchase locally.

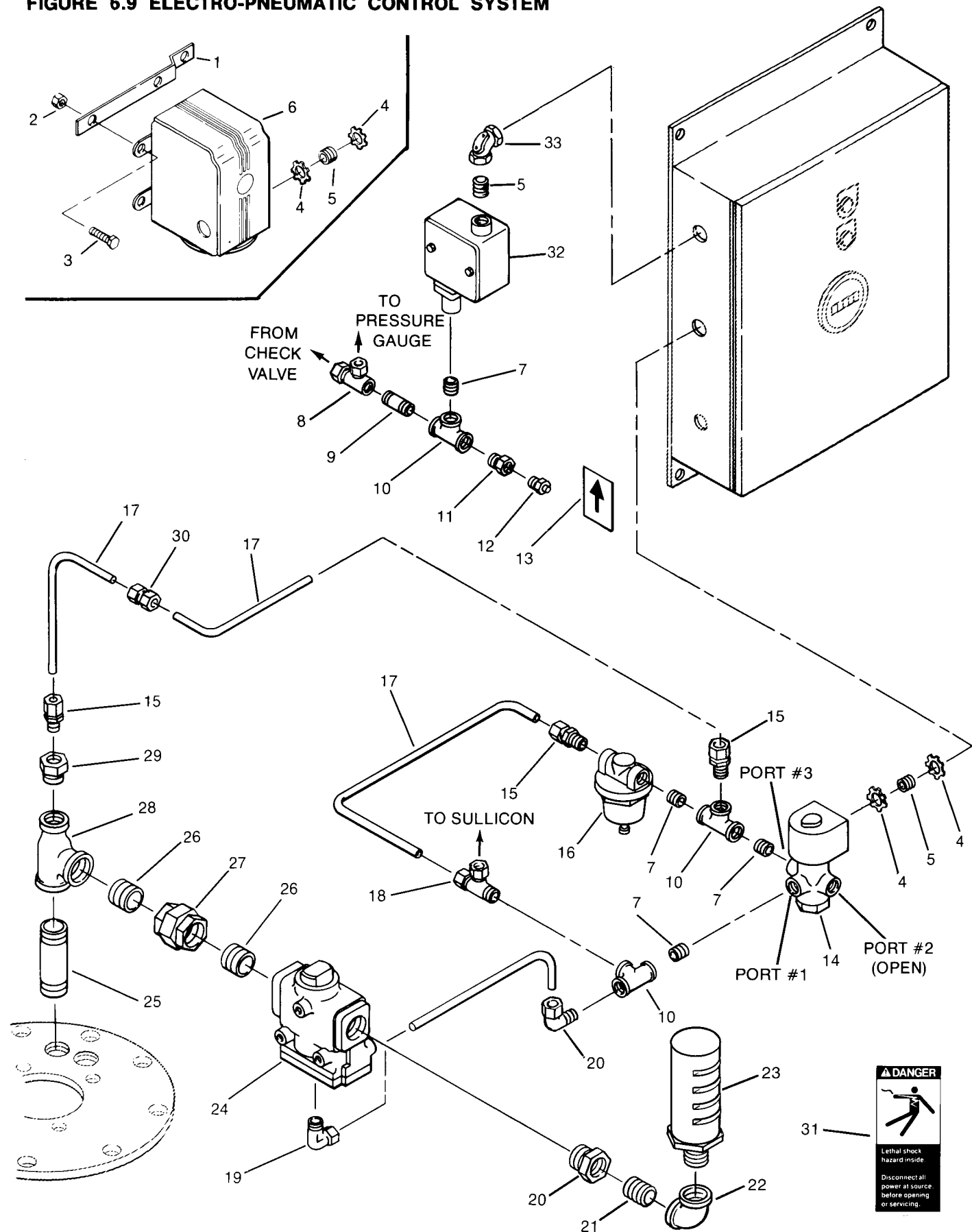
** For maintenance on pilot valve 40528, order repair kit 42246.

*** For maintenance on regulator valve 41517, order repair kit 41742..

¹ Due to the discontinuation of the Penn pressure switch, Sullair Corporation has replaced it with the Barksdale pressure switch. Should maintenance be required on Penn pressure switch no. 40427, order Barksdale switch no. 241963 and bracket 224518.

² For maintenance on blowdown valve 47192, order repair kit 13708.

Section 6
ILLUSTRATIONS AND PARTS LISTS
FIGURE 6.9 ELECTRO-PNEUMATIC CONTROL SYSTEM



5.1 GENERAL

As you proceed in reading this Section, it will be easy to see that the Maintenance Program for your Sullair Air Compressor is quite minimal. The use of the service indicators provided for the bearing filter and air filter will alert you when service maintenance is required. When the maintenance indicator shows red, maintenance for that specific item is required. See instructions for each item in Section 5.7 Parts Replacement and Adjustment procedures.

5.2 DAILY OPERATION

Prior to starting your machine, it is necessary to check the oil level in the sump. Should the level be low, simply add the necessary amount. If the addition of oil becomes too frequent, a simple problem has developed which is causing this excessive loss. See the Troubleshooting Section (5.8) under excessive oil consumption for a probable cause and remedy.

After a routine start has been made, observe the instrument panel gauges and be sure they monitor the correct readings for that particular phase of operation. After the machine has warmed up, it is recommended that a general check of the overall machine and instrument panel be made to assure that the compressor is running properly.

5.3 MAINTENANCE AFTER INITIAL 50 HOURS OF OPERATION

After the initial 50 hours of operation a few maintenance requirements are needed to rid the system of any foreign materials which may have accumulated during machine assembly. Perform the following maintenance operations to prevent unnecessary problems:

1. Clean the return line strainer
2. Clean the return line orifice
3. Clean the compressor unit bearing and shaft seal orifices.

5.4 MAINTENANCE EVERY 1,000 HOURS

1. DRAIN THE OIL SUMP AND CHANGE THE COMPRESSOR OIL.
2. Replace the oil filter element.
3. Clean the return line strainer.
4. Lubricate the Sullicon control linkage.

5.5 FILTER MAINTENANCE

Replace your bearing filter element every 1,000 hours or once a year, whichever comes first. This must be done even if the bearing filter indicator does not show red. Also clean the main filter element and install a new gasket kit, at this time.

5.6 SEPARATOR MAINTENANCE

Replace your separator element when the pressure drop becomes excessive (approximately 10 PSI) or if there is excessive oil in the compressed air line.

Section 5
MAINTENANCE

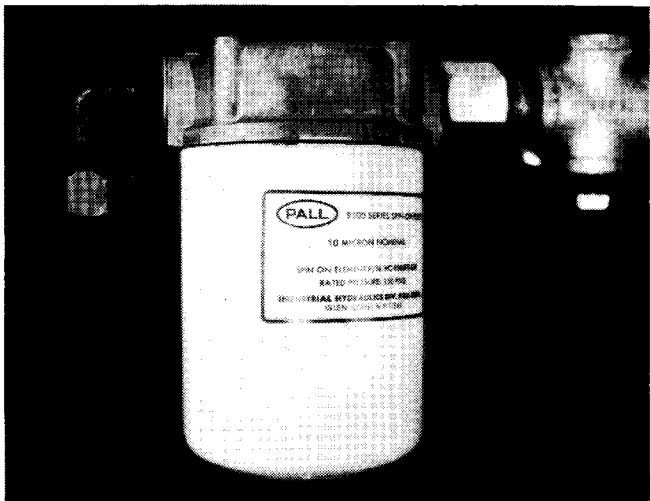
Machines equipped with the optional separator maintenance indicator will show red when the separator element must be replaced. Do not clean the dirty element.

5.7 PARTS REPLACEMENT AND ADJUSTMENT PROCEDURES

BEARING FILTER ELEMENT REPLACEMENT
Refer to Figure 5-1.

1. Using a strap wrench, remove the old element and gasket.
2. Clean gasket seating surface.
3. Apply a light film of oil to the new gasket.
4. Hand tighten new element until new gasket is seated in the gasket groove.
5. Continue tightening element by hand an additional 1/2 to 3/4 turn.
6. Restart machine and check for leaks.

Figure 5-1 Bearing Filter

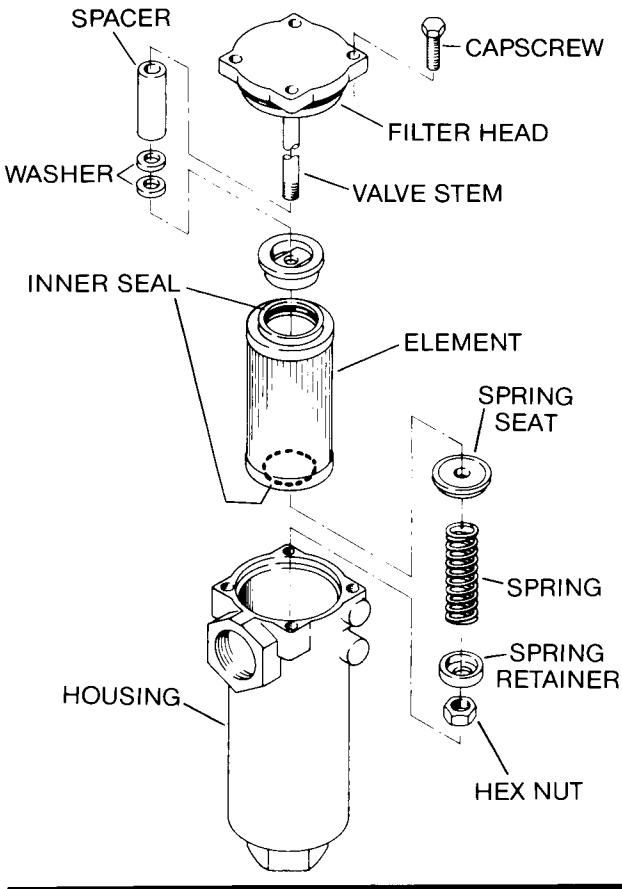


SERVICING THE MAIN FILTER
Refer to Figure 5-2. The main filter is located schematically in the coolant line between the receiver/sump and the compressor unit. The main filter element is a washable type element and should never require changing unless damage occurs. For installation of the Filter Seal Kit No. 1100, follow the procedure explained below.

Disassembly

1. Disassemble the filter by removing four (4) capscrews and separate the filter head and element (as an assembly) from the housing.
2. Remove the hex nut (located inside the element) from the valve stem.
3. At this time, pull the element, spring, spring seat and spring retainer from the valve stem.
4. Remove the inner seals of the element and the filter head seal and discard.
5. Clean all parts of the filter thoroughly including the housing.

Figure 5-2 Main Filter



- Reassembly
1. Lubricate the new inner seals and install in the ends of the clean element.
 2. Place the filter element, spring seat, spring and spring retainer over the valve stem and secure with the hex nut.
 3. Lubricate and install the new filter seal.
 4. Install the filter head and element (as an assembly) in the filter housing. The element is to slide over the housing sleeve when properly installed.
 5. Secure the filter head with four (4) capscrews.

AIR FILTER MAINTENANCE
Air filter maintenance should be performed when the maintenance indicator shows red. The air filter supplied with your machine has a cleanable-type element. Below you will find procedures on how to replace and how to clean the air filter element:

- Air Filter Element Replacement.**
1. Clean exterior of air filter housing.
 2. Remove the air filter cover by loosening the wing nuts securing the cover.
 3. Remove the internal cover plate.
 4. Remove element and clean the interior of the housing using a damp cloth. Do not blow dirt out with compressed air.
 5. At this time clean or replace the element.
 6. Reassemble in the reverse order of the disassembly.

Air Filter Element Cleaning.
The air filter element is cleanable by one of two methods. One method is by washing with a mild household detergent and water. The other method is cleaning with compressed air. The maximum amount of times that an element should be cleaned is six (6) times; however, the element should be used no longer than a period of one (1) year without changing. Prior to cleaning an element, check the element for damage. Damaged elements are to be replaced.

When cleaning an element, never exceed the recommended maximum pressures for water (40 PSI) or compressed air (30 PSI).
Do not strike the element against any hard surface to dislodge dust. This will damage the sealing surfaces and possibly rupture the element.

Never "blow" dirt out of the interior of the filter housing. This may introduce dust downstream of the filter. Instead, use a clean damp cloth.

Do not oil the element.

Method 1: Cleaning the Element by Washing.
When washing the element, never use petroleum solutions or solvents. Also, never immerse a dirty element in water or cleaning solution. This will carry dust onto the "clean side" (inside surface) of the element. Instead, dust must be removed by reverse flushing the element. Use clean clear water with a garden hose at no more than 40 PSI. Direct the water up and down the pleats in the filter media from the "clean side," of the element until all dust is removed.

If, after washing as described above, the element is found to be contaminated with oil or greasy dirt, it should then be agitated in a solution of mild household detergent and water. Add 4 tablespoons of detergent to one gallon of lukewarm water and mix well. After a sufficient amount of agitation has been done, rinse thoroughly and carefully shake out excess water. Lay the element on its side and allow to dry before installation. The element should be protected from dirt and/or freezing while drying. Mechanical drying methods can be used; however, heated air must be well-circulated and must not be over 180°F. Do not use a light bulb for drying. Also, compressed air must not be used for drying, as the pressure will rupture the element when wet. Regardless of the drying procedure, always inspect the element for damage prior to installation. (See element inspection.)

Method 2: Cleaning the Element with Compressor Air.
When cleaning the element with compressed air, never let the air pressure exceed 30 PSI. Reverse flush the element by directing the compressed air up and down the pleats in the filter media from the "clean side" of the element. Continue reverse flushing until all dust is removed. Should any oil or greasy dirt remain on the filter surface, the element should then be cleaned by Method Number 1. When the element is satisfactorily cleaned, inspect thoroughly prior to installation. (See element inspection.)

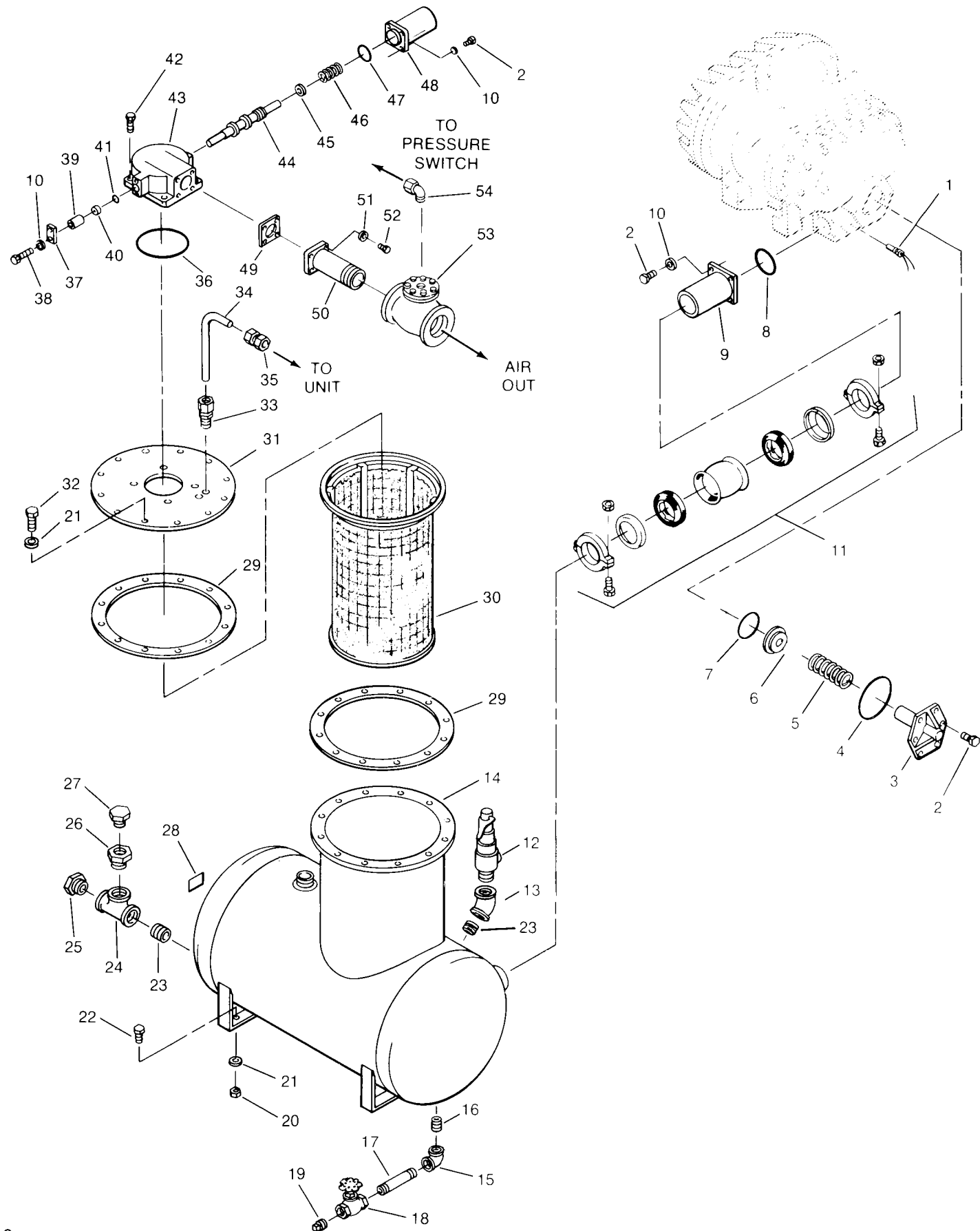
6.8 COMPRESSOR DISCHARGE SYSTEM (continued)

key number	description	part number	quantity
33	connector, flex	20501	1
34	tube, copper 5/16"od	*	1
35	union, tube 5/16"	*	1
36	o ring, silicone 7" x 1/8"	826302-262	1
37	cover, MPV	21998	1
38	capscrew, ferry hd. 1/2"-13 x 1"	*	2
39	sleeve, MPV	21999	1
40	stop, rubber	41621	1
41	o ring, silicone 1" x 3/32"	826302-120	1
42	capscrew, soc. hd. nylock 5/8"-11 x 2 1/4"	*	5
43	housing, MPV	21450	1
44	rod, piston - MPV	21452	1
45	ring, quad - MPV	41619	1
46	spring, MPV	40633	1
47	o ring, silicone 3 1/4" x 1/8"	826302-236	1
48	cover, MPV	21451	1
49	gasket, flange	22012	1
50	flange, air outlet	11388	1
51	washer, lock 5/8"	*	4
52	capscrew, hex hd. 5/8"-11 x 2"	*	4
53	valve, check 4"	11540	1
54	elbow, tube 1/4"t x 1/8"p	*	1

* Standard hardware item, purchase locally.

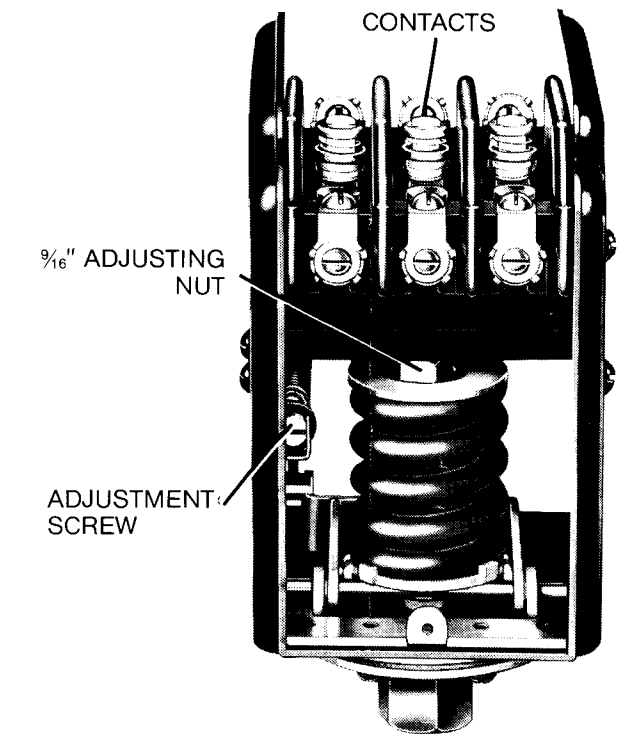
WHEN ORDERING PARTS, ALWAYS INDICATE SERIAL NUMBER OF MACHINE

Section 6
ILLUSTRATIONS AND PARTS LISTS
FIGURE 6.8 COMPRESSOR DISCHARGE SYSTEM



Section 5
MAINTENANCE

Figure 5-3 Penn® Pressure Switch



Element Inspection.
 1. Place a bright light inside the element to inspect for damage or leak holes. Concentrated light will shine through the element and disclose any holes.
 2. Inspect all gaskets and gasket contact surfaces of the housing. Should faulty gaskets be evident, correct the condition immediately.
 3. If the clean element is to be stored for later use, it must be stored in a clean container.
 4. After the element has been installed, inspect and tighten, if necessary, all air inlet connections prior to resuming operation.

Separator Replacement
 When the optional separator maintenance indicator shows red, separator replacement is necessary. Use separator replacement kit number 11544. Follow the procedure explained below for separator replacement.
 1. Remove all piping connected to the sump cover to allow removal (return line, service line, etc.).
 2. Remove cover bolts and lift cover from sump.
 3. Remove separator element.
 4. Scrape old gasket material from cover and flange on sump.
 5. Install gaskets.
 6. Install element.
 7. Replace sump cover and bolts.
 8. Reconnect all piping. Return line tube should extend to the bottom of the separator element or no more than 1/2" up from the bottom. This will assure proper oil return flow.
 9. Clean the return line strainer prior to re-starting the machine.

CONTROL SYSTEM ADJUSTMENT
 Refer to Figures 5-3, 5-4 and 5-5. Prior to adjusting the Control System, it is necessary to determine the desired operating pressure range and also the maximum pressure at which your machine is to operate. (This pressure must not exceed the maximum operating pressure which is stamped on the machine serial no. nameplate.) The following explanation applies to a typical installation with a desired operating range of 100-110 PSI. This information will apply to a machine with any other operating range excepting the stated pressures.

Remove the appropriate panels and covers to the pressure switch, pressure regulator and Sullicon control. With the shut off valve closed or slightly cracked open, start the machine. Observe the line pressure gauge and pressure switch contacts. When the line pressure reaches 110 PSI, the pressure switch contacts should open. If the pressure switch contacts do not open or they open prior to the desired pressure, the pressure switch setting will require adjustment.

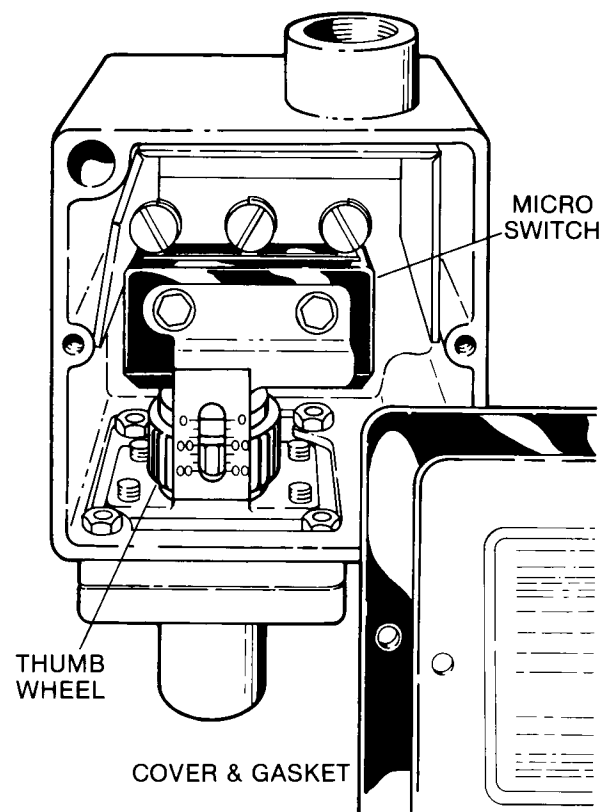
Adjust the Penn pressure switch setting by turning the 9/16" nut (shown in Fig. 5-3) either clockwise to increase the pressure setting, or counterclockwise to decrease the setting.

After adjusting the desired maximum operating pressure, it is necessary to set the differential between the pressure at which the contact points of the pressure switch open (cut-out pressure 110 PSI), and the pressure at which they close (cut-in pressure 100 PSI). The standard pressure switch has a minimum differential of 7 PSI and a maximum of 26 PSI. Adjust the differential by turning the small slotted screw clockwise for differential increase and counterclockwise for decrease.

Adjust the Barksdale pressure switch #241963 setting by turning the thumbwheel (shown in Figure 5-4) either clockwise to increase the pressure setting, or counterclockwise to decrease the setting. This pressure switch has a fixed 10 PSI differential.

When the pressure switch adjustment is complete, the pressure regulator should be adjusted for the pressure at which modulation of air delivery should begin. In this case, that pressure will be 100 PSI. The regulator is adjusted by loosening the jam nut on the end of the cone shaped cover of the pressure regulator. When the jam nut is loose, turn the adjusting screw clockwise to increase the pressure setting or counterclockwise to decrease the setting. Above 100 PSI, the regulator should allow pressure to flow into the control chamber of the Sullicon Control. At this time, the Sullicon Control lever should start to move.

Figure 5-4 Barksdale® Pressure Switch



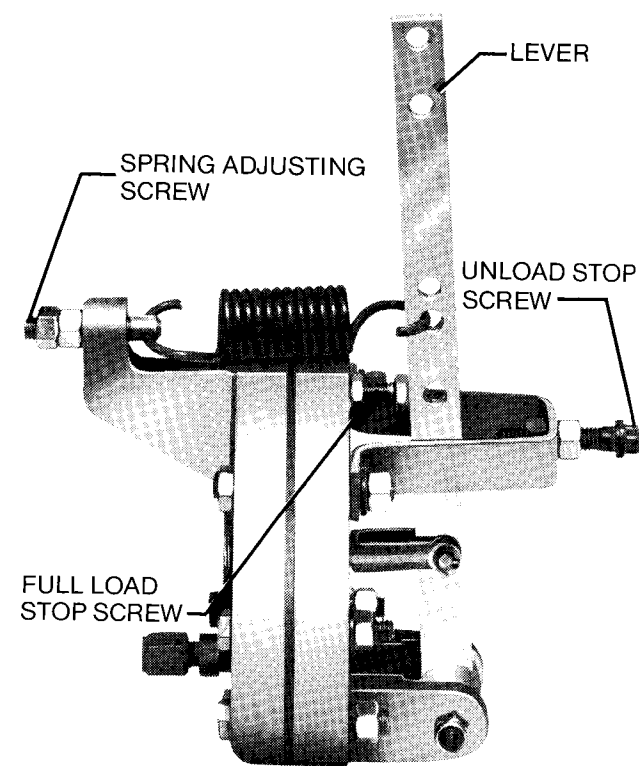
After the control pressures have been adjusted, the "unloaded" sump pressure must be adjusted. If your machine is equipped with a Barksdale pressure switch, it will be necessary to shut the machine down, remove the pressure switch cover and disconnect one of the three lead wires that are connected to the micro-switch. After disconnecting the lead, tape the exposed wire with electricians tape to make sure that it does not come in contact with any metallic surface.

⚠ DANGER

DO NOT touch the electrical contacts, terminal or leads with any part of the body or any uninsulated metallic object. Severe electrical shock may occur.

With the lead taped, you may start the machine again. Allow the sump pressure to stabilize and adjust the unloaded sump pressure by turning the Sullicon Control stop screw until the sump pressure reads 40-55 PSI. The stop screw is turned clockwise to increase the pressure and counterclockwise to decrease the pressure.

Figure 5-5 Sullicon Control



Once this is accomplished, shut the machine down once again and reconnect the taped lead and replace the pressure switch cover. At this time, start the machine and cycle the Control System several times and recheck all pressure settings and adjustments.

If your machine is equipped with a Penn pressure switch the "unloaded" sump pressure is best adjusted by physically propping the pressure switch contacts open at the plastic contact carrier board and turning the Sullicon Control stop screw until the sump pressure gauge reads 40-55 PSI. The stop screw is turned clockwise to increase the pressure and counterclockwise to decrease the pressure.

⚠ DANGER

DO NOT touch the electrical contacts, terminal board or leads pressure switch with any part of the body or any uninsulated metallic object. Severe electrical shock may occur.

Cycle the Control System several times and recheck all pressure settings.

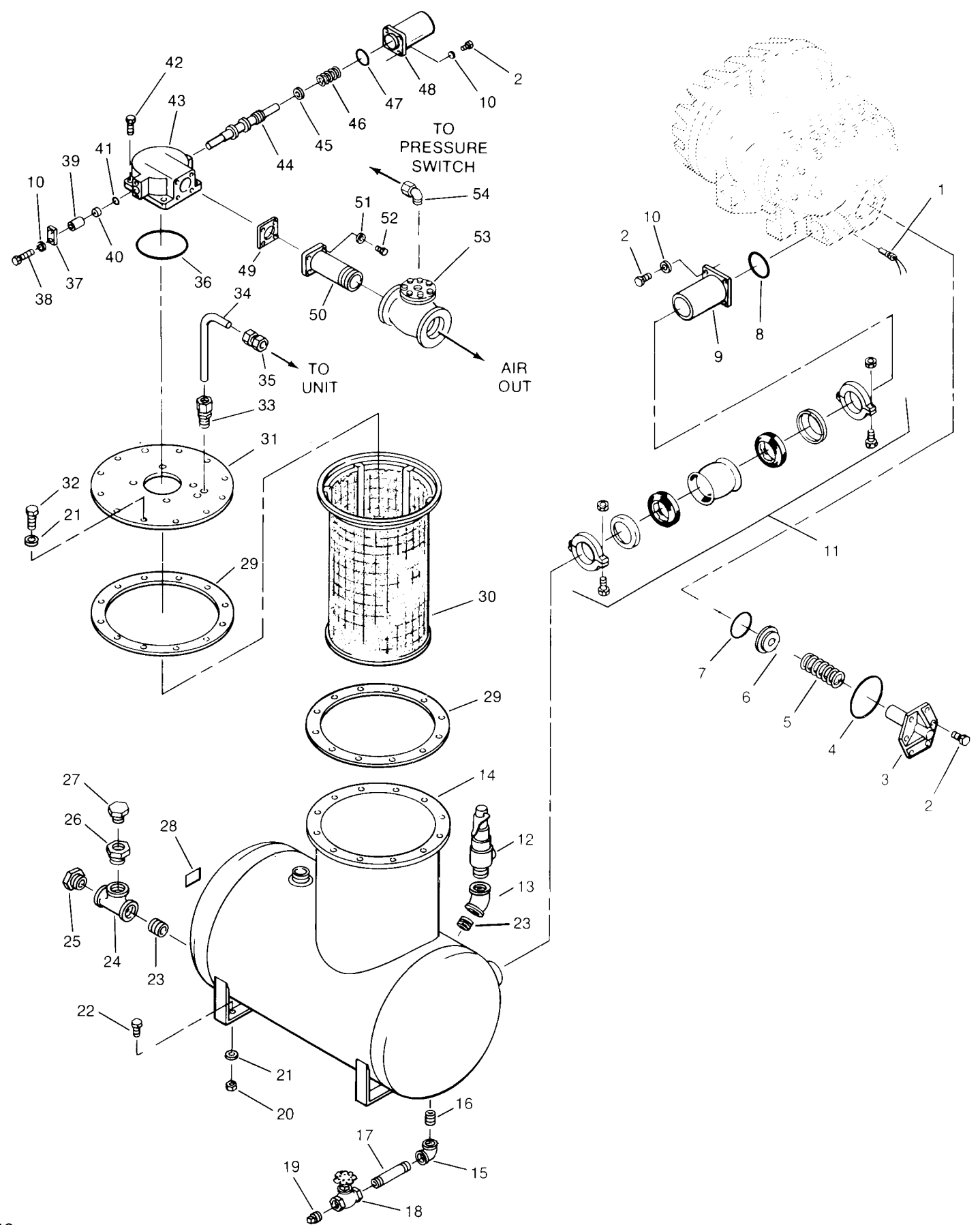
6.8 COMPRESSOR DISCHARGE SYSTEM

key number	description	part number	quantity
1	switch, temperature	40588	1
2	capscrew, ferry hd. 1/2"-13 x 1 1/2"	*	8
3	cover assembly	18165	1
4	o ring, Viton 8 1/4" x 1/8"	826502-267	1
5	spring	41133	1
6	valve assembly	18164	1
7	o ring, Buna N 5 5/8" x 3/16"	826102-358	1
8	o ring, silicone 7" x 1/8"	826302-248	1
9	flange, discharge	11387	1
10	washer, lock 1/2"	*	6
11	coupling, flexible 4"***	41085	1
12	valve, pressure relief	41084	1
13	elbow, 45° 1 1/2"	*	1
14	tank, receiver/sump	41083	1
15	elbow, 90° 3/4"	*	1
16	nipple, close 3/4"	*	1
17	nipple, 3/4" x 6"	*	1
18	valve, drain	40520	1
19	plug, pipe	*	1
20	nut, lock 3/4"-10	*	4
21	washer, lock 3/4"	*	16
22	capscrew, hex 3/4"-10 x 2"	*	4
23	nipple, close 1 1/2"	*	2
24	tee, 1 1/2"	*	1
25	glass, sight	40279	1
26	adapter, filler	20044	1
27	cap, filler	40029	1
28	decal, oil fill	40247	1
29	gasket, separator	40423	2
30	element, separator***	41077	1
31	cover, tank	21447	1
32	capscrew, hex 3/4"-10 x 3" gr8	*	12

* Standard hardware item, purchase locally.
** For maintenance on coupling 41085, order replacement gasekt 46291 (Viton) (2 required).
*** For maintenance on separator element 41077, order repair kit 11544.

WHEN ORDERING PARTS, ALWAYS INDICATE SERIAL NUMBER OF MACHINE

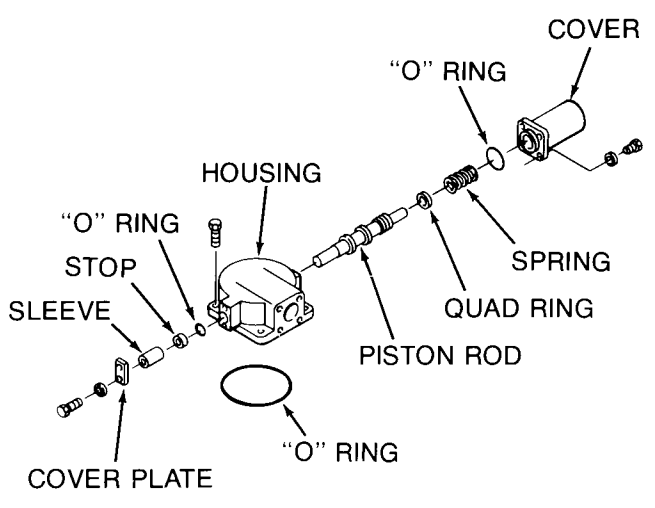
Section 6
ILLUSTRATIONS AND PARTS LISTS
FIGURE 6.8 COMPRESSOR DISCHARGE SYSTEM



MINIMUM PRESSURE VALVE MAINTENANCE
Refer to Figure 5-6. Minimum Pressure Valve Maintenance is quite minimal. The only parts which normally require replacement are the seal ring on the piston rod and the "O" rings which seal the housing. Follow the procedure explained below for replacement of these parts.

1. Evenly remove the four bolts securing the cover to the housing. CAUTION: This cover is spring loaded, remove carefully.
2. Remove cover and "O" ring.
3. Remove the spring.
4. Remove piston rod.
5. Remove quad ring.
6. Remove the cover plate and sleeve.
7. Discard the stop and cover plate "O" ring.
8. Clean all parts thoroughly including the cover bore, housing bore and sleeve.
9. Replace the piston rod quad ring.
10. Coat the piston rod, cover bore, housing bore and sleeve with Parker Super "O" Lube or an equivalent quality grease.
11. Replace cover plate "O" ring.
12. Install stop and sleeve.
13. Replace cover plate.
14. Replace piston rod.
15. Install spring.
16. Replace cover "O" ring and cover (tighten bolts evenly).

Figure 5-6 Minimum Pressure Valve



THERMAL VALVE MAINTENANCE
Refer to Figure 5-7. For thermal valve maintenance, use repair kit number 1084. Follow the procedure explained below for repair kit installation.

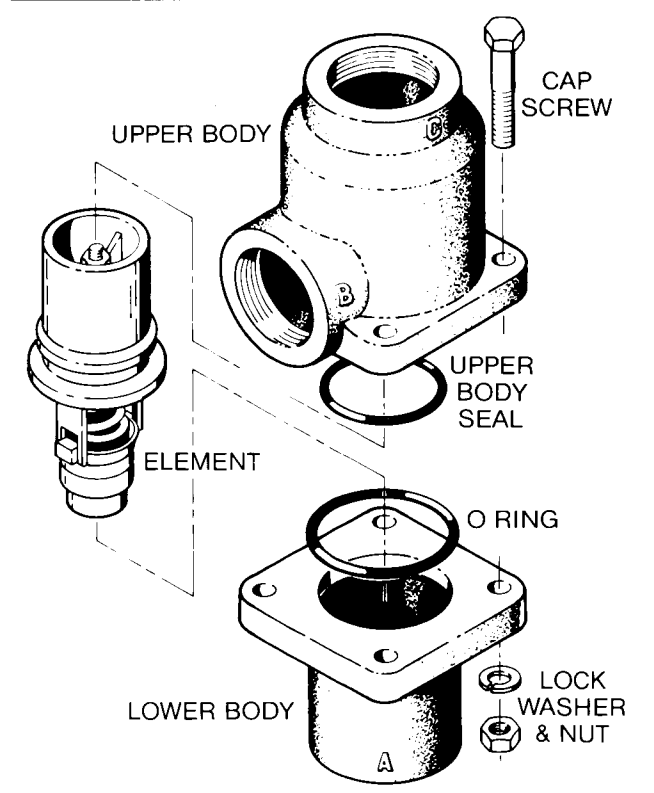
1. Remove appropriate piping for disassembly of the thermal valve housing.
2. Remove the four (4) capscrews which hold the housing together and pull the upper housing away from the lower housing.
3. Remove element.

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4. Remove and replace the element seal in the upper housing.
5. Remove and replace the "O" ring between the upper and lower housings.
6. Replace element.
7. Reassemble the housing.

DRIVE COUPLING INSTALLATION AND ALIGNMENT
For coupling installation and alignment, the tools required will be a straight edge, a measuring scale, one set of feeler gauges, one set of standard allen wrenches, and one set of standard socket wrenches.

Figure 5-7 Thermal Valve



For installation and alignment of the drive coupling, follow the steps explained below.

STEP 1 MOUNT HUBS - Mount the motor hub and the compressor hub on its respective shaft

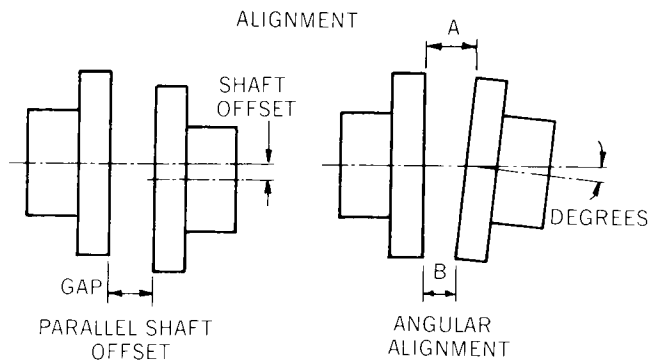
STEP 2 OFFSET ALIGNMENT - Position hubs for approximate coupling gap and align shafts so that a straight edge will rest squarely (or within the 0.010 maximum limit shown) on both flanges and at a point 90° away. The vertical offset alignment is adjusted by the addition or removal of motor mounting shims. Loosen the motor mounting bolts and slide the motor sideways to correct the horizontal offset.

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STEP 3 COUPLING GAP AND ANGULAR ALIGNMENT - Position the hubs to establish the proper gap and angular alignment as indicated in Table 1. To determine the angular misalignment in inches, measure the maximum space between the hub flanges and the minimum space 180° away, and then subtract. To adjust the horizontal angular misalignment, loosen the motor mounting bolts and adjust the motor position until the angular alignment is within tolerance. Note: Do not upset the offset alignment or hub gap when adjusting motor position. When within the limits specified in Table 1, tighten the motor mounting bolts and recheck the offset and angular alignment. If the vertical angular alignment is not within the .010 tolerance, shim the front or rear of the motor separately to correct. Recheck the vertical offset.

STEP 4 INSTALL THE FLEXIBLE ELEMENT - Insert the flexible element between the two hubs. The element should be compressed prior to insertion. The element can be compressed by tightening a suitable sized radiator clamp around the outer edge of the element as shown in Fig. 5-9. Slide the hex head bolts with lockwashers through the holes in the hubs and element. Tighten the bolts to 200 lbs./ft. Note: Bolts are 5/8-18 SAE Grade 5, cadmium plated – do not substitute with any other bolts. After tightening the hex bolts, tighten the shaft setscrews and remove the hose clamp from the flexible element. At this time, the coupling is ready for operation.

Figure 5-8 Drive Coupling Shaft Alignment



DRIVE COUPLING DISASSEMBLY AND REMOVAL
Disassembly and removal of the drive coupling is done in the following manner:

1. Place a suitable sized radiator hose clamp over the flexible element as shown in Fig. 5-9 and tighten a sufficient amount to compress the rubber.
2. Remove the hex head bolts from the hubs and element.
3. Rotate the element until the studs clear the hubs.

4. Remove the element from the hubs with the hose clamp still in place.
5. Loosen the shaft setscrews and remove the hubs.

Figure 5-9 Coupling

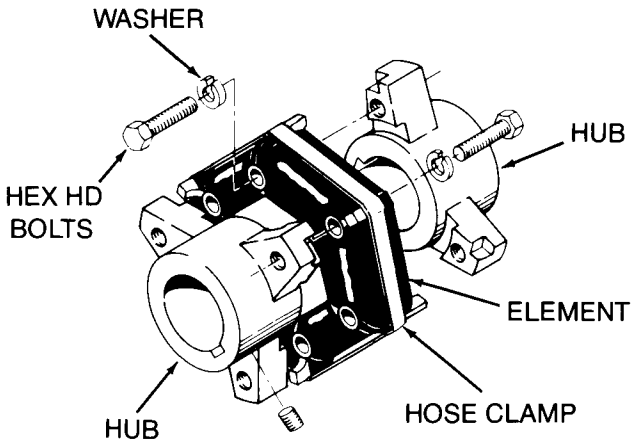


TABLE 1
INSTALLATION DATA – Series 32 Couplings

Cap Screw Tightening Torque ft.-lbs.	Coupling Gap Inches	Max Operating Misalignment	
		Parallel Offset Inches	Angular Inches*
200	2.969 $\frac{+.030}{-.000}$.010	.010

* Angular misalignment in inches equals maximum A minus minimum B as shown in Figure 5-8. Do not exceed values in Table above.

OIL STOP VALVE MAINTENANCE
Refer to Figure 5-10 when servicing Oil Stop Valve Number 13544. Use Repair Kit Number 13671.

The following instructions are in accordance with Repair Kit Number 13671.

1. For best results, remove the Oil Stop Valve from the machine and service at a work bench.
2. Remove the end caps and "O" rings from both ends of the valve housing.
3. Remove the spring.
4. The next step is to remove the Nyloc Capscrew which holds the actuator disc and the piston together. To remove the capscrew, a rod of approximately 3/8" diameter must be placed through the hole in the side of the piston. The rod is put into place via the "in" port of the valve. (Rotate the piston if the hole in the piston does not line up with the "in" port.) Once the rod is in place, hold while removing the capscrew.

Section 6
ILLUSTRATIONS AND PARTS LISTS

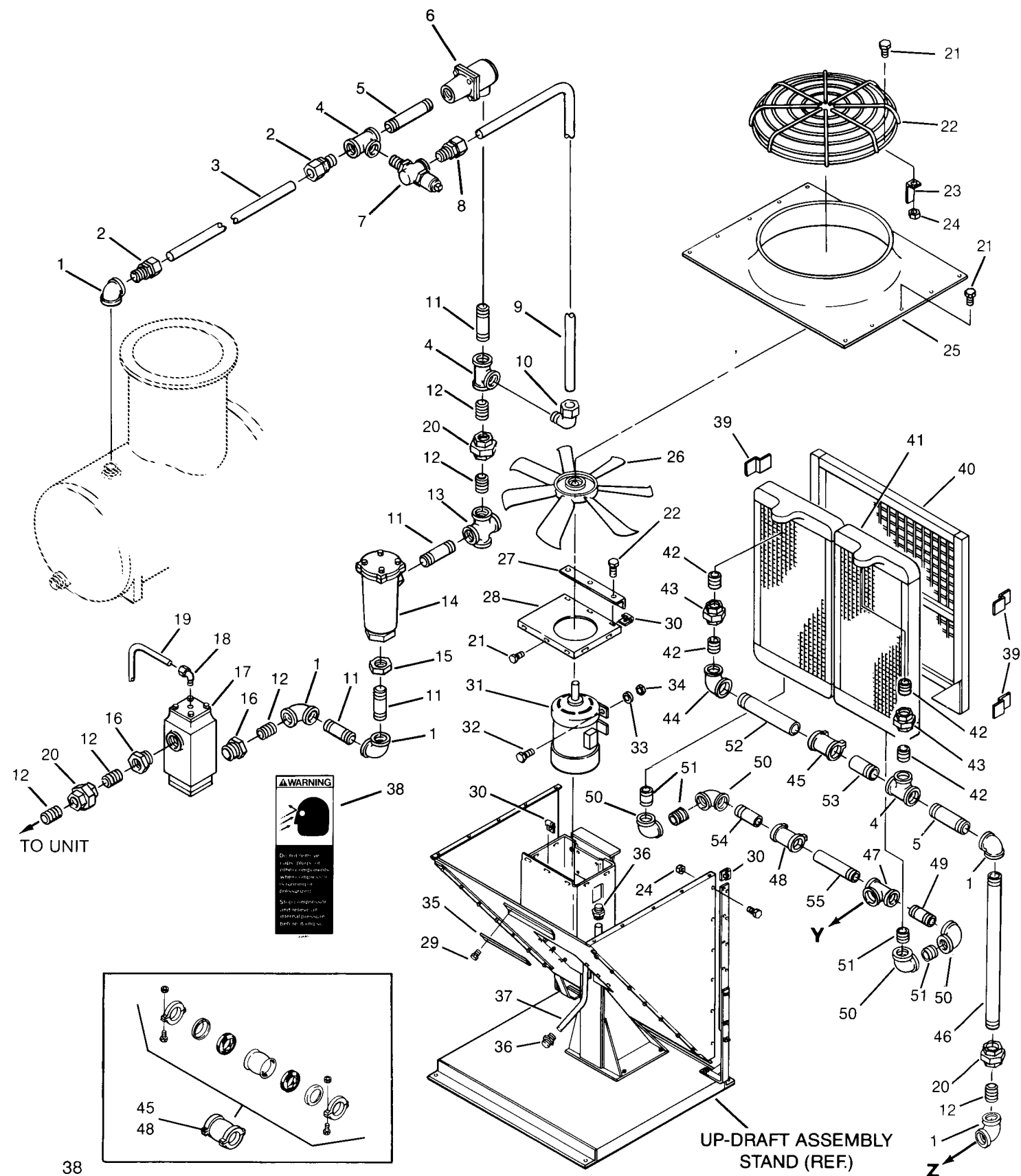
6.7 COMPRESSOR COOLING AND LUBRICATION SYSTEM - AIR-COOLED (continued)

key number	description	part number	quantity
30	nut, retainer	*	20
31	motor, fan	41903	1
32	capscrew, hex 3/8"-16 x 3/4"	*	16
33	washer, lock 3/8"	*	16
34	nut, hex 3/8"-16	*	16
35	plate, cover	21250	1
36	connector, conduit 1/2"	*	2
37	conduit, 1/2"	*	1
38	decals, "WARNING"	49685	1
39	support, grille	22830	4
40	grille	11737	1
41	cooler	41772	2
42	nipple, 1 1/2" x 2"	*	4
43	union, 1 1/2"	*	2
44	elbow, reducing 2" x 1 1/2"	*	1
45	coupling, flexible 2"***	40913	1
46	nipple, 2" x 54 1/2"	*	1
47	tee, reducing 1 1/2" x 1 1/2" x 2"	*	1
48	coupling, flexible 1 1/2"****	40033	1
49	nipple, 1 1/2" x 6"	*	1
50	elbow, 90° 1 1/2"	*	4
51	nipple, close 1 1/2"	*	4
52	nipple, half 2" x 21"	*	1
53	nipple, half 2" x 6"	*	1
54	nipple, half 1 1/2" x 6"	*	1
55	nipple, 1 1/2" x 14"	*	1

- * Standard hardware item, purchase locally.
- ** For maintenance on coupling 40913, order replacement gasket 46988 (2 required).
- *** For maintenance on coupling 40033, order replacement gaskets 46987 (2 required).

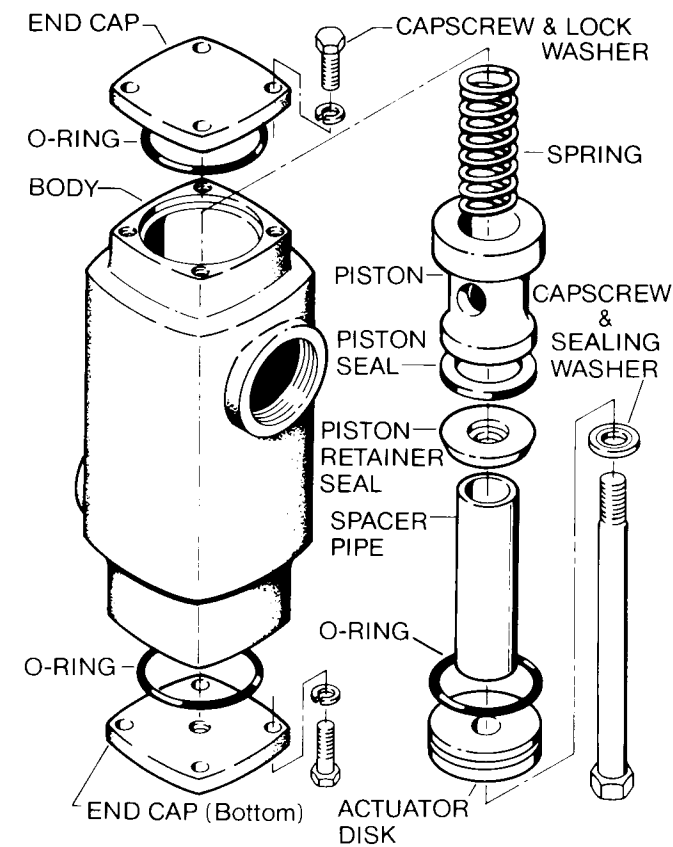
WHEN ORDERING PARTS, ALWAYS INDICATE SERIAL NUMBER OF MACHINE

Section 6
ILLUSTRATIONS AND PARTS LISTS
FIGURE 6.7 COMPRESSOR COOLING AND LUBRICATION SYSTEM - AIR-COOLED



Section 5
MAINTENANCE

Figure 5-10 Oil Stop Valve



5. Remove the actuator disc and the piston and replace the seals on each.
6. Replace the actuator disc and piston. (Be sure that the spacer pipe is aligned perpendicular to the disc. This is to assure proper travel of the piston and disc.) Lastly, tighten the Nyloc Capscrew.
7. Install the spring.
8. Install the new end cap and "O" rings and replace the ends caps on both ends of the housing.

5.8 TROUBLESHOOTING

The information contained in the troubleshooting chart has been compiled from data gathered from field service reports and factory experience. It contains symptoms and usual causes for the service problems described, however, DO NOT assume that these are the only problems that may occur. All available data concerning the trouble should be systematically analyzed before undertaking any repairs or component replacement procedures.

A detailed visual inspection is worth performing for almost all problems and may avoid unnecessary additional damage to the machine.

1. Check for loose wiring.
2. Check for damaged piping.
3. Check for parts damaged by heat or high electrical power. Usually apparent by discoloration or burned odor.

Should your problem persist after making the recommended checks, consult your nearest Sullair office or the Sullair Corporation Service Department.

TRoubleshooting

SYMPTOM	PROBABLE CAUSE AND REMEDY
1. Machine will not start.	<ol style="list-style-type: none">1. Main disconnect switch open, close switch.2. Line fuse blown, replace fuse.3. Control transformer fuse blown, replace fuse.4. Motor starter overloads tripped, reset. Should trouble persist, check whether motor starter contacts are functioning properly.5. Low incoming line voltage, check voltage. Should voltage check low, consult your power company.6. Defective discharge temperature thermistor switch (see Symptom No. 2, Cause No. 4-i).

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE AND REMEDY
2. Machine shuts down with air demand present.	<div>1. Loss of control voltage, reset. If trouble persists, check that line pressure does not exceed max. operating pressure of your machine (specified on nameplate).</div> <div>2. Low incoming voltage, consult power company.</div> <div>3. Excessive operating pressure.<div>a. Defect in pressure switch, check pressure at which contact points open.</div><div>b. Separator requires maintenance, check maintenance indicator under full load conditions.</div><div>c. High pressure shutdown switch is adjusted too low, readjust to 135 psig.</div><div>d. Defective pilot valve. Pilot valve should cause control lever to move to unload stop when the pressure switch contacts open. Repair if defective.</div><div>e. Defective blowdown valve. Blowdown valve should exhaust sump pressure to the atmosphere when maximum operating pressure is reached.</div></div> <div>4. Discharge temperature thermistor switch open.<div>a. Cooling water temperature too high, increase water flow (water-cooled only).</div><div>b. Cooling water flow insufficient, check water lines and valves (water-cooled only).</div><div>c. Cooler plugged, clean tubes. If plugging persists, install water conditioner (water-cooled only).</div><div>d. Cooling air flow restricted, clean cooler and check for proper ventilation.</div><div>e. Ambient temperature is too high, provide sufficient ventilation.</div><div>f. Low fluid level, add fluid.</div><div>g. Clogged filter, clean the main filter element and change the bearing filter element if maintenance indicator shows a red signal.</div><div>h. Thermal valve not functioning properly. Change element.</div><div>i. Defective discharge temperature Thermistor Switch. Check for a short or open circuit to probe and correct wiring, or also check for short or open circuit to control card. If current is not present, replace control card. Should the above checkout normal, it is possible that the thermistor probe is defective.</div></div>

6.7 COMPRESSOR COOLING AND LUBRICATION SYSTEM - AIR-COOLED

key number	description	part number	quantity
1	elbow, 2"	*	4
2	connector, tube 2"t x 2"p	*	2
3	tube, 2"	221364	1
4	tee, reducing 2 x 2 x 1 1/2"	*	3
5	nipple, 2 x 6"	*	2
6	valve, thermal**	41299	1
7	valve, by-pass	42989	1
8	connector, tube 1 1/2"t x 1 1/2"p	*	1
9	tube, 1 1/2"	28834	1
10	elbow, tube 1 1/2"t x 1 1/2"p	*	1
11	nipple, 2 x 4"		3
12	nipple, close 2"	*	9
13	cross, 2"	*	1
14	filter, main***	44286	1
15	nut, sealing 2"	*	2
16	bushing, reducing 2 1/2" x 2"	*	2
17	oil stop valve ¹	13544	1
18	elbow, tube 1/4"t x 1/8"p	*	1
19	tubing, 1/4"	*	1
20	union, 2"	*	3
21	capscrew, whiz lock 5/16"-18 x 1"	*	86
22	guard, fan	42104	1
23	support, fan guard	27247	8
24	nut, whiz lock 5/16"-18	*	66
25	venturi	11742	1
26	fan	41799	1
27	angle, filler	22509	1
28	cover, top motor	22507	1
29	screw, self drill 1/4"-14 x 3/4"	*	13

(Continued on next page)

* Standard hardware item, purchase locally.

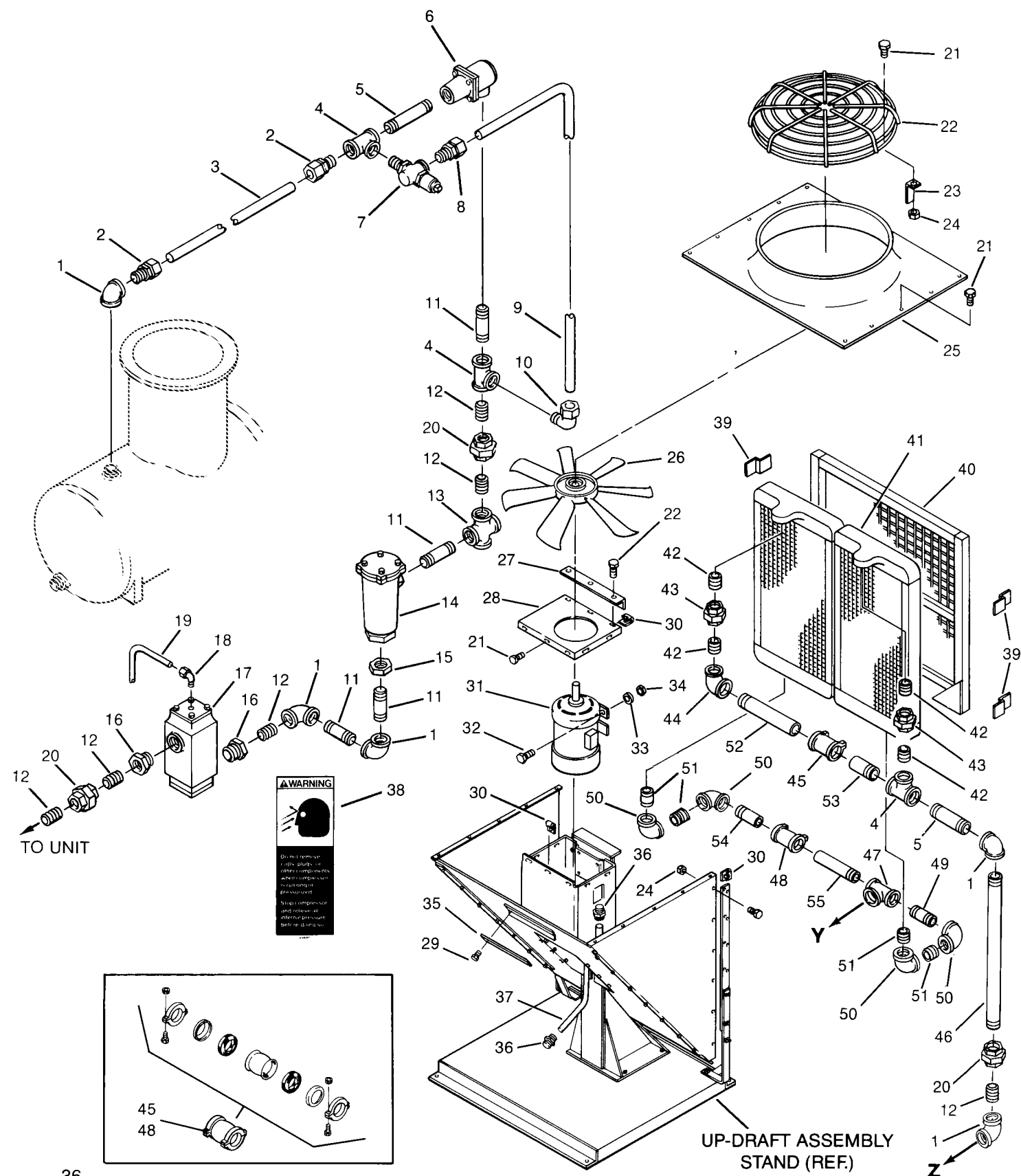
** For maintenance on thermal valve 41299, order repair kit 1084.

*** For maintenance on filter 44286, order seal kit 1100 and replacement element 44241.

¹ For maintenance on oil stop valve 13544, order repair kit 13671.

WHEN ORDERING PARTS, ALWAYS INDICATE SERIAL NUMBER OF MACHINE

Section 6
ILLUSTRATIONS AND PARTS LISTS
FIGURE 6.7 COMPRESSOR COOLING AND LUBRICATION SYSTEM - AIR-COOLED



Section 5
MAINTENANCE

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE AND REMEDY
4. Line pressure rises above cut-out pressure setting on pressure switch.	<ol style="list-style-type: none">1. Leak in control system causing loss of pressure signals.2. Defective pressure switch.<ol style="list-style-type: none">a. Check that diaphragm and contacts are functioning properly and are not damaged. Repair or replace if necessary.3. Defective Pilot Valve.<ol style="list-style-type: none">a. Check that Sullicon Control Lever is moved to unload stop when the Pressure Switch contacts open. Repair or replace if necessary.4. Defective Blowdown Valve.<ol style="list-style-type: none">a. Check that sump pressure is exhausted to the atmosphere when the pressure switch contacts open, repair or replace if necessary.5. High Pressure Shutdown Switch is defective or adjustment is incorrect.<ol style="list-style-type: none">a. Readjust or replace.
5. Excessive Coolant fluid consumption.	<ol style="list-style-type: none">1. Clogged return line strainers or orifices.<ol style="list-style-type: none">a. Clean strainers (screen replacement kit available).b. Clean orifices.2. Separator elements damaged or not functioning properly.<ol style="list-style-type: none">a. Change separators.3. Leak in lubrication system.<ol style="list-style-type: none">a. Check all pipes, connections and components.
6. Pressure relief valve opens repeatedly.	<ol style="list-style-type: none">1. High pressure shutdown switch is defective or out of adjustment.<ol style="list-style-type: none">a. Readjust below pressure relief valve setting or replace.2. Defective Pressure Relief Valve.<ol style="list-style-type: none">a. Replace Pressure Relief Valve.3. Plugged Separator Element.

—NOTES—

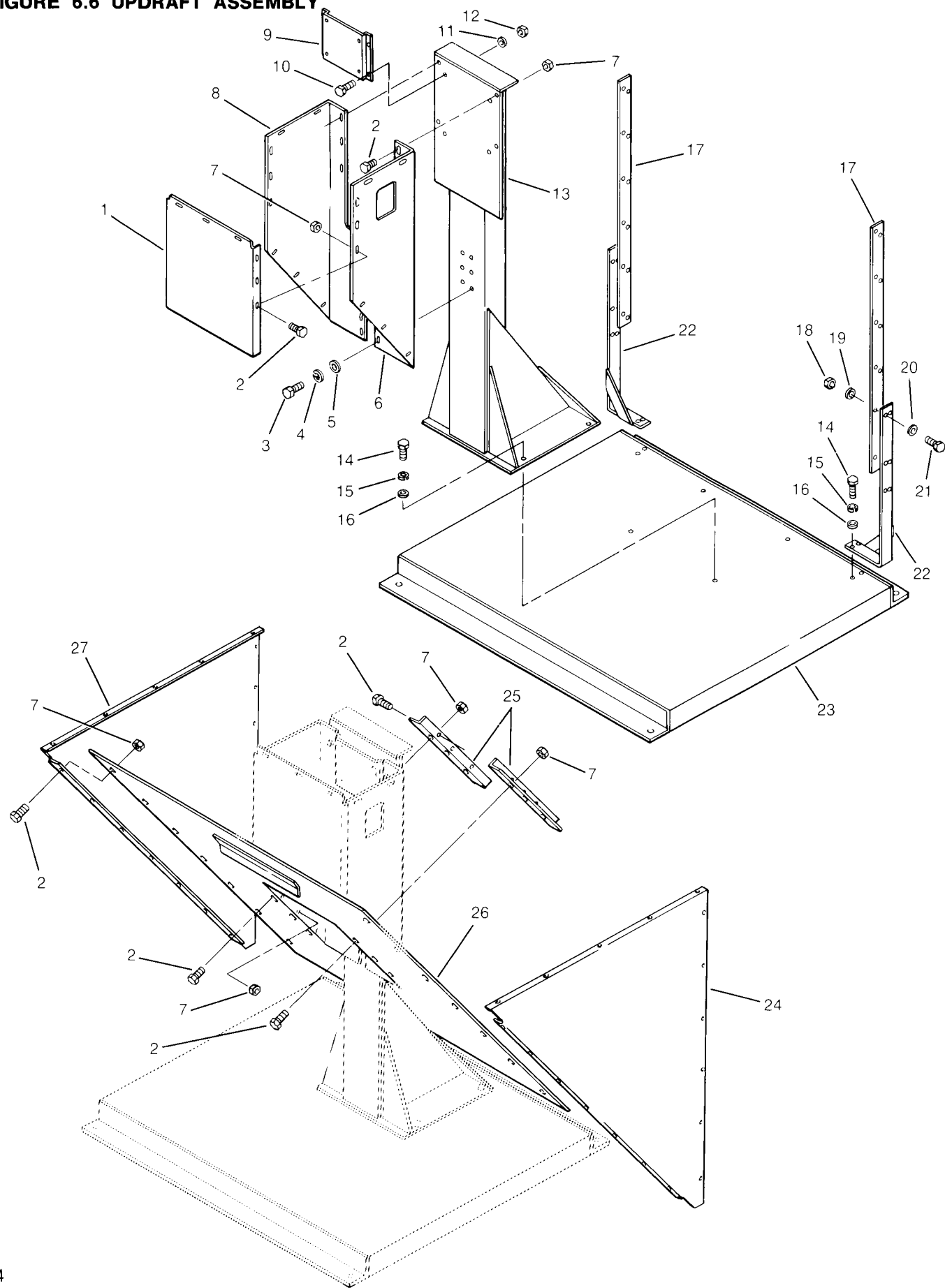
6.6 UPDRAFT ASSEMBLY

<i>key number</i>	<i>description</i>	<i>part number</i>	<i>quantity</i>
1	panel, back cover	22506	1
2	capscrew, whiz lock 5/16"-18 x 1"	*	86
3	screw, self drilling 1/4"-14 x 3/4"	*	13
4	washer, lock 1/4"	*	13
5	washer, flat 1/4"	*	13
6	panel, side-inner shroud	22505	1
7	nut, whiz lock 5/16"-18	*	66
8	panel, side-inner shroud	22504	1
9	bracket, fan motor	22512	1
10	capscrew, hex 1/2"-13 x 1 3/4"	*	4
11	washer, lock 1/2"	*	4
12	nut, hex 1/2"-13	*	4
13	stand, motor	11724	1
14	capscrew, hex 3/4"-10 x 2 1/2"	*	4
15	washer, lock 3/4"	*	8
16	washer, flat 3/4"-10	*	4
17	bracket, cooler	29501	2
18	nut, hex 3/8"-16	*	16
19	washer, lock 3/8"	*	16
20	washer, flat 3/8"	*	12
21	capscrew, hex 3/8"-16 x 1 1/2"	*	16
22	support, cooler	11736	2
23	base, cooling package	12237	1
24	panel, side-l.h.	22511	1
25	angle	22508	2
26	panel, back	11734	1
27	panel, side-r.h.	22510	1

* Standard hardware item, purchase locally.

WHEN ORDERING PARTS, ALWAYS INDICATE SERIAL NUMBER OF MACHINE

Section 6
ILLUSTRATIONS AND PARTS LISTS
FIGURE 6.6 UPDRAFT ASSEMBLY



PROCEDURE FOR ORDERING PARTS

Parts should be ordered from the nearest Sullair Distributor or the Distributor from whom the machine was purchased. If for any reason parts cannot be obtained in this manner, contact the factory directly at the address below.

When ordering parts always indicate the **Serial Number** of the machine. This can be obtained from the Bill of Lading for the machine or from the Serial Number Plate located on the instrument panel.

Standard fasteners (capscrews, nuts, washers, etc.) tubing and fittings plus other standard hardware have not been included in the Parts List. Standard Pipe is 150# malleable. These are items which can be obtained quicker and more economically from local sources.

SULLAIR CORPORATION
3700 East Michigan Boulevard
Michigan City, Indiana 46360

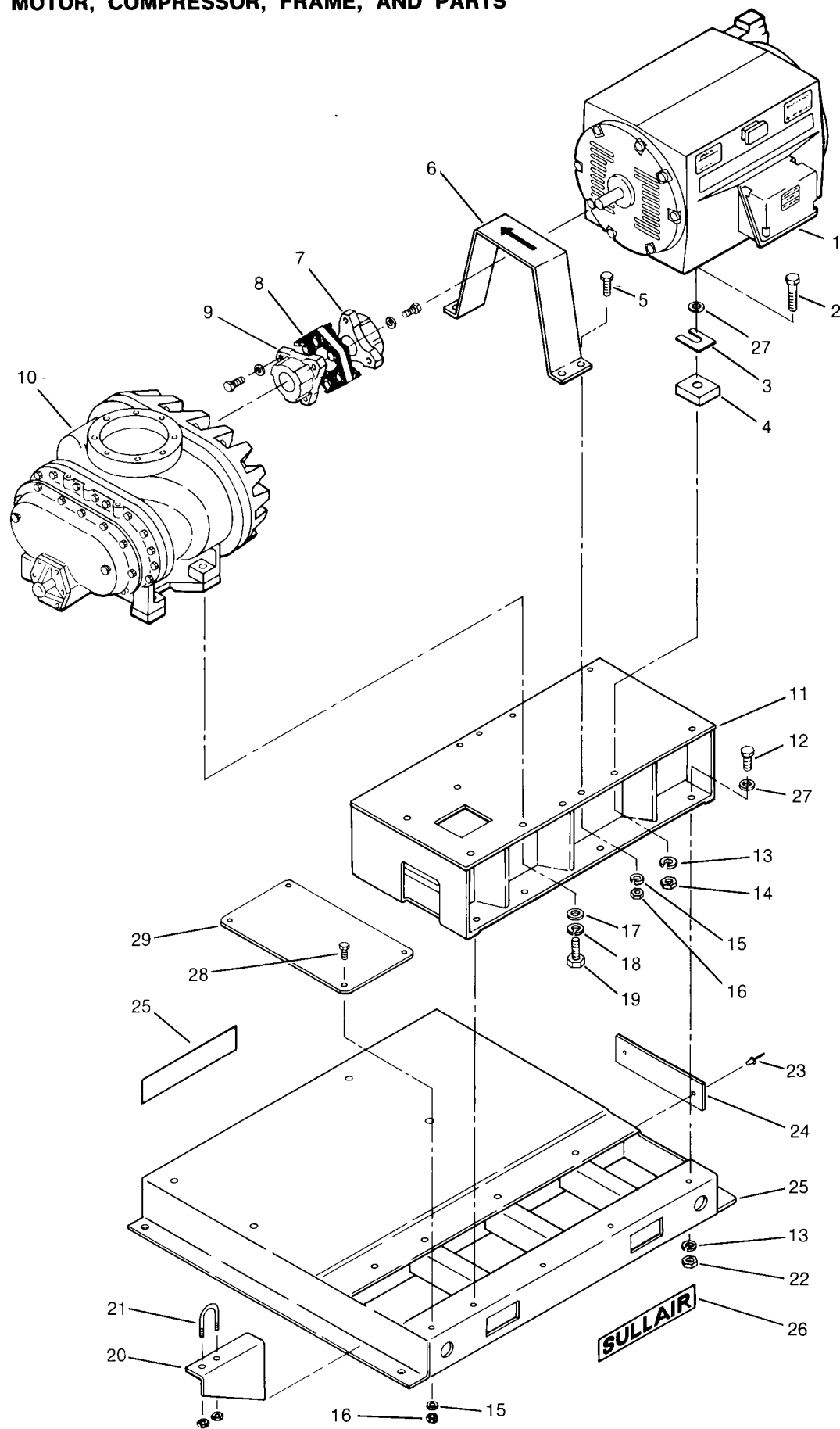
Telephone (219) 879-5451
Telex: 258318

6.1 RECOMMENDED SPARE PARTS LIST

DESCRIPTION	PART NO.	QTY.
Replacement Element (Bearing Filter)	1085	2
Separator Element Kit	11544	1
Air Filter Element	40402	1
Quad Ring, MPV	41619	2
"O"-Ring, MPV Cover Plate	826302-120	1
"O"-Ring, MPV Housing	826302-262	1
"O"-Ring, MPV Spring Cap	826302-236	1
"O"-Ring, Discharge Flange	826102-248	1
"O"-Ring, Discharge Cover	826502-267	1
Repair Kit, Pressure Regulator	41742	1
Repair Kit, Sullicon	11579	1
Control Spring	41273	1
"O"-Ring, Discharge Valve	826502-267	1
Repair Kit for Oil Stop Valve, P/N 13544	13671	1
"O"-Ring, Return Line Strainer	1118	1
O-Ring, Fill Cap	826502-221	1
Repair Kit, Thermal Valve	1084	1
Seal Kit, Main Filter	1100	2
Repair Kit, Blowdown Valve	13708	1
Oil (D-A Torque Fluid)	49405	65 Gal.
Replacement Element, Main Filter	44241	1

WHEN ORDERING PARTS ALWAYS INDICATE SERIAL NUMBER OF MACHINE.

FIGURE 6.2 MOTOR, COMPRESSOR, FRAME, AND PARTS



6.5 COMPRESSOR UNIT TUBING (continued)

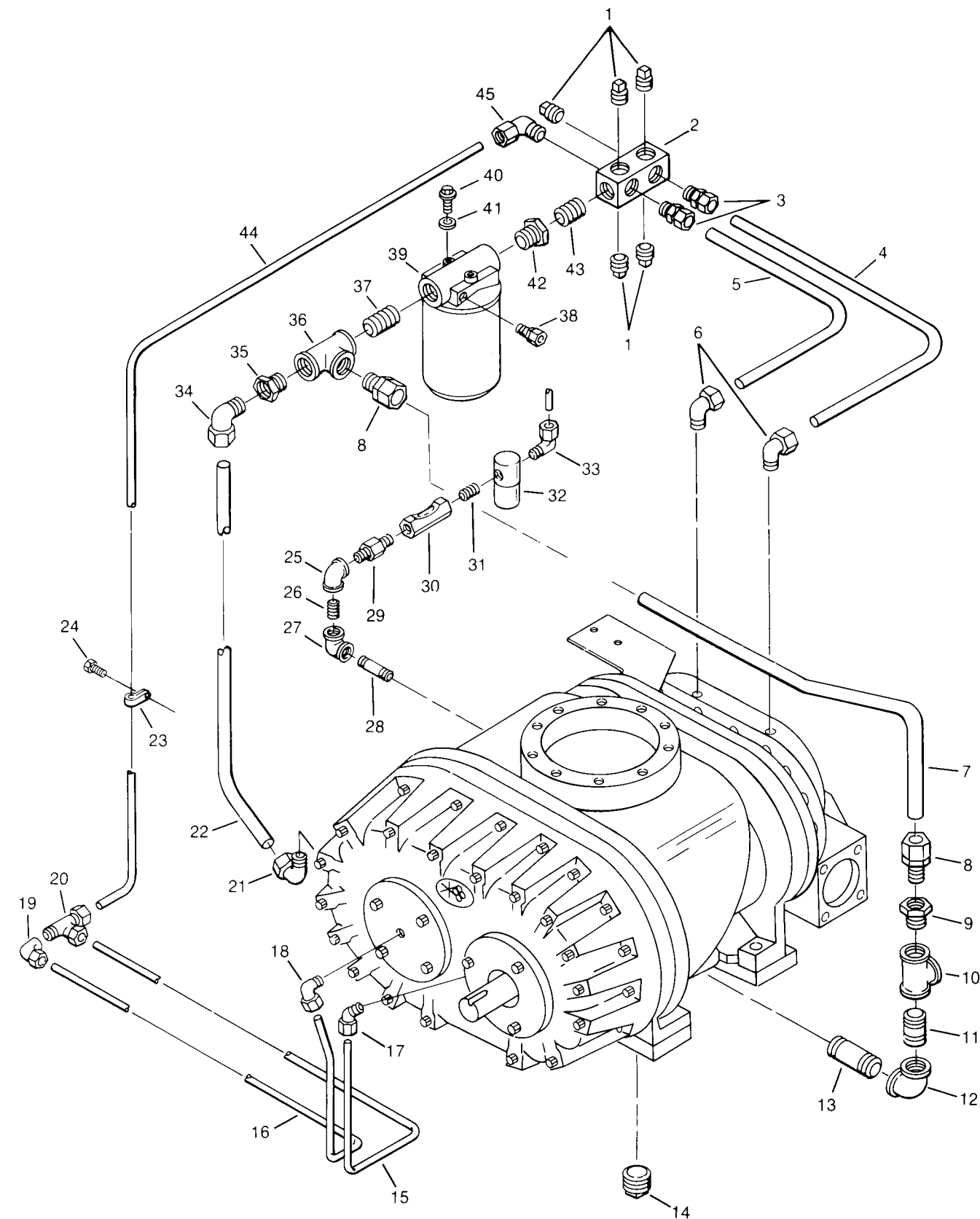
key number	description	part number	quantity
32	strainer**	49704	1
33	elbow, tube 1/4"t x 1/4"p	*	1
34	elbow, tube 3/4"t x 3/4"p	*	1
35	bushing, reducing 1 1/4" x 3/4"	*	1
36	tee, 1 1/4"	*	1
37	nipple, close 1 1/4"	*	1
38	connector, 1/4"t x 1/4"p	*	1
39	filter, bearing***	46967	1
40	capscrew, ferry hd. 5/16" x 5/8"	*	2
41	washer, flat 5/16"	*	2
42	bushing, reducing 1 1/4" x 1"	*	1
43	nipple, close 1"	*	1
44	tube, inlet bearing	222949	1
45	elbow, tube 1/2"t x 1/2"p	*	1

* Standard hardware item, purchase locally.

** For maintenance on strainer 49704, order repair kit 1118.

*** For maintenance on filter 46967, order replacement kit 1085.

WHEN ORDERING PARTS, ALWAYS INDICATE SERIAL NUMBER OF MACHINE



6.2 MOTOR, COMPRESSOR, FRAME, AND PARTS

key number	description	part number	quantity
1	electric motor	**	1
2	capcrew, hex hd. 3/4"-10 x 3 1/2" gr5	*	4
3	shim set	22031	4
4	block, motor	25692	2
5	capcrew, hex 1/2"-13 x 2 1/4"	*	3
6	guard, coupling	28940	1
7	hub, motor	46996	1
8	element, coupling	46999	1
9	hub, compressor	46997	1
10	compressor unit	***	1
11	support, motor & compressor	11512	1
12	capcrew, hex 3/4"-10 x 2"	*	8
13	washer, lock 3/4"	*	16
14	nut, lock 3/4"-10	*	4
15	washer, lock 1/2"	*	3
16	nut, hex 1/2"-13	*	3
17	washer, flat 7/8"	*	4
18	washer, lock 7/8"	*	4
19	capcrew, hex 7/8"-9 x 4"	*	4
20	support, piping	22247	1
21	u-bolt, 3/8" x 1 1/2"	*	1
22	nut, hex 3/4"-10	*	8
23	rivet, pop 3/16" x 1/2"	*	4
24	nameplate, "SULLAIR"	40357	1
25	frame	12133	1
26	decals, "SULLAIR"	40358A	2
27	washer, flat 3/4"	*	8
28	capcrew, hex 1/2"-10 x 1 1/2"	*	4
29	panel, frame end	22241	1

* Standard hardware item, purchase locally.

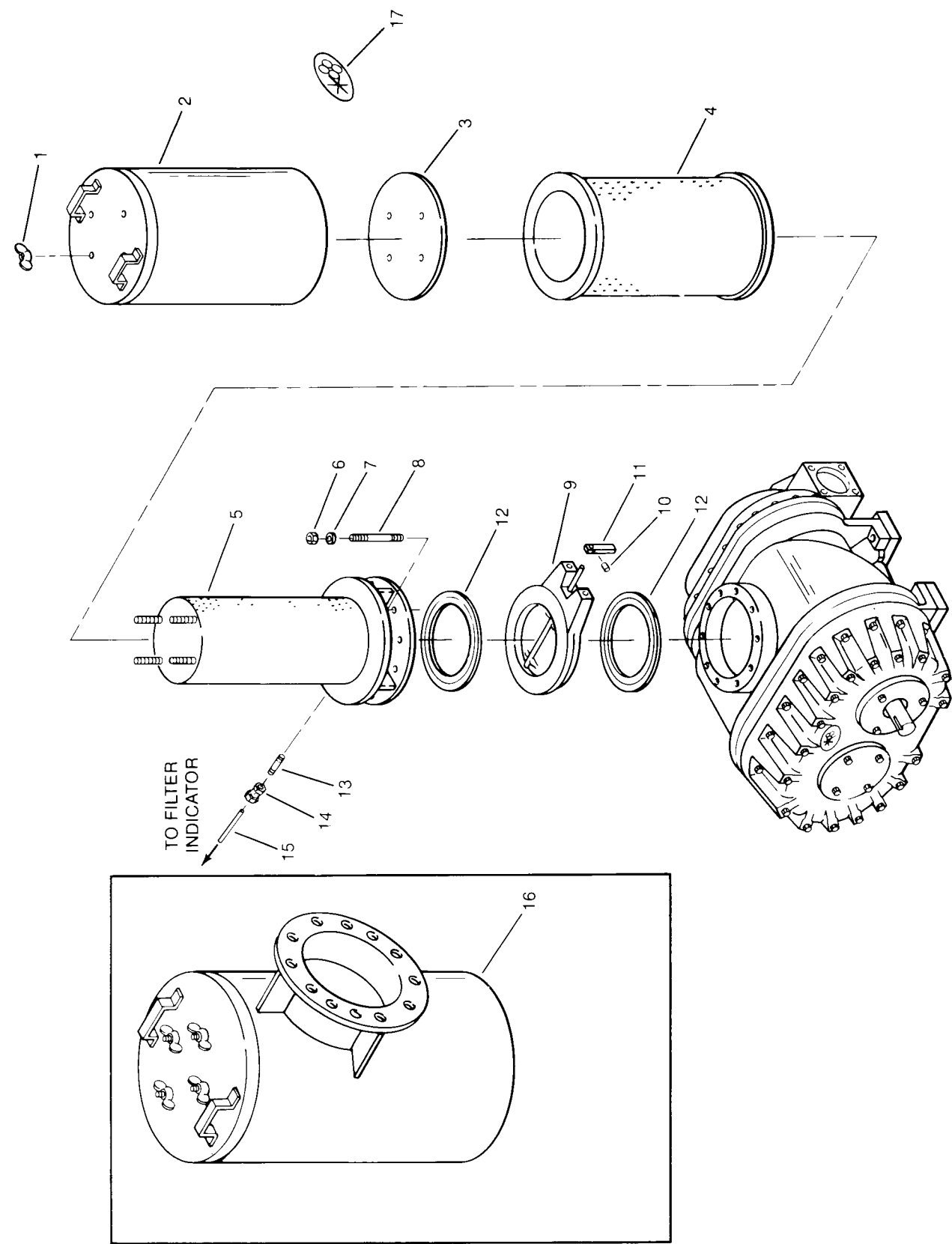
** For part number on motor see specific machine sales order.

*** It is Sullair's policy not to sell or replace repair parts on the compressor unit. There is an exchange program whereby a reconditioned compressor unit can be obtained from Sullair distributors or the factory at less cost than the owner could repair the unit. For information regarding the unit exchange program, contact your nearest Sullair distributor or the Sullair Corporation.

The shaft seal is not considered part of the compressor unit in regard to the 2 year warranty. The normal Sullair parts warranty applies. The shaft seal for your compressor unit is 18033.

WHEN ORDERING PARTS, ALWAYS INDICATE SERIAL NUMBER OF MACHINE

Section 6
ILLUSTRATIONS AND PARTS LISTS
FIGURE 6.3 COMPRESSOR AIR INLET SYSTEM



Section 6
ILLUSTRATIONS AND PARTS LISTS

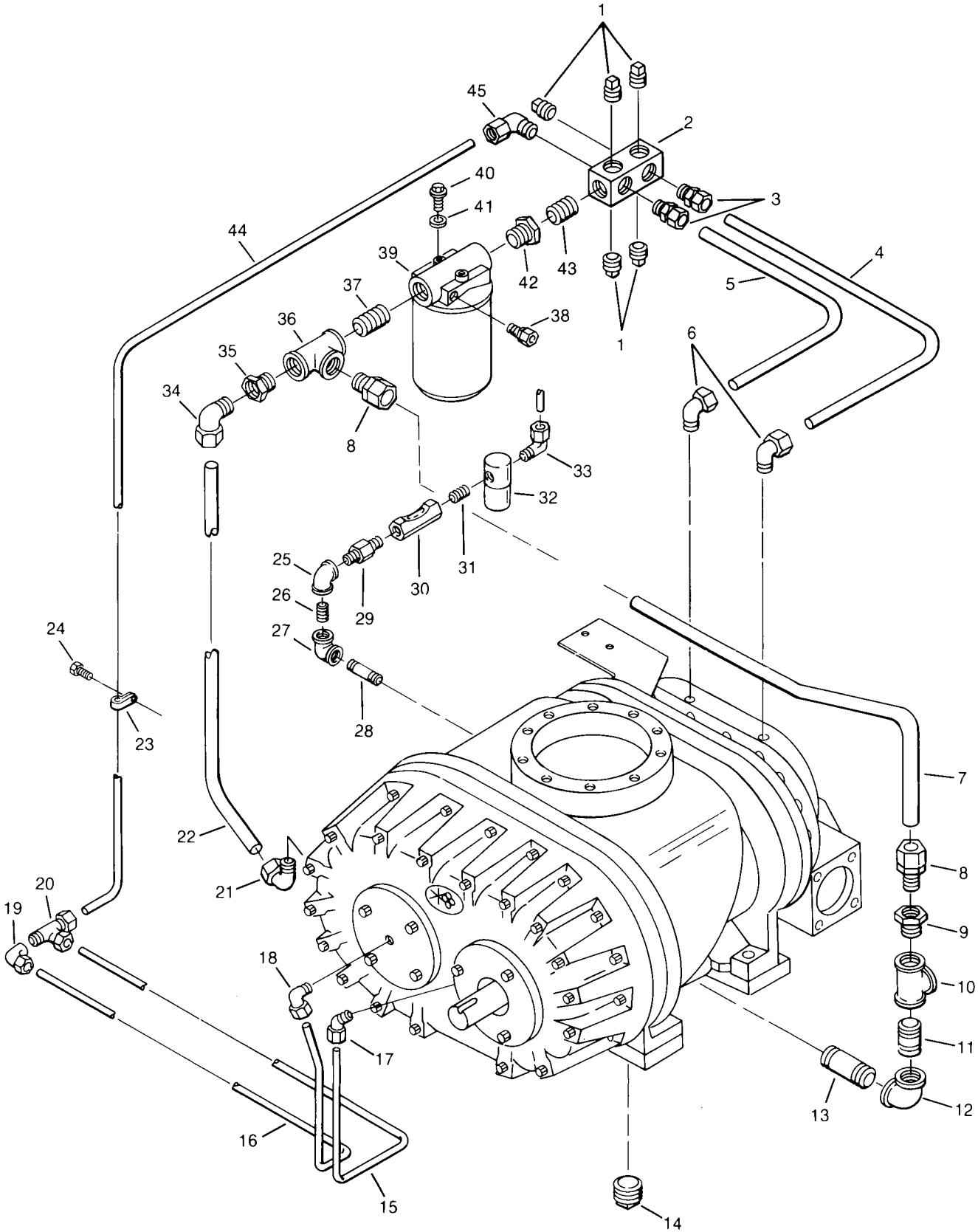
6.5 COMPRESSOR UNIT TUBING

key number	description	part number	quantity
1	plug, 1/2"	*	5
2	manifold	222915	1
3	connector, tube-5/8"t x 1/2"p	*	2
4	tube, outlet bearing	222924	1
5	tube, outlet bearing	222923	1
6	elbow, tube-5/8"t x 3/8"p	*	2
7	tube, bearing filter supply	223016	1
8	connector, tube 1 1/4"t x 1 1/4"p	*	2
9	bushing, reducing 2" x 1 1/4"	*	1
10	tee, 2"	*	1
11	nipple, 2" x 3"	*	1
12	elbow, 2"	*	2
13	nipple, 2" x 7 1/2"	*	2
14	plug, 2"	*	1
15	tube, male inlet bearing	222950	1
16	tube, female inlet bearing	222951	1
17	elbow, tube-45° 3/8"t x 1/4"p	*	1
18	elbow, tube 3/8"t x 1/4"p	*	1
19	elbow, tube 3/8"t x 3/8"p	*	1
20	tee, tube 3/4"t x 3/4"p	*	1
21	elbow, tube 3/4"t x 1/2"p	*	1
22	tube, bearing filter supply	223016	1
23	clamp, tube	241119	1
24	screw, hex tapping 1/4" x 3/4"	*	1
25	elbow, reducing 1/2" x 1/4"	*	1
26	nipple, close 1/2"	*	1
27	elbow, 1/2"	*	1
28	nipple, close 1/2"	*	2
29	orifice, 3/32"	22033	1
30	sight glass	46559	1
31	nipple, close 1/4"	*	1

(continued on next page)

* Standard hardware item, purchase locally.

WHEN ORDERING PARTS, ALWAYS INDICATE SERIAL NUMBER OF MACHINE



6.3 COMPRESSOR AIR INLET SYSTEM

key number	description	part number	quantity
1	nut, wing 1/2"-13	*	4
2	cover, air filter	44418	1
3	plate, cover	24086	1
4	element, air filter	40402	1
5	base, air filter	41075	1
6	nut, hex 7/8" x 9	*	8
7	washer, lock 7/8"	*	8
8	stud, 7/8"-10 x 4 1/2"	*	8
9	valve, butterfly	41110	1
10	screw, set 5/16" x 3/8"	*	1
11	lever, inlet valve	22234	1
12	gasket	41079	2
13	nipple, pipe 1/8" x 3 1/2"	*	1
14	connector, tube, 1/4"t x 1/8"p	*	1
15	tube, steel 1/4"	*	1
16	remote air filter **	12382	1
17	decals, logo	40087A	1

* Standard hardware item, purchase locally.

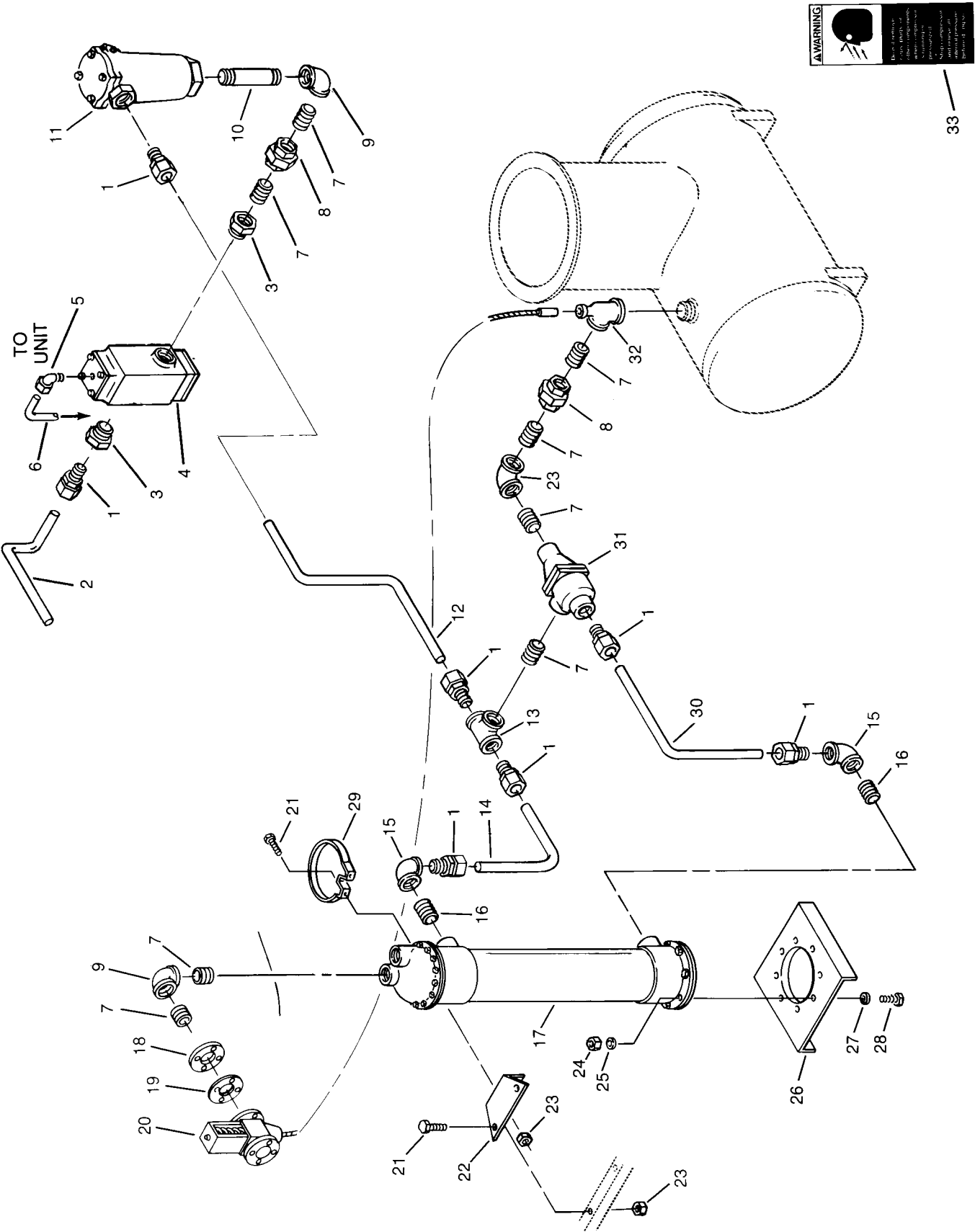
** Optional - remote filter

WHEN ORDERING PARTS, ALWAYS INDICATE SERIAL NUMBER OF MACHINE

Section 6

ILLUSTRATIONS AND PARTS LISTS

FIGURE 6.4 COMPRESSOR COOLING AND LUBRICATION SYSTEM - WATER COOLED



Section 6

ILLUSTRATIONS AND PARTS LISTS

6.4 COMPRESSOR COOLING AND LUBRICATION SYSTEM - WATER COOLED

key number	description	part number	quantity
1	connector, tube 2''t x 2''p	*	8
2	tube, 2'' steel	*	1
3	bushing, reducing 2 1/2'' x 2''	*	2
4	valve, oil stop**	13544	1
5	elbow, tube 1/4''t x 1/8''p	*	1
6	tube, 1/4''	*	1
7	nipple, close 2''	*	8
8	union, 2''	*	2
9	elbow, 2''	*	3
10	nipple, 2'' x 7''	*	1
11	filter, main***	44286	1
12	tube, 2''	*	1
13	tee, 2''	*	1
14	tube, 2''	*	1
15	elbow, reducing 3'' x 2''	*	2
16	nipple, close 3''	*	2
17	cooler	41664	1
18	flange, threaded 2''	*	1
19	gasket, flange 2''	41638	1
20	valve, water regulating	43215	1
21	capscrew, hex 1/2''-13 x 1''	*	4
22	bracket	24499	1
23	nut, hex 1/2''-13	*	4
24	nut, hex 3/8''-16	*	4
25	washer, lock 3/8''	*	4
26	support	24498	1
27	washer, flat 3/8''	*	4
28	capscrew, hex 3/8''-16 x 2 1/2''	*	4
29	band, mounting	40598	1
30	tube, 2''	*	1
31	valve thermal ¹	41299	1
32	tee, reducing 2'' x 3/4'' x 2''	*	1
33	decal, "WARNING"	49685	1

* Standard hardware item, purchase locally.

** For maintenance on oil stop valve 13544, order repair kit 13671.

*** For maintenance on filter 44286, order seal kit 1100 and element 44241.

¹ For maintenance on thermal valve 41299, order repair kit 1084.

WHEN ORDERING PARTS, ALWAYS INDICATE SERIAL NUMBER OF MACHINE