



**VANAIR**®  
AIR POWER TO GO™

**MANUAL FOR  
COMPRESSOR MODEL  
VIKING  
HYDRAULIC MODULE**

**WARNING**

Read this Manual before installing, operating or working on this equipment.  
Failure to do so could result in bodily injury and/or damage.

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03-11**

**WARRANTY** (Applies to following models: Tiger Hydraulic and Viking 65 Hydraulic)

The rotary screw compressor unit is warranted by the manufacturer for three (3) years against defects in materials and workmanship. The unit will be replaced or repaired at VANAIR'S option as result of such defects. The hydraulic motor unit is warranted for two (2) years. All other parts including the compressor unit shaft seal are warranted for twelve (12) months. This warranty does not cover damage caused by accident, misuse or negligence. If a compressor unit is disassembled the warranty is void. Any disassembly of major components must be approved by Vanair to avoid voiding of warranty. Any and all such claims for warranty consideration must be coordinated through the Warranty-Service Department at the address below. Please do **not** return parts without prior authorization.

Warranty is limited to the supply of replacement parts failing within the warranty period. Credit for labor required to refit replacement parts is NOT included. All warranted parts are to be shipped PREPAID to VANAIR. Replacement parts will be shipped back to the customer by VANAIR via ground shipment. Cost to expedite delivery of replacement parts will be incurred by customer. Factory installed units will also include warranty on the installation for one year.

Warranty will commence upon receipt of the Warranty Registration Card. If the Warranty Registration Card is not received within six (6) months, then warranty commencement date shall be thirty (30) days from the date of shipment from VANAIR. Records of warranty adherence are the responsibility of end user.

*This statement of warranty is expressly in lieu of and disclaims all other express warranties, implied warranties of merchantability and fitness for a particular purchase and all other implied warranties which extend beyond the description on the face hereof. The warranty does not include incidental or consequential damages.*

This warranty shall be void and VANAIR shall have no responsibility to repair, replace or repay the purchase price of defective or damaged parts resulting from the use of or repair of replacement parts or fluids not of VANAIR'S manufacture or from buyer's failure to store, install, maintain and operate the compressor according to the recommendations contained in the Manual.

All claims under the Warranty shall be made by contacting VANAIR Warranty-Service Department.



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## **SPECIFICATIONS**

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### **Ratings:**

Capacity (cfm)	65
Air Pressure (psig)	150
Hydraulic Flow required (gpm)	21
Hydraulic Pressure Required (psig)	2100 Min.

### **Compressor:**

Type	Single Stage, Oil Inj. Rotary Screw
Oil Sump Capacity	5 Quarts
Service Valve	One 3/4 in. NPT
Air Inlet System	Dry Type Single Stage
Inlet Control	Load/Unload
Cooling System	Air to Oil (12 vdc) Thermost. Controlled
Oil Separation System	Spin on Coalescer Element
Hydraulic Motor	Gear Type
Ambient Operating Range	-20EF to + 100EF

### **Package:**

Main Frame	Formed Steel with Boltdown Provision
Enclosure	Sheet Metal with Service Access
Service Items	Grouped in Accessible Location
Supply Connections (Customer Hook-Up)	Hydraulic -Oil In 3/4 in. 37E JIC -Oil Out 1 in. 37E JIC
Electrical	-12 vdc positive & ground -High Temp. Shutdown
Dimensions	Length -37.25 in. Width -19.00 in. Height -26.12 in.
Weight (Dry)	300 lbs.

**Specifications subject to change without notice.**

## SAFETY

## Section 1 - Pg 1

Vanair Manufacturing, Inc. designs and manufactures all of their products so they can be operated safely. However, the responsibility for safe operation rests with those who use and maintain this equipment. The following safety precautions are offered as a guide, which if conscientiously followed will minimize the possibility of accidents. Many of the following items may seem like common sense, which they are. We would ask that you also, use your common sense in operating and maintaining this equipment since each situation may have its own peculiarities and circumstances.

**IMPORTANT** - The following safety guidelines are for your safety, well-being and also to help protect from injury to others and prevent equipment damage.

**WARNING** - Read this manual before installing, operating or working on or with this equipment. Failure to do so could result in bodily injury or damage.

**CAUTION** - Never start this equipment unless it is safe to do so. **Do not operate** the air compressor/systems **with a known unsafe condition**. Tag and render the system inoperative by disconnecting the power source so others who may not know of the unsafe condition cannot operate it.

**CAUTION** - Install, use and **operate** this equipment **only in full compliance** with all pertinent and applicable O.S.H.A., Federal, State and Local codes, standards and regulations.

**WARNING** - Do not modify this compressor and/or controls or systems in any way except with written factory approval.

**DANGER** - Do not attempt to remove any compressor part or work on the compressor or its systems **without first relieving the entire system pressure**. Open a service valve to atmosphere to assure all pressure is vented.

**DANGER** - **Do not** attempt to **service** any part of the machine **while it is operating**.

**DANGER** - **Do not operate the compressor in excess of pressures and speeds** indicated on the name plate, or its ratings as indicated in the "Specifications" section.

**CAUTION** - Periodically check all safety devices for proper operation.

**DANGER** - Do not play with compressed air. It can cause serious injury.

**WARNING** - Do not use flammable solvents for cleaning parts or compressor installation.

**CAUTION** - Be sure **no tools, rags or loose parts** are left on compressor drive systems or **near intake**.

## **SAFETY**

## **Section 1 - Pg 2**

- CAUTION** - Exercise **care and cleanliness** during maintenance and **when making repairs**. Cover openings and keep dirt and tools away from parts and openings.
- WARNING** - Do not operate compressor in areas **where there is possibility of ingesting flammable, toxic, noxious or corrosive fumes or substances**.
- WARNING** - Never disconnect, by-pass or **render inoperative any safety system** and operate the machine.
- CAUTION** - Do not operate the compressor without proper flow of cooling air, or without **correct lubricant** levels or types.
- DANGER** - Keep hands, arms, hair and other parts of the body and loose clothing **away** from fans, drive shafts, and other **moving parts**.
- WARNING** - Do not operate machine with guards removed or safety devices inoperative.
- DANGER** - Do not use air from this compressor for breathing purposes, Stellar Industries, Inc. disclaims any and all liabilities for damage or loss due to personal injuries, including death and/or property damages arising out of using Vanair compressors for breathing purposes.
- CAUTION** - Operate the compressor only in open or well ventilated areas.
- CAUTION** - Do not install safety devices and/or replacement parts other than **authorized Vanair replacement parts**.
- CAUTION** - Ensure all plugs, hoses, covers and **parts which may have been removed for service are replaced before operating**.
- WARNING** - Ensure that hoses connected to the service valves are **fitted with correctly sized and rated flow limiting devices**. This is to prevent broken or disconnected hoses from “whipping”. These devices must comply with respective codes.
- WARNING** - Do not use tools, hoses or equipment that are **rated below the maximum rating** of this compressor.
- CAUTION** - Keep personnel out of line with, and **away from the discharge opening** of valves, hoses and tools.
- WARNING** - Hot surfaces, compressors generate heat. Take precautions when working on or around this equipment - some surfaces and components are hot!

## **SAFETY**

## **Section 1 - Pg 3**

- CAUTION** - Clean up any lubricant or spills **immediately**.
- CAUTION** - Keep electrical wiring including terminals in good condition. Hoses and fittings with no leaks. **Replace any wiring or hoses which have cracked or worn.**
- CAUTION** - Keep tools or other conductive objects **away** from live electrical parts.
- WARNING** - Wear respective protective equipment when operating or working on this equipment. Protective equipment should be in full compliance with respective codes.
- WARNING** - Over speed is hazardous! Never tamper with the governor components or settings to increase the maximum speed. Severe personal injury and equipment damage can result if operated at speeds above maximum.
- CAUTION** - Never touch electrical wires or components **while the machine is operating**. They can be a source of electrical shock which could cause sever injury or burns.

# SAFETY

# Section 1 - Pg 4

Safety decals are supplied as part of the decal package. They should be affixed to the completed vehicle prior to going into service. They should be located so that they are clearly visible to both user and service personnel.



Figure 3.1  
Locate adjacent to oil fill on body.



Figure 3.2  
Locate next to service outlet valve.



Figure 3.3  
Locate next to service outlet valve.



## **SAFETY**

## **Section 1 - Pg 5**

**Hot Parts** - To prevent severe burns, do not touch these areas while the compressor is running or immediately after it is turned off.

**Rotating Parts** - Keep hands, feet, hair and clothing away from all moving parts to prevent injury. Never operate the machine with covers, shrouds or guards removed.



## **DESCRIPTION**

## **Section 2 - Pg 1**

### **2.1 Introduction**

The 65 cfm Hydraulic Module Series air compressor system will offer superior performance and reliability along with a minimal amount of maintenance requirements.

This Manual should be read in conjunction with other appropriate manuals or literature.

The compressor module is equipped with a Rotary Screw Compressor Unit which is renown for its durability and reliability.

### **2.2 Description of Components**

The package includes a heavy duty rotary screw air compressor with integral Inlet Valve assembly, oil separation system, minimum pressure/discharge check valve and oil filter housing. The completed assembly incorporates compressor oil cooling system, hydraulic drive and valving and respective instrumentation and control systems. The complete operating system is mounted in a neat compact durable enclosure providing easy access for maintenance.

### **2.3 Compressor Assembly**

This assembly incorporates various features into one unit:

- Oil injected, single stage rotary screw compressor.
- Inlet valve and control valving.
- Air filter unit.
- Oil reservoir and primary oil separator.
- Secondary spin-on oil coalescer/separator.
- Spin-On oil filter.
- Minimum pressure valve/check valve.

This makes for a very compact integrated compressor assembly with reduced hose connections and consequently fewer potential leak points.

### **2.4 Oil Injected, Single Stage Rotary Screw Compressor**

Lubricant is injected into the compressor air end unit and mixes directly with the air in the compression chamber. Internal porting also injects oil into the bearings and seal area. The lubricant has three primary functions:

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

**DESCRIPTION****Section 2 - Pg 2****2.4 Oil Injected, Single Stage Rotary Screw Compressor - *Continued***

The screw compressor assembly is mounted inside the main casting and consists of a male and female rotor supported with anti-friction bearings suitably sized for long life.

**2.5 Inlet Valve and Control Valving**

The inlet valve and control solenoid valve assembly are mounted directly on top of the compressor module. On initial start-up the solenoid is energized and the inlet valve opens from pilot air being passed through the solenoid actuated valve. When final pressure is reached a pressure switch de-activates the solenoid and the inlet valve closes. At the same time the compressor pressure will relieve down to a low pressure (typically about 40 psig). Only the compressed air within the compressor module will reduce down to this lower pressure due to the operation of the discharge minimum pressure/check valve. This reduction in internal air pressure reduces the power requirement considerably during this unloaded state. The pressure switch located in the downstream air line senses air demand and upon reducing pressure in discharge line (ie. air being used) will re-activate the inlet valve and the compressor again starts to load and produce air.

The discharge air pressure switch will typically be set with a 30 psi differential pressure.

**2.6 Air Filter Unit**

The air filter is dry type replaceable element and is mounted directly on top of the inlet valve assembly. The element is easily replaced for service change out - Refer to Maintenance Section.

**2.7 Oil Reservoir and Primary Oil Separation**

The main casting which contains the screw compressor is also the oil reservoir and primary oil separation unit. The initial (primary) oil separation is caused by both changes in velocity and direction. The main casting also contains the oil level/fill plug and oil drain connection. A separate oil reservoir is not required.

**2.8 Secondary Spin-on Oil Coalescer/Separator**

This spin-on element screws directly onto the filter support housing at the rear of the compressor module. The separator element (coalescer) recovers the finer particles of residual oil after pre-separation.

## **DESCRIPTION**

## **Section 2 - Pg 3**

### **2.8 Secondary Spin-on Oil Coalescer/Separator - *Continued***

Oil, which is collected in this element is scavenged back into the compressor unit. The oil return line passes through the Oil Sight Glass which indicates the amount of oil being deposited (scavenged) in the element. At start-up the sight glass most likely will be full for a short period which is due to drainage from the element when it is not in use, this should diminish fairly quickly and a lesser amount should be observed which indicates that the element is separating out oil deposited within the spin-on element.

### **2.9 Spin-On Oil Filter**

Located on the filter support housing at the rear of the compressor. The filter incorporates a by-pass valve which will open to by-pass the filter during cold start-up when the oil is very viscous. It will also open if the filter element is plugged.

Filter element rating is 10 Micron.

### **2.10 Minimum Pressure Valve/Check Valve Assembly**

This combined valve located in the filter support housing has two functions.

The Minimum Pressure Valve - will maintain a pressure of approximately 65 psig in the compressor unit to ensure oil injection during load conditions and also to maintain effective oil separation. Once this internal pressure is exceeded it will allow air to discharge downstream to the service outlet.

The Discharge Check Valve - prevents air in service lines or downstream receiver from venting down through the compressor during unload (when the compressor automatically will unload to approximately 40 psig internally) and also during shutdown.

### **2.11 Hydraulic Drive System**

Scope of supply may vary depending upon customer specifications.

Hydraulic pump, oil reservoir, return line oil filter and hoses to and from the completed packaged compressor are not furnished with the compressor. This is customer responsibility.

The packaged compressor unit will normally contain the hydraulic motor, hydraulic pressure relief valve, and on/off solenoid valve.

## **DESCRIPTION**

## **Section 2 - Pg 4**

### **2.11 Hydraulic Drive System - *Continued***

Input hydraulic oil pressure feed is connected to the bulkhead provided on the compressor package. Within the package the high pressure oil feeds to a manifold containing the pressure relief valve and directional solenoid valve. If a malfunction in the hydraulic motor/compressor assembly causes the hydraulic pressure to rise it will by-pass to the return line to safeguard damage or potential injury.

The directional solenoid valve is normally activated by the on/off selector switch mounted in the instrument cluster on the package, this valve is also connected through the compressor safety circuits for over-temperature and over-pressure, if either condition occurs it will shut the unit down, by diverting oil back to tank. It is possible to add remote on/off switch in parallel with the instrument cluster to permit on/off operation from another location on the vehicle.

Hydraulic oil from the manifold is hoses directly to the hydraulic motor and the outlet from the motor passes to the return line connection on the package. Customer to provide both hydraulic feed and return lines.

The hydraulic motor powers the compressor through a belt drive system.

### **2.12 Compressor Cooling System**

The package contains a cooler assembly powered by a 12 volt D.C. electric fan. Oil from the compressor sump passes through this cooler before being filtered for re-injection into the compressor. A thermostatic fan temperature switch activates the fan to come on/off to maintain the correct operating temperature for the compressor oil. This switch will activate the fan to come on at approximately 185°F and will switch off again at approximately 165°F. The purpose of maintaining an elevated temperature during operation is to keep intake air moisture in suspension as it passes through the compressor. Thermal switch activation is affected by ambient conditions, load/unload cycles (or low oil level).

### **2.13 Instruments and Electrical System**

- Air Pressure Gauge - Monitors service air pressure and incorporates an over-pressure shutdown switch.
- Air Temperature Gauge - Monitors discharge air temperature at the compressor and incorporates an over-temperature shutdown switch.
- Hour Meter - To monitor operation hours for service.
- Reset Button - To cancel/reset over-pressure/over-temperature shutdown condition.

## **DESCRIPTION**

## **Section 2 - Pg 5**

### **2.13 Instruments and Electrical System - *Continued***

- On/off switch – to direct hydraulic oil supply for compressor start/stop.
- Electrical Connections to be made by the installer are provided at the bulkhead connection location. There are normally only three connections to be made: ignition supply; battery supply; ground. Refer to respective wiring diagram.

### **2.14 Mainframe and Enclosure**

The steel mainframe is provided with bolt down holes.

The enclosure which is attached to the mainframe, is made from steel and is powder coated to provide a durable finish. There are two main components:

- Cooler/Instrument housing, which is bolted to the frame.
- The enclosure provides guarding, protection for the unit and an aesthetically appealing practical enclosure.

Service Air Outlet is located on the main bulkhead connection strip and the service valve incorporates a venting feature which vents downstream air to the atmosphere when it is in the closed position.

Compressor oil level can be checked and filled from the outside of the enclosure.

Safety and Information Decals are appropriately located on the machine. Please read and understand all the information contained thereon.

**OPERATION****Section 3 - Pg 1****3.1 General**

Built into the compressor is a comprehensive array of controls and safety systems, you will want to recognize and interpret the readings or malfunctions which will call for service or indicate the beginning of a problem.

Before starting your compressor, read this section thoroughly and familiarize yourself with the controls and operation.

**3.2 Purpose of Controls**

<u>Control or Indicator:</u>	<u>Purpose:</u>
On/Off Switch	Starts/stops compressor.
Discharge Air Pressure (Pressure Gauge)	Continuously monitors service line discharge air pressure, will activate shutdown if over-pressure occurs.
Discharge Air Temperature (Temperature Gauge)	Continuously monitors service line discharge temperature, will activate shutdown if over-temperature occurs.
Hour Meter Gauge (Operation Hours)	Indicates accumulated hours of operation for planning and logging service schedules.
Reset Button	To reset latch-in relay in event of over-pressure or over-temperature.
Oil Fill/Level Plug	To check/fill compressor oil level.
Minimum Pressure/Check Valve	Maintains minimum operating pressure and prevents back flow when unloaded/shutdown.
Pressure Switch	Controls operating pressure
Inlet Solenoid Valve	Opens/closes inlet valve in response to pressure switch.
Air Inlet Valve	Opens/closes in response to air demand and acts as check valve upon unload/shutdown to prevent oil blow back into air filter.
Fan Temperature Switch	Thermostatically switches cooling fan on/off to maintain optimum operating temperature.

## **OPERATION**

## **Section 3 - Pg 2**

### **3.2 Purpose of Controls - *Continued***

Hydraulic Pressure Relief Valve	Relieves hydraulic pressure to return line in event of hydraulic over-pressure condition.
Hydraulic Solenoid Valve	Responds to on/off switch to direct flow to compressor motor or to return line.
Air Pressure Relief Valve	Opens sump pressure to atmosphere in case of air over-pressure condition.

### **3.3 Hydraulic System Requirements**

**IMPORTANT** - Vanair<sup>®</sup> highly recommends consulting a hydraulic supply expert for specifying the correct hydraulic pump size and type, oil reservoir size, hydraulic cooler, hydraulic pressure relief, and other hydraulic supply components for your application.

Please take into consideration the following:

- The hydraulic flow and pressure requirements of the air compressor.
- Keep in mind that when the compressor is running there is a continuous hydraulic load.
- The duty cycle and ambient temperatures.
- Other hydraulic equipment which may share the same hydraulic supply system (Vanair recommends a dedicated pump and hydraulic circuit).

**NOTE** - The temperature of the hydraulic oil should not exceed 140°F due to the rating of the Vanair supplied hydraulic motor.

### **3.4 Installation**

1. Locate the machine so that there is no restriction of cooling air through the enclosure. Cooling air enters the enclosure at the instrument panel end of the machine, passes through the cooler and exits through vents in the upper sides and the rear.

Ensure adequate height and clearance at the rear to swing the rear enclosure back for service access.

2. Mounting surface or support should be adequate for the weight of the machine and should be level for normal operation. Mounting holes for 4 qty. 1/2" hold down bolts are provided. Refer to General Assembly drawing.



**OPERATION****Section 3 - Pg 3****3.4 Installation - Continued**

3. Service Connections are conveniently grouped at the rear lower section of the unit in the base frame.

Connections are:

Hydraulic supply (high pressure)	- 1 1/6 - 12 x 37E Flare (male) - 3/4" J.I.C.
Hydraulic return (low pressure)	- 1 5/16 - 12 x 37E Flare (male) - 1" J.I.C.
Air Service	- 3/4" N.P.T. (female)
Electrical Connections	- 4 pin with leads (3 qty)

4. Electrical connections - system designed for 12V DC negative ground.  
Wire #1 - Battery +12V DC supply  
Wire #9 - Ignition supply +12V DC supply  
Wire #7/13/15 - Ground - Battery/Chassis
5. Hydraulic Supply Circuit - It is recommended that the compressor unit have a separate pump/flow/return hydraulic circuit to other hydraulic equipment. This is to prevent the possibility of pressure/flow drops which may occur if other hydraulically powered equipment is activated during compressor operation which may cause the compressor to stall out. Alternatively, use of a diverter valve which would permit hydraulics to power different equipment selectively.
6. Ensure all supply hoses and electrical wiring is correctly specified, adequately supported and does not touch or rest on any sharp edges. Wiring should be protected with split loom to prevent damage, soldered & heat shrunk connections are recommended to prevent corrosion and consequently loss due to down time.

**3.5 Initial Start-Up**

The following procedure should be used to make the initial start-up of your compressor:

1. Position the compressor on a level surface so that the proper amounts of oil can be added if required.
2. Unit should be bolted down, do not rely on hoses to hold the module in position.
3. Check all hose connections are tight and wiring connections correct and tight.
4. Check compressor oil level, top up if necessary.
5. Switch instrument panel to OFF.
6. Ensure hydraulic oil to pump inlet. (Prime if necessary)

## **OPERATION**

## **Section 3 - Pg 4**

### **3.5 Initial Start-Up – *Continued***

7. Engage hydraulic system (PTO or hydraulic supply) and allow hydraulic oil to circulate back to tank. Check for leaks.
8. Service valve on compressor closed.
9. Switch the instrument panel switch to ON, this should very quickly pass oil to the hydraulic motor on the compressor and start producing air.
10. Check pressure and temperature gauges. Pressure switch may need adjustment to achieve desired operating pressure (see Maintenance Section).
11. Partly open service valve to load compressor and allow to warm up. Monitor temperature gauge, the ideal operating temperature should be between 165°F and 190°F although it may be higher in high ambient conditions.
12. Cycle compressor on/off with service valve to ensure operation is O.K.
13. Close service valve then switch instrument switch to OFF.
14. Disengage hydraulic system.
15. Allow all air to vent to atmosphere, then check compressor oil level - top up if necessary. Check and correct any leaks, tighten any loose fittings, check drive belt tension.

### **3.6 Normal Start-Up Procedure**

1. Check compressor oil level - top up if necessary.
2. Instrument panel switch OFF - air service valve closed.
3. Engage hydraulic system (PTO or hydraulic supply).
4. Instrument panel switch ON - compressor should activate.
5. Allow machine to warm up for several minute before operating.

### **3.7 Normal Shutdown Procedure**

1. Close service valve and allow compressor to unload and cool down (approximately 5 minutes).

## **OPERATION**

## **Section 3 - Pg 5**

### **3.7 Normal Shutdown Procedure – *Continued***

2. Switch instrument panel switch OFF.
3. Shut off hydraulic power supply.

### **3.8 Operating Conditions**

1. Operate only in well ventilated areas.
2. Ensure no obstructions of cooling air intakes and outlets around machine.
3. Do not leave anything resting on top of the machine. Hot cooling air will generate high heat and must not be restricted.
4. Be sure to leave sufficient room around the machine for cooling air circulation. Minimum 18 ins. cooler intake, sides and rear 12 ins. Heated air must be able to vent away from intake.
5. Operate machine with top cover closed.
6. Refer to specifications for operating parameters.

## **MAINTENANCE**

## **Section 4 - Pg 1**

### **4.1 General**

A good maintenance program is the key to long compressor life. Below is a program that when adhered to, should keep the compressor in top operating condition. However, it should be understood that these intervals are for normal operation in a good clean environment. More frequent inspections, oil changes and general maintenance should be carried out in dusty environments, high ambient temperatures or extended light load conditions.

**WARNING** - DO NOT remove caps, plugs or any components when the compressor is running or pressurized. Stop the compressor and relieve all internal pressure before doing so.

### **4.2 Daily Operation**

#### **Before Starting:**

1. Check compressor oil level.
2. Check for any leaks or loose bolts.
3. Check drive belt is tight.

#### **After Starting:**

4. Check pressure gauge for correct operating pressure.
5. Check for leaks.

### **4.3 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. Perform the following maintenance operations to prevent unnecessary future problems.

1. Change the oil filter element.
2. Drain and refill air/oil receiver sump.
3. Inspect intake air filter (change if necessary)

## **MAINTENANCE**

## **Section 4 - Pg 2**

### **4.4 EVERY 500 HOURS OR YEARLY, WHICHEVER COMES FIRST**

**IMPORTANT** – It may be necessary to change at earlier intervals if oil has water contamination or if compressor is operated in poor/dirty environment.

1. Change the oil filter element.
2. Drain and refill air/oil receiver sump.
3. Replace intake air filter.
4. Annually replace separator element (located in air-oil sump).
5. Inspect exterior of front mounted oil cooler, clean if necessary.

### **4.5 Lubrication Guide**

**WARNING** - It is important that the compressor oil be of a recommended type and that it is inspected and replaced together with the oil and air filters, in accordance with this manual.

The result of poorly maintained lubricant and/or filters may produce hazardous conditions resulting in ignition, which could cause a fire in the sump. Damage to equipment and serious bodily harm may result.

#### **1. General**

It is not possible to establish limits on all physical and chemical properties of lubricants which can affect their performance over a broad range of operating and environmental influences. The responsibility for recommending a suitable lubricant must rest with the user's lubricant supplier and their knowledge of the suitability of their lubricants in screw compressors, operating in the particular environment involved.

#### **2. Prime Lubricant Characteristics**

1. Viscosity: 178 SUS at 100° F (38°C)
2. Flashpoint: 457°F (236°C)
3. Pour point: -49°F (-45°C)
4. Contains: Rust and Oxidation Inhibitors
5. Contains: Detergents

**CAUTION - DO NOT MIX OILS OF DIFFERENT TYPES.**

#### **3. Factory Fill – Vanguard High Performance Rotary Screw Compressor Oil**

## **MAINTENANCE**

## **Section 4 - Pg 3**

### **4.6 Oil Filter Replacement**

The compressor oil filter is a spin on, throw away type. Before attempting to remove the oil filter, ensure all air is relieved from the system. **CAUTION** - Use only original equipment filters, other filters may not have correct pressure rating or even different thread.

#### **Remove:**

1. Remove old filter (use strap wrench if required) by turning counter-clockwise and discard as appropriate and in accordance with any pertinent regulations.
2. Clean filter head with lint free wiper or cloth.

#### **Replacement:**

3. Apply a light film of oil to the seal surface on the new element.
4. Screw new element on, clockwise by hand until seal contacts filter head, then turn an additional 3/4 turn (by hand).
5. Run compressor and test for leaks.

### **4.7 Coalescer (Air/Oil Separator) Replacement**

This is a spin-on, throw away type unit. Before attempting to change ensure all pressure is relieved from the system. Change in accordance with Maintenance Guidelines. If oil carryover into the service line occurs and the oil scavenge return line scavenge shows little or no oil return, then change the element. Verify receiver is not over full.

**CAUTION** - Use only original equipment coalescer element to ensure pressure rating and performance is satisfactory.

#### **Remove:**

1. Remove old element (use strap wrench if required) by turning counter-clockwise and discard as appropriate and in accordance with any pertinent regulations.

#### **Replacement:**

2. Apply a light film of oil to the seal surface on the new element.
3. Screw element on clockwise until it seats on the head, rotate an additional 3/4 turn (by hand). Take care not to damage element.
4. Start up and check for leaks

## **MAINTENANCE**

## **Section 4 - Pg 4**

### **4.8 Air Filter Replacement**

**DO NOT** replace with compressor in operation. If environment is dirty or dusty an earlier change out may be required. To ensure correct filtration use only original equipment filters.

#### **Remove:**

1. Unscrew the wing nut on top of the air filter and remove filter cover.
2. Discard filter as appropriate and in accordance with any pertinent regulations.

#### **Replacement:**

3. Clean cover and any dirt inside filter housing taking extreme care that no dust/dirt particles reach the air intake of the compressor.
4. Fit new element inside housing.
5. Replace lid and tighten wing nut on top of air filter assembly.
6. Test run and functional test.

### **4.9 Belts - Tightening and Replacement**

Correct tensioning and alignment is important for belt life, bearing life and power transmission.

Correct tensioning and alignment was provided at time of shipment from the factory. However, since maximum belt elongation will occur within the first 50 hours of operation (of new belts), their tension should be checked several times during this period and corrected as required. The belts should thereafter be checked periodically in order to obtain maximum life and performance.

**NOTICE** - To avoid possible belt damage, never force belts over the sheaves. Oil spilled or splashed onto the belts in any quantity will cause slippage and severely reduce belt life take care when filling compressor oil.

#### **Replacing/Tightening V-Belts:**

1. Loosen slightly the bolt at the base of the hydraulic motor mounting bracket. This will allow the hydraulic motor to be moved in or out to tighten or loosen the belts.
2. Back off adjusting bolt lock nut. Screw the adjusting bolt clockwise to tighten belt or counter-clockwise to loosen belts.

## **MAINTENANCE**

## **Section 4 - Pg 5**

### **4.9 Belts – Tightening and Replacing - *Continued***

3. After adjustments have been made, tighten base bolt to insure no further movement.

#### **Tension Data**

Deflection at center of belt span 0.25 inches with a force of 4 pounds.

Pulley alignment is set at factory and shouldn't need to be adjusted. If it is found necessary to adjust the pulley alignment, loosen the four bolts that hold down the base plate to the frame and adjust per the following instructions.

Ensure pulleys are aligned by using a long straight edge which will span both pulleys. Position the straight edge on the sides of the pulleys, if they are in-line there should be no gaps between the straight edge and the pulleys (for the full contact distance across each pulley side), adjust as necessary to get correct alignment and tension.

It may be necessary to repeat and check several times before both tension and alignment are satisfied.

### **4.10 Cooler Core Cleaning (exterior)**

Remove leaves, papers, etc. from outside face. Use compressed air and carefully blow through the core from the inside of the canopy (through fan assembly or remove fan assembly).

DO NOT use high pressure air or pressure washer.

NOTE - Oil cooler core is aluminum. If this does, at some point, require internal cleaning, this is best done by a suitable equipped radiator shop. Internal cleaning is NOT a normal maintenance item if the oil is maintained in good condition.

### **4.11 Adding/Changing Compressor Oil**

Ensure all pressure is relieved from the system. Check oil level with unit level, otherwise a false oil level indication will occur.

1. Remove oil fill plug located on main compressor base casting. (NOTE - This can be done without lifting canopy.)
2. Carefully add lubricant and monitor oil level, allow time for oil to level out. A complete refill is approximately 5-1/4 quarts. Correct oil level is at minimum, to bottom threads on oil fill port up until oil runs out of port. Overfill can only occur if unit is out of level.
3. Refit oil fill cap tightly by hand.



## **MAINTENANCE**

## **Section 4 - Pg 6**

### **4.11 Adding/Changing Compressor Oil - *Continued***

4. Run unit and recheck oil level after shutdown, allowing time for oil to settle.

Oil drain is provided with short drain hose. This can be routed to a more convenient location if required, dependent upon installation. Use only Schedule 80 pipe or suitably rated hose.

NOTE - Fill cap has a vent release hole as a safety feature and to act as a “tell-tale”. If air escapes while unscrewing the fill cap, then the system still has pressure. Re-tighten the cap and wait until all pressure is relieved.

### **4.12 Pressure Adjustments**

Before adjusting the pressure control system it is necessary to determine the rated full load pressure setting. These can be found in the Specification Section.

#### **Pressure Switch Location:**

The pressure switch is located directly behind the cooling fan inside a black plastic box. Removing the one single screw from the bottom of the plastic cover allows the cover to be removed exposing the two adjustment screws at the top and also exposes the electrical terminations.

**DANGER** - Adjustments should be made with compressor switched **OFF** since electrical terminals inside pressure switch will be exposed and opening the canopy exposes belt drive system.

#### **Procedure for Setting:**

1. Start compressor and allow to warm up. **NOTE** - Pressure reading on gauge with service valve closed. Switch off compressor.

2. Adjustment screws on pressure switch:

Steel slotted screw (L.H. side upper) will adjust both cut-out and cut-in pressures together. Screw in clockwise to increase screw out counter-clockwise to decrease.

Plastic head slotted screw (R.H. side upper) will permit changes to cut-out pressure (higher pressure) without affecting cut-in pressure. (ie. changes differential pressure range) screw in clockwise to increase and counterclockwise to decrease upper pressure setting.

## **MAINTENANCE**

## **Section 4 - Pg 7**

### **4.12 Pressure Adjustments - *Continued***

Nominal differential setting is 25 to 30 psi. This is to reduce load/unload cycle in cases where minimal air usage or leaks in hoses/connections may occur. The recovery period from unload to load is rapid with the screw compressor and this initial setting will suit most applications.

It is suggested making adjustments in ½ turn increments then closing canopy, restarting and checking pressure. Re-adjust as necessary.

When desired pressure is set, replace switch cover and close canopy for operation.

**CAUTION** - Increasing air pressure will increase the required compressor H.P. Be sure the hydraulic power supply is capable (Hydraulic pressure) otherwise the compressor may stall out during operation due to increased power requirement.

### **4.13 Intake Control**

The intake control consists of two main sub-assemblies:

#### **1. Inlet Valve Assembly**

The inlet valve opening/closing (load/unload) is controlled by admitting/exhausting pilot air pressure through the solenoid valve to the piston which is part of the inlet valve assembly. The inlet valve is not a routine maintenance item. Maintenance kits are available which include replacement seals, etc.

#### **2. Solenoid Valve**

Attaches directly to the inlet valve and responds to signals from the pressure switch to admit/vent pilot air pressure to the inlet valve to control load/unload.

In the unlikely event of failure this item is to be replaced as a complete item.

### **4.14 Minimum Pressure Valve**

Normally factory set to 65 psig.

Provides two main functions:

#### **1. Maintains Minimum Pressure**

Prevents downstream air to pass until compressor system is up to minimum pressure valve setting which aids in maintaining good oil supply to the compressor and also is a requirement for good oil separation.

**MAINTENANCE****Section 4 - Pg 8****4.14 Minimum Pressure Valve - *Continued*****2. Back Pressure Check Valve**

Allows for compressor to be unloaded to lower pressure than supply air line system and permits compressor air pressure to be totally relieved when stopped.

This valve is not a routine maintenance item. Seals and replacement parts are available.

**4.15 Compressor Thermal Valve**

Controls compressor oil temperature and permits for rapid compressor oil warm up. Commences to pass oil through cooler at 160°F and is fully open at 185°F.

**4.16 Safety Shutdown Systems**

Protection for over-pressure and/or over-temperature is provided. If either condition should occur the diverter valve should activate to divert hydraulic fluid back to tank and the compressor will stop, the reset on instrument panel will pop out and stay out until reset. Reason for shutdown should be investigated before pressing reset.

Periodically (every 6 months or every 500 hours) the shutdown system should be tested as follows: Compressor operating, close service valve and allow compressor to unload (say 2 minutes or more) then touch across button on gauge face to Bezel surrounding the respective gauge with coin or screwdriver. Reset button should pop out and compressor stop. Switch off compressor and press reset button to reactive shutdown system.

**4.17 Recommended Torque Specifications**

<u>SIZE</u>	<u>Capscrew</u>		<u>Tightening Torque</u>	
	<u>GRADE</u>	<u>APPROX. METRIC EQUIV.</u>	<u>DRY</u>	<u>LUBRICATED</u>
1/4 -20 UNC	5	6 mm	8 ft. lbs.	6 ft. lbs.
5/16-18 UNC	5	8 mm	17 ft. lbs.	13 ft. lbs.
3/8 -16 UNC	5	10 mm	30 ft. lbs.	23 ft. lbs.
1/2 -13 UNC	5	12 mm	75 ft. lbs.	55 ft. lbs.
3/4 -10 UNC	5	20 mm	260 ft. lbs.	200 ft. lbs.

**TROUBLE SHOOTING****Section 5 - Pg 1**

The information contained in the Troubleshooting Chart has been compiled from information gathered. It contains symptoms and usual causes for the most common types or problem. All available data concerning the trouble should be systematically analyzed before undertaking any repairs or component replacement.

A visual inspection is worth performing for almost all problems and may avoid unnecessary additional damage to the machine. The procedures which can be performed in the least amount of time and with the least amount of removal or disassembly of parts should be performed first.

**WARNING** - Before working on any machine, ensure it is shut down and isolated, air pressure relieved, and unit has cooled down.

**SYMPTOM:****PROBABLE CAUSE:**

1. Compressor shuts down with air demand	1.1	Compressor temperature switch opening.	Low oil level-top up. Restricted cooling air intake - clean - reposition machine. Fan not operating - check ground - check fan switch.
	1.2	Plugged oil filter	Replace
	1.3	Dirty cooler core	Clean
	1.4	Contaminated cooler core	Remove and clean
	1.5	Hydraulic pressure & Flow incorrect	Adjust and reset
2. Compressor will not build up pressure	2.1	Air demand too great	Check for leaks and correct Too much air demand
	2.2	Air filter plugged	Check and replace
	2.3	Press. switch out of adjustment	Reset
	2.4	Defective pressure switch	Replace
	2.5	Motor does not speed up	Pressure switch Check hydraulic flow & pressure
	2.6	Belts slipping	Readjust/tighten
	2.7	Service valve wide open	Close
	2.8	Solenoid valve stuck	Replace
	2.9	Leak in air pilot line	Check for leaks & correct
3. Compressor over Pressures	3.1	Press. Regul. out of adjustment	Reset
	3.2	Defective press. Switch	Replace
	3.3	Leak in air control line	Check and correct
	3.4	Inlet valve stuck	Free or replace
	3.5	Restriction in control line	Dirt or ice, clean/free up

**TROUBLE SHOOTING****Section 5 - Pg 2**

<b>SYMPTOM:</b>	<b>PROBABLE CAUSE:</b>	
3. Compressor over Pressures – <i>continued</i>	3.6 Solenoid valve not energized/faulty	Check for power/replace
	3.7 Faulty gauge	Check with shop air/replace
	3.8 Defective safety valve	Replace
	3.9 Plugged coalescer	Replace
4. Insufficient air Delivery	4.1 Plugged air filter	Replace
	4.2 Plugged coalescer	Replace
	4.3 Motor speed too low	Check hydraulic flow & pressure
	4.4 Inlet valve stuck	Free or replace
	4.5 Belts slipping	Readjust
5. Oil carryover	5.1 Oil level overfull	Drain to correct level
	5.2 Plugged oil scavenge line	Remove and clean
	5.3 Discharge pressure too low	Check minimum pressure valve
	5.4 Defective coalescer	Replace
6. Compressor Overheating	6.1 Insufficient oil	Check level and top up
	6.2 Restricted cooling air flow	Reposition machine
	6.3 Fan not operating	Check ground connection
		Check fan switch
		Check air pressure switch
	Check circuit breaker	
	Check for shorted wires	
	Check fan motor	
	6.4 Plugged oil filter	Replace
6.5 Cooler core plugged	Clean	
6.6 Pressure set too high	Readjust	
6.7 Contaminated cooler core	Remove and clean	
6.8 Running too fast	Check hydraulic flow & pressure	
6.9 Thermal Valve	Replace element - faulty	
7. System retains pressure after shutdown	7.1 Solenoid valve stuck	Should be no power to solenoid valve Valve stuck. Replace
	7.2 Leak back from airline	Pressure switch faulty/replace Check minimum pressure valve for leak

**TROUBLE SHOOTING****Section 5 - Pg 3****SYMPTOM:****PROBABLE CAUSE:**

8. Compressor stalls

8.1 Belts slipping

Readjust/tighten

8.2 Insufficient hydraulic system pressure/flow. This can occur if another hydraulically activated component is used off same pump system. Activating the secondary component may drop hydraulic supply system pressure/flow and leave insufficient for compressor. NOTE - even a momentary drop in supply hydraulic supply pressure/flow may initiate compressor blowdown to commence.

Check setting on supply pressure system relief valve. Check to ensure adequate pressure/flow. Check if other systems activated off same supply.

8.3 Pressure relief valve set too low

Check &amp; reset

8.4 Leak in seals on pressure relief valve

Remove & check seals or fit new valve cartridge

8.5 Air pressure set too high for hydraulic system

Adjust pressure switch to reduce air pressure.

8.6 Leak in solenoid valve cartridge (directional flow control valve) on Manifold

Remove & check seals or fit new valve cartridge.

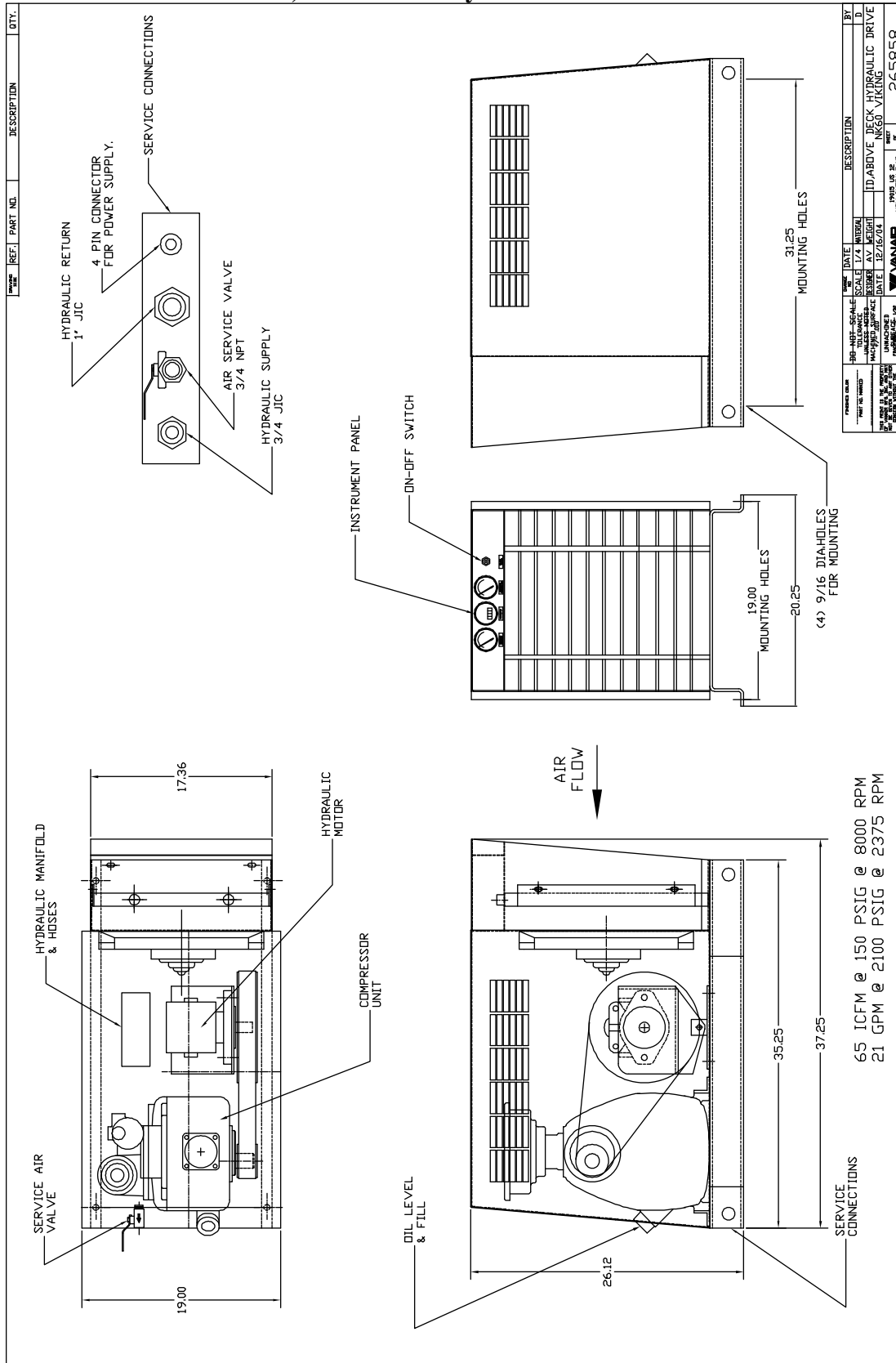
8.7 Check over-pressure or over-temperature

# DIAGRAMS

# Section 6 - Pg 1

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## ID, Above Deck Hydraulic Module

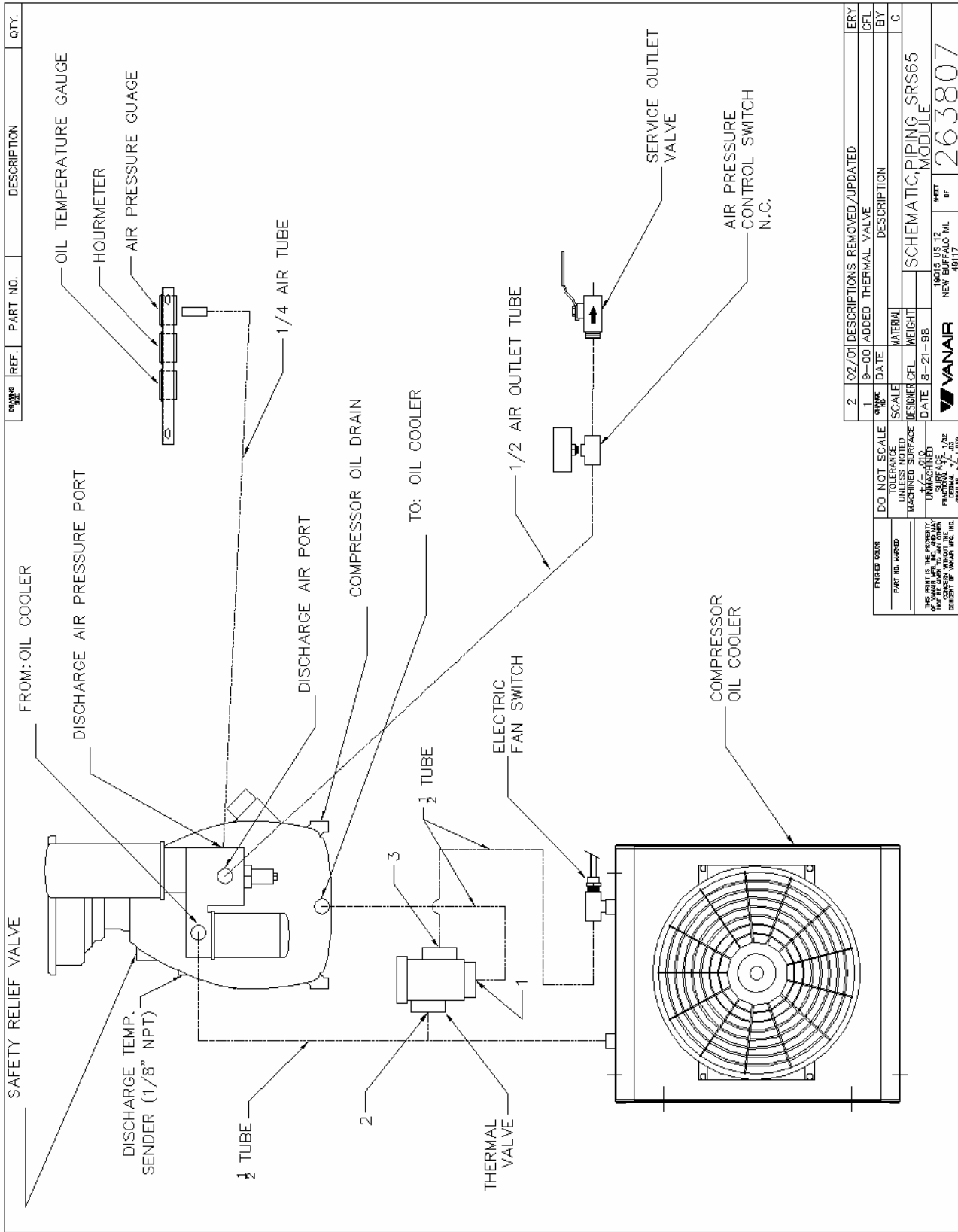


# DIAGRAMS

# Section 6 - Pg 2

## Piping, Above Deck Hydraulic Module:

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REV	DESCRIPTIONS	DATE	BY	CHKD
2	02/01 DESCRIPTIONS REMOVED/UPDATED			
1	9-00 ADDED THERMAL VALVE			

REV	DESCRIPTIONS	DATE	BY	CHKD
1	9-00 ADDED THERMAL VALVE			

REV	DESCRIPTIONS	DATE	BY	CHKD
1	9-00 ADDED THERMAL VALVE			

REV	DESCRIPTIONS	DATE	BY	CHKD
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1	9-00 ADDED THERMAL VALVE			

REV	DESCRIPTIONS	DATE	BY	CHKD
1	9-00 ADDED THERMAL VALVE			

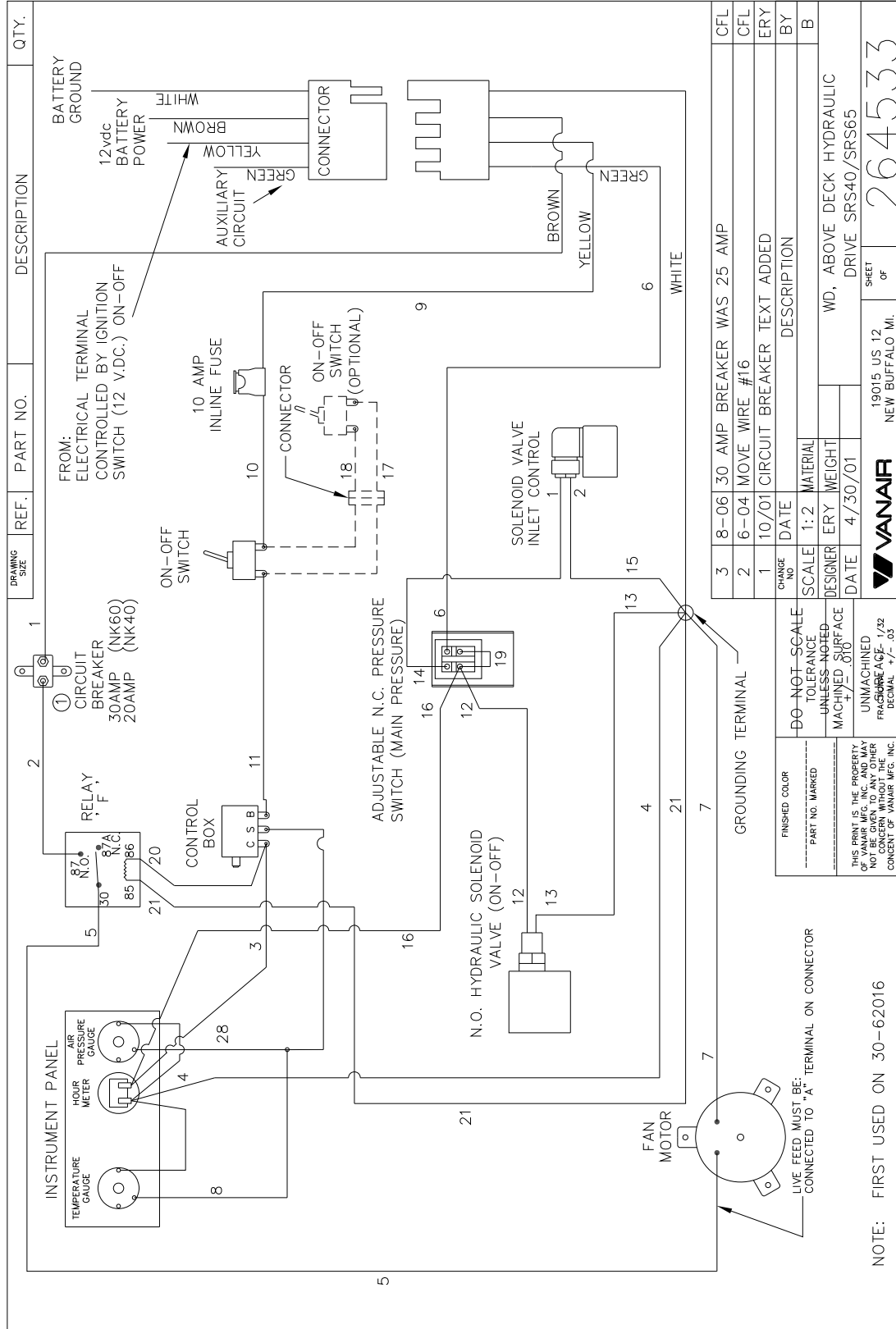
REV	DESCRIPTIONS	DATE	BY	CHKD
1	9-00 ADDED THERMAL VALVE			



# DIAGRAMS

# Section 6 - Pg 3

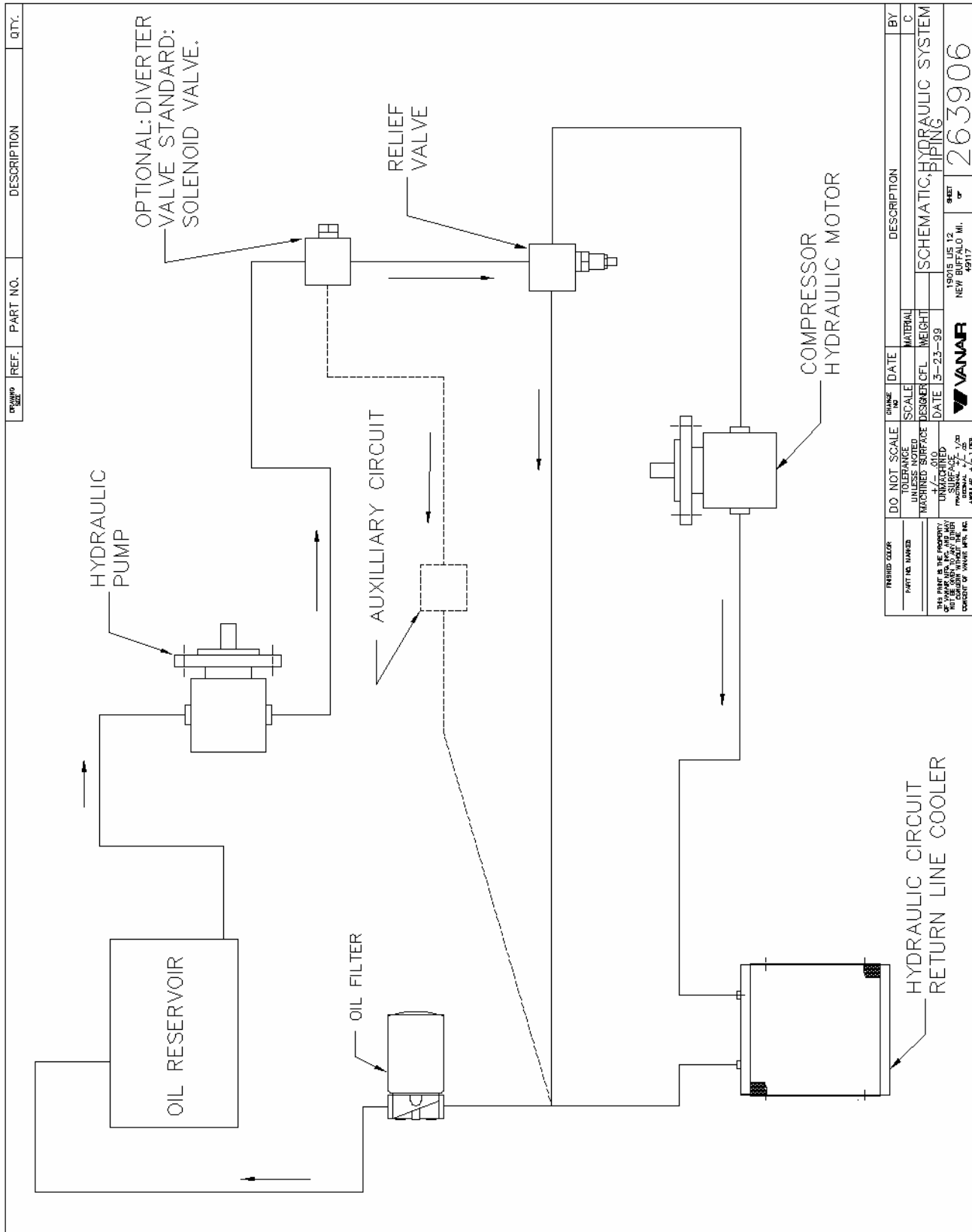
## Wiring Diagram



# DIAGRAMS

# Section 6 - Pg 4

Above Deck Hydraulic Module:



## **PARTS LIST & ILLUSTRATION**

### **7.1 Procedure for Ordering Parts**

Parts should be ordered from the nearest Distributor or from whom the unit was purchased. If for any reason parts cannot be obtained in this manner, contact the factory direct.

When ordering parts it is IMPORTANT to indicate the SERIAL NUMBER of the machine. This is attached to the main base inside the enclosure (example 30 - 12345) and is marked on the "Vanair Tag".

Some standard fasteners (capscrews, nuts, washers, etc.) and fittings plus other standard hardware may not have been included in the Parts List. Where not illustrated, use Grade 5 fastenings and schedule 40 fittings.

**Vanair Manufacturing, Inc.  
10896 West 300 N.  
Michigan City, IN 46360**

**Phone: (219) 879-5100  
( 800) 526-8817**

**Service Fax: (219) 879-5335  
Parts Fax: (219) 879-5340  
Sales Fax: (219) 879-5800**

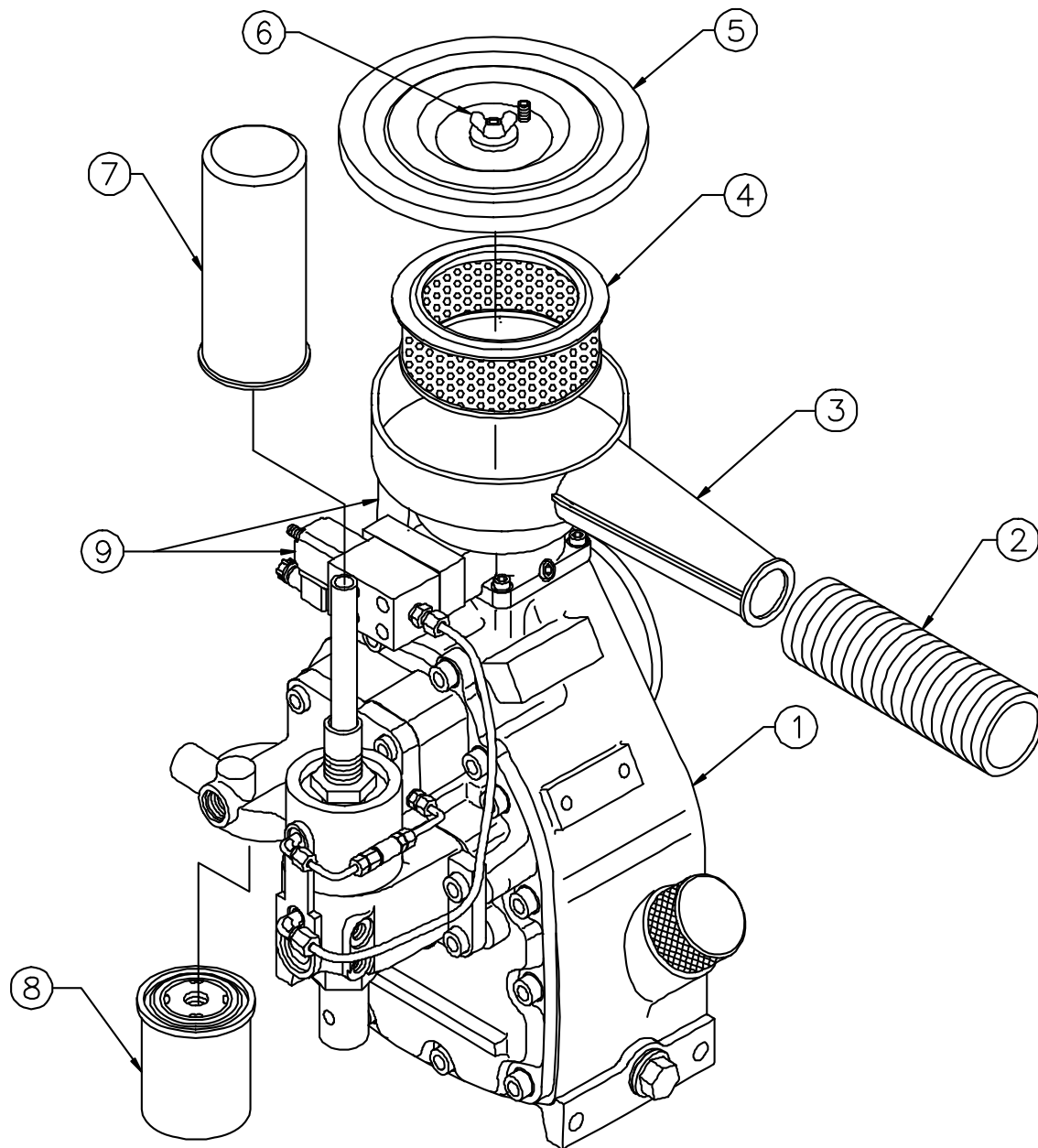
### **7.2 Recommended Common Replacement Parts**

<b><u>Part Number:</u></b>	<b><u>Description:</u></b>
<b>263823</b>	<b>Compressor air filter</b>
<b>263824</b>	<b>Compressor oil filter</b>
<b>263825</b>	<b>Compressor coalescer filter</b>
<b>263701</b>	<b>Drive belt</b>

# PARTS LIST & ILLUSTRATION

# Section 7 - Pg 2

## 7.3 Compressor Replacement Parts



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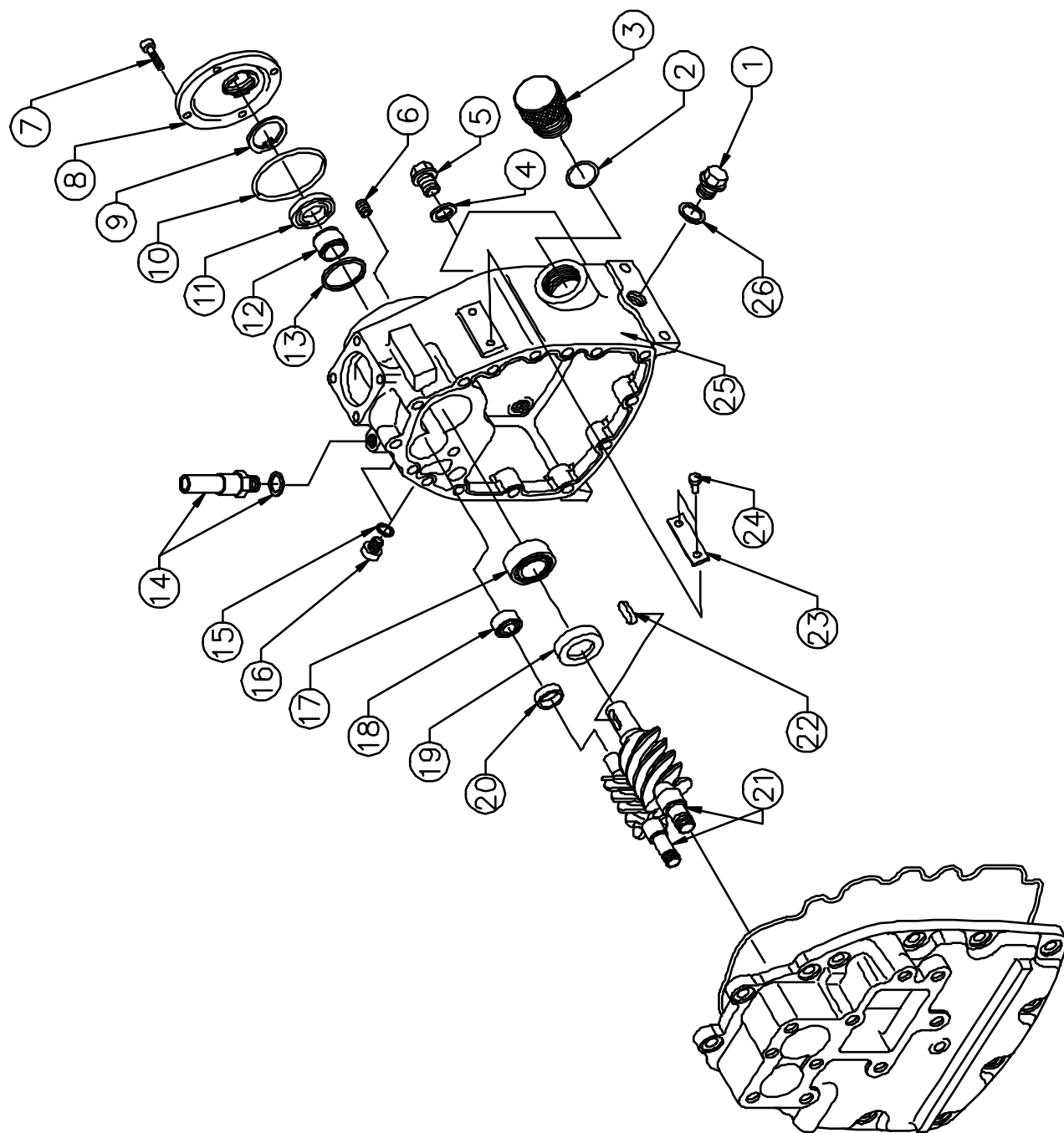
**PARTS LIST & ILLUSTRATION****Section 7 - Pg 3****7.3 Compressor Replacement Parts**

<b><u>REF #</u></b>	<b><u>PART NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY</u></b>
1	263726	COMPRESSOR COMPLETE ASSEMBLY	1
2	262705	FLEX HOSE	1
3	263726-124	AIR FILTER BODY	1
5	263726-125	AIR FILTER COVER	1
6	263726-126	WING NUT	1
7	263825	COALESCER ELEMENT FILTER	1
9	263726-130	SOLENOID AND INLET VALVE ASSEMBLED	1

# PARTS LIST & ILLUSTRATION

# Section 7 - Pg 4

## 7.4 Compressor Assembly (1 of 2)



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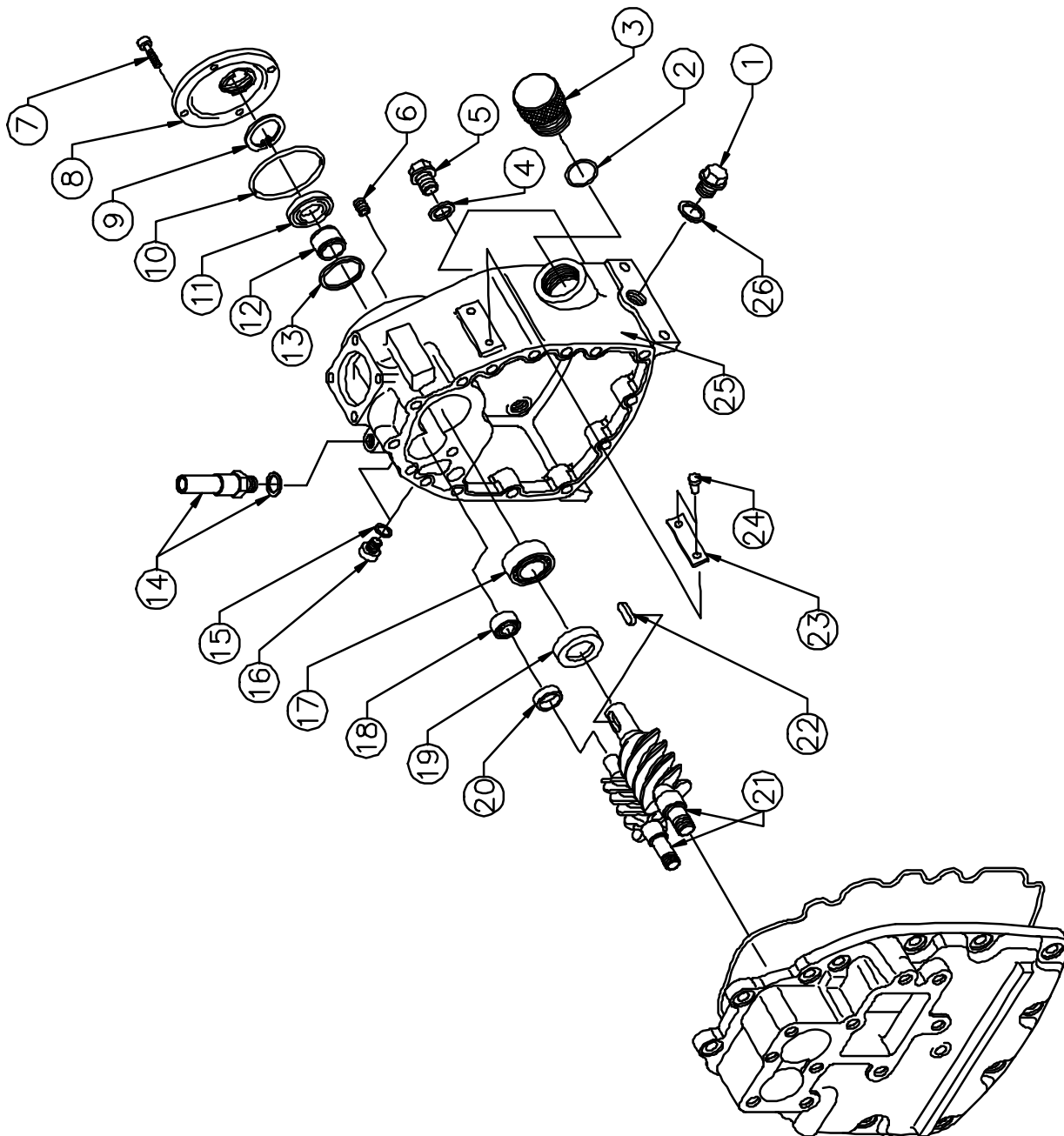
**PARTS LIST & ILLUSTRATION****Section 7 - Pg 5****7.4 Compressor Assembly (1 of 2)**

<b><u>REF #</u></b>	<b><u>PART NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY.</u></b>
1	263726-038	PLUG	1
2	263726-039	O-RING	1
3	263726-040	OIL FILL CAP	1
4	263726-041	COPPER WASHER	1
5	263726-042	PLUG	1
6	263726-043	PLUG	1
7	263726-044	SCREW	1
8	263726-045	COVER	1
9	263726-046	SNAP RING	1
10	263726-047	O-RING	1
11	263726-048	SEAL, SHAFT	1
12	263726-049	WEAR SLEEVE	1
13	263726-050	SEAL	1
14	263704	PRESSURE RELIEF	1

# PARTS LIST & ILLUSTRATION

# Section 7 - Pg 6

## 7.4 Compressor Assembly (2 of 2)





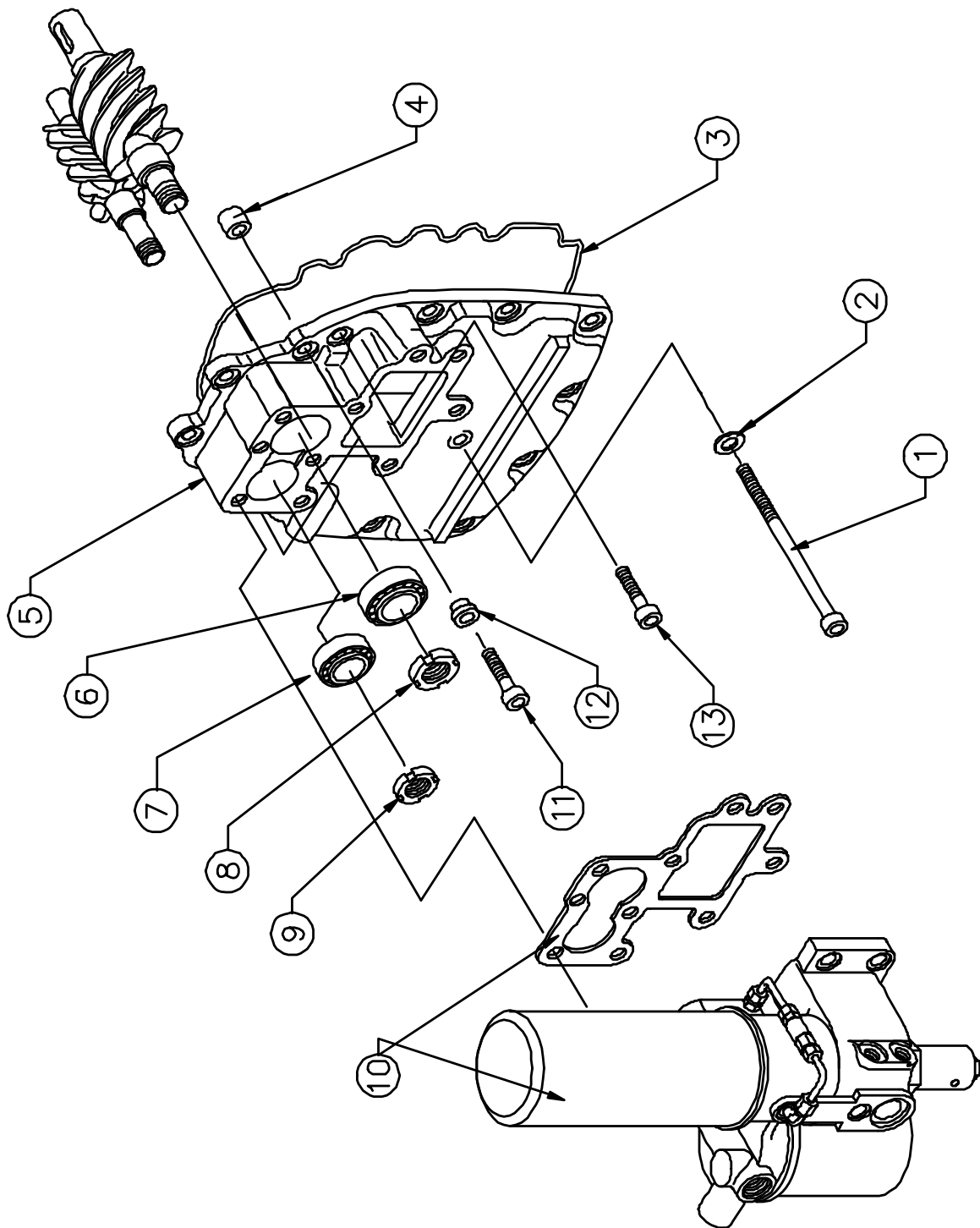
**PARTS LIST & ILLUSTRATION****Section 7 - Pg 7****7.4 Compressor Assembly (2 of 2)**

<b><u>REF. #</u></b>	<b><u>PART NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY</u></b>
15	263726-052	COPPER WASHER	1
16	263726-053	PLUG	1
17	263726-054	BEARING	1
18	263726-055	BEARING	1
19	263726-056	SEAL	1
20	263726-057	SEAL	1
21	263726-058	ROTOR	1
22	263726-059	KEY	1
23	263726-060	SERIAL NUMBER PLATE	1
24	263726-061	RIVET	1
25	263726-062	FRONT HOUSING	1
26	263726-063	COPPER WASHER	1

# PARTS LIST & ILLUSTRATION

## Section 7 - Pg 8

### 7.5 Compressor Assembly



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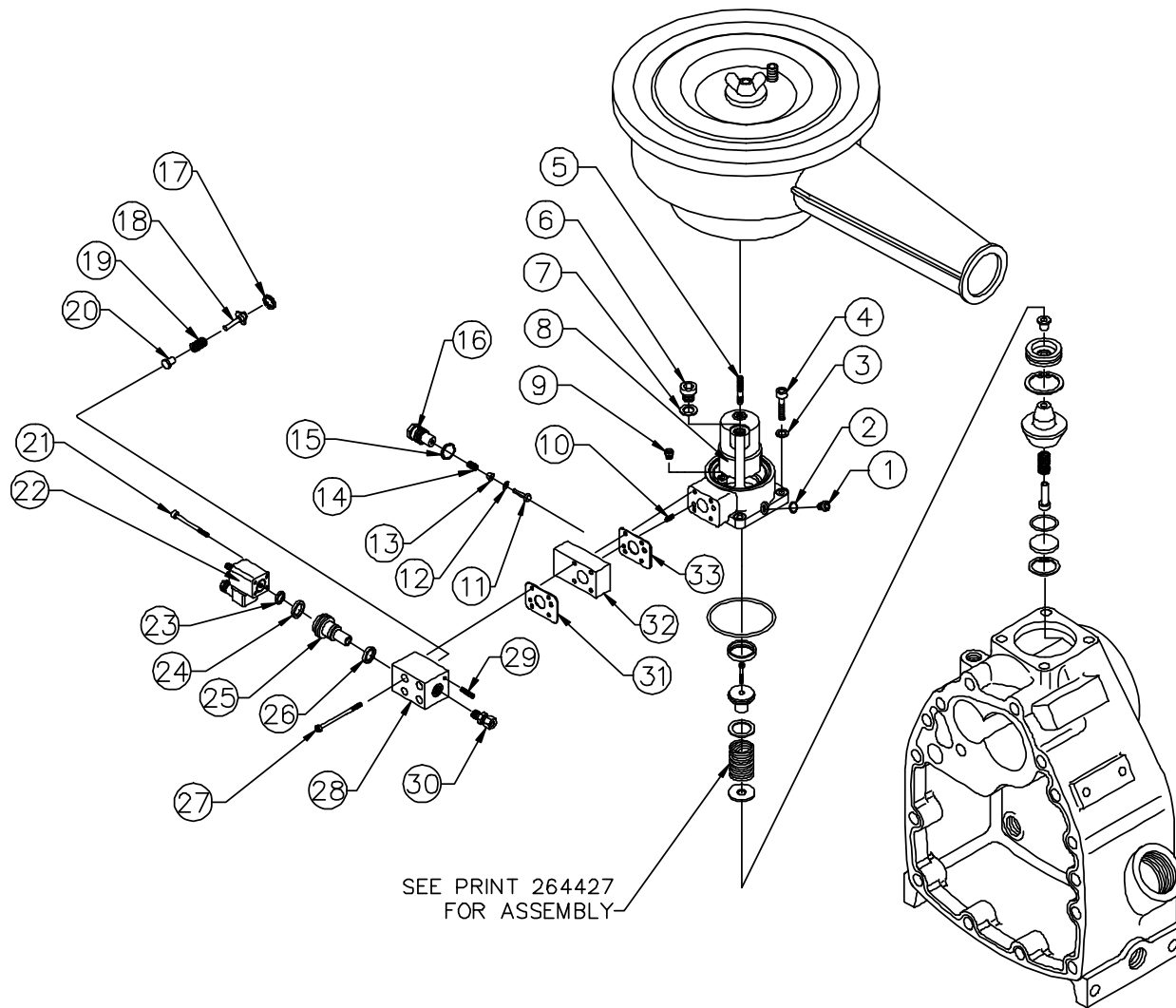
**PARTS LIST & ILLUSTRATION****Section 7 - Pg 9****7.5 Compressor Assembly**

<b><u>REF</u></b>	<b><u>PART NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY</u></b>
1	263726-080	SCREW	1
2	263726-081	WASHER	1
3	263726-082	GASKET	1
4	263726-083	SPACER	1
5	263726-084	REAR HOUSING	1
6	263726-085	BEARING	1
7	263726-086	BEARING	1
8	263726-087	NUT	1
9	263726-088	NUT	1
10	263726-089	GASKET AND INLET VALVE	1
11	263726-090	SCREW	1
12	263726-091	SPACER	1
13	263726-092	CAPSCREW	1

# PARTS LIST & ILLUSTRATION

# Section 7 - Pg 10

## 7.6 Inlet Valve Assembly (1 of 2)



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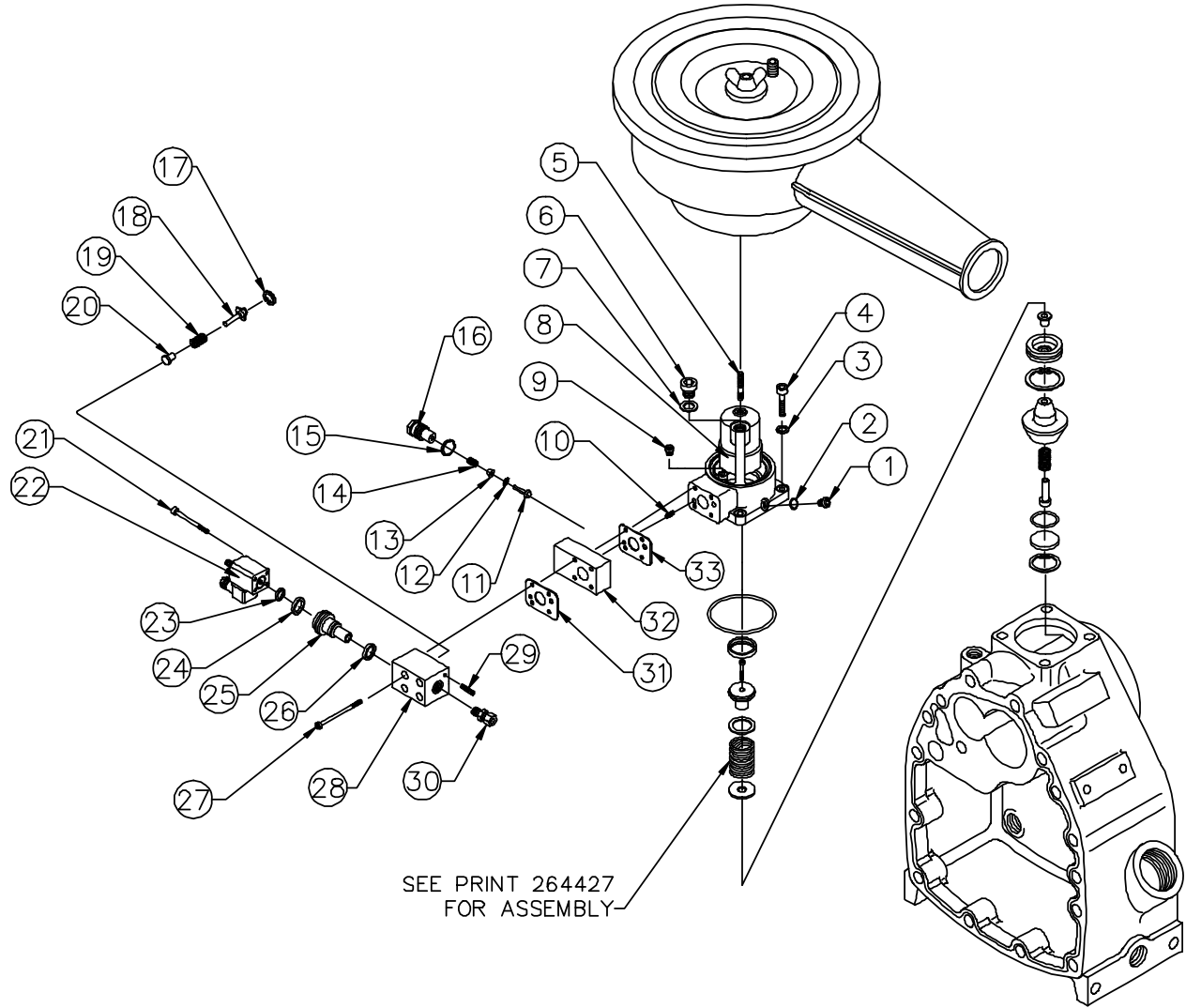
**PART LIST & ILLUSTRATION****Section 7 - Pg 11****7.6 Inlet Valve Assembly (1 of 1)**

<b><u>REF. #</u></b>	<b><u>PART NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY</u></b>
1	263726-001	INLET VALVE ASSEMBLY COMPLETE	1
2	263726-002	SEAL	1
3	263726-003	WASHER	1
4	263726-004	STUD	1
5	263726-005	STUD	1
6	263726-006	PLUG	1
7	263726-007	SEAL RING	1
8	263726-008	INLET VALVE BODY	1
9	263726-009	PLUG	1
10	263726-010	SPRING	1
11	263726-011	PIN	1
12	263726-012	WASHER	1
13	263726-013	CONE	1
14	263726-014	SPRING	1
15	263726-015	O-RING	1
16	263726-016	CAP	1
17	263726-017	SNAP RING	1
18	263726-018	PLUNGER	1

# PARTS LIST & ILLUSTRATION

# Section 7 - Pg 12

## 7.6 Inlet Valve Assembly (2 of 2)



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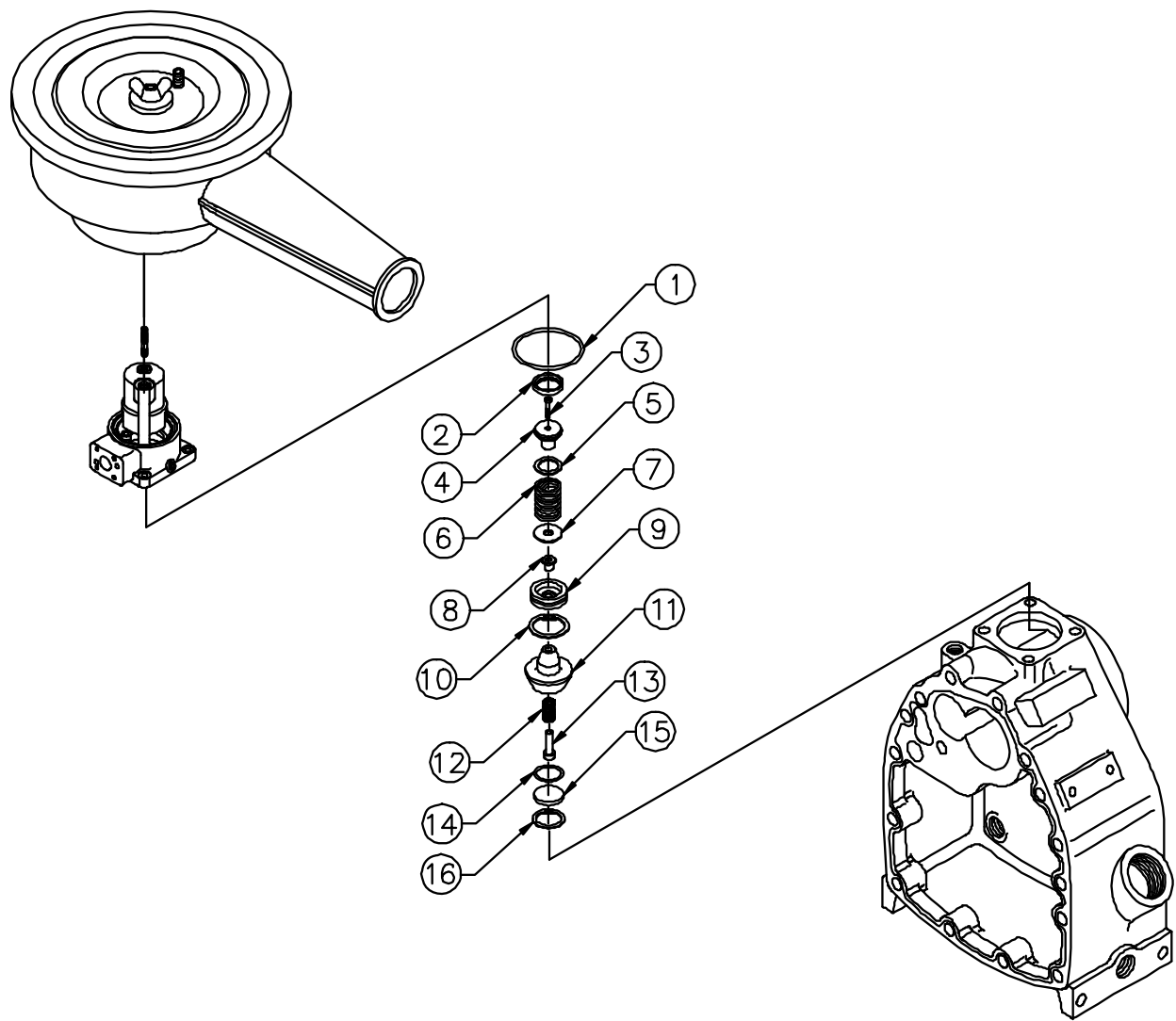
**PART LIST & ILLUSTRATION****Section 7 - Pg 13****7.6 Inlet Valve Assembly (2 of 2)**

<b><u>REF. #</u></b>	<b><u>PART NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY</u></b>
19	263726-019	SPRING	1
20	263726-020	PIN	1
21	263726-021	CAP SCREW	1
22	263726-023	SOLENOID VALVE 12VDC	1
23	263726-027	O-RING	1
24	263726-028	O-RING	1
25	263726-029	PLUNGER	1
26	263726-030	O-RING	1
27	263726-031	BOLTS	1
28	263726-032	MANIFOLD	1
29	263726-033	STUD	1
30	263726-034	AIR CONNECTION	1
31	263726-035	GASKET	1
32	263726-036	MANIFOLD	1
33	263726-037	GASKET	1

# PARTS LIST & ILLUSTRATION

## Section 7 - Pg 14

### 7.7 Inlet Valve Assembly



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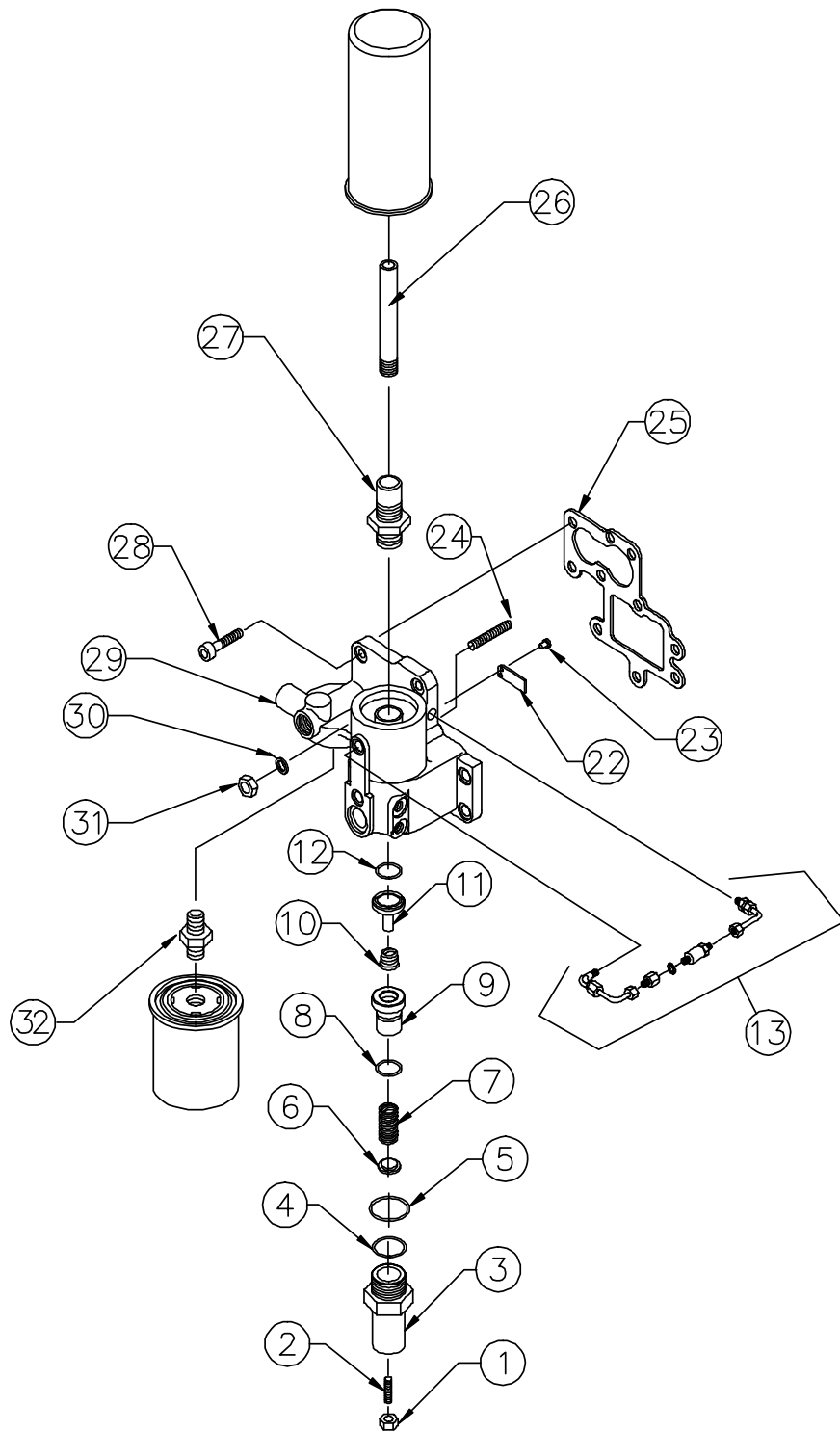
**PART LIST & ILLUSTRATION****Section 7 - Pg 15****7.7 Inlet Valve Assembly**

<b><u>REF. #</u></b>	<b><u>PART NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY</u></b>
1	263726-064	PISTON	1
2	263726-065	SUPPORT RING	1
3	263726-066	SPRING MAIN	1
4	263726-067	SUPPORT SPRING	1
5	263726-068	2	1
6	263726-069	PISTON	1
7	263726-070	RETAINER RING	1
8	263726-071	VALVE HEAD	1
9	263726-072	SPRING	1
10	263726-073	VALVE STEM	1
11	263726-074	O-RING	1
12	263726-075	COVER PLATE	1
13	263726-076	RETAINER RING	1
14	263726-077	O-RING	1
15	263726-078	HEAD	1
16	263726-079	SNAP RING	1

# PARTS LIST & ILLUSTRATION

# Section 7 - Pg 16

## 7.8 Oil Separator/MPV Assembly (1 of 2)



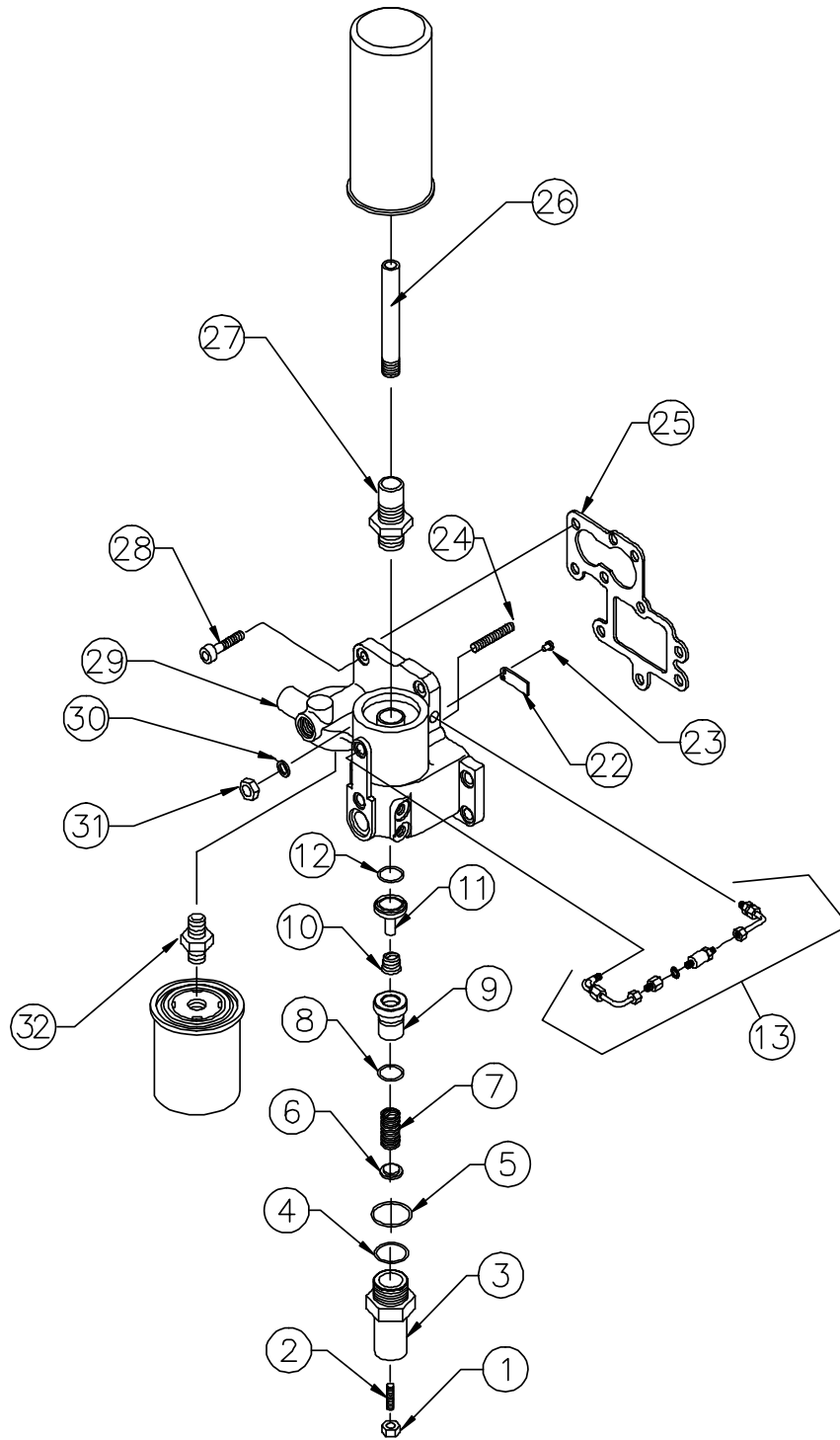
**PART LIST & ILLUSTRATION****Section 7 - Pg 17****7.8 Oil Separator/MPV Assembly (1 of 2)**

<b><u>REF. #</u></b>	<b><u>PART NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY</u></b>
1	263726-093	NUT	1
2	263726-094	STUD	1
3	263726-095	CAP	1
4	263726-096	O-RING	1
5	263726-097	O-RING	1
6	263726-098	CENTERING DEVICE	1
7	263726-099	SPRING	1
8	263726-100	O-RING	1
9	263726-101	PLUNGER	1
10	263726-102	SPRING	1
11	263726-103	PLUNGER	1
12	263726-104	SEAL	1
13	263726-132	TUBE, SCAVENGER LINE w/FITTINGS	1

# PARTS LIST & ILLUSTRATION

# Section 7 - Pg 18

## 7.8 Oil Separator/MPV Assembly (2 of 2)



264428

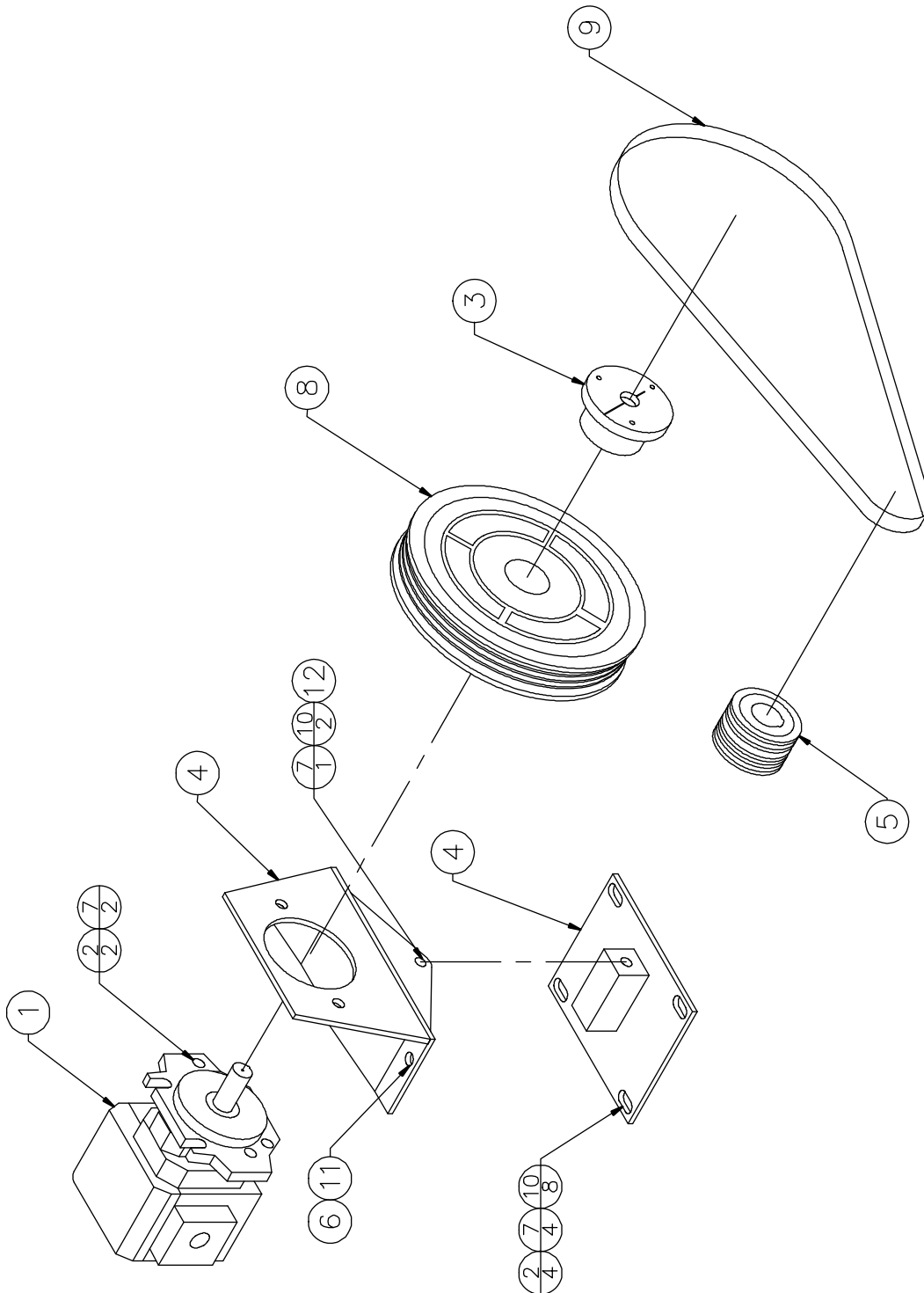
**PART LIST & ILLUSTRATION****Section 7 Pg 19****7.8 Oil Separator/MPV Assembly (2 of 2)**

<b><u>REF. #</u></b>	<b><u>PART NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY</u></b>
22	263726-114	PLATE	1
23	263726-115	RIVET	1
24	263726-116	STUD	1
25	263726-117	GASKET	1
26	263726-118	PIPE NIPPLE	1
27	263726-119	ADAPTER	1
28	263726-120	CAPSCREW	1
29	263726-121	FILTER HOUSING	1
30	263726-122	WASHER	1
31	263726-123	NUT	1
32	263726-124	ADAPTER	1

# PART LIST & ILLUSTRATION - SRS65

# Section 7 Pg 20

## 7.9 Drive Assembly



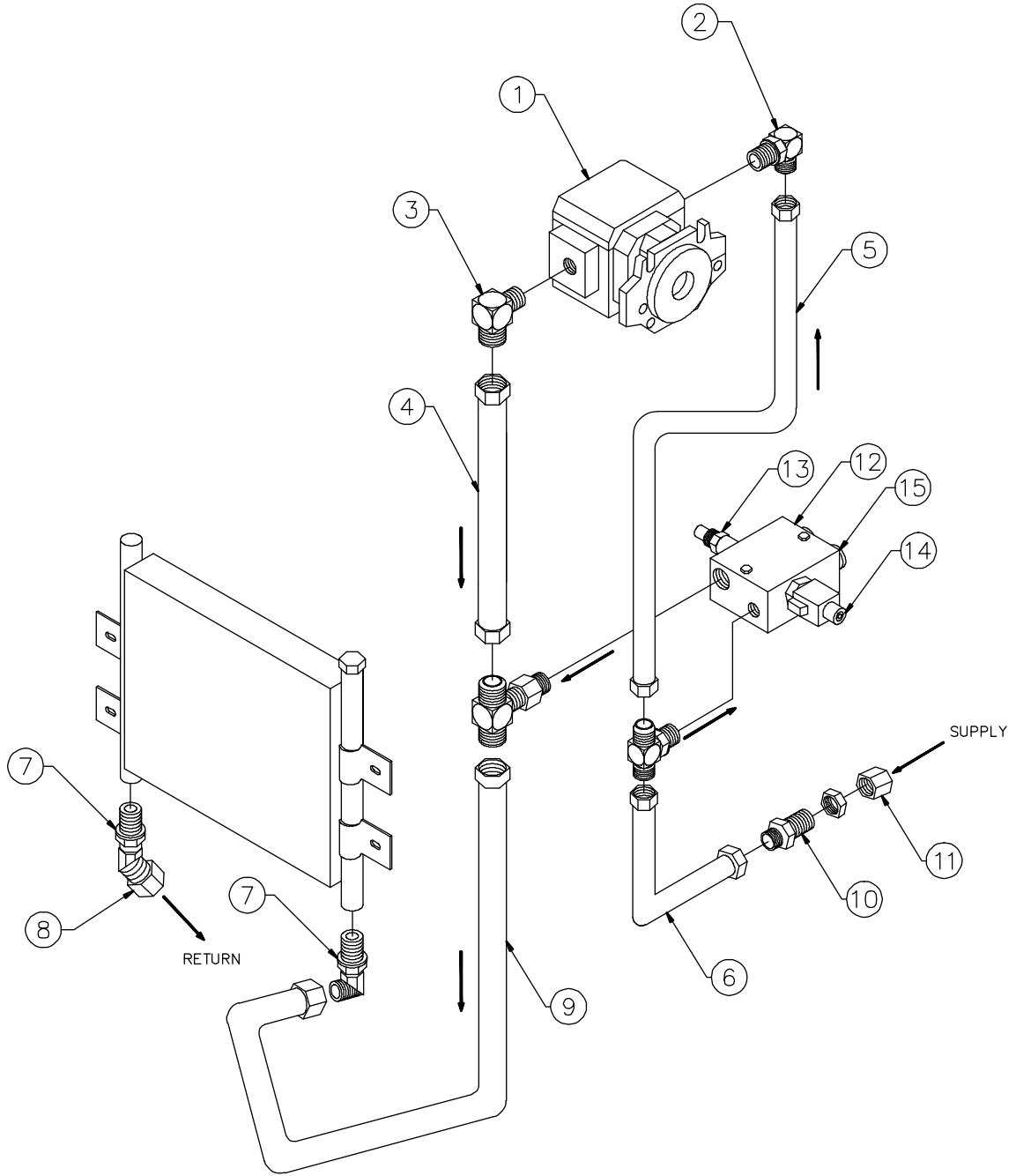
**PART LIST & ILLUSTRATION****Section 7 Pg 21****7.9 Drive Assembly**

<b><u>REF. #</u></b>	<b><u>PART NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY</u></b>
1	263981	HYDRAULIC MOTOR	1
2	829408-150	CAPSCREW 1/2-13 X 1 1/2	6
3	263873	BUSHING	1
4	264145	BRACKET	1
5	263698	SHEAVE	1
6	263140	TAP BOLT 1/2-13 X 6	1
7	825508-262	LOCKNUT 1/2-13	1
8	263699	SHEAVE	10
9	263701	BELT	1
10	838208-112	WASHER	1
11	825208-448	HEX NUT	1
12	829408-500	TAP BOLT 1/2-13 X 5	1

# PART LIST & ILLUSTRATION

# Section 7 Pg 22

## 7.10 Hydraulic Supply Return



264415



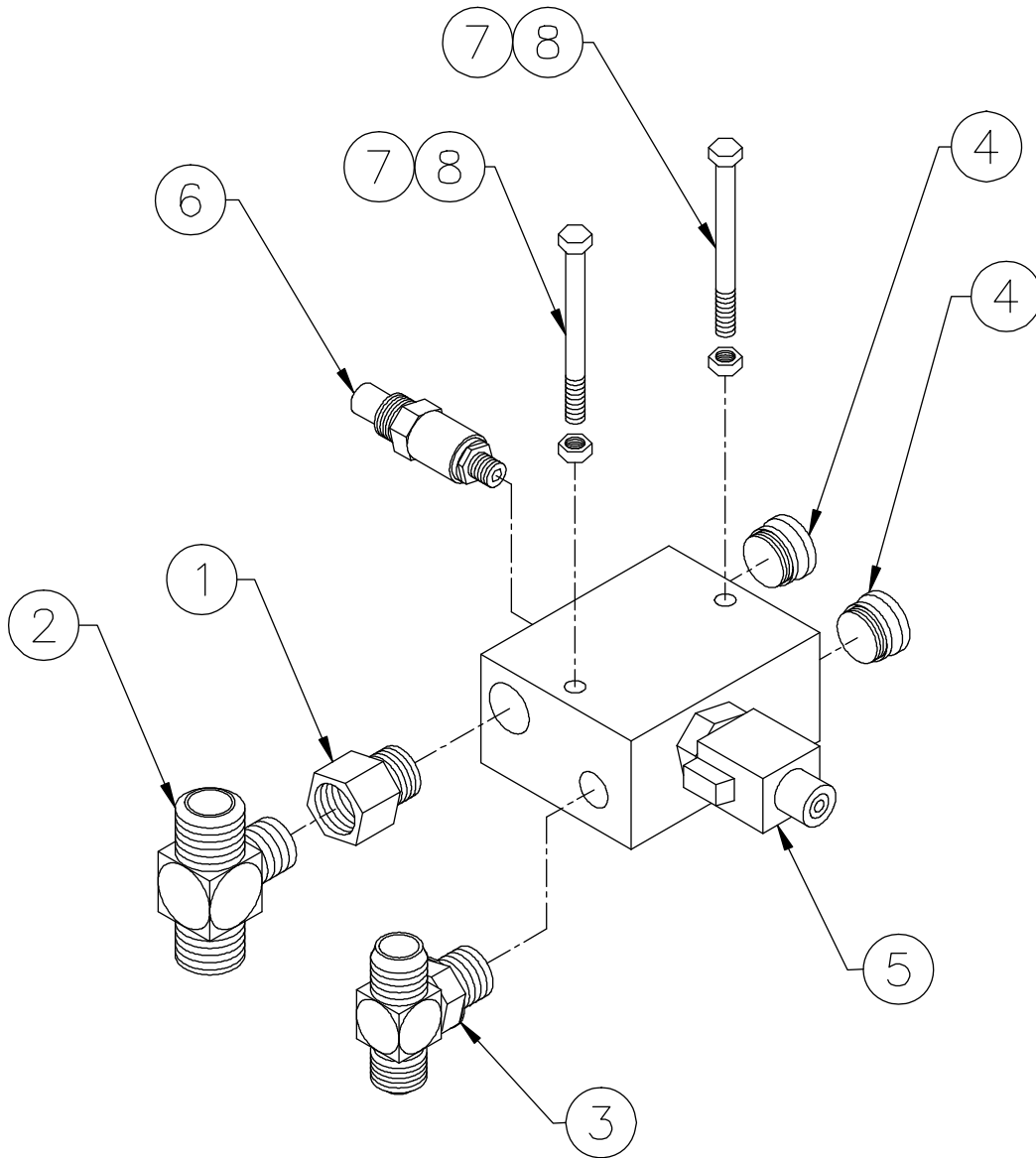
**PART LIST & ILLUSTRATION****Section 7 Pg 23****7.10 Hydraulic Supply/Return**

<b><u>REF. #</u></b>	<b><u>PART NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY</u></b>
1	263981	HYDRAULIC MOTOR	1
2	260403-107	ELBOW 3/4" SAE	1
3	260403-108	ELBOW 1" SAE	1
4	264275	1" HOSE ASSEMBLY	1
5	264275	3/4" TUBE ASSEMBLY	1
6	264275	3/4" TUBE ASSEMBLY	1
7	264276-016	45 DEGREE ELBOW	1
8	264322-006	FEMALE CAP	1
9	264275	1" TUBE ASSEMBLY	1
10	860112-075	3/4" CONNECTOR	1
11	264322-005	FEMALE CAP	1
12	263878	MANIFOLD	1
13	263896	RELIEF VALVE	1
14	263897	SOLENOID VALVE	1
15	263740	MANIFOLD PLUG	1

# **PART LIST & ILLUSTRATION**

# **Section 7 - Pg 24**

## **7.11 Valve Manifold**



264032

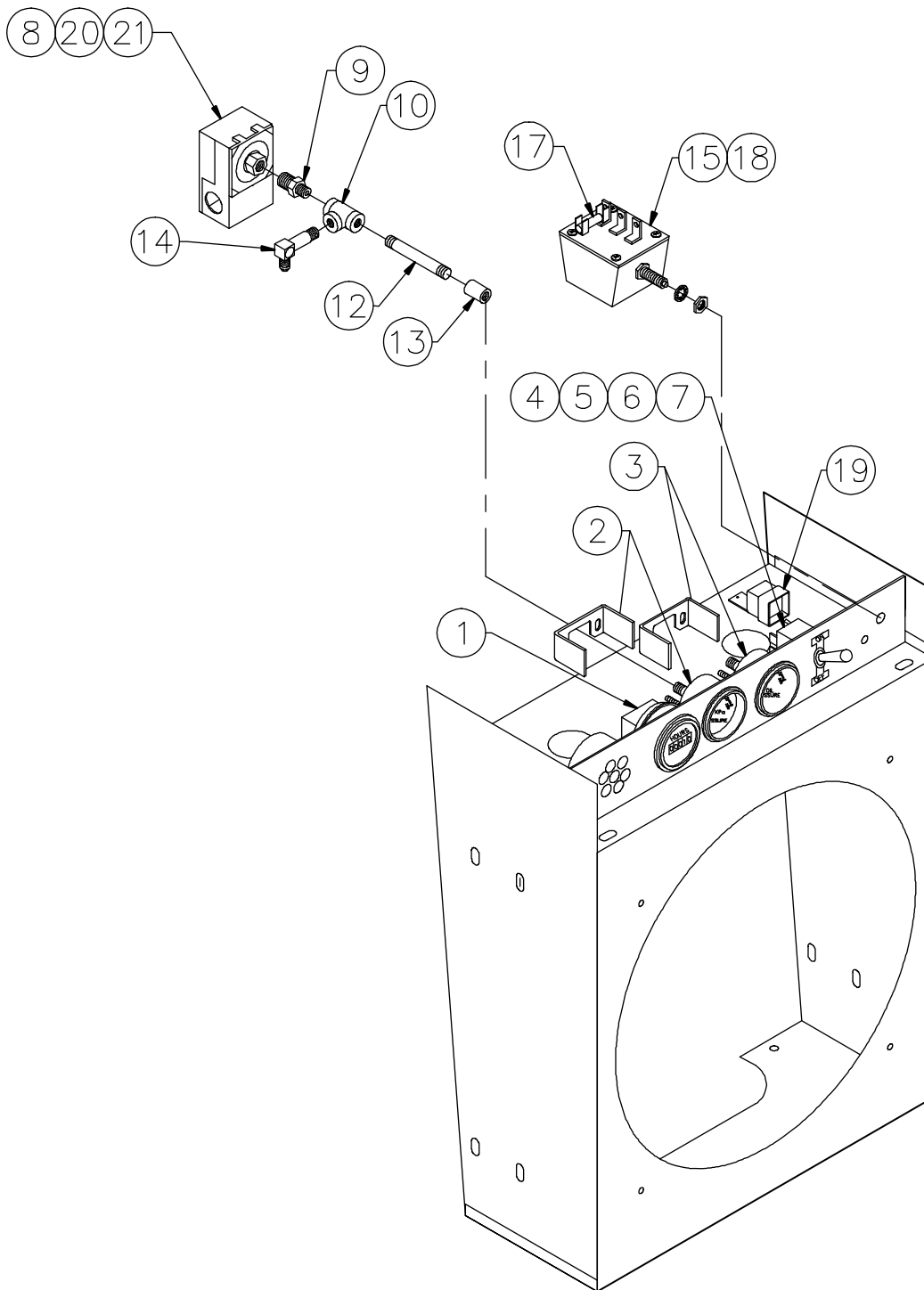
**PART LIST & ILLUSTRATION****Section 7 - Pg 25****7.11 VALVE MANIFOLD**

<b><u>REF. #</u></b>	<b><u>PART NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY</u></b>
1	263868-021	ADAPTER	1
2	861716-075	TEE	1
3	263749-006	TEE	1
4	263740	PLUG	1
5	263897	SOLENOID	1
6	263896	PRESSURE RELIEF VALVE	1
7	829106-400	CAPSCREW	2
8	825506-198	HEX NUT	2
9	263878	VALVE MANIFOLD	1

# PART LIST & ILLUSTRATION

## Section 7 - Pg 26

### 7.12 Controls/Instrumentation



264034

**PART LIST & ILLUSTRATION****Section 7 - Pg 27****7.12 Controls/Instrumentation**

<u>REF. #</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>QTY</u>
1	040035	HOUR METER GAUGE	1
2	261974	AIR PRESSURE GAUGE	1
3	263785	TEMPERATURE GAUGE	1
4	260458	TOGGLE SWITCH	1
5	262569	RUBBER BOOT	1
6	263173	10 AMP FUSE	1
7	263172	FUSE HOLDER	1
8	263850	ADJUSTABLE PRESSURE SWITCH	1
9	861604-012	HEX NIPPLE	1
<b>10</b>	<b>804415-005</b>	<b>1/8" TEE</b>	<b>1</b>
<b>11</b>	<b>262450</b>	<b>PRESSURE SWITCH (SEE NOTE BELOW)</b>	<b>1</b>
12	823102-030	PIPE NIPPLE	1
13	801215-005	COUPLING	1
14	044832-001	ELBOW	1
15	260625	SWITCH	1
N/S	264290	HARNESS	1
17	NPN	14 AMP FUSE	1
18	262589	RUBBER BOOT	1
N/S	260819	CIRCUIT BREAKER	1
<b>19</b>	<b>260246</b>	<b>NORMALLY CLOSED RELAY 'F'</b>	<b>1</b>
20	262905	.875 DIAMETER GROMMET	1
21	264443	1/2" KNOCKOUT SEAL	1

ITEM 11 NOTE: PRESSURE SWITCH (ITEM 11) AND CROSS (ITEM 10) WERE REPLACED WITH A TEE AND RELAY 'F' (ITEM 19)

(SEE APPROPRIATE WIRING DIAGRAM FOR DETAILS)

WIRING DIAGRAM WITH RELAY 'F': **264533**

WIRING DIAGRAM WITH PRESSURE SWITCH: **263736**

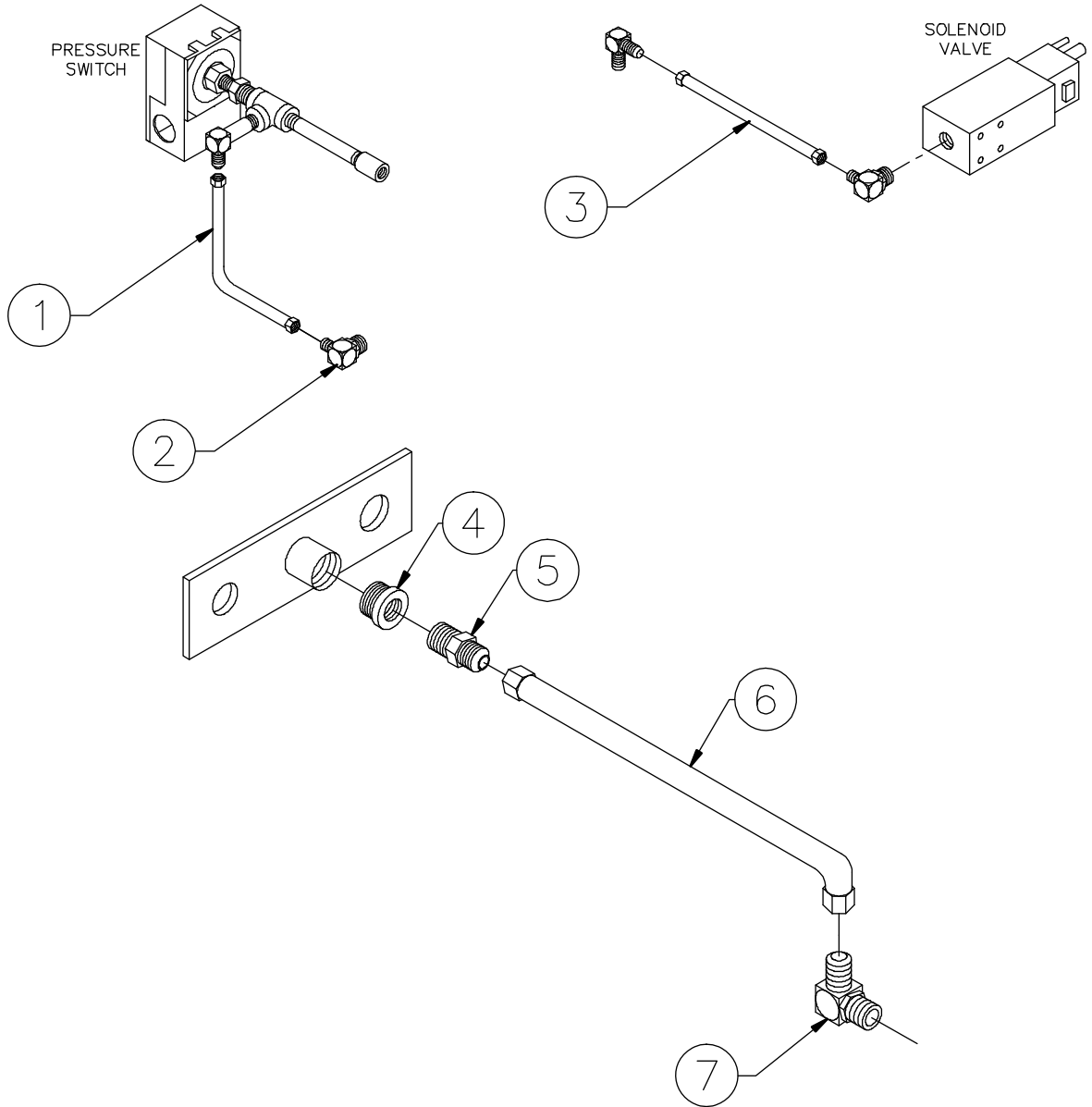
\*N/S NOT SHOWN

\*NPN NO PART NUMBER

# PART LIST & ILLUSTRATION

# Section 7 - Pg 28

## 7.13 Compressor Air Piping



264432

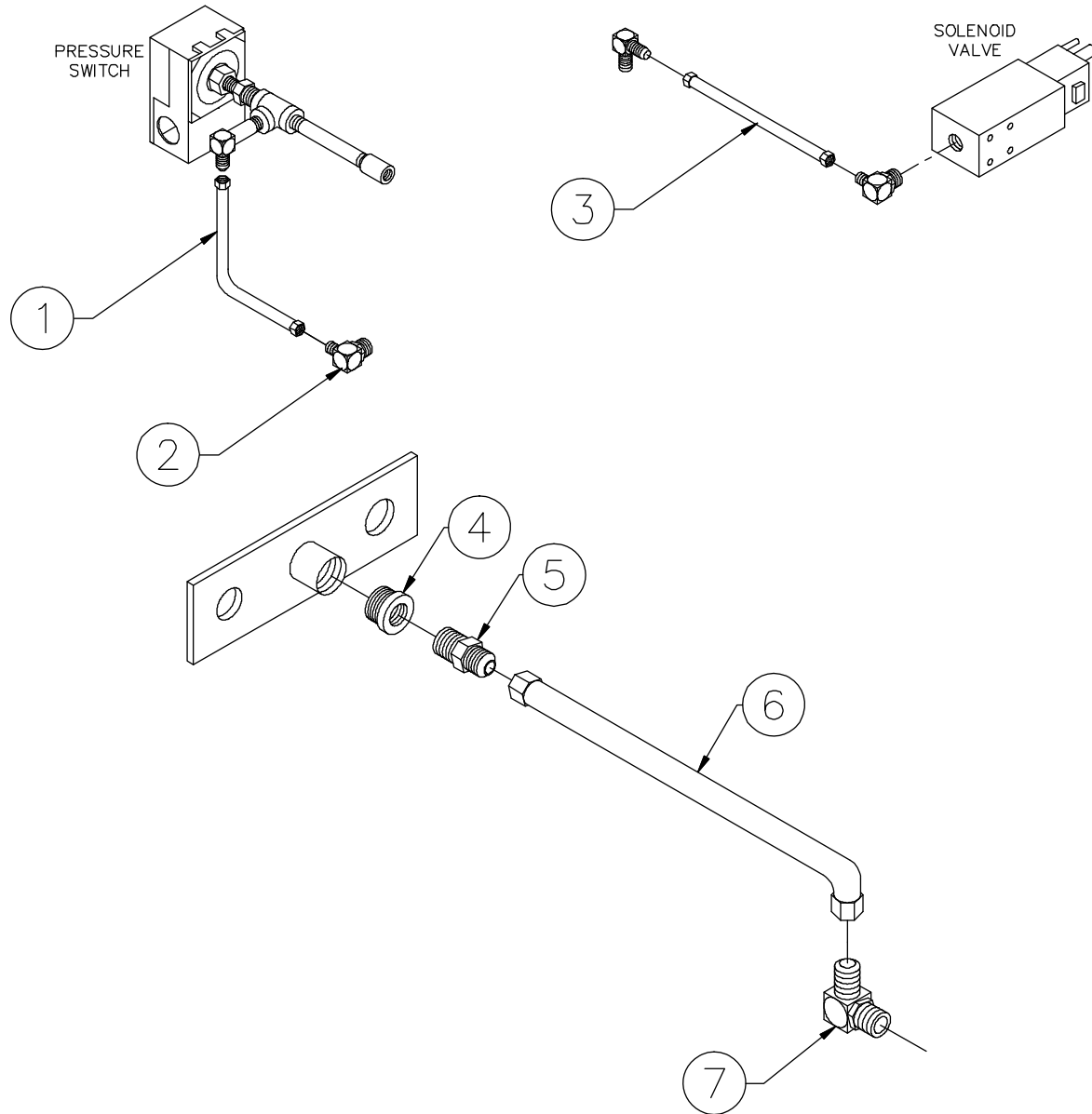
**PART LIST & ILLUSTRATION****Section 7 - Pg 29****7.13 Compressor Air Piping**

<b><u>REF. #</u></b>	<b><u>PART NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY</u></b>
1	264275	1/4" TUBE	1
2	263747-002	1/4" ELBOW	2
3	264275	1/4" TUBE	1
4	804103-020	BUSHING	1
5	860108-050	CONNECTOR	1
6	264275	1/2" TUBE	1
7	263747-006	1/2" ELBOW	1
N/S	261982	SERVICE VALVE	1

# PART LIST & ILLUSTRATION

# Section 7 - Pg 30

## 7.14 Compressor Oil Piping



264431



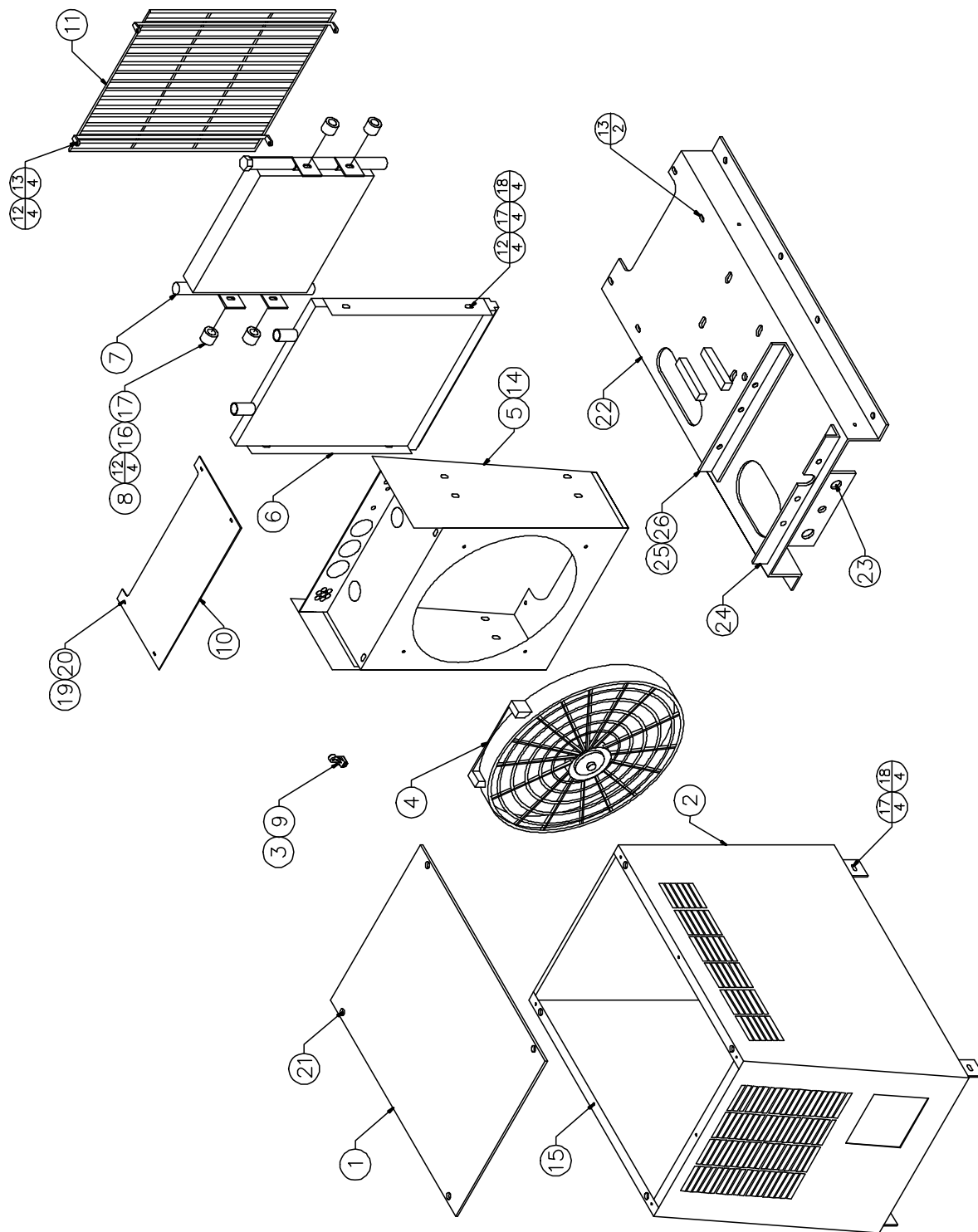
**PART LIST & ILLUSTRATION****Section 7 - Pg 31****7.14 Compressor Oil Piping**

<b><u>REF. #</u></b>	<b><u>PART NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY</u></b>
1	860208-050	1/2" ELBOW	2
2	264275	1/2" TUBE ASSEMBLY	1
3	861708-050	1/2" TEE	1
4	264275	1/2" TUBE ASSEMBLY	1
5	263748-012	1/2" ADAPTER	1
6	264203	THERMAL VALVE	1
7	263747-006	1/2" ELBOW	4
8	264312-008	1/2" ADAPTER	1
9	264275	1/2" TUBE ASSEMBLY	1
10	264275	1/2" TUBE ASSEMBLY	1
11	264036	CAP	1

# PART LIST & ILLUSTRATION

## Section 7 - Pg 32

### 7.15 Sheet Metal, Fan & Shroud



264352

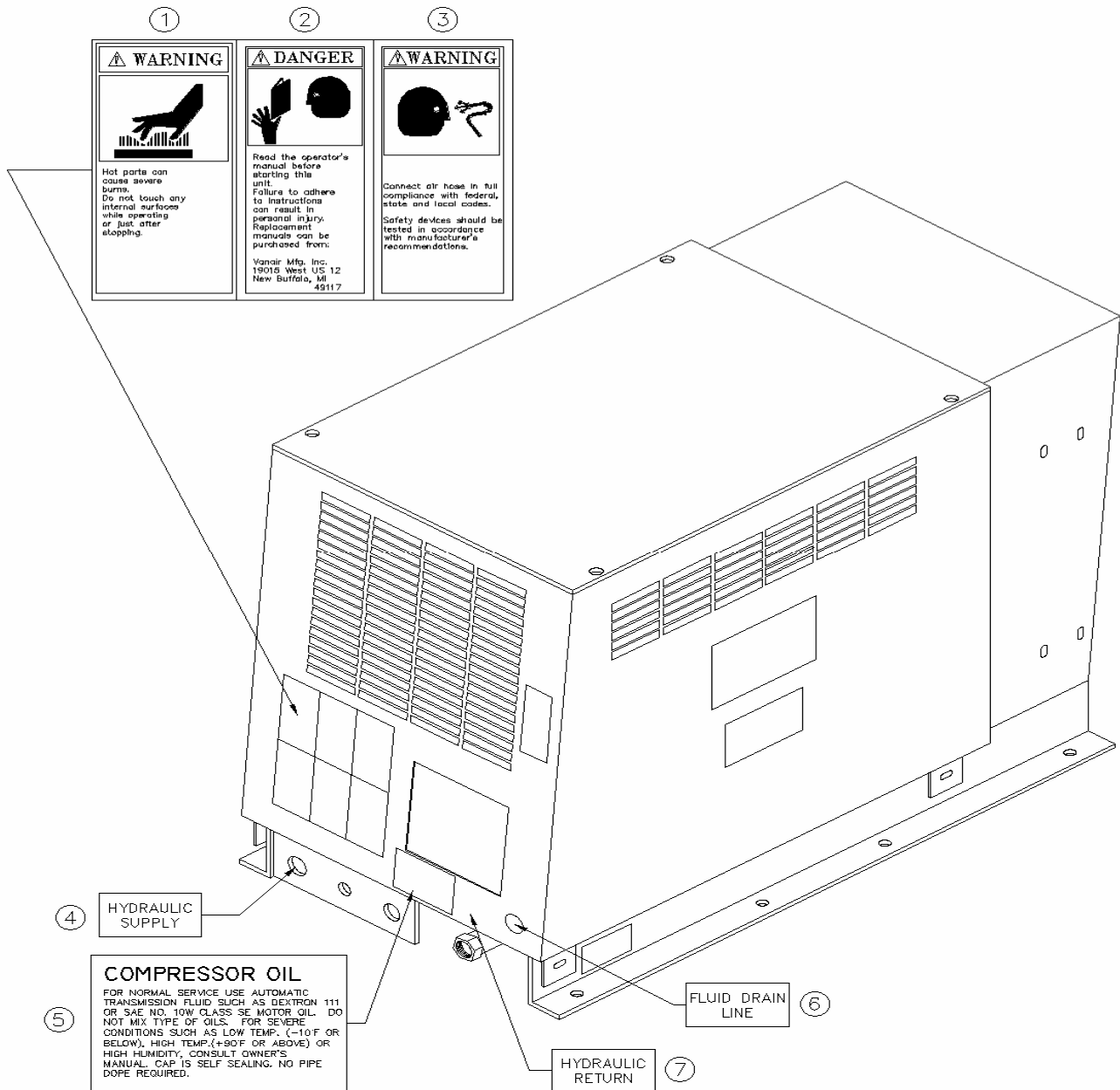
**PART LIST & ILLUSTRATION****Section 7 - Pg 33****7.15 Sheet Metal, Fan and Shroud**

<b><u>REF. #</u></b>	<b><u>PART NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY</u></b>
1	264139	TOP PLATE	1
2	264115	CANOPY	1
3	262105	CLIP, FAN AND MOTOR MOUNTING	4
4	262104	FAN AND MOTOR ASSEMBLY	1
5	264114	COOLER SHROUD	1
6	262274	COOLER	1
7	264196-010	COOLER	1
8	261818	SPACER	4
9	834204-075	SCREW	4
10	264099	COOLER SHROUD PLATE	1
11	262601	COOLER GUARD	1
12	825305-283	5/16 FLANGE NUT	12
13	829705-075	5/16 HEX SCREW	6
14	262955 N/S	RUBBER BUMPERS	2
15	262942 N/S	RUBBER BUMPERS	7
16	264310	5/16 TRUSS SCREW	4
17	262943	1/4 NYLON WASHER	12
18	262945	5/16 TRUSS SCREW	8
N/S	264113	EYENUT	1
N/S	825210-559	HEX NUT	1
N/S	838210-112	WASHER	1
19	262953	1/4 TRUSS SCREW	4
20	262704	1/4 NYLON WASHER	4
21	263959	LID LATCH	4
22	264098	FRAME	1
23	264362	GROMMET	1
24	263727-003	ANGLE	1
25	828010-030	CAPSCREW	4
26	838810-220	WASHER	4
N/S	264112	THREADED ROD	1

# PART LIST & ILLUSTRATION

## Section 7 - Pg 34

### 7.16 Decal Location



264389-1

**PART LIST & ILLUSTRATION****Section 7 - Pg 35****7.16 DECAL LOCATION**

<b><u>REF. #</u></b>	<b><u>PART NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY</u></b>
1	264372	Decal, Warning - Hot Parts	1
2	264382	Decal, Read Manual	1
3	264381	Decal, Warning- Connect Air Hose	1
4	NPN	Decal, Hydraulic Supply	1
5	NPN	Decal, Compressor Oil	1
6	NPN	Decal, Fluid Drain Line	1
7	NPN	Decal, Hydraulic Return	1

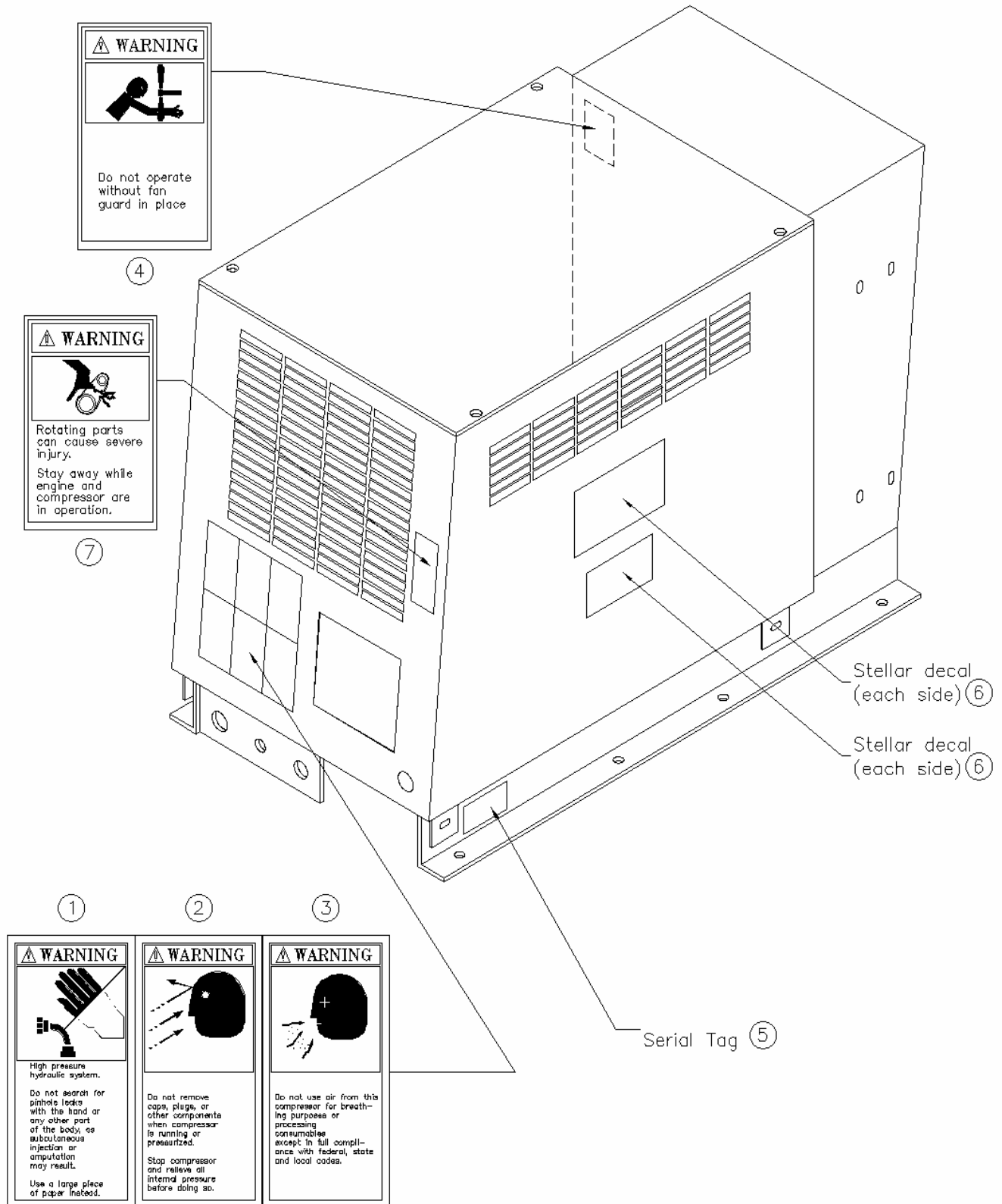
\*NPN NO PART NUMBER

\*N/S NOT SHOWN

# PART LIST & ILLUSTRATION

# Section 7 - Pg 36

## 7.17 Decal Location



**PART LIST & ILLUSTRATION****Section 7 - Pg 37****7.17 Decal Location**

<b><u>REF. #</u></b>	<b><u>PART NO.</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>QTY</u></b>
1	264380	Decal, Warning - High Pressure	1
2	264378	Decal, Warning - Do Not Remove Caps	1
3	264379	Decal, Warning - Do Not Use Air	1
4	264383	Decal, Warning - Fan Guard	1
5	260940	Plate, Serial Number	1
6	264567	Decal, Stellar	1
7	264374	Decal, Warning - Rotating Parts	1

**Vanair Manufacturing, Incorporated**  
**10896 West 300 N.**  
**Michigan City, IN 46360**  
**Phone: (219) 879-5100**  
**Fax: (219) 879-5335**

**Form Number: 590-TS.wpd**  
**Serial Number: \_\_\_\_\_**  
**Date: \_\_\_\_\_**

**Viking Hydraulic Module Data Sheet**

**Model: \_\_\_\_\_ c.f.m @ \_\_\_\_\_ psig**

**Compressor Serial No. \_\_\_\_\_**

**Hydraulic Motor: Make: \_\_\_\_\_**

**Model: \_\_\_\_\_**

**Serial Number: \_\_\_\_\_**

**Belt: Part Number: \_\_\_\_\_**

**Number of Grooves: \_\_\_\_\_**

**Notes/Special Features: \_\_\_\_\_**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Assembled By: \_\_\_\_\_ Date: \_\_\_\_\_**

**Tested By: \_\_\_\_\_ Date: \_\_\_\_\_**

\_\_\_\_\_ **gpm**                      \_\_\_\_\_ **psig**                      \_\_\_\_\_ **rpm**

\_\_\_\_\_ **gpm**                      \_\_\_\_\_ **psig**                      \_\_\_\_\_ **rpm**





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