SULLAIR

OPEN FRAME AIR COMPRESSOR

900XH - 1350XH

and Aftercooled Models

350 PSIG CATERPILLAR

OPERATOR'S MANUAL AND PARTS LIST

KEEP FOR FUTURE REFERENCE

Part Number

02250166-434

The information in this document is correct at the time of printing for Portable Compressor Serial Number

200601080007

and all subsequent Serial Numbers.

AIR CARE
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Sullair Air Care Seminars are courses that provide hands-on instruction in the proper operation, maintenance and service of Sullair equipment. Individual seminars on Portable compressors are presented at regular intervals throughout the year at a dedicated training facility at the Sullair corporate headquarters in Michigan City, Indiana.

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Section 1
SAFETY

1.1 GENERAL

Sullair Corporation designs and manufactures all of its products so they can be operated safely. However, the responsibility for safe operation rests with those who use and maintain these products. The following safety precautions are offered as a guide which, if conscientiously followed, will minimize the possibility of accidents throughout the useful life of this equipment. Read the CIMA Safety Manual prior to compressor operation and towing, if applicable in your area.

The air compressor should be operated only by those who have been trained and delegated to do so, and who have read and understood this Operator's Manual. Failure to follow the instructions, procedures and safety precautions in this manual can result in accidents and injuries.

NEVER start the air compressor unless it is safe to do so. **DO NOT** attempt to operate the air compressor with a known unsafe condition. Tag the air compressor and render it inoperative by disconnecting the battery so others who may not know of the unsafe condition will not attempt to operate it until the condition is corrected.

Use and operate the air compressor only in full compliance with all pertinent OSHA requirements and/or all pertinent Federal, State and Local codes or requirements.

DO NOT modify the compressor except with written factory approval.

Each day walk around the air compressor and inspect for leaks, loose or missing parts, damaged parts or parts out of adjustment. Perform all recommended daily maintenance.

Inspect for torn, frayed, blistered or otherwise deteriorated and degraded hoses. Replace as required.

NOTE

Estimated hose life based on a 5-day 8-hour work week is 3 years. These conditions exist on an 8-hour shift only. Any other operation of the equipment other than 8-hour shifts would shorten the hose life based on hours of operation.

1.2 TOWING (I)

NOTE

DO NOT tow the compressor should its weight exceed the rated limit of the

continued

NOTE (cont.)

tow vehicle, as the vehicle may <u>not</u> brake safely with excess weight. See rated limit in tow vehicle Operator's Manual, and review its instructions and other requirements for safe towing.

A. PREPARING TO TOW

1. Prior to hitching the air compressor to the tow vehicle, inspect all attachment parts and equipment, checking for (i) signs of excessive wear or corrosion, (ii) parts that are cracked, bent, dented or otherwise deformed or degraded, and (iii) loose nuts, bolts or other fasteners. Should any such condition be present, **DO NOT TOW** until the problem is corrected.

2. Back the tow vehicle to the compressor and position it in preparation for coupling the compressor.

3. If the compressor is provided with a drawbar latched in the vertical upright position, carefully unlatch drawbar and lower it to engage the coupling device. If not, raise drawbar to engage coupling device or otherwise couple the compressor to the towing vehicle.

⚠ WARNING

This equipment may be tongue heavy. DO NOT attempt to raise or lower the drawbar by hand if the weight is more than you can safely handle.

Use the screw jack provided or a chain fall if you cannot lift or lower it without avoiding injury to yourself or others. Keep hands and fingers clear of the coupling device and all other pinch points. Keep feet clear of drawbar to avoid injury in case it should slip from your hands.

4. Make sure the coupling device is fully engaged, closed and locked.

5. If chains are provided, pass each chain through its point of attachment on the towing vehicle; then hook each chain to itself by passing the grab hook over (not through) a link. Cross chains under front of drawbar before passing them through points of attachment on towing vehicle to support front of drawbar in case it should accidentally become uncoupled.

6. Make sure that the coupling device and adjacent structures on the towing vehicle (and also, if uti-

(I) While not towed in the usual sense of the word, many of these instructions are directly applicable to skid-mounted portable air compressors as well.

lized, chain adjustment, brake and/or electrical interconnections) **DO NOT** interfere with or restrict motion of any part of the compressor, including its coupling device, with respect to the towing vehicle when maneuvering over any anticipated terrain.

7. If provided, make sure chain length, brake and electrical interconnections provide sufficient slack to prevent strain when cornering and maneuvering, yet are supported so they cannot drag or rub on road, terrain or towing vehicle surfaces which might cause wear that could render them inoperative.

⚠ WARNING

Retract the front screw jack only after attaching the compressor to the tow vehicle. Raise the screw jack to its full up position and pull the pin connecting the jack to the drawbar. Rotate the screw jack to its stowed position, parallel to the drawbar, and reinsert the pin. Make sure the jack is secured in place prior to towing.

If a caster wheel is provided on the screw jack it is part of the screw jack and can not be removed. Follow the same procedure for stowing away the wheeled jack as you would for the standard screw jack. Pull the pin connecting the jack to the drawbar and raise the screw jack to its full up position. Rotate the screw jack to its stowed position, parallel to the drawbar, and reinsert the pin. Make sure the jack is secured in place prior to towing.

⚠ WARNING

This equipment may be tongue heavy. DO NOT attempt to raise or lower the drawbar by hand if the weight is more than you can safely handle.

8. On two-wheeled models, fully retract front screw jack and any rear stabilizer legs. If a caster wheel is provided on the screw jack it is part of the screw jack and can not be removed. Follow the same procedure for stowing away the wheeled jack as you would for the standard screw jack. Pull the pin connecting the jack to the drawbar and raise the screw jack to its full up position. Rotate the screw jack to its stowed position, parallel to the drawbar, and reinsert the pin. Make sure the jack is secured in place prior to towing.

9. Make sure tires are in good condition and are the size (load range) specified and are inflated to the specified pressures. **DO NOT** change the tire size or type. Also, make sure wheel bolts, lugs or nuts are tightened to the specified torques.

10. If provided, make sure all dual stop, tail directional and clearance lights are operating properly and that their lenses are clean and functional. Also, make sure all reflectors and reflecting surfaces, including the slow moving vehicle emblem on compressors provided with same, are clean and functional.

11. Make sure all service air hoses (not air brake hoses) are disconnected or are fully stowed and secured on hose reels, if provided.

12. Make sure all access doors and tool box covers are closed and latched. If the compressor is large enough to hold a man, make sure all personnel are out before closing and latching access doors.

13. Make sure parking brakes in towing vehicle are set, or that its wheel are chocked or blocked, or that it is otherwise restrained from moving. Then, release the compressor parking brakes, if provided.

14. Make sure the compressor wheels are not chocked or blocked, and that all tie-downs, if any, are free.

15. Test running brake operation, including breakaway switch operation if provided, before attempting to tow the compressor at its rated speed or less when conditions prevail.

16. **DO NOT** carry loose or inappropriate tools, equipment or supplies on or in the compressor.

17. **DO NOT** load this equipment with accessories or tools such that it is unbalanced from side to side or front to back. Such unbalance will reduce the towability of this equipment and may increase the possibility of tipping, rolling over, jackknifing, etc. Loss of control of the towing vehicle may result.

B. TOWING

1. Observe all Federal, State, and Local laws while towing this equipment (including those specifying minimum speed).

2. **DO NOT** exceed the towing speeds listed below under ideal conditions. Reduce your speed according to posted speed limits, weather, traffic, road or terrain conditions.

a. Two axle four-wheel steerable models: 15MPH (24KMPH).

b. All other models: 55 MPH (88KMPH).

3. Remember that the portable air compressor may approach or exceed the weight of the towing vehicle. Maintain increased stopping distances accordingly. **DO NOT** make sudden lane changes, U-turns, or other maneuvers. Such maneuvers can cause the compressor to tip, roll over, jackknife or slide and cause loss of control of the towing vehicle. Tipping, rolling over, etc. can occur suddenly without warning. U-turns especially should be made slowly and carefully.

4. Avoid grades in excess of 15° (27%).

5. Avoid potholes, rocks and other obstructions, and soft shoulders or unstable terrain.

6. Maneuver in a manner that will not exceed the freedom of motion of the compressor's drawbar and/or coupling device, in or on the towing vehicle's coupling device and/or adjacent structure whether towing forward or backing up, regardless of the terrain being traversed.

7. **DO NOT** permit personnel to ride in or on the compressor.

8. Make sure the area behind, in front of, and under the compressor is clear of all personnel and obstructions prior to towing in any direction.

9. **DO NOT** permit personnel to stand or ride on the drawbar, or to stand or walk between the compressor and the towing vehicle.

C. PARKING OR LOCATING COMPRESSOR

1. Park or locate compressor on a level surface, if possible. If not, park or locate compressor across grade so the compressor does not tend to roll downhill. **DO NOT** park or locate compressor on grades exceeding 15° (27%).

2. Make sure compressor is parked or located on a firm surface than can support its weight.

3. Park or locate compressor so the wind, if any, tends to carry the exhaust fumes and radiator heat away from the compressor air inlet openings, and also where the compressor will not be exposed to excessive dust from the work site.

4. On four-wheel models, park compressor with front wheels in straight ahead position.

5. Set parking brakes and disconnect breakaway switch cable and all other interconnecting electrical and/or brake connections, if provided.

6. Block or chock both sides of all wheels.

7. If provided, unhook chains and remove them from the points of chain attachment on the towing vehicle, then hook chains to bail on drawbar or wrap chains around the drawbar and hook them to themselves to keep chains off the ground which might accelerate rusting.

8. Lower front screw jack and/or any front and rear stabilizer legs. Make sure the surface they contact has sufficient load bearing capability to support the weight of the compressor.

⚠ WARNING

Retract the front screw jack only after attaching the compressor to the tow vehicle. Raise the screw jack to its full up position and pull the pin connecting the jack to the drawbar. Rotate the screw jack to its stowed position, parallel to the drawbar, and reinsert the pin. Make sure the jack is secured in place prior to towing.

If a caster wheel is provided on the screw jack it is part of the screw jack and can not be removed. Follow the same procedure for stowing away the wheeled jack as you would for the standard screw jack. Pull the pin connecting the jack to the drawbar and raise the screw jack to its full up position. Rotate the screw jack to its stowed position, parallel to the drawbar, and reinsert the pin. Make sure the jack is secured in place prior to towing.

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9. If a caster wheel is provided on the screw jack it is part of the screw jack and can not be removed. Follow the same procedure for stowing away the wheeled jack as you would for the standard screw jack. Raise the screw jack to its full up position and pull the pin connecting the jack to the drawbar. Rotate the screw jack to its stowed position, parallel to the drawbar, and reinsert the pin. Make sure the jack is secured in place prior to towing.

10. Disconnect coupling device, keeping hands and fingers clear of all pinch points. If the compressor is provided with a drawbar, **DO NOT** attempt to lift the

drawbar or if hinged, to raise it to the upright position, by hand, if the weight is more than you can safely handle. Use a screwjack or chain fall if you cannot lift or raise the drawbar without avoiding injury to yourself or others.

11. When possible, stow hinged drawbar in the vertical upright position. Make certain it is securely latched in the vertical upright position. Keep feet clear of drawbar at all times to avoid crushing accidents in case it should slip from your hands or otherwise fall to the ground.

12. Move the towing vehicle well clear of the parked compressor and erect hazard indicators, barricades and/or flares (if at night) if compressor is parked on or adjacent to public roads. Park so as not to interfere with traffic.

1.3 PRESSURE RELEASE

A. Open the pressure relief valve at least weekly to make sure it is not blocked, closed, obstructed or otherwise disabled.

B. Install an appropriate flow-limiting valve between the compressor service air outlet and the shutoff (throttle) valve, when an air hose exceeding 1/2" (13mm) inside diameter is to be connected to shutoff (throttle) valve, to reduce pressure in case of hose failure, per OSHA Standard 29 CFR 1926.302 (b) (7) or any applicable Federal, State and Local codes, standards and regulations.

C. When the hose is to be used to supply a manifold, install an additional appropriate flow-limiting valve between the manifold and each air hose exceeding 1/2" (13mm) inside diameter that is to be connected to the manifold to reduce pressure in case of hose failure.

D. Provide an appropriate flow-limiting valve for each additional 75 feet (23 meters) of hose in runs of air hose exceeding 1/2" (13mm) inside diameter to reduce pressure in case of hose failure.

E. Flow-limiting valves are listed by pipe size and rated CFM. Select appropriate valve accordingly.

F. DO NOT use tools that are rated below the maximum rating of this compressor. Select tools, air hoses, pipes, valves, filters and other fittings accordingly. **DO NOT** exceed manufacturer's rated safe operating pressures for these items.

G. Secure all hose connections by wire, chain or other suitable retaining device to prevent tools or hose ends from being accidentally disconnected and expelled.

H. Open fluid filler cap only when compressor is not running and is not pressurized. Shut down the compressor and bleed the sump (receiver) to zero internal pressure before removing the cap.

I. Vent all internal pressure prior to opening any line, fitting, hose, valve, drain plug, connection or other component, such as filters and line oilers, and before attempting to refill optional air line anti-icer systems with antifreeze compound.

J. Keep personnel out of line with and away from the discharge opening of hoses, tools or other points of compressed air discharge.

K. DO NOT use air at pressures higher than 30 psig (2.1 bar) for cleaning purposes, and then only with effective chip guarding and personal protective equipment per OSHA Standard 29 CFR 1910.242 (b) or any applicable Federal, State and Local codes, standards and regulations.

L. DO NOT engage in horseplay with air hoses as death or serious injury may result.

M. This equipment is supplied with an ASME designed pressure vessel protected by an ASME rated relief valve. Lift the handle once a week to make sure the valve is functional. **DO NOT** lift the handle while machine is under pressure.

N. If the machine is installed in an enclosed area it is necessary to vent the relief valve to the outside of the structure or to an area of non-exposure.

O. DO NOT remove radiator filler cap until the coolant temperature is below its boiling point. Then loosen cap slowly to its stop to relieve any excess pressure and make sure coolant is not boiling before removing cap completely. Remove radiator filler cap only when cool enough to touch with a bare hand.

P. The ethyl ether in the replaceable cylinders used in diesel ether starting aid systems (optional) is under pressure. **DO NOT** puncture or incinerate those cylinders. **DO NOT** attempt to remove the center valve core or side pressure relief valve from these cylinders regardless of whether they are full or empty.

Q. If a manual blowdown valve is provided on the receiver, open the valve to insure all internal pressure has been vented prior to servicing any pressurized component of the compressor air/fluid system.

1.4 FIRE AND EXPLOSION

A. Refuel at a service station or from a fuel tank designed for its intended purpose. If this is not possible, ground the compressor to the dispenser prior

to refueling.

B. Clean up spills of fuel, fluid, battery electrolyte or coolant immediately if such spills occur.

C. Shut off air compressor and allow it to cool. Then keep sparks, flames and other sources of ignition away and **DO NOT** permit smoking in the vicinity when adding fuel, or when checking or adding electrolyte to batteries, or when checking or adding fluid, or when checking diesel engine ether starting aid systems or replacing cylinders, or when refilling air line anti-icer systems antifreeze compound.

D. DO NOT permit liquids, including air line anti-icer system antifreeze compound or fluid film to accumulate on bottom covers or on, under or around acoustical material, or on any external or internal surfaces of the air compressor. Wipe down using an aqueous industrial cleaner or steam clean as required. If necessary remove acoustical material, clean all surfaces and then replace acoustical material. Any acoustical material with a protective covering that has been torn or punctured should be replaced immediately to prevent accumulation of liquids or fluid film within the material. **DO NOT** use flammable solvents for cleaning purposes.

E. Disconnect the grounded (negative) battery connection prior to attempting any repairs or cleaning inside the enclosure. Tag the battery connections so others will not unexpectedly reconnect it.

F. Keep electrical wiring, including the battery terminals and other terminals, in good condition. Replace any wiring that has cracked, cut abraded or otherwise degraded insulation or terminals that are worn, discolored or corroded. Keep all terminals clean and tight.

G. Turn off battery charger before making or breaking connections to the battery.

H. Keep grounded conductive objects such as tools away from exposed live electrical parts such as terminals to avoid arcing which might serve as a source of ignition.

I. Replace damaged fuel tanks or lines immediately rather than attempt to weld or otherwise repair them. **DO NOT** store or attempt to operate the compressor with any known leaks in the fuel system. Tag the compressor and render it inoperative until repair can be made.

J. Remove any acoustical material or other material that may be damaged by heat or that may support combustion prior to attempting weld repairs. Remove diesel engine ether starting aid cylinders and air line anti-icer system components containing antifreeze compound, prior to attempting weld repairs in any place other than the fuel system. **DO NOT** weld on or near the fuel system.

K. Keep a suitable fully charged class BC or ABC fire extinguisher or extinguishers nearby when servicing and operating the compressor.

L. Keep oily rags, trash, leaves, litter or other combustibles out of and away from the compressor.

M. Open all access doors and allow the enclosure to ventilate thoroughly prior to attempting to start the engine.

N. DO NOT operate compressor under low overhanging leaves or permit such leaves to contact hot exhaust system surfaces when operating the compressor in forested areas.

O. Ethyl ether used in diesel engine ether starting aid systems is extremely flammable. Change cylinders, or maintain or troubleshoot these systems only in well-ventilated areas away from heat, open flame or sparks. **DO NOT** install, store or otherwise expose ether cylinders to temperatures above 160°F (71°C). Remove ether cylinder from the compressor when operating in ambient temperatures above 60°F (16°C).

P. DO NOT attempt to use ether as a starting aid in gasoline engines or diesel engines with glow plugs as serious personnel injury or property damage may result.

Q. DO NOT spray ether into compressor air filter or into an air filter that serves both the engine and the compressor as serious damage to the compressor or personal injury may result.

R. Antifreeze compound used in air line anti-icer systems contains methanol which is flammable. Use systems and refill with compound only in well-ventilated areas away from heat, open flames or sparks. **DO NOT** expose any part of these systems or the antifreeze compound to temperatures above 150°F (66°C). Vapors from the antifreeze compound are heavier than air. **DO NOT** store compound or discharge treated air in confined or unventilated areas. **DO NOT** store containers or antifreeze compound in direct sunlight.

S. Store flammable fluids and materials away from your work area. Know where fire extinguishers are and how to use them, and for what type of fire they are intended. Check readiness of fire suppression systems and detectors if so equipped.

1.5 MOVING PARTS

A. Keep hands, arms and other parts of the body and also clothing away from belts, pulleys and other

moving parts.

B. DO NOT attempt to operate the compressor with the fan or other guards removed.

C. Wear snug-fitting clothing and confine long hair when working around this compressor, especially when exposed to hot or moving parts inside the enclosure.

D. Keep access doors closed except when making repairs or adjustments, performing service or when starting or stopping the compressor.

E. Make sure all personnel are out of and clear of the compressor prior to attempting to start or operate it.

F. Shut off engine before adding fuel, fluid, coolant lubricants, air line antifreeze compound or battery electrolyte, or before replacing ether starting aid cylinders.

G. Disconnect the grounded negative battery connection to prevent accidental engine operation prior to attempting repairs or adjustments. Tag the battery connection so others will not unexpectedly reconnect it.

H. When adjusting the controls, it may require operation of the equipment during adjustment. **DO NOT** come in contact with any moving parts while adjusting the control regulator and setting the engine RPM. Make all other adjustments with the engine shut off. When necessary, make adjustment, other than setting control regulator and engine RPM, with the engine shut off. If necessary, start the engine and check adjustment. If adjustment is incorrect, shut engine off, readjust, then restart the engine to recheck adjustment.

I. Keep hands, feet, floors, controls and walking surfaces clean and free of fluid, water, antifreeze or other liquids to minimize possibility of slips and falls.

1.6 HOT SURFACES, SHARP EDGES AND SHARP CORNERS

A. Avoid bodily contact with hot fluid, hot coolant, hot surfaces and sharp edges and corners.

B. Keep all parts of the body away from all points of air discharge and away from hot exhaust gases.

C. Wear personal protective equipment including gloves and head covering when working in, on or around the compressor.

D. Keep a first aid kit handy. Seek medical assistance promptly in case of injury. **DO NOT** ignore small cuts and burns as they may lead to infection.

1.7 TOXIC AND IRRITATING SUBSTANCES

A. DO NOT use air from this compressor for respiration (breathing) except in full compliance with OSHA Standards 29 CFR 1920 and any other Federal, State or Local codes or regulations.

⚠ DANGER

Death or serious injury may occur from inhaling compressed air without using proper safety equipment. See OSHA standards, and/or any Federal, State or Local codes or regulations on safety equipment.

B. DO NOT use air line anti-icer systems in air lines supplying respirators or other breathing air utilization equipment and **DO NOT** discharge air from these systems into unventilated or other confined areas.

C. Operate the compressor only in open or well-ventilated areas.

D. If the compressor is operated indoors, discharge engine exhaust fumes outdoors.

E. Locate the compressor so that exhaust fumes are not apt to be carried towards personnel, air intakes servicing personnel areas or towards the air intake of any portable or stationary compressor.

F. Fuels, fluids, coolants, lubricants and battery electrolyte used in the compressor are typical of the industry. Care should be taken to avoid accidental ingestions and/or skin contact. In the event of ingestion seek medical treatment promptly. **DO NOT** induce vomiting if fuel is ingested. Wash with soap and water in the event of skin contact.

G. Wear an acid-resistant apron and a face shield or goggles when servicing the battery. If electrolyte is spilled on skin or clothing, immediately flush with large quantities of water.

H. Ethyl ether used in diesel engine ether starting aid systems is toxic, harmful or fatal if swallowed. Avoid contact with the skin or eyes and avoid breathing the fumes. If swallowed, **DO NOT** induce vomiting, but call a physician immediately.

I. Wear goggles or a full face shield when testing ether starting aid systems or when adding antifreeze compound to air line anti-icer systems. Keep openings of valve or atomizer tube of ether starting aid system pointed away from yourself and other personnel.

J. If ethyl ether or air line anti-icer system

antifreeze compound enters the eyes or if fumes irritate the eyes, they should be washed with large quantities of clean water for 15 minutes. A physician, preferably any eye specialist, should be contacted immediately.

K. DO NOT store ether cylinders or air line anti-icer system antifreeze compound in operator's cabs or in other similar confined areas.

L. The antifreeze compound used in air line anti-icer systems contains methanol and is toxic, harmful or fatal if swallowed. Avoid contact with the skin or eyes and avoid breathing the fumes. If swallowed, induce vomiting by administering a tablespoon of salt in each glass of clean warm water until vomit is clear, then administer two tablespoons of baking soda in a glass of clean water. Have patient lay down and cover eyes to exclude light. Call a physician immediately.

1.8 ELECTRICAL SHOCK

A. Keep the towing vehicle or equipment carrier, compressor hoses, tools and all personnel at least 10 feet (3 meters) from power lines and buried cables.

B. Keep all parts of the body and any hand-held tools or other conductive objects away from exposed live parts of electrical system. Maintain dry footing, stand on insulating surfaces and DO NOT contact any other portion of the compressor when making adjustments or repairs to exposed live parts of the electrical system.

C. Attempt repairs only in clean, dry and well- lighted and ventilated areas.

D. Stay clear of the compressor during electrical storms! It can attract lightning.

1.9 LIFTING

A. If the compressor is provided with a lifting bail, then lift by the bail provided. If no bail is provided, then lift by sling. Compressors to be air lifted by helicopter must not be supported by the lifting bail, but by slings instead. In any event, lift only in full compliance with OSHA Standards 29 CFR 1910 subpart N or any other Local, State, Military and Federal regulations that may apply.

B. Inspect lifting bail and points of attachment for cracked welds and for cracked, bent, corroded or otherwise degraded members and for loose bolts or nuts prior to lifting.

C. Make sure entire lifting, rigging and supporting structure has been inspected, is in good condition and has a rated capacity of at least the net weight of the compressor plus an additional 10% allowance for weight of snow, ice, mud or stored tools and equipment. If your are unsure of the weight, then weigh compressor before lifting.

D. Make sure lifting hook has a functional safety latch or equivalent, and is fully engaged and latched on the bail.

E. Use guide ropes or equivalent to prevent twisting or swinging of the compressor once it has been lifted clear of the ground.

F. DO NOT attempt to lift in high winds.

G. Keep all personnel out from under and away from the compressor whenever it is suspended.

H. Lift compressor no higher than necessary.

I. Keep lift operator in constant attendance whenever compressor is suspended.

J. Set compressor down only on a level surface capable of supporting at least its net weight plus an additional 10% allowance for the weight of snow, ice, mud or stored tools and equipment.

K. If the compressor is provided with parking brakes, make sure they are set, and in any event, block or chock both sides of all running wheels before disengaging the lifting hook.

1.10 ENTRAPMENT

A. Make sure all personnel are out compressor before closing and latching enclosure doors.

B. If the compressor is large enough to hold a man and if it is necessary to enter it to perform service adjustments, inform other personnel before doing so, or else secure the access door in the open position to avoid the possibility of others closing and possibly latching the door with personnel inside.

1.11 JUMP STARTING

A. Observe all safety precautions mentioned elsewhere in this manual.

B. Batteries may contain hydrogen gas which is flammable and explosive. Keep flames, sparks and other sources of ignition away.

C. Batteries contain acid which is corrosive and poisonous. **DO NOT** allow battery acid to contact eyes, skin, fabrics or painted surfaces as serious personal injury or property damage could result. Flush any contacted areas thoroughly with water immediately. Always wear an acid-resistant apron and face shield when attempting to jump start the compressor.

D. Remove all vent caps (if so equipped) from the battery or batteries in the compressor. **DO NOT** permit dirt or foreign matter to enter the open cells.

E. Check fluid level. If low, bring fluid to proper level before attempting to jump start (not applicable to maintenance-free batteries).

F. DO NOT attempt to jump start if fluid is frozen or slushy. Bring batteries up to at least 60°F (16°C) before attempting to jump start or it may explode.

G. Cover open cells of all compressor batteries with clean dampened cloths before attempting to jump start.

H. Attempt to jump start only with a vehicle having a negative ground electrical system with the same voltage, and is also equipped with a battery or batteries of comparable size or larger than supplied in the compressor. **DO NOT** attempt to jump start using motor generator sets, welders or other sources of DC power as serious damage may result.

I. Bring the starting vehicle alongside the compressor, but **DO NOT** permit metal to metal contact between the compressor and the starting vehicle.

J. Set the parking brakes of both the compressor (if provided) and the starting vehicle or otherwise block both sides of all wheels.

K. Place the starting vehicle in neutral or park, turn off all non-essential accessory electrical loads and start its engine.

L. Use only jumper cables that are clean, in good condition and are heavy enough to handle the starting current.

M. Avoid accidental contact between jumper cable terminal clips or clamps and any metallic portion of either the compressor or the starting vehicle to minimize the possibility of uncontrolled arcing which might serve as a source of ignition.

N. Positive battery terminals are usually identified by a plus (+) sign on the terminal and the letters POS adjacent to the terminal. Negative battery terminals are usually identified by the letters NEG adjacent to the terminal or a negative (-) sign.

O. Connect one end of a jumper cable to the positive (POS) (+) battery terminal in the starting vehicle. When jump starting 24V compressors and if the starting vehicle is provided with two (2) 12V batteries connected in series, connect the jumper cable to the positive (POS) (+) terminal of the ungrounded battery.

P. Connect the other end of the same jumper cable to the positive (POS) (+) terminal of the starter motor battery in the compressor, or when jump starting 24V compressor, to the positive (POS) (+) terminal of the ungrounded battery in the compressor.

Q. Connect one end of the other jumper cable to the grounded negative (NEG) (-) terminal of the battery in the starting vehicle. When jump starting 24V compressors and if the starting vehicle is provided with two (2) 12V batteries connected in series, connect the jumper cable to the negative (NEG) (-) terminal of the grounded battery.

R. Check your connections. **DO NOT** attempt to start a 24V compressor with one 12V battery in the starting vehicle. **DO NOT** apply 24V to one 12V battery in the compressor.

S. Connect the other end of this same jumper cable to a clean portion of the compressor engine block away from fuel lines, the crank case breather opening and the battery.

T. Start the compressor in accordance with normal procedure. Avoid prolonged cranking.

U. Allow the compressor to warm up. When the compressor is warm and operating smoothly at normal idle RPM, disconnect the jumper cable from the engine block in the compressor, then disconnect the other end of this same cable from the grounded negative (NEG) (-) terminal of the battery in the starting vehicle. Then disconnect the other jumper cable from the positive (POS) (+) terminal of the battery in the compressor, or if provided with two (2) 12V batteries connected in series, from the ungrounded battery in the compressor, and finally, disconnect the other end of this same jumper cable from the positive (POS) (+) terminal of the battery in the starting vehicle or from the positive (POS) (+) terminal of the ungrounded battery in the starting vehicle, if it is provided with two (2) 12V batteries connected in series.

V. Remove and carefully dispose of the dampened cloths, as they may now be contaminated with acid, then replace all vent caps.

Section 2
DESCRIPTION

2.1 INTRODUCTION

The Sullair 900XH-1350XH Open Frame Air Compressor models offer superior performance and reliability while requiring only minimal maintenance.

The compressor is equipped with a Sullair rotary screw compressor unit. Compared to other compressors, the Sullair is unique in mechanical reliability and compressor durability. No inspection is required of the working parts within the compressor unit.

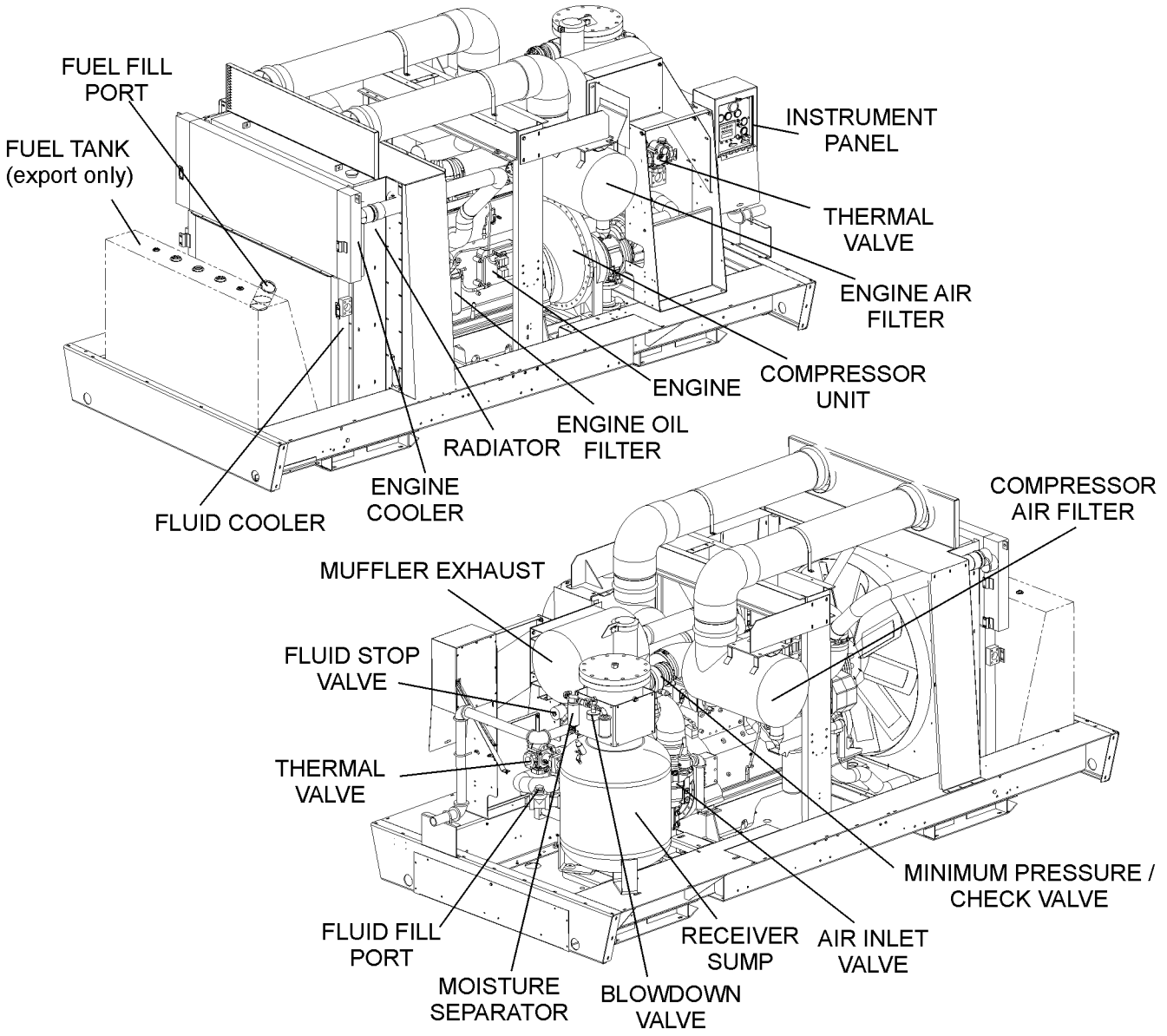
As you continue reading this manual and come to learn how the compressor operates and is cared for, you will see how surprisingly easy it is to keep a Sullair compressor in top operating condition.

Read Section 5 (Maintenance) to keep your compressor in top operating condition. Should any problem or question arise which cannot be answered in this text, contact your nearest Sullair representative or the Sullair Corporation Service Department.

2.2 DESCRIPTION OF COMPONENTS

Refer to Figure 2-1. The components and assem-

Figure 2-1 Sullair Rotary Screw Open Frame Air Compressor - Typical Main Component Locations



Section 2
DESCRIPTION

blies of the Sullair 900XH-1350XH Open Frame Air Compressors models are clearly shown. The package includes a **compressor unit**, **diesel engine**, **compressor inlet system**, **compressor cooling and lubrication system**, **compressor discharge system**, **capacity control system**, **instrument panel** and **electrical system**. The Sullair compressor unit is driven by an industrial engine designed to provide enough horsepower for more than adequate reserve at rated conditions. Refer to Engine Operator's Manual for a more detailed description of the engine.

The **engine cooling system** is comprised of a **radiator**, **high capacity fan** and **thermostats**. The high capacity fan draws air through the radiator, keeping the engine at the proper operating temperature.

The same fan also cools the fluid in the compressor cooling and lubrication system. Prior to passing through the radiator, the fan air also passes through the compressor fluid cooler (which is mounted adjacent to the radiator). As air passes through the cooler, the heat of compression is removed from the fluid.

The same fan also cools the engines intake air supply. Prior to passing through the radiator and oil cooler, the fan air passes through an air to air aftercooler. As air passes through the air to air aftercooler heat is removed which was introduced by the engine's turbo charger. The engine is coupled to the compressor unit with a non-lubricated vulcanized rubber disc and drive flange-type coupling. On open frame compressors supplied without fuel tanks, the customer is responsible for providing fuel supply.

2.3 SULLAIR COMPRESSOR UNIT, FUNCTIONAL DESCRIPTION

Sullair compressors feature the Sullair compressor unit, a two-stage, positive displacement, flood lubricated-type compressor. This unit provides continuous compression to meet your needs. With a Sullair compressor, no maintenance or inspection of the internal parts of the compressor unit is required with the warranty.

Fluid is injected into the compressor unit and mixes directly with the air as the rotors turn, compressing the air. The fluid flow has three basic functions:

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

After the air/fluid mixture is discharged from the compressor unit, the fluid is separated from the air. At this time, the air flows to your service line and the fluid is cooled in preparation for re-injection.

2.4 COMPRESSOR COOLING AND LUBRICATION SYSTEM, FUNCTIONAL DESCRIPTION

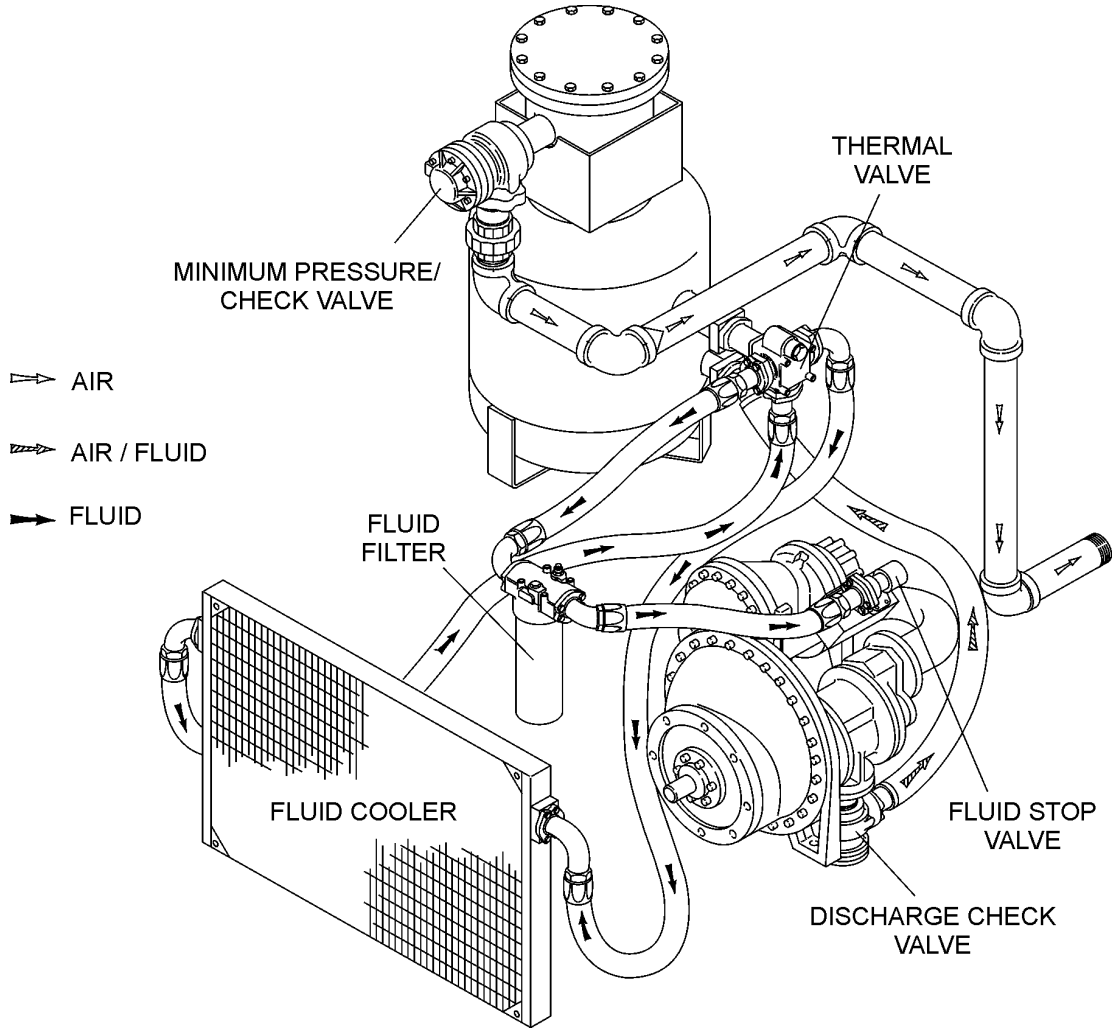
Refer to Figures 2-2 and 2-3A (Standard) or 2-3B (Aftercooled). The **compressor cooling and lubrication system** is designed to provide adequate lubrication as well as maintain the proper operating temperature of the compressor. In addition to the **cooler** and **fan**, the system consists of a **main filter**, **fluid stop valve** and **thermal valve**.

Fluid is used in the system as a coolant and a lubricant. The fluid is housed in the receiver/sump which from this time on will be referred to as the sump. Upon start-up, the temperature of the fluid is cool and routing to the fluid cooler is not necessary. The fluid, taking the path of least resistance, flows to the thermal valve.

The thermal valve has two entrance ports and two exit ports. The entrance ports will be referred to as Port A and Port B. Port A accepts fluid from the sump and Port B accepts fluid from the cooler. The exit ports will be referred to as Port C and Port D. Port C routes fluid to the cooler and Port D routes fluid to the compressor.

As previously stated, upon start-up, the fluid temperature is cool, and routing to the cooler is not required. The fluid first enters the thermal valve through Port A and then flows on to the compressor unit through Port D, bypassing the cooler. As the compressor continues to operate, the temperature of the fluid rises and the thermal valve element begins to shift. This forces a portion of the fluid to the fluid cooler through Port C. The cooler is a radiator-type that works in conjunction with the engine fan. The fan draws air through the cooler removing the heat of compression from the fluid. From the cooler, the fluid is routed back to the thermal valve, entering at Port B. Before the temperature of the fluid becomes high enough that Port A is completely shifted, cooled fluid entering at Port B is mixed with warmer fluid entering at Port A. When the temperature of the fluid entering at Port A reaches 210°F (99°C), the thermal element shifts complete-

Figure 2-2 Compressor Cooling and Lubrication System



ly causing all fluid to flow to the cooler. The thermal valve incorporates a pressure relief valve, which allows fluid to bypass the cooler, if the cooler becomes plugged or frozen. This helps assure that fluid will continue to be provided to the compressor for lubrication. After the fluid passes through the thermal valve it is then directed through the main fluid filter. There the fluid is filtered in preparation for injection into the compression chamber and bearings of the compressor unit. The filter has a replaceable element and a built-in bypass valve which allows the fluid to flow even when the filter element becomes plugged and requires changing or when the viscosity of the fluid is too high for adequate flow. After the fluid is properly filtered, it then flows on to the compressor unit where it lubricates, seals and cools the compression chamber as well as lubricates the bearings and gears.

The fluid stop valve functions on shutdown when it shuts off the fluid supply to the compressor unit. The fluid stop valve is held open by a pressure signal from the compressor discharge. At shutdown, the pressure signal is lost and the fluid stop valve closes, isolating the compressor unit form the cooling system.

2.5 COMPRESSOR DISCHARGE SYSTEM, FUNCTIONAL DESCRIPTION

Refer to Figures 2-2, 2-3A or 2-3B. The Sullair compressor unit discharges compressed air/fluid mixture into the sump.

The sump has three functions:

1. It acts as a primary fluid separator.
2. Serves as the compressor fluid sump.
3. Houses the air/fluid separator.

The compressed air/fluid mixture enters the sump and is directed against the side wall. By change of direction and reduction of velocity, large droplets of

Figure 2-3A Control System - 900XH, 1150XH and 1350XH Models

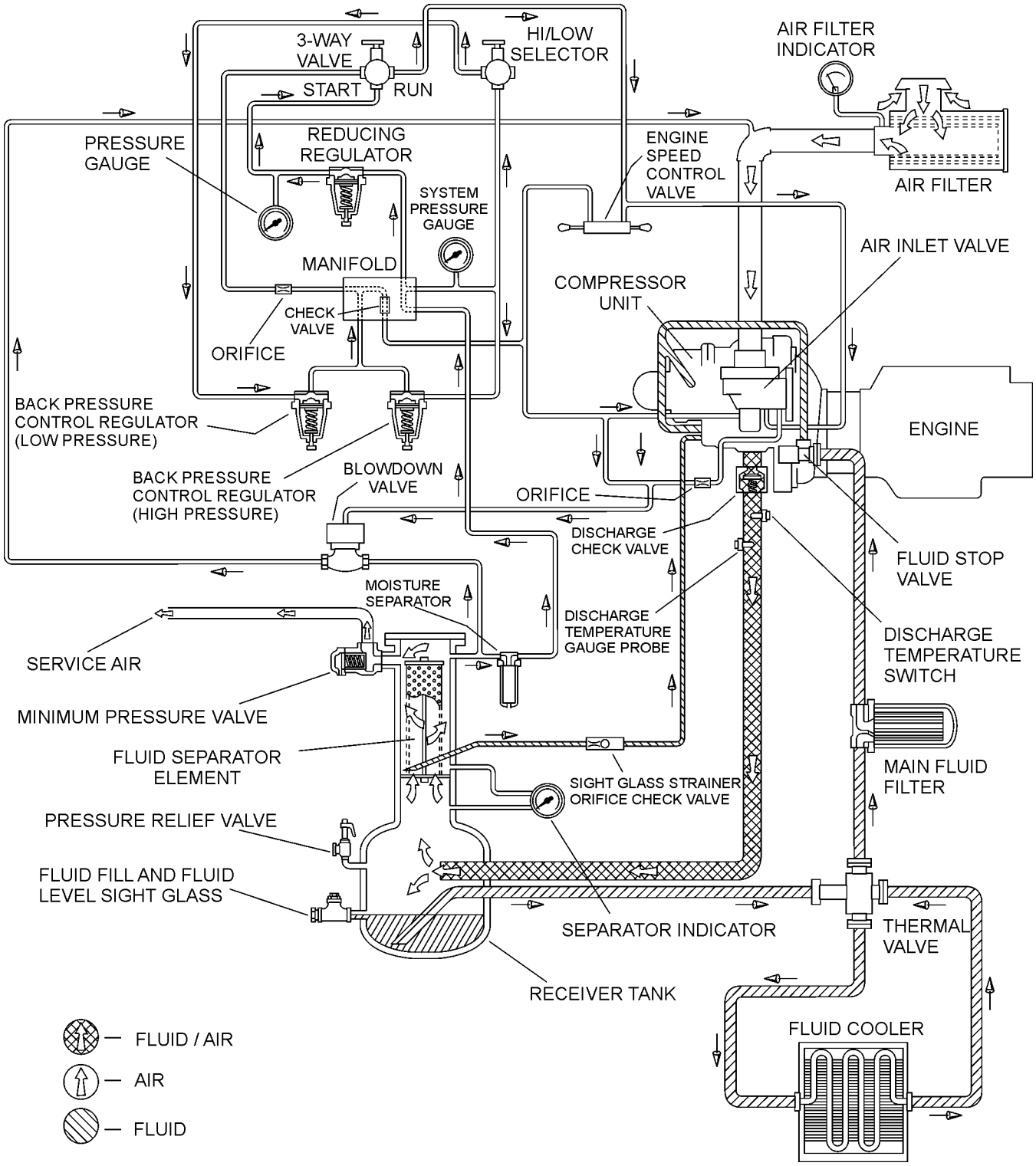
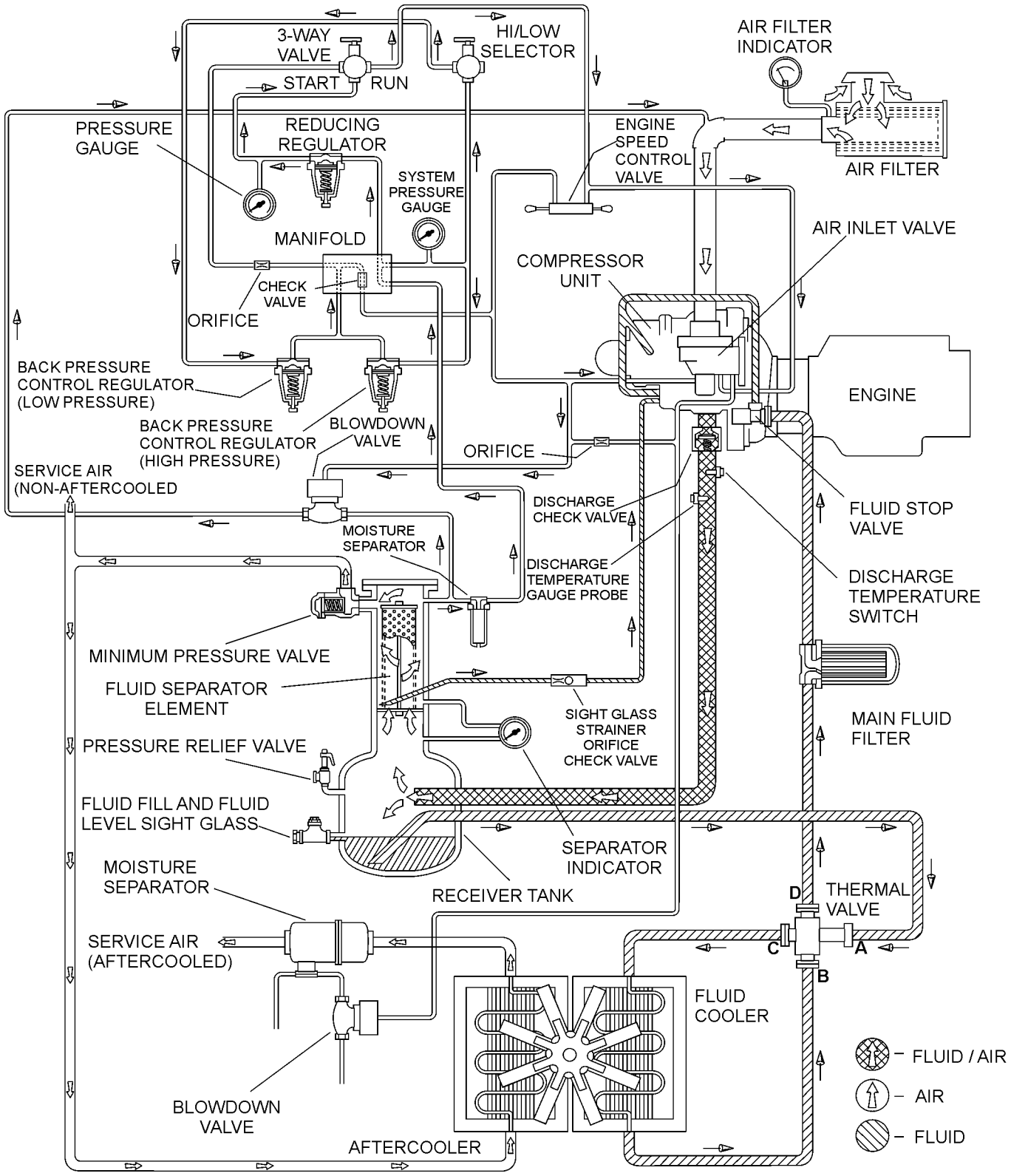


Figure 2-3B Control System - Aftercooled Models



fluid separate and fall to the bottom of the sump. The fractional percentage of fluid remaining in the compressed air collects on the surface of the final separator element as the compressed air flows through the separator. As more and more fluid collects on the element's surface, the fluid descends to the bottom of the separator. A return line (or scavenge tube) leads from the bottom of the separator element to the inlet region of the compressor unit. Fluid collecting on the bottom of the separator element is returned to the compressor by the pressure difference between the area surrounding the separator element and the compressor inlet. An orifice (protected by a strainer) is included in this return line to help assure proper flow.

The sump is ASME code rated at 400 psig (27.6 bar) working pressure. A minimum pressure/check valve, located downstream from the separator, helps assure a minimum receiver pressure of 140 psig (9.6 bar) during all conditions. This pressure is necessary for proper air/fluid separation and proper fluid circulation.

A minimum pressure/check valve at the outlet of the receiver is installed to prevent compressed air in the service line from bleeding back into the receiver on shutdown when the compressor is being run in parallel with other compressors tied to a large air system.

A pressure relief valve (located on the wet side of the separator) is set to open if the sump pressure exceeds 400 psig (27.6 bar). A temperature switch will shut down the compressor if the discharge temperature reaches 265°F (129°C) or 250°F (121°C) for the interstage.

The compressor unit discharges compressed air/fluid mixture through a discharge check valve into the sump. The discharge valve is located on the rear of the compressor unit at the end opposite the drive shaft. The discharge check valve prevents discharged air from returning to the compression chamber after shutdown.

Fluid is added to the sump via a capped fluid filler. A fluid level gauge glass enables the operator to visually monitor the sump fluid level.

NOTE

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

Stop compressor and relieve all internal pressure before doing so.

2.6 CAPACITY CONTROL SYSTEM, FUNCTIONAL DESCRIPTION

Refer to Figure 2-3A or 2-3B. The purpose of the control system is to regulate the amount of air intake in accordance with the amount of compressed air demand. The **control system** consist of an **inlet valve**, the **high** and **low pressure regulators**, the **pressure reducing regulator,** the **blowdown/running blowdown valve**, the **engine speed control cylinder**, a **start-run selector valve**, and the **high-low selector valve**.

START MODE - 0 TO 200 PSIG (0 TO 13.8 BAR)

When starting the compressor, the start-run valve should be in the start position with the high-low selector valve in low position. In the START position, the inlet valve is held closed by the springs in the inlet valve. The valve is cracked open by vacuum in the compressor and is allowed to build up to 200 psig. The reason for keeping the valve closed during start is to allow the engine to warm up without being loaded by the compressor. Air pressure is contained in the receiver tank by the minimum pressure valve which has a set point of 200 psig. (13.8 bar), At this point the valve opens allowing the air to pass to the service valve. After engine has warmed up the run-start selector valve can be switched to the run position.

LOW PRESSURE MODE - 200 PSIG (13.8 BAR)

With the high-low valve in the low position, the start-run valve can now be switched to the run position. With the service valve open, pressure from the 60 psig (4.1 bar) reducing regulator opens up the inlet valve and increases the engine speed to full load (1800 rpm). As the demand for air decreases the speed cylinder retracts, the engine rpm returns to idle (1400 rpm) and the inlet valve closes, where it stabilizes until the air demand is required.

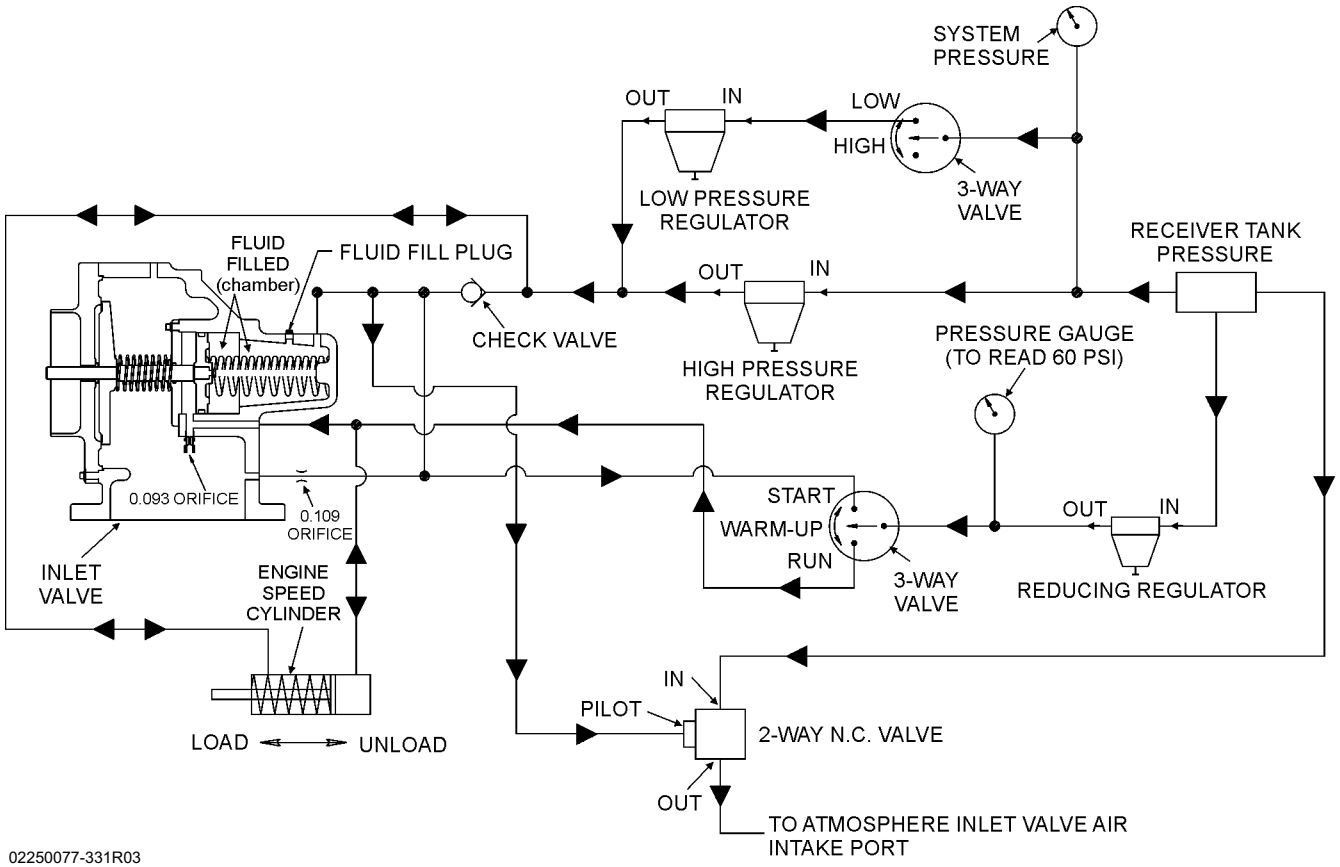
HIGH PRESSURE MODE - 350 PSIG (24.1 BAR)

When the selector valve is switched to the high pressure position the low pressure regulator is blocked off allowing the high pressure regulator to take over control of the machine. The 60 psi (4.1 bar) reducing regulator fully opens the inlet valve and strokes the speed cylinder for maximum rpm. As the pressure reaches the set point of the system the high pressure regulator cracks open and closes the inlet valve and allows the speed cylinder to return the engine back to idle, until the demand for air is seen.

SHUTDOWN

The blowdown valve is normally closed. When the compressor is shutdown, system pressure backs up

Figure 2-4 Control System Diagram



to the inlet valve causing the check spring in the inlet valve to close the air inlet valve. This sends a pressure signal to the blowdown valve causing it to open and vent the pressure in the system. After the pressure is vented, the blowdown valve spring returns the blowdown valve to the closed position.

2.7 AIR INLET SYSTEM, FUNCTIONAL DESCRIPTION

The compressor **inlet system** consists of **two air filters**, a **compressor air inlet valve** and **interconnecting piping** to the engine and compressor. Also, **nylon tubing** from air filter **restriction indicator gauges** on instrument panel are provided.

The **air filters** are **2-stage units** with a **safety element dry element-type filter**. This filter is capable of cleaning extremely dirty air. However, in such cases, frequent checks of the air filter will be required. Referring to the instrument panel, the engine air filter restriction gauge or the compressor air filter restriction gauge will indicate when restriction of the air passing through the filter becomes too high.

At this time, change the air filter element. See Section 5 for Air Filter Maintenance Procedures. These indicators should be checked daily, after start-up under normal conditions.

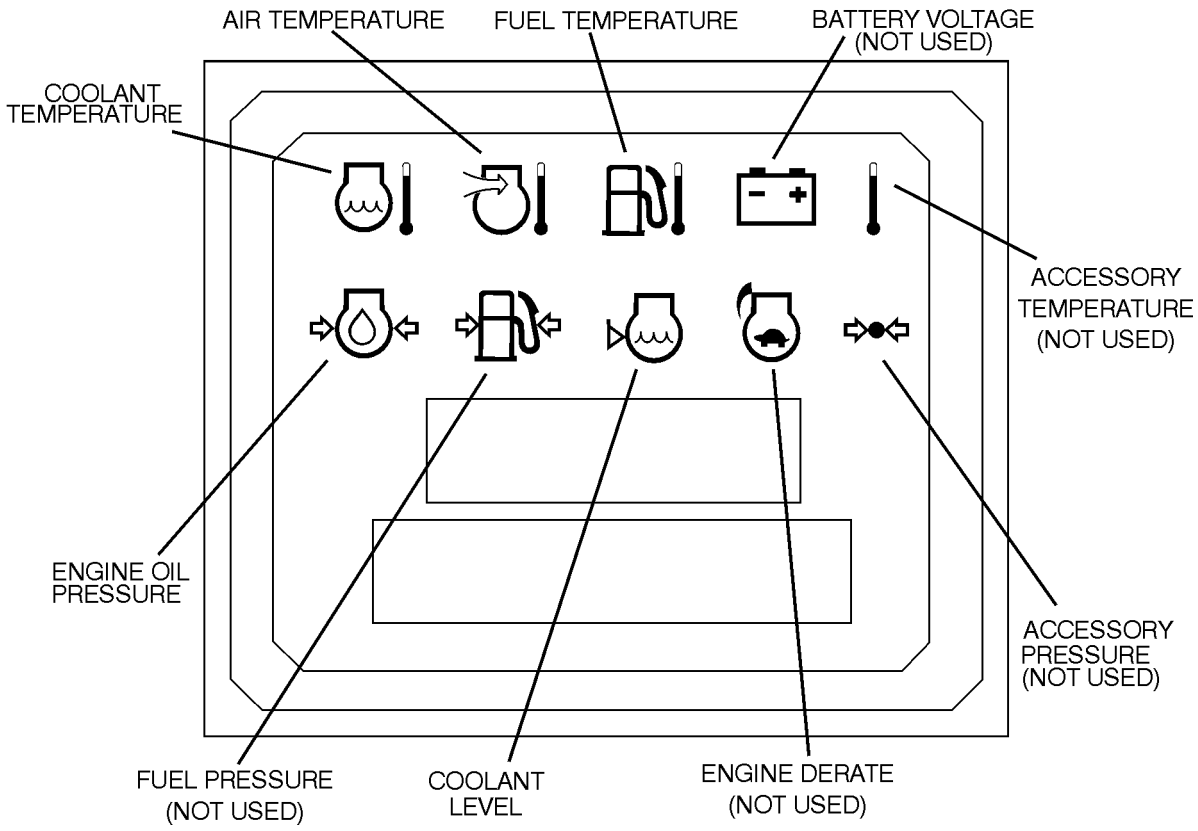
The compressor air inlet valve controls the amount of air intake of the compressor in response to the air demand.

2.8 INSTRUMENT PANEL GROUP, FUNCTIONAL DESCRIPTION

Refer to Figure 2-5A. The instrument panel group consists of an **EMS** (**E**ngine **M**onitoring **S**ystem). On the **EMS unit** there are ten warning lamps available for system related diagnostics. These diagnostics can be used for system performance monitoring. They are located on the main EMS unit in two rows of five: coolant temperature, intake manifold temperature, fuel temperature, battery voltage, accessory temperature, engine oil pressure, fuel pressure, coolant level, engine derate, and accessory pressure. See Figure 2-5A for functional lamps.

Beneath the warning lamps is a digital LCD display to scroll through different engine and machine parameters. Digital readouts are as follows:

Figure 2-5A EMS (Engine Monitoring System) Unit



• engine speed:

SPd

• engine oil pressure:

GA -1

• coolant temperature:

GA -2

• not used:

GA -3

• fuel pressure (not used):

GA -4

• engine boost:

boos Ł

• intake manifold temperature:

L Air Ł

• fuel temperature:

FUEL Ł

• accessory pressure (not used):

ACCR P

• accessory temperature (not used):

ACCR Ł

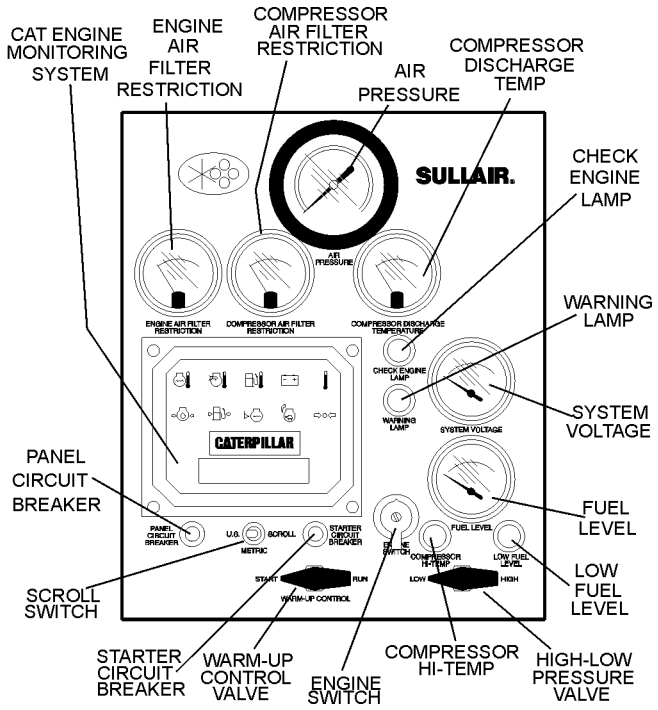
• fuel rate:

FUEL

• engine running hours:

HRS

Figure 2-5B Instrument Panel Group



- percent engine load:

LOAd

Refer to Figure 2-5B for locations of the following indicators and controls:

- The **warning lamp** is on or flashing when an engine operation problem had been detected by the engine electronics. This usually does not indicate an electronic malfunction. This light can be used along with the EMS lights to determine malfunction. Consult *Table 1 - Engine to Warning Lamp Actions* for engine to warning lamp actions.
- **Time To Shutdown** is defined as the time before the engine will shut down following initial activation of the diagnostic code. It is assumed the engine has been running for at least 30 seconds before diagnostic code activation.
- **Start/Restart Time** is defined as the time before a shutdown occurs if conditions causing the diagnostic code(s) are present at start up.
- The **check engine lamp** is used to flash diagnostic fault codes (See Section 2.9, Engine Control Module, Functional Description).
- The **air pressure gauge** continually monitors the sump pressure at various load and/or unload conditions.
- The **voltmeter** monitors the condition of the batteries and the charging circuit. The normal reading is 24 to 28 volts.
- The **compressor discharge temperature gauge** monitors the temperature of the air/fluid mixture leaving the compressor unit. The normal reading should be approximately 200°F to 230°F (93°C to 110°C).
- The **engine switch** is used both to energize the compressor's electrical system and engage the engine/starter. The knob-type switch works similar to an automotive key switch; it turns in a clockwise direction with "off" being the first position, "ignition" the second and "start" being the third position. It also has a built-in anti-restart device that protects the starter from engaging while the engine is running. The switch must be turned back to the "off" position before the engine can be re-started.

NOTE

When re-starting the compressor, make sure receiver tank pressure has blown down to 10 psig (0.7 bar) or less. More than 10 psig (0.7 bar) can put extra load on the starter.

- The **warm-up control valve** is provided for cold weather starting. When placed in the "start" position, the warm-up control valve cuts off the pressure signal to the pressure regulating valve causing the inlet valve to remain closed. It will allow the engine to run unloaded until it is properly warmed up at which time the valve should be set in the "run" position.
- The **engine air filter restriction gauge** is provided to monitor engine air filter condition. A reading over 20 inches of water or in red zone indicates time to service the air filter.
- The **compressor air filter restriction gauge** is provided to monitor the unit air filter condition. A reading over 20 inches of water or in red zone indicates time to serv-

Table 1 - Engine to Warning Lamp Actions

CID-FMI	Description	Warning Lamp	Time to Shutdown	Start/Restart Time
100 - 01	Low Fluid Pressure Warning	ON	No	No
100 - 11	Very Low Fluid Pressure	Flashing	30 Seconds	18 Seconds
105 - 00	High Inlet Manifold Air Temperature Warning	ON	No	No
105 - 11	Very High Inlet Manifold Air Temperature	ON	No	No
110 - 00	High Coolant Temperature Warning	Flashing	No	No
110 - 11	Very High Coolant Temperature	Flashing	20 Seconds	60 Seconds
111 - 01	Low Coolant Level Warning	On	No	No
111 - 11	Very Low Coolant Level Warning	Flashing	30 Seconds	80 Seconds

ice the air filter.

- The **sump tank separator element restriction gauge** is provided to monitor sump tank separator element restriction. A reading over 10 psid (0.7 bar) or in red zone, indicates time to service the element.
- The **scroll switch** toggled to the left will indicate gauges pertaining to the engine. Toggled to the right will convert reading from Metric to English.
- Check engine and warning lamp for further engine diagnostics. See Section 2.9 and *Table 2, Possible Performance Effect of Active Diagnostic Codes.*
- The **compressor discharge high temperature light** or the l**ow fuel level light** will remain on, indicating the specific problem, until the rotary switch (engine switch) is turned to "OFF" position. When the starter switch is initially turned on, the lights will come on to check bulb function. The lights should go out after 15 seconds.
- The **low fuel lamp** indicates a low fuel shutdown or open circuit.
- The **compressor high temperature lamp** indicates a receiver or discharge high temperature shutdown. Could also indicate an open circuit.
- **HI/LO selector valve**; HI position allows machine to operate at rated pressure (350 psig [24.1 bar]). The LO position forces machine to run at (175 psig [12.1 bar]) rated speed.

NOTE

An open in any safety circuit will not allow machine to start.

2.9 ENGINE CONTROL MODULE, FUNCTIONAL DESCRIPTION

Diagnostic Fault Codes are provided to indicate an electrical or electronic problem has been detected by the ECM (Engine Control Module). In some cases the engine performance can be affected when the condition causing the code exists. More frequently, however, the operator cannot detect any difference in the engine performance.

If the operator indicates a performance problem occurs whenever the Check Engine Lamp is flashing, the diagnostic code may indicate the cause of the problem, and should be corrected.

If the operator does not indicate a problem with the engine performance and a diagnostic code is logged by the ECM, it indicates the ECM detected an abnormal condition, but it did not affect performance.

If this is the case, unless there are several occurrences of the code in a very short period of time, or, the ECM is indicating an Active Code at the present time, there is most likely nothing wrong with the system.

The diagnostic FLASH CODE may be retrieved using this lamp.

The lamp is not required for engine operation, however it can be useful to determine Active diagnostic codes. The lamp will illuminate (ON) at initial ECM

power-up to test the lamp operation (self test).

The lamp will begin to flash (ON, then OFF, ON...) after the five second self test. The sequence of flashes represent the Flash Code diagnostic message.

Count the first sequence of flashes to determine the first digit. After a two second pause, count the second sequence of flashes to determine the second digit. Any additional flash code diagnostics will follow (after a pause) and will be displayed in the same manner.

NOTE

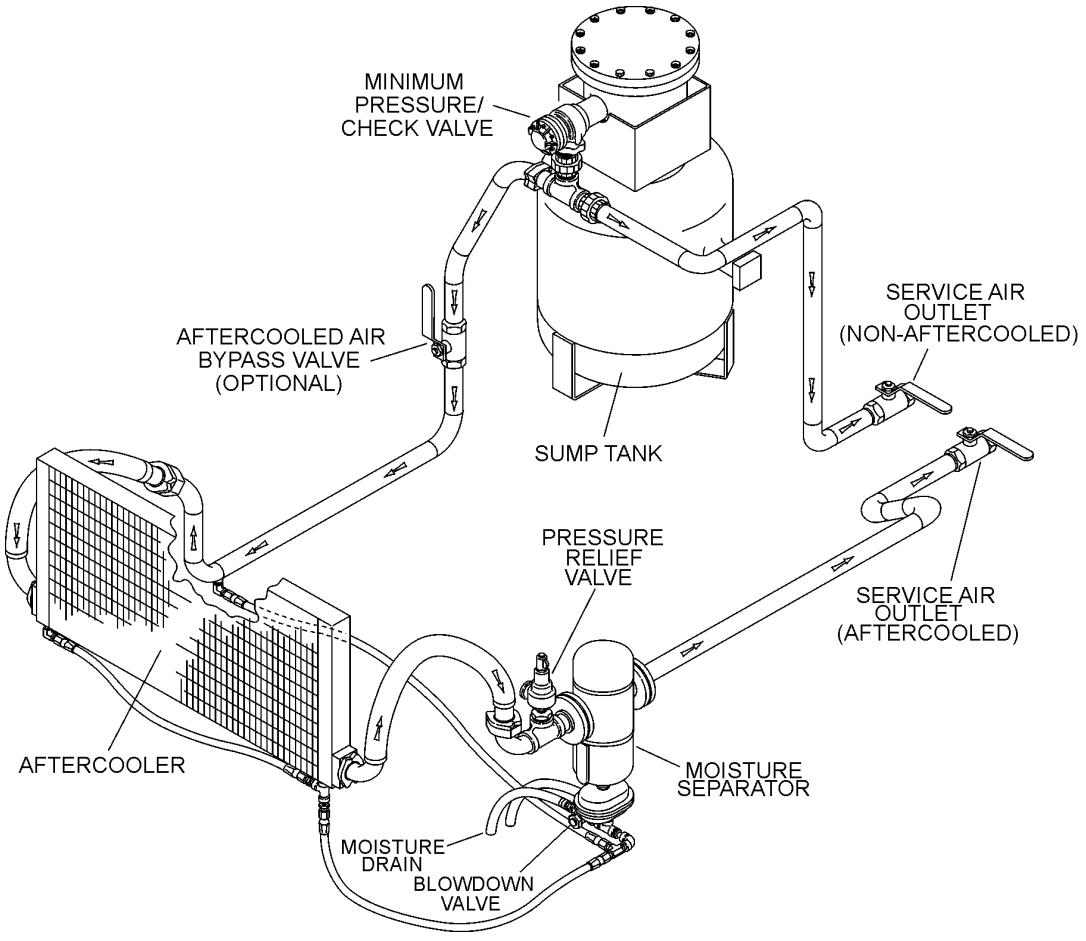
Only Active diagnostic codes can be read in this manner. Logged diagnostic codes must be retrieved with an Electronic Service Tool.

See *Table 2, Possible Performance Effect of Active Diagnostic Codes*, for possible effect of Active Diagnostic Codes.

2.10 ELECTRICAL SYSTEM, FUNCTIONAL DESCRIPTION

Refer to Figure 2-7. The electrical system is comprised of not only the necessary equipment required to operate the compressor, but also a system to shut it down in the event of a malfunction. The components of the electrical system are an engine starter (with an integral solenoid), battery, an alternator with a built-in voltage regulator, a compressor discharge temperature switch (which will shut down the compressor should the compressor temperature exceed 265°F [130°C]), a low coolant shutdown switch and a low fuel shutdown switch. This compressor also incorporates an engine coolant level detector. This device is located in the top tank on the engine radiator. It will shut the compressor down or prevent it from being started if the engine coolant level drops too low. In addition, there is a starter protection relay which prevents accidental starter engagement after the engine is running or whenever there is pressure in

Figure 2-6 Aftercooled Compressed Air Discharge System



the receiver/sump. Also, should fuel supply level drop near bottom of the fuel tank, a switch will shut down the machine before the engine actually runs out of fuel.

2.11 AFTERCOOLER AIR SYSTEM, FUNCTIONAL DESCRIPTION

Refer to Figures 2-3B and 2-6. The purpose for the aftercooled system is to operate the air compressor in conditions when compressed air temperatures required to be 10°-25°F (5 to 13°C) over ambient temperature.Two discharge valves are provided on all 900XH -1350XH compressor models. One valve is labeled standard air and one valve is labeled aftercooled air. Closing the standard air (non-aftercooled) valve completely forces the air flow the from receiver tank to the aftercooler. The ambient air, which is drawn through the aftercooler by the engine fan, cools the compressed air as it passes through the aftercooler core. Cooled air enters the moisture separator where condensation is removed from the cooler air and discharged. This condensate does carry some oil and it should be disposed of properly in accordance with local regulations. From the moisture separator the compressed air goes to the compressor service valve.

NOTE

After-cooler system should not be operated in ambient conditions below 32º F (0ºC). If it is necessary to operate in these conditions, Sullair can supply optional equipment to accommodate this requirement. To operate in the non-aftercooled mode close the aftercooler service valve completely and open non-aftercooler valve.

Table 2 - Possible Performance of Active Diagnostic Codes

Flash Code	Description of Code	CID-FMI Code	SPN-FMI Code	Engine Misfires	Low Power	Reduced Engine Speed	Engine Shutdown
12	Incorrect Crank-without-inject inputs	266-02	266-02				
13	Fuel Temperature open/short to +batt	174-03	174-03				
	Fuel Temperature short to ground	174-04	174-04				
21	5 Volt Sensor DC Power Supply short to +batt	262-03	620-03				
	5 Volt Sensor DC Power Suppy short to ground	262-04	620-04				
	Digital Sensor Supply short to +batt	263-03	678-03				
	Digital Sensor Supply short to ground	263-04	678-04				
24	Engine Oil Pressure open/short to +batt	100-03	100-03				
	Engine Oil Pressure open/short to ground	100-04	100-04				
25	Turbo Outlet Pressure above normal	273-00	102-00		X		
	Turbo Outlet Pressure open/short to +batt	273-03	102-03		X		
	Turbo Outlet Pressure short to ground	273-04	102-04		X		
26	Atmospheric Pressure open/short to +batt	274-03	108-03				
	Atmospheric Pressure short to ground	274-04	108-04				
27	Engine Coolant Temperature open/short to +batt	110-03	110-03	X	X	X	
	Engine Coolant Temperature short to ground	110-04	110-04	X	X	X	
28	Throttle Position calibration required	91-13	91-03		X	X	
32	Throttle Position signal abnormal	91-08	91-08		X	X	
34	Speed/Timing Sensor Loss of Signal	320-02	190-02	X			X **(I)**
	Speed/Timing Sensor mechanical failure	320-11	190-11	X			X **(I)**
	Loss of Secondary Engine Speed signal	342-02	723-02	X			X **(I)**
	Secondary Engine Speed Sensor mechanical failure	342-11	723-11	X			X **(I)**
35	Engine Overspeed Shutdown	004	0190-16				
	Engine Overspeed Warning	190	0190-00				
37	Fuel Pressure open/short to +batt	94-03	94-03				
	Fuel Pressure short to ground	94-04	94-04				
	Engine Oil Temperature open/short to +batt	175-03	175-03				
	Engine Oil Temperature short to ground	175-04	175-04				
38	Intake Manifold Air Temp open/short to +batt	172-03	172-03	X	X	X	
	Intake Manifold Air Temp short to ground	172-04	172-04	X	X	X	
42	Engine Timing calbiration required	261-13	228-13	X	X	X	X
46	Low Engine Oil Pressure Warning	100	0100-17				
	Low Engine Oil Pressure Derate	039	0100-18				
	Low Engine Oil Pressure Shutdown	040	0100-01		X **(I)**	X **(I)**	X **(I)**
51	System voltage intermittent/erratic	168-02	168-02	X	X		X
53	Electronic Control Module Error	254-12	no code	X	X	X	X
56	Personality Module mismatch	253-02	234-02				X **(II)**
	Check Prgrammable Paramters	268-02	111-02		X	X	

(I) The engine will shut down if both speed/timing sensors are lost.

(II) Fuel injection will not occur and the engine will not start.
NOTE: Sullair engines are programmed to shut down.

CID = **C**omponent **I**dentifier **SPN** = **S**uspect **P**aramater **N**umber **FMI** = **F**ailure **M**ode **I**dentifier

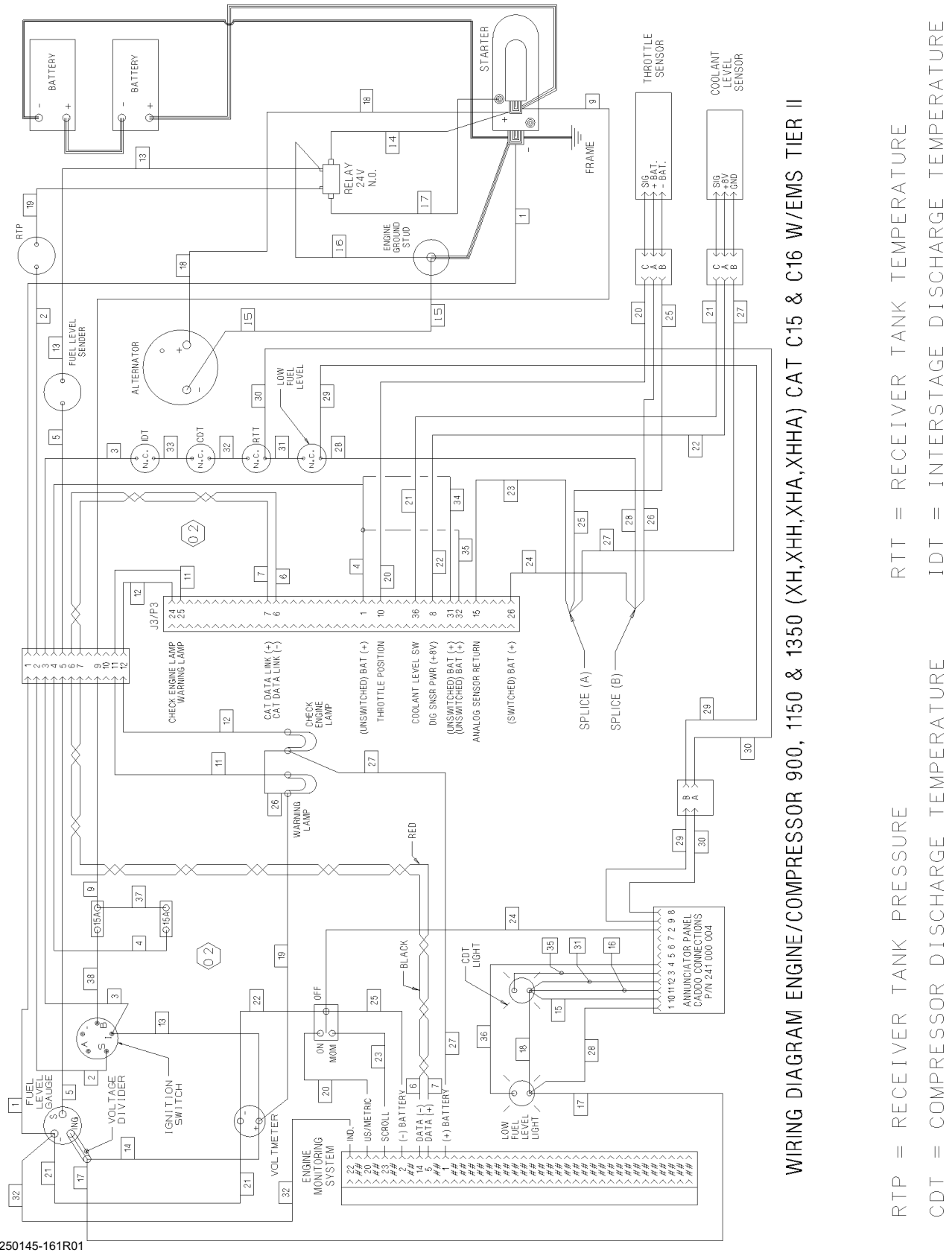
Continued...

Table 2 - Possible Performance of Active Diagnostic Codes (continued)

Flash Code	Description of Code	CID-FMI Code	SPN-FMI Code	Engine Misfires	Low Power	Reduced Engine Speed	Engine Shutdown
58	J1939 Data Link communications	247-09	639-09				
61	High Engine Coolant Temperature Derate	015	0110-16				
	High Engine Coolant Temperature Shutdown	016	0110-00				
	High Engine Coolant Warning	017	0110-15				
62	Low Engine Coolant Level Derate	057	0111-018				
	Low Engine Coolant Level Shutdown	058	0111-01				
	Low Engine Coolant Level Warning	059	0111-17				
63	Fuel Filter Restriction Derate	005	0094-15				
	Fuel Filter Restriction Shutdown	006	0094-16				
	Fuel Filter Restriction Warning	095	0094-00				
	High Fuel Pressure	096	0094-00				
64	High Inlet Temperature Derate	025	0172-16				
	High Inlet Temperature Warning	027	0172-15				
65	High Fuel Temperature Derate	054	0174-16				
	High Fuel Temperature Shutdown	055	0174-00				
	High Fuel Temperature Warning	056	0174-15				
72	Injector Cylinder #1 Fault	1-11	651-11	X	X		
	Injector Cylinder #2 Fault	2-11	652-11	X	X		
73	Injector Cylinder #3 Fault	3-11	653-11	X	X		
	Injector Cylinder #4 Fault	4-11	654-11	X	X		
74	Injector Cylinder #5 Fault	5-11	655-11	X	X		
	Injector Cylinder #6 Fault	6-11	656-11	X	X		
00	Ether Start Relay open/short to +batt	545-05	545-05				
	Either Start Relay short to ground	545-06	545-06				

CID = **C**omponent **I**dentifier **SPN** = **S**uspect **P**aramater **N**umber **FMI** = **F**ailure **M**ode **I**dentifier

Figure 2-7 Wiring Diagram



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NOTES

Section 3
SPECIFICATIONS

3.1 SPECIFICATIONS								
Model Series	**Length**		**Width**		**Height**		**Weight (wet) (I)**	
	in	mm	**in**	mm	**in**	mm	**lb**	kg
900XH, 1150XH & 1350XH OPEN FRAME	**177.1**	44498	**87.5**	2222	**89**	2261	**12500**	5670
(I) Aftercooled add 500 lbs / 227 kg								

COMPRESSOR :	**900XH MODELS**	**1150XH MODELS**	**1350XH MODELS**
Type :	Rotary Screw	Rotary Screw	Rotary Screw
Maximum Operating Pressure :	350 psig (24.1 bar)	350 psig (24.1 bar)	350 psig (24.1 bar)
Rated Pressure :	350 psig (24.1 bar)	350 psig (24.1 bar)	350 psig (24.1 bar)
Delivery at 350 psig (34.5 bar) :	900 Free CFM (25.5 M^3/min)	1150 Free CFM (32.6 M^3/min)	1350 Free CFM (38.2 M^3/min)
Cooling :	Pressurized Compressor Fluid	Pressurized Compressor Fluid	Pressurized Compressor Fluid
Lubricating Compressor :	Consult Lubrication Guide	Consult Lubrication Guide	Consult Lubrication Guide
Sump Capacity :	58 U.S. Gallons (219.6 liters)	58 U.S. Gallons (219.6 liters)	58 U.S. Gallons (219.6 liters)
Operating Tilt (maximum) :	15°	15°	15°
Electrical System :	Engine - 24 Volt	Engine - 24 Volt	Engine - 24 Volt
	Instrument System - 24 Volt	Instrument System - 24 Volt	Instrument System - 24 Volt
Battery (2) :	1400cca @ 32°F (0°C)	1400cca @ 32°F (0°C)	1400cca @ 32°F (0°C)
	(8D) 1125cca @ 0°F (-18°C)	(8D) 1125cca @ 0°F (-18°C)	(8D) 1125cca @ 0°F (-18°C)
Alternator :	45 amp	45 amp	45 amp
Service Valves :	2” npt	2” npt	2” npt

ENGINE :	**900XH MODELS**	**1150XH MODELS**	**1350XH MODELS**
Make :	Caterpillar	Caterpillar	Caterpillar
Type :	Cat C15 ATAAC TIER II **(I)**	Cat C16 ATAAC TIER II **(I)**	Cat C16 ATAAC TIER II **(I)**
Rated Speed :	1800 RPM	1800 RPM	1800 RPM
Horsepower, SAE :	450 HP (336 kw)	525 HP (392 kw)	630 HP (470 kw)
Cylinders :	6	6	6
Cycles :	4-cycle	4-cycle	4-cycle
Bore x Stroke :	5.4 x 6.5 inches (137 x 165 mm)	5.4 x 6.5 inches (137 x 165 mm)	5.5 x 6.75 inches (140 x 171 mm)
Displacement :	893 cubic inches (14.6 liters)	893 cubic inches (14.6 liters)	964 cubic inches (15.8 liters)
Lubricating System :	Full Pressure Fluid	Full Pressure Fluid	Full Pressure Fluid
Type of Motor Oil:	See Engine Operator’s Manual	See Engine Operator’s Manual	See Engine Operator’s Manual
Radiator Capacity :	30 U.S. gallons (113 liters)	30 U.S. gallons (113 liters)	30 U.S. gallons (113 liters)
Idle Speed :	1400 RPM	1400 RPM	1400 RPM
(I) Air to air aftercooled.			

Section 3
SPECIFICATIONS

3.2 LUBRICATION GUIDE - COMPRESSOR		
FLUID TYPE	**CHANGE PERIOD, HOURS**	**AMBIENT TEMPERATURE RANGE °F (°C)**
Sullair AWF **(I)**	500	-20 to 120 (-29 to 49)
Mobil Rarus SHC 1026	800	50 to 125 (10 to 52)
Mobil Rarus SHC 1024	1000	-20 to 100 (-29 to 38)
(I) Sullair part numbers for multi-viscosity lubricants are 250030-757 for 5 gallon / 20 liter container, and 250030-758 for 55 gallon / 208 liter container.		

3.3 APPLICATION GUIDE

Refer to Figure 3-1. Sullair Air Compressors are supplied with Sullair AWF which is heavy duty multi-viscosity, all-weather fluid. Sullair AWF also allows an extended change interval. Detergent motor oils (SAE 10W Class SE, SF, SG or CD) can also be used. Any of these oils are suitable under conditions where severe oil oxidations can occur.

Water must be drained from the receiver periodically. In high ambient temperature and high humidity conditions, condensed moisture may emulsify with the oil forming a “milky” color. SAE 10W is especially prone to this condition. The fluid should be changed if this condition develops.

CAUTION

DO NOT mix types of fluids. Combinations of different fluids 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 other extended life lubricants, contact Sullair for recommendations.

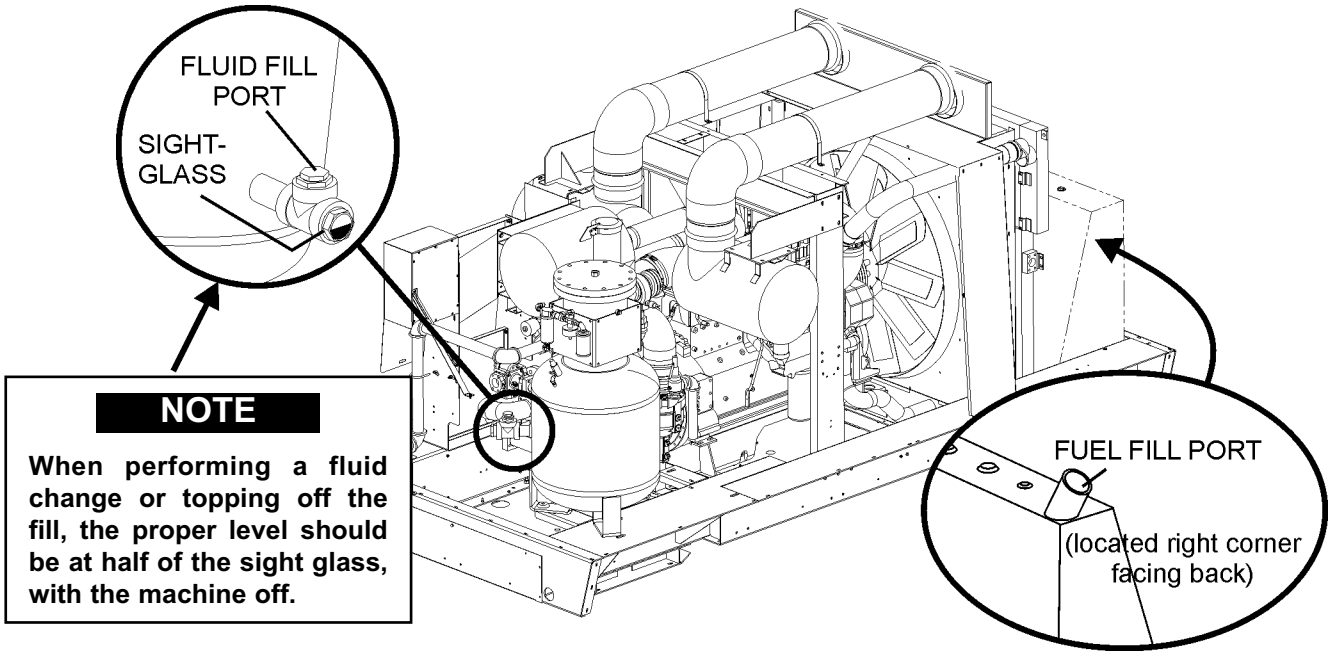
Sullair encourages the user to participate in a fluid analysis program. This could result in a fluid change interval differing from that stated in the manual. Sullair Corporation offers a fluid analysis program for Sullair AWF. Contact your local Sullair representative for details.

D-A Lubricant® Company Inc. offers an analysis program for users of D-A products and Sullair AWF. Contact your D-A lubricant supplier or Sullair representative for details.

3.4 LUBRICATION GUIDE - ENGINE

For engine oil specifications, refer to the Engine Operator’s Manual.

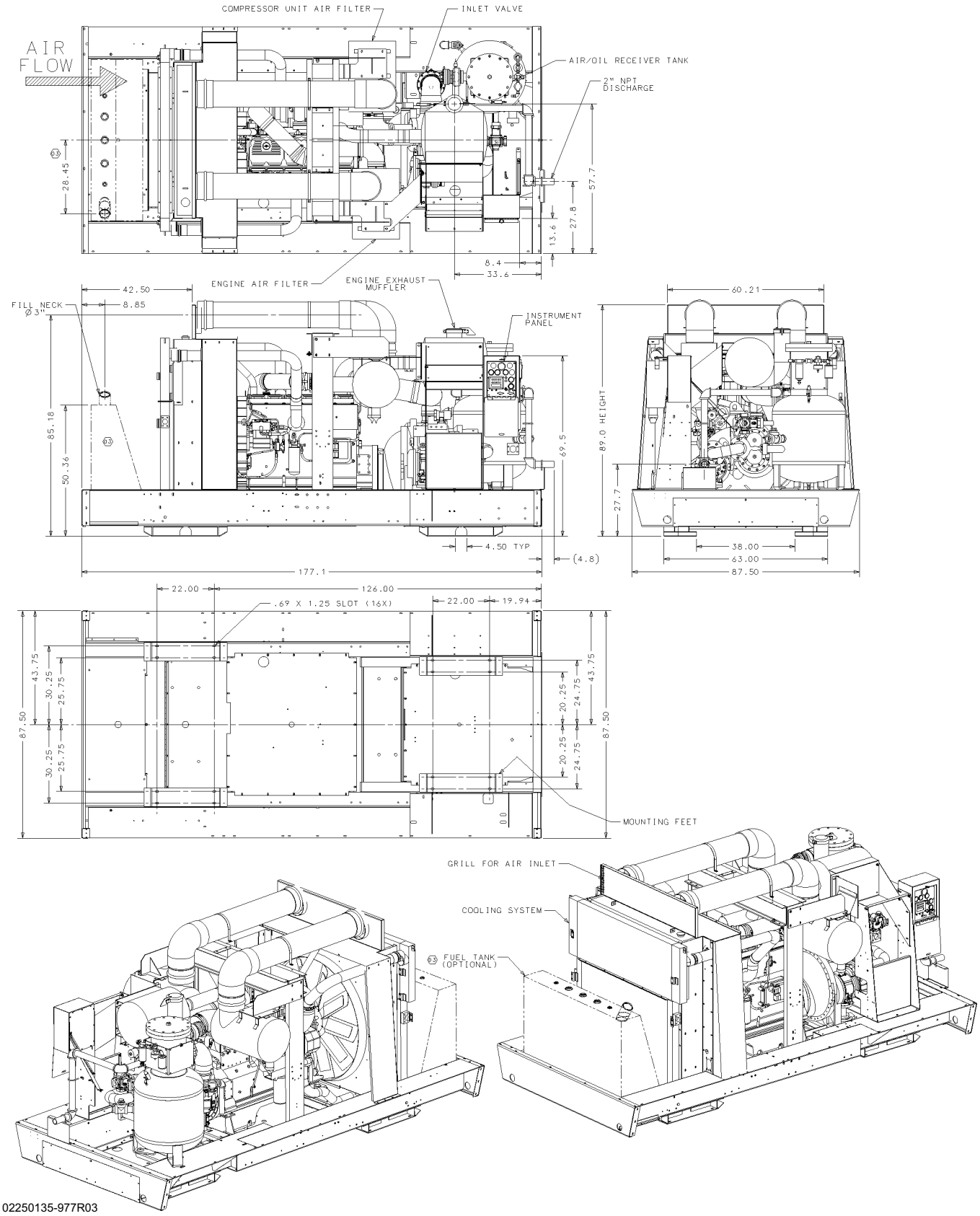
Figure 3-1 Fluid and Fuel Fill Port Locations - Typical Locations



NOTE

When performing a fluid change or topping off the fill, the proper level should be at half of the sight glass, with the machine off.

Figure 3-2 Identification - Compressor Assembly



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NOTES

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
ENGINE SWITCH	The engine switch is used to both energize the compressor's electrical system and engage the engine/starter. The rotary type switch works similar to an automotive key switch; it turns in a clockwise direction with "off" being the first position, "ignition" the second and "start" being the third position. It also has a built-in anti-restart device that protects the starter fromengaging while the engine is running. The switch must be turned back to the "off" position before the engine can be re-started. **NOTE** **When re-starting the compressor,make sure receiver tank pressure has blown down to (10 psig 0.7 bar) or less. More than 0.7 bar (10 psig) can put extra load on the starter.**
VOLTMETER	Monitors the condition of the batteries and the charging circuit. The normal reading is 24 to 28 volts.
AIR PRESSURE GAUGE	Continually monitors the pressure inside the receiver tank at various load and unload conditions.
ENGINE WATER TEMPERATURE GAUGE	Monitors the temperature of the engine water. The normal operating temperature should read approximately 160°F to 210°F (71°C to 99°C).
EMS (ENGINE MONITORING SYSTEM)	Depicts system-related diagnostics. Can be used for system performance monitoring.
COMPRESSOR DISCHARGE TEMPERATURE GAUGE	Monitors the temperature of the air/fluid mixture leaving the compressor unit. The normal reading should be approximately 200°F to 230°F (93°C to 110°C).
SYSTEM PRESSURE SWITCH	Prevents starter engagement when the air system is pressurized.
FLUID LEVEL SIGHT GLASS	Monitors the fluid level in the sump. Proper level is always visible in the sight glass. Check the level when the compressor is shut down.
COMPRESSOR DISCHARGE TEMPERATURE	Opens the electrical circuit to shut down the compressor when the discharge temperature reaches 265°F (124°C) or 250°F (121°C) for interstage.
REDUCING REGULATOR VALVE	Provides regulated air pressure to the inlet valve and engine speed control to open the inlet valve and move engine governor to full speed with warm-up valve in the"run" position.
BACK PRESSURE REGULATING VALVE	Provides an air signal to the inlet valve and engine speed cylinder to close the inlet valve and reduce engine speed to control air delivery according to demand.

Continued on page 30

4.2 PURPOSE OF CONTROLS (CONTINUED)	
CONTROL OR INDICATOR	**PURPOSE**
MINIMUM PRESSURE / CHECK VALVE	Maintains a minimum of 200 psig (13.8 bar) in the compressor sump. This valve restricts receiver air discharge from receiver/sump when pressure falls to 200 psig (13.8 bar). Also prevents back flow into the sump during unload conditions and after shutdown.
HI/LO SELECTOR VALVE	Select high pressure (350 psig) or low pressure (200 psig) at instrument panel to correspond to operator's needs.
PRESSURE RELIEF VALVE	Opens sump pressure to the atmosphere should pressure inside the sump exceed 400 psig (27.6 bar).
AIR INLET VALVE	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.
BLOWDOWN VALVE	Vents sump pressure to the atmosphere at shutdown.
THERMAL VALVE	Regulates flow of fluid to and around the fluid cooler. Designed to maintain a minimum operating temperature; used for fast warm-up at start-up and to eliminate condensation during operation.
START/RUN CONTROL VALVE	Allows the engine to run at unload speed (lower pressure) until properly warmed up.
BLOWDOWN VALVE	Vents surplus sump pressure to the atmosphere during operation.

4.3 INITIAL START-UP PROCEDURE

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 proper amounts of liquid can be added if necessary. **(I)**
2. If needed, add a water and ethylene glycol solution to the engine radiator. Engine cooling system capacity is 30 gallons (113 liters).
3. Fill compressor fluid sump with fluid as recommended in Section 3, Specifications. System capacity is 58 gallons (220 liters).
4. Check engine oil level and add if necessary.
5. Check the fuel supply.
6. Fill the battery with electrolyte, if necessary.
7. Close and latch all doors except instrument panel door.
8. Close all service valves and turn arrow on start-run valve handle down to "start" position.
9. Below 40°F (4°C) use starting aid (per instructions printed on starting aid device).
10. Turn engine switch to the "ignition" position.
11. Turn engine switch to "start" position and hold until engine starts (maximum 15 seconds).
12. When engine coolant temperature reaches 110°F (43°C), turn arrow on start-run valve handle to "RUN" position. Compressor is now ready for full load operation.
13. After the initial run, shut the compressor down and refill the radiator and compressor fluid sump as required. Tighten any loose fittings and check fan belt tension.

4.4 SUBSEQUENT START-UP PROCEDURE

On subsequent starts, follow the procedure explained below:

1. Position compressor on level ground so fluid level can be read accurately. Check fluid level and add as needed.
2. Close and latch all doors except instrument panel door.
3. Close all service valves and turn arrow on start-run valve handle down to "start" position.

(I) The radiator is filled with a 50/50 mixture of ethylene glycol and water at the factory before shipment.

4. Below 40°F (4°C) use starting aid (per instructions printed on starting aid device).
5. Turn engine switch to the “ignition” position.
6. Turn engine switch to “start” position and hold until engine starts (maximum 15 seconds).
7. When engine coolant temperature reaches 110°F (43°C), turn arrow on start-run valve handle upward to “RUN” position.
8. Compressor is now ready for full load operation.

4.5 SHUTDOWN PROCEDURE

To shut the compressor down, close the service valves and turn the start/run control valve to the “start” position. Run compressor for approximately 5 minutes; then turn the “on/off” switch to the “off” position. In case of emergency where immediate shutdown is required, this procedure is not necessary. The “on/off” switch should be put in the “off” position immediately.

NOTES

Section 5
MAINTENANCE

5.1 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. For engine maintenance requirements, refer to the Engine Operator's Manual for a detailed description of service instructions. See Parts Replacement and Adjustment Procedures for a detailed description of specific compressor system components. Prior to performing maintenance, read the CIMA Safety Manual, if applicable.

⚠ WARNING

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

Stop compressor and relieve all internal pressure before doing so.

Stop compressor and relieve all internal pressure before doing so.

5.2 DAILY OPERATION

Prior to starting the compressor, it is necessary to check the fluid level in the sump. Should the level be low, simply add the necessary amount. If the addition of fluid becomes too frequent, a simple problem has developed which is causing this excessive loss. See the Troubleshooting Section (5.11) under Excessive Fluid Consumption for a probable cause and remedy. Also check the engine oil level and the radiator coolant level prior to starting.

NOTE

The radiator and engine cooling system must be drained and flushed every two (2) years. Replace the coolant with a solution of 50% ethylene glycol and 50% water or as required for your geographic location. DO NOT use a leak sealing type of anti-freeze. Should a 100% water solution be used, a non-chromate rust inhibitor must be added.

After a routine start has been made, observe the instrument panel gauges and be sure they monitor the correct readings for their particular phase of operation. After the compressor has warmed up, it is recommended that a general check on the overall compressor and instrument panel be made to assure that the compressor is running properly. Also check the air filter restriction gauges. Should they indicate restriction, replace the elements immediately (see Air Filter Maintenance in Section 5.10).

5.3 MAINTENANCE AFTER INITIAL 50 HOURS OF OPERATION

After the initial 50 hours of operation, a few simple maintenance routines can rid the system of any possible foreign materials, if any. Perform the following maintenance operations to prevent unnecessary problems.

1. Clean the return line orifice and strainer.
2. Change compressor fluid filter.
3. Check Engine Operator's Manual for required service.

5.4 MAINTENANCE EVERY 100 HOURS

After 100 hours of operation, it will be necessary to perform the following:

1. Check the battery level and fill with water if necessary.

5.5 MAINTENANCE EVERY 250 HOURS

Perform the following after every 250 hours of operation:

1. Check fan belt tension.
2. Clean the radiator and cooler exterior. Depending on how contaminated the atmosphere may be, more frequent cooler and radiator cleaning may be necessary. To clean between fluid cooler and radiator, the three (3) bolts securing the top of the fluid cooler to the top mounting bracket should be removed, allowing the fluid cooler to swing down on its lower hinge. This will allow easier access to clean between the fluid cooler and radiator cores.
3. Check Engine Operator's Manual for required service.
4. Change the engine oil and oil filter. This is best done when the engine is hot.

5.6 MAINTENANCE EVERY 300 HOURS

When using fluids other than Sullair AWF, change the compressor fluid and replace the fluid filter element (See maintenance procedure in Section 5.10).

5.7 MAINTENANCE EVERY 500 HOURS

When using Sullair AWF, replace the fluid filter element and change compressor fluid. (See maintenance procedures in Section 5.10).

5.8 MAINTENANCE EVERY 1000 HOURS

Perform the following after every 1000 hours of operation:

1. Clean the return line orifice and strainer.

5.9 PARTS REPLACEMENT AND ADJUSTMENT PROCEDURES

COMPRESSOR FLUID CHANGE PROCEDURE

Warm-up the compressor for 5 to 10 minutes to warm the fluid. Shut the compressor off and relieve all internal pressure before proceeding. Drain the fluid sump by removing the plug at the bottom of the sump tank. Change the compressor fluid and replace the fluid filter element. For element replacement see procedure for servicing the fluid filter in this section. Fill the sump with fluid according to specifications in Section 3.

SERVICING THE MAIN FLUID FILTER

Refer to Figure 5-1. The main fluid filter (P/N 02250111-592) is located schematically in the coolant line between the receiver/sump and the compressor unit. The main filter element is replaceable. For installation of the filter element and o-ring kit (P/N 250031-850), follow the procedure explained below.

1. The compressor **MUST** be shut off and system pressure **MUST** be relieved.
2. Drain by removing drain plug at bottom of bowl and catching drainage in a container.
3. Rotate bowl counterclockwise and remove.
4. Remove element and o-ring from housing and discard. This element is **NOT** cleanable.
5. Make sure mounting surface of filter head is clean.
6. Apply a light film of fluid to o-ring and place it in its proper position.
7. Place new, clean element in housing, centering it on location in the head.
8. Inspect bowl seal and replace if necessary.
9. Replace bowl. Rotate clockwise and hand-tighten.
10. Replace drain plug. Torque to 15-20 ft.-lbs. (20-27 Nm).

AIR FILTER MAINTENANCE

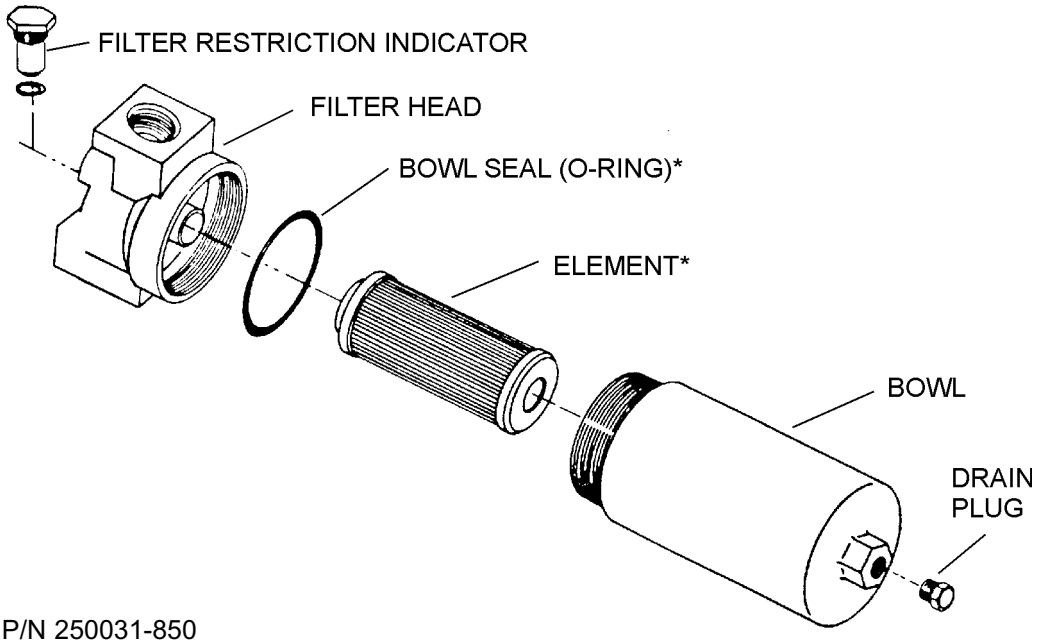
Refer to Figure 5-2. Air filter (P/N 02250049-036 [engine]) (P/N 02250053-402 [compressor]) maintenance should be performed when indicated on instrument panel by the engine air filter restriction gauge. The air filters are both equipped with a primary element and secondary element each.

NOTE

DO NOT strike elements against any hard surface to dislodge dust. This will damage the sealing surfaces and possibly rupture the elements.

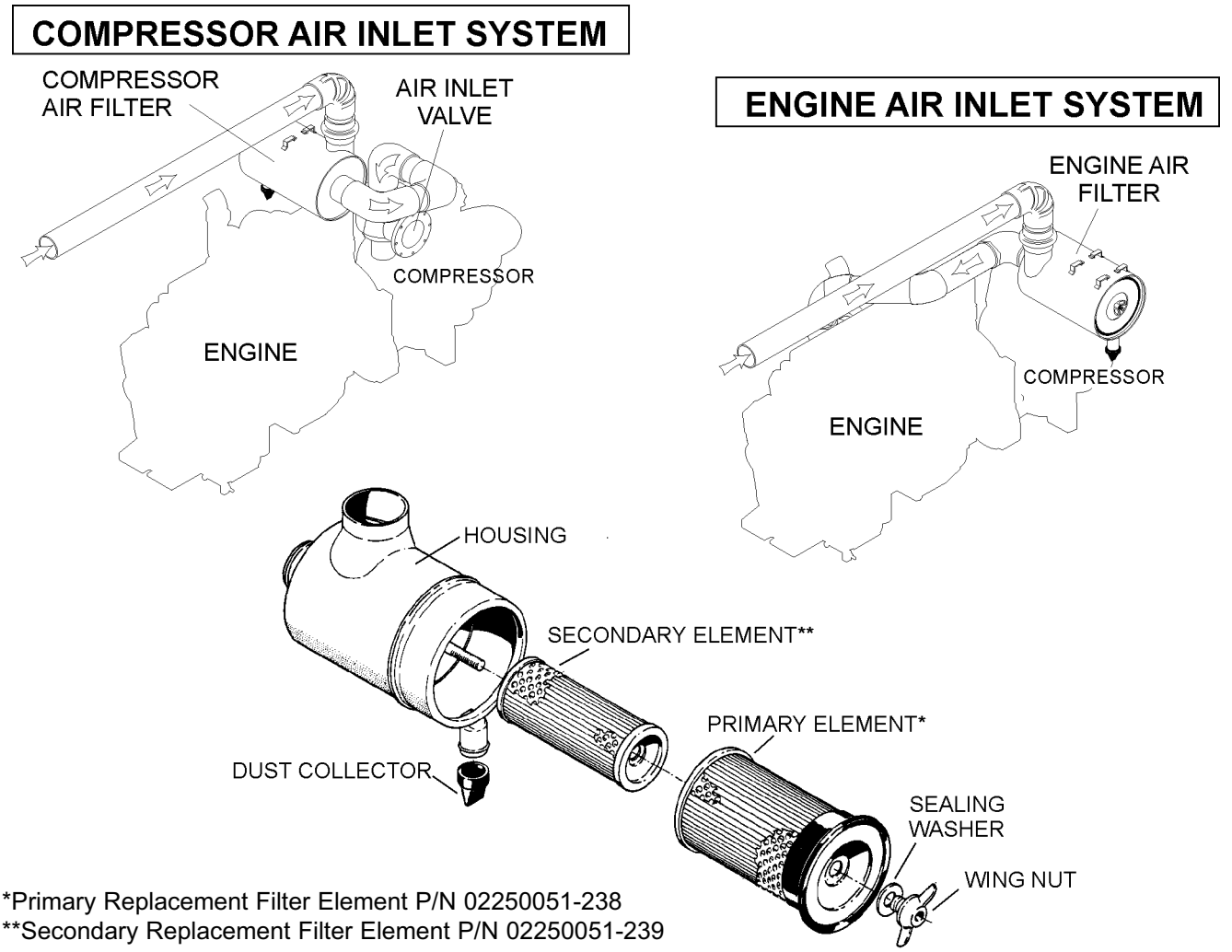
The secondary element must be replaced after every third primary element change. **DO NOT** reconnect the secondary element once it is removed.

Figure 5-1 Main Filter (P/N 02250111-592)



*Repair Kit P/N 250031-850

Figure 5-2 Air Filter (P/N 02250049-036 [engine] and P/N 02250053-402 [compressor])



*Primary Replacement Filter Element P/N 02250051-238
**Secondary Replacement Filter Element P/N 02250051-239

ELEMENT REMOVAL

1. Clean the exterior of the air filter housing.
2. Remove the cover/element assembly by loosening the wingnut securing the cover/element assembly.
3. Remove the cover/element assembly from the housing by unscrewing the wingnut.
4. Clean the interior of the housing by using a damp cloth. **DO NOT** blow out dirt with compressed air as this may introduce dust downstream of the filter.
5. When it becomes necessary to remove the secondary element, pull the element out of the housing.
6. Install the new secondary element over the rod.
7. With the secondary element in place, replace the primary element.

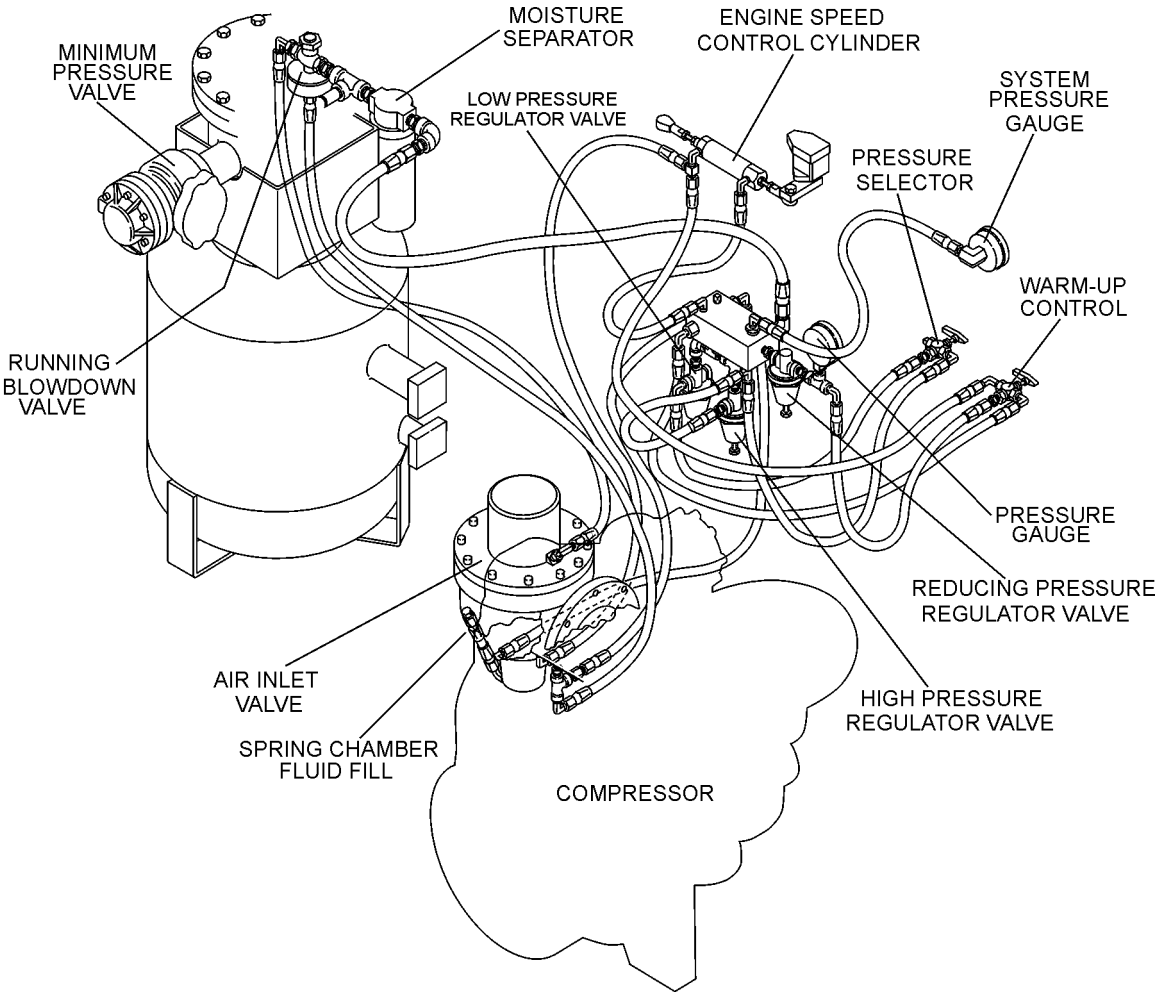
ELEMENT INSPECTION

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 all air inlet connections prior to resuming operation.

PRIMARY ELEMENT REPLACEMENT

1. Place the element in position over the threaded rod and tighten the wingnut.
2. Install the cover, replace the clamp and tighten the wingscrew.

Figure 5-3 Control System Components



CONTROL SYSTEM ADJUSTMENT

Refer to Figure 5-3, or control schematic (Figure 2-3). Prior to adjusting the control system, it is necessary to determine the desired operating pressure range as well as the maximum pressure at which the machine is to operate. This pressure must not exceed the maximum operating pressure which is stamped on the machine serial number plate. The following explanation applies to a typical machine with a desired operating range of 200 to 350 psig (13.8 to 24.1 bar). This information will apply to a machine with any other operating range except for the stated operating pressure. For high pressure machines, adjustment pressures are shown in parenthesis.

1. Start the machine and let it warm-up with warm-up valve in "start" position. Check for leaks around connections.
2. Open service valve slightly and turn the warm-up valve to "run" position. Slowly close the service valve, watching the pressure gauge to insure the unload pressure does not exceed 350 psig (24.1 bar) . If it does, the control regulator set screw must be backed out until the compressor will unload. With service valve closed, check and adjust the pressure at the reducing regulator for a 60 psig (4.1 bar) setting. With service valve still closed, adjust the high pressure back pressure regulator on 350 psig [25.5 bar] machines to maintain a discharge pressure of 350 psig (24.1 bar) . Machine speed must be 1400 RPM, check instrument panel. Open the service valve to load the compressor to maintain 350 psig (24.1 bar) discharge pressure. Operating speed should be 1800 RPM on the instrument panel.
3. For 200 psig (13.8 bar) machines turn the pres-

sure selector valve to "low" position. Close the service valve and set the low pressure back pressure regulator to maintain 210 psig (14.5 bar) discharge pressure. Open the service valve to maintain 200 psig (13.8 bar) and check for 1800 RPM full load speed. If lower speed is observed, raise the setting of the low pressure control regulator until rated speed is achieved.

SEPARATOR ELEMENT REPLACEMENT

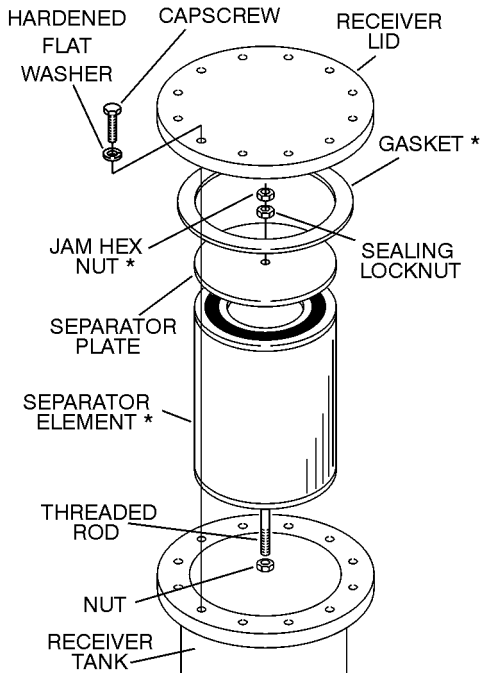
Refer to Figure 5-4. When the need for a separator element replacement is indicated by the maintenance indicator (usually mounted to the air receiver/separator tank but can also be remote mounted), use the following procedure for separator replacement.

1. Remove the air receiver/separator tank lid by removing the twelve (12) hex head capscrews.

NOTE

To assist with the removal of the tank lid, Sullair has provided a 1"-8 nut to the top lid so it can be removed by a 1"-8 eye bolt (which is available from Sullair) or a similar type of lifting device.

Figure 5-4 Separator Element



*Repair Kit P/N 250028-244

2. Remove the 3/4"-10 jam nut and sealing hex nut from the 3/4"-10 separator hold down rod.
3. Remove the round separator cover plate from the top of the separator element.
4. Remove the old separator element and discard.
5. Scrape the old gasket material from the tank lid mounting surface and the flanges mounting surface on the tank. Be sure to keep all scrapings from falling back inside of the tank.
6. Before installing the new separator element, make sure to lubricate both sealing o-rings on the element with a lubricating compound (i.e. Silglyde). Then install the new separator element, the cover plate, the new 3/4"-10 sealing hex nut, and the 3/4"-10 jam hex nut. Torque the sealing hex nut to 85 to 90 ft.-lbs. (115 to 122 Nm). **DO NOT** over-tighten, as damage to separator element can result.
7. Next, install the tank flange gasket that is provided. Before installing, lubricate both sides of the gasket (i.e. Silglyde). Reinstall the tank lid. Install the capscrews finger tight, then gradually tighten in a crisscross pattern in 4 to 5 steps. Always tighten the capscrews alternately at opposite sides of the cover. Torque lubricated capscrews to 280ft.-lbs. (380 Nm).
8. Clean or replace fluid return line strainer.
9. Clean the fluid return line orifice installed in the side of the compressor unit air end.

5.10 TROUBLESHOOTING

The following Troubleshooting Chart is based on both the data obtained from actual tests conducted at our factory and real applied situations. It contains symptoms and usual causes for the described problems. 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.

- Check for loose wiring.
- Check for damaged piping.
- Check for parts damaged by heat or an electrical short circuit, usually apparent by discoloration or a burnt odor.

Should your problem persist after making the recommended check, consult your nearest Sullair representative or the Sullair Corporation.

5.11 TROUBLESHOOTING GUIDE

SYMPTOM	PROBABLE CAUSE	REMEDY
COMPRESSOR WILL NOT START	No Fuel	Check fuel level and add fuel if necessary.
	Plugged Fuel Filter	Replace the element.
	Low Battery Voltage	Check electrolyte level and add distilled water and recharge if necessary.
		Loose battery cables; tighten cables.
		Dirty battery cables; clean thoroughly.
	Plugged Air Filter	Replace the element.
	Engine Problems May Have Developed	Refer to Engine Operator's Manual.
	Tripped Circuit Breaker on Instrument Panel	Check and reset if necessary.
COMPRESSOR SHUTS DOWNWITH AIR DEMAND PRESENT	No Fuel	Check fuel gauge and add fuel if necessary.
	Compressor Discharge Temperature Switch is Open	Cooling air flow is insufficient; clean cooler and check for proper ventilation.
		Low fluid sump level; add fluid.
		Dirty compressor fluid filter; change element.
		Thermostatic element is not functioning properly; change the thermostatic element.
		Defective discharge temperature switch; check for a short or open circuit to the engine fuel solenoid. Should this check out normal, it could be possible that the temperature switch itself is defective.
	Tripped Circuit Breaker on Instrument Panel	Check and reset if necessary.
COMPRESSOR WILL NOT BUILD UP FULL DISCHARGE PRESSURE	Air Demand is Too Great	Check service lines for leaks or open valves.
	Dirty Air Filter	Check the filter gauges on instrument panel and change element if required.
	Pressure Regulator Out of Adjustment	Adjust regulator according to control adjustment instructions in the Maintenance section.
	Defective Pressure Regulator	Check diaphragm and replace if necessary (kit available).
	Defective Air Inlet Cylinder	Replace cylinder.
IMPROPER UNLOADING WITH AN EXCESSIVE PRESSURE BUILD-UP CAUSING PRESSURE RELIEF VALVE TO OPEN	Fluid Charge Lost from Spring Chamber on Inlet Valve	Add fluid to inlet valve spring chamber by removing plugs (Fig. 5-3) in the top of the spring chamber and filling with compressor fluid. Some fluid may leak from the control regulator at first but will stop leaking when fluid level in the spring chamber equalizes.
	Pressure Regulating Valve is Set Too High	Readjust.

Continued ...

5.11 TROUBLESHOOTING GUIDE

SYMPTOM	PROBABLE CAUSE	REMEDY
MPROPER UNLOADING WITH AN EXCESSIVE PRESSURE BUILD-UP CAUSING PRESSURE RELIEF VALVE TO OPEN (CONTINUED)	Running Blowdown Valve Pressure Regulating Valve Set Too High	Readjust.
	Leak in Control System Causing Loss of Pressure Signal	Check control lines.
		Worn seals in inlet valve. Replace seals (kit available).
		Defective pressure regulating valves; repair valves (kits available).
	Inlet Valve Jammed	Free or replace valve.
	Restriction in the Control System	Check all control lines and components. Ice and other contaminants could cause restrictions.
	Defective Pressure Relief Valve	Replace pressure relief valve.
INSUFFICIENT AIR DELIVERY	Plugged Air Filter	Replace.
	Plugged Air/Fluid Separator	Replace separator element and also change compressor fluid and fluid filter at this time.
	Defective Pressure Regulator	Adjust or repair.
	Engine Speed Too Low	Readjust engine speed.
	Control Air Cylinder Defective	Replace cylinder.
EXCESSIVE COMPRESSOR FLUID CONSUMPTION		
	Leak in the Lubrication System	Check all pipes, connections and components.
	Separator Element Damaged or Not Functioning Properly	Change separator element.
	Defective Minimum Pressure/ Check Valve	Repair or replace.
	Fluid Sump Overfilled	Drain to proper level.
COMPRESSOR OVERHEATING	Loose or Broken Fan Belt	Tighten or change belt.
	Dirty Fluid Cooler Core	Clean core thoroughly.
	Dirty Aftercooler	Clean core thoroughly.
	Dirty Radiator Core	Clean core thoroughly.
	Faulty Thermostat Element	Change thermostat element.
	Plugged Fluid Cooler Tube (Internal)	Clean tube thoroughly.
	Low Sump Fluid Level	Fill.
	Plugged Compressor Fluid Filter	Change element.
ENGINE OVERHEATING	Loose or Broken Fan Belt	Tighten or change belt.
	Dirty Radiator Core	Clean thoroughly.
	Dirty Fluid Cooler	Clean thoroughly.
	Low Water Level	Refill.

Continued on page 40

5.11 TROUBLESHOOTING GUIDE (CONTINUED)		
SYMPTOM	**PROBABLE CAUSE**	**REMEDY**
ENGINE OVERHEATING (CONTINUED)	Dirty Aftercooler	Clean thoroughly.
	Low Fluid Level	Refill.
	Faulty Water Pump	Change pump.
	Plugged Radiator	Clean and flush thoroughly.
	Defective Engine Thermostat	Replace engine thermostat.
SHUTDOWN PANEL LIGHTS	Faulty Switch Indicated by Light	Replace the switch.
CHECK ENGINE LIGHT	Engine Safety Switch (Low Coolant) Fault	Replace the swtich (Caterpilliar part).
ENGINE WARNING FLASHING LIGHT	Count Number of Flashes. This Will Flash Trouble Code	Determine trouble code and call Caterpillar Service Representative to correct problem.

Section 6
NOISE CONTROL

6.1 NOISE EMISSIONS WARRANTY

Sullair Corporation warrants to the ultimate purchaser and each subsequent purchaser that this air compressor was designed, built and equipped to conform at the time of sale to the first retail purchaser, with all applicable U.S. E.P.A. and/or any Federal, State or Local noise control regulations.

This warranty is not limited to any particular part, component, or system of the air compressor. Defects in the design, assembly, or in any part, component, or system of the compressor which, at the time of sale to the first retail purchaser, caused noise emissions to exceed Federal standards are covered by this warranty for the life of the air compressor.

6.2 TAMPERING WITH THE NOISE CONTROL SYSTEM IS PROHIBITED

Federal Law prohibits the following acts or the causing thereof:

1. The removal or rendering inoperative by any persons, other than for purposes of maintenance, repair, or replacement, of any device or element of design incorporated into any new compressor for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use.
2. The use of the compressor after such device or element of design has been removed or rendered inoperative by any person.

Among those acts included in the prohibition against tampering are the acts listed below:

1. Removal or rendering inoperative any of the following:
   a. Engine exhaust system or parts thereof
   b. Compressor air intake system or part thereof
   c. Enclosure of part thereof
2. Removal of any of the following:
   a. Vibration isolators
   b. Control silencer
   c. Floor panel
   d. Fan shroud
   e. Acoustical materials including fiberglass foam or foam tape
3. Operation with canopy doors open for any purpose other than starting, stopping, adjustment, repair, replacement of parts or maintenance.

6.3 NOISE EMISSIONS MAINTENANCE AND MAINTENANCE RECORD LOG

The following instructions and maintenance record log book, for the proper maintenance, use and repair of this compressor, is intended to prevent noise emission degradation (refer to Figure 6-1).

Figure 6-1 Noise Emission Maintenance and Maintenance Record Log

1. ANNUAL MUFFLER AND EXHAUST SYSTEM INSPECTION

At least annually inspect muffler(s) and engine exhaust system to make sure all parts are securely mounted, that all joints and connections are tight, and that the muffler is in good condition. **DO NOT** operate compressor with defective exhaust system. Remove and replace any defective parts by ordering with part numbers indicated in the Parts List.

Maintenance Performed
By
Location
Date

Maintenance Performed
By
Location
Date

●●●●●●●●●●●

Section 6
NOISE CONTROL

2. ANNUAL AIR FILTER(S) AND AIR INLET SYSTEM INSPECTION

In addition to the instructions in the Maintenance section of the Operator's Manual, the air filter(s) and entire air inlet system should be inspected at least annually, to make sure all parts are securely mounted, that all joints and connections are tight, that there are no other leaks in the system, and that the filter element(s) are intact. **DO NOT** operate compressor with defective air inlet system. Remove and replace defective parts by ordering with part numbers indicated in the Parts List.

Maintenance Performed
By
Location
Date

Maintenance Performed
By
Location
Date

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3. ANNUAL ENGINE VIBRATION MOUNT INSPECTION

At least annually inspect engine vibration mounts for security of attachment and to make sure the resilient parts are intact. **DO NOT** operate compressor with defective engine mounting system. Remove and replace defective parts by ordering with part numbers indicated in Parts List.

Maintenance Performed
By
Location
Date

Maintenance Performed
By
Location
Date

●●●●●●●●●●●

4. ANNUAL FRAME, CANOPY, AND PARTS INSPECTION

At least annually inspect frame, canopy and parts, for security of attachment. Make sure there are not any missing or deformed members, including all hinged doors, covers and their fastening devices. **DO NOT** operate compressor with defective frame, canopy and parts. Remove and replace defective parts by ordering with part numbers indicated in Parts List.

Maintenance Performed
By
Location
Date

Maintenance Performed
By
Location
Date

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5. ANNUAL ACOUSTICAL MATERIALS INSPECTION

At least annually inspect all acoustical materials, if any, for security of attachment. Make sure that there is not any material missing or damaged (refer to Parts List). Clean or replace, if necessary. **DO NOT** operate compressor with defective acoustical material. Remove and replace defective parts by ordering with part numbers indicated in the Parts List.

Maintenance Performed
By
Location
Date

Maintenance Performed
By
Location
Date

●●●●●●●●●●●

Section 6
NOISE CONTROL

6. ANNUAL INSPECTIONS FOR PROPER OPERATION OF ALL SYSTEMS

In addition to other instructions in the Operator's Manual, at least annually, operate compressor and inspect to make sure all systems are operating properly and that engine runs at rated speed and pressure. **DO NOT** operate malfunctioning or improperly adjusted compressor. Repair or adjust, per instructions in Operator's Manual, as required.

Maintenance Performed
By
Location
Date

Maintenance Performed
By
Location
Date

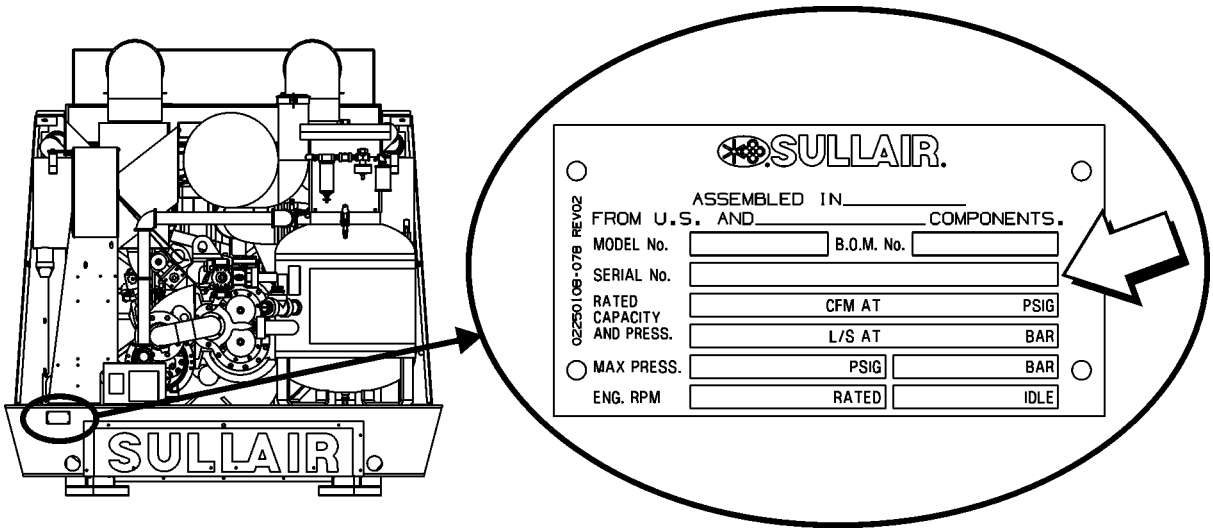
Section 7
ILLUSTRATIONS AND PARTS

7.1 PROCEDURE FOR ORDERING PARTS

Parts should be ordered from the nearest Sullair Representative or the Representative from whom the compressor was purchased. If for any reason parts cannot be obtained in this manner, contact the factory directly at the addresses, websites, telephone or fax numbers below.

When ordering parts always indicate the **Serial Number** of the compressor. This can be obtained from the Bill of Lading for the compressor or from the Serial Number Plate located on the compressor (see Figure 7-1).

Figure 7-1 Serial Number Plate Location



NOTE: For future convenience, write the machine serial number below:

Serial Number _____

SULLAIR CORPORATION

3700 East Michigan Boulevard
Michigan City, Indiana 46360 U.S.A.
www.sullair.com
☎: 1-800-SULLAIR (U.S.A. Only)
or 1-219-879-5451
Fax: (219) 874-1273

CUSTOMER CARE
for PARTS and SERVICE
☎: 1-888-SULLAIR (7855247)
or 219-874-1835

SULLAIR ASIA, LTD.
Sullair Road, No. 1
Chiwan, Shekou
Shenzhen, Guangdong PRV.
PRC POST CODE 518068
☎: 755-6851686
Fax: 755-6853473
www.sullair-asia.com

CHAMPION COMPRESSORS, LTD.
Princes Highway
Hallam, Victoria 3803
Australia
☎: 1800-810-015 (for Australia -wide Branch Network Only)
☎: 61-3-9796-4000
Fax: 61-3-9703-8053
www.championcompressors.com.au

SULLAIR EUROPE, S.A.
Zone Des Granges BP 82
42602 Montbrison Cedex,
France
☎: 33-477968470
Fax: 33-477968499
www.sullaireurope.com

Section 7
ILLUSTRATIONS AND PARTS

7.2 SPARE PARTS LIST

LIST REFERENCE	DESCRIPTION	ORDER KIT NUMBER	QTY
ELEMENTS			
1	replacement element for air filter 02250049-036 (primary)	**02250051-238**	**1**
2	replacement element for air filter 02250049-036 (secondary)	**02250051-239**	**1**
3	replacement element for air filter 02250053-402 (primary)	**02250051-238**	**1**
4	replacement element for air filter 02250053-402 (secondary)	**02250051-239**	**1**
7	replacement element for separator 409805-007 (900-1150)	**250028-244**	**1**
8	replacement element for separator 02250148-253 (1350)	**02250148-260**	1
9	replacement element for drive coupling 02250069-601	**02250137-653**	**1**
10	replacement element for main fluid filter 02250111-592	**250031-850**	**1**
11	replacement element for main fluid filter 250031-849	**250031-850**	**1**
12	replacement oil filter for Cat engine	**02250154-063**	**1**
13	replacement fuel filter (primary) for Cat engine	**02250154-066**	**1**
14	replacement fuel filter (secondary) for Cat engine	**02250154-065**	**1**
KITS			
15	repair kit for blowdown valve 02250069-820	**02250077-469**	**1**
16	repair kit for blowdown valve 02250120-888	**02250120-889**	**1**
17	repair kit for air/fluid separator 02250148-253	**02250148-260**	**1**
18	repair kit for fluid stop valve 250041-069	**02250051-747**	**1**
19	replacement kit for moisture separator 02250111-923	**02250111-924**	**1**
20	repair kit for thermal/bypass valve 02250142-938	**02250142-940**	**1**
21	repair kit for reducing regulator valve 048354	**048410**	**1**
22	repair kit for control regulator 048059	**048409**	**1**
23	repair kit for control cylinder 02250112-029	**02250112-030**	**1**
24	repair kit for shaft seal	**001811A**	**1**
25	repair kit for inlet valve (6.5 in) 02250054-763	**02250073-277**	**1**
	• replacement gasket (exterior) for 02250054-763	**040690**	**1**
26	repair kit for inlet valve (8 in) 02250045-626	**02250112-531**	**1**
	• replacement gasket (exterior) for 02250045-626	**040422**	**1**
27	repair kit for discharge/check valve 02250081-044	**606208-001**	**1**
	• replacement gasket (exterior) for 02250081-044	**046053**	**1**
28	repair kit for minimum pressure valve 02250164-871	**02250166-761**	**1**
29	repair kit for strainer 02250044-281	**02250044-282**	**1**
30	replacement assembly for filter assembly 02250117-782	**02250117-782**	**1**

Continued on next page

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE SERIAL NUMBER OF COMPRESSOR

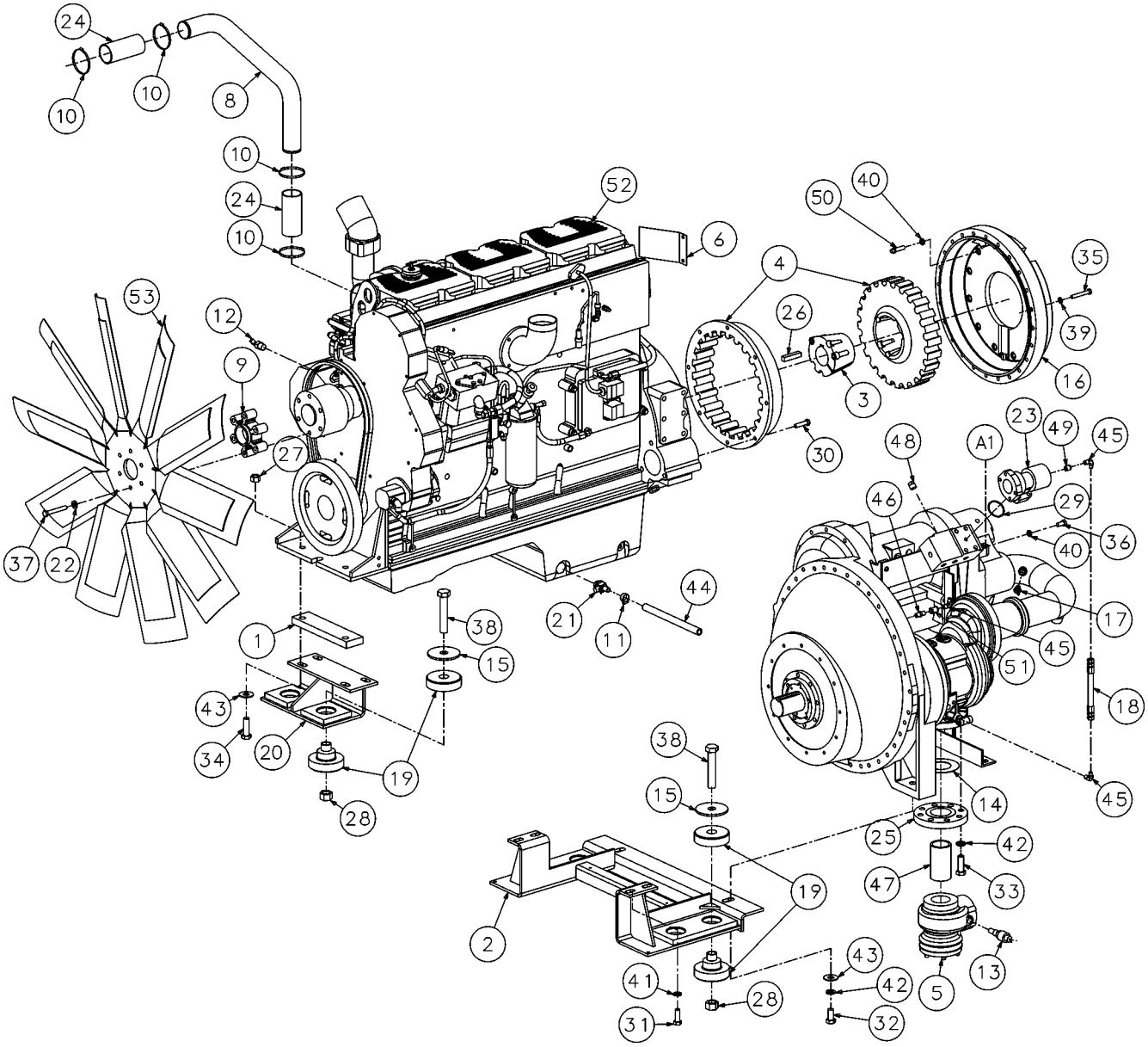
7.2 SPARE PARTS LIST (CONTINUED)

LIST REFERENCE	DESCRIPTION	ORDER KIT NUMBER	QTY
KITS (continued)			
31	replacement kit for moisture separator 02250058-442	02250058-441	1
32	replacement handle for 3-way valve 044205	Consult Factory	1
LUBRICATION			
33	lubricant, multi-vis (55 gallons/208 liters)	250030-758	1
34	lubricant, multi-vis (5 gallons/20 liters)	250030-757	1
MICELLANEOUS			
35	manual, CIMA Safety	250023-146	1

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.3 ENGINE AND COMPRESSOR MOUNTING



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7.3 ENGINE AND COMPRESSOR MOUNTING

key number	*description*	*part number*	*quantity*
1	spacer, eng mnt cat 3406 1”	02250043-374	1
2	support, unit/eng h900/350	02250043-377	1
3	bushing, taper lock 4040 w/2.75 bore	02250069-226	1
4	coupling, drive act-6 1350/350 **(I)**	02250069-601	1
5	sub assembly, vlv assy 2.5 npt x 2.5 4bsf disch **(II)**	02250081-044	1
6	panel, heat shield	02250117-891	1
7	belt, set cat 4n-6423 (.57:1)	02250121-879	1
8	tube, radiator upper 900xh-1900	02250128-894	1
9	spacer, fan cat c15 49.63” fan	02250133-590	1
10	clamp, hose 3”	040343	4
11	clamp, hose 13/16” to 1-1/2”	040513	1
12	draincock, 1/2”	041063	1
13	switch, temp-265f 54” los nc	045641	1
14	gasket, 2-1/2” flange	046053	1
15	washer, snubbing 1” bolt	222607	4
16	adapter, eng/compr 900xh	231811	1
17	switch, temperature nc 250deg f	242257	1
18	hose, med press .25 x 30” lg	249604-019	1
19	isolator, vibration 500 lb. capacity	250010-330	2
20	support, front engine mnt 3408 dita	250030-568	1
21	valve, drain 1-1/8-12unf	250031-046	1
22	washer, .500 hardened	250040-099	6
23	valve, oil stop 2” sae code 61	250041-069	1
24	hose, rad upper 2-1/2 x 6”	407749	2
25	flange, thrd 2 1/2” 300# rf	820330-040	1
26	key, square cl1 5/8” x 3	821110-300	1
27	nut, hex locking 3/4-10	825512-382	2
28	nut, hex locking 1-8	825516-513	2
29	o-ring, viton 2 1/4 x 1/8”	826502-228	1
30	capscrew, hex gr8 1/2-13 x 2	827908-200	8
31	capscrew, hex gr8 5/8-11 x 1 3/4	827910-175	4
32	capscrew, hex gr8 3/4-10 x 1 1/2	827912-150	2

Continued on page 51

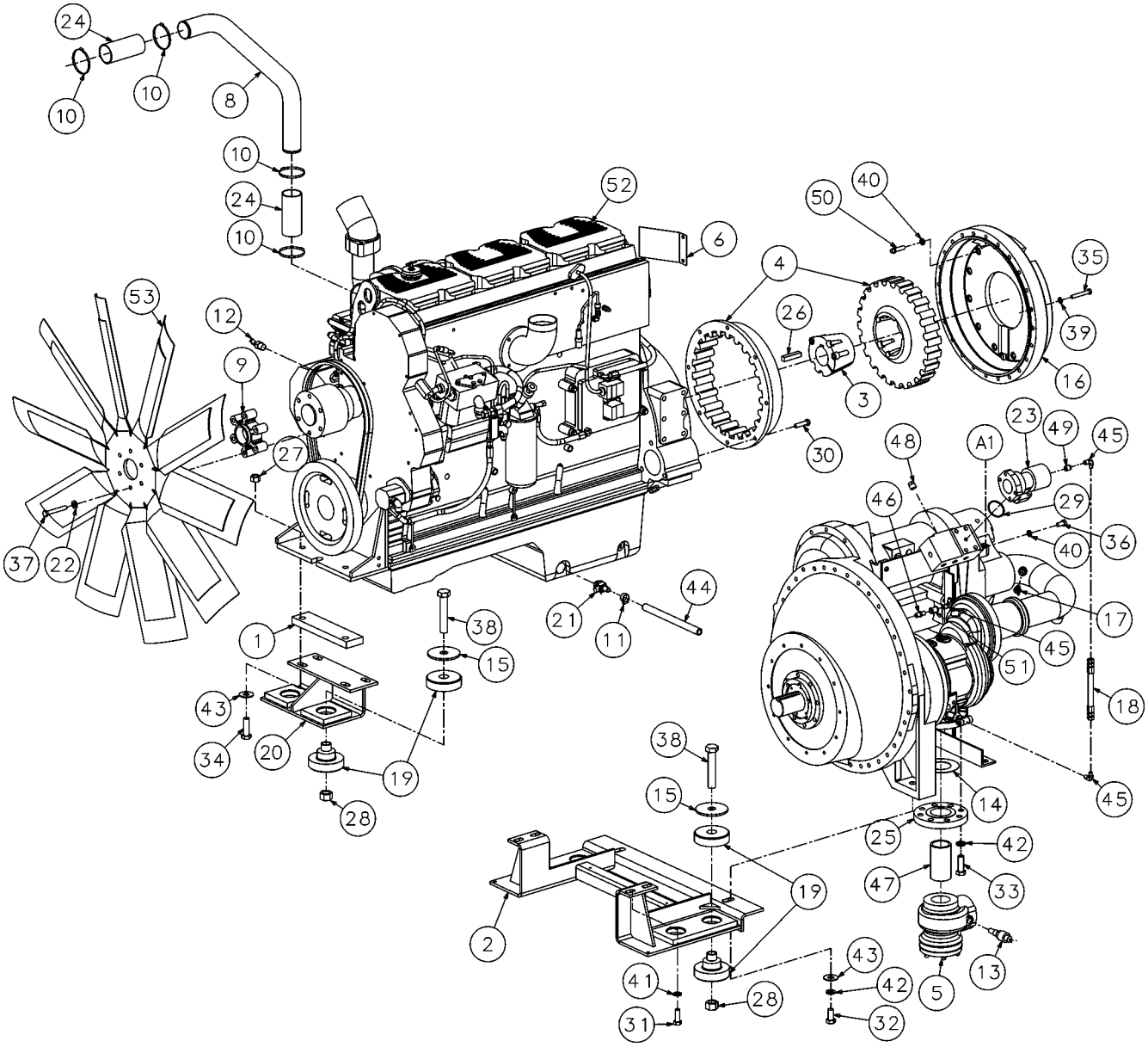
(I) For maintenance on coupling, order replacement element no. 02250137-653.

(II) For maintenance on sub-assembly valve no. 02250081-044, order repair kit no. 606208-001.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.3 ENGINE AND COMPRESSOR MOUNTING



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7.3 ENGINE AND COMPRESSOR MOUNTING (CONTINUED)

key number	*description*	*part number*	*quantity*
33	capscrew, hex gr8 3/4-10 x 2 1/4	827912-225	1
34	capscrew, hex gr8 3/4-10 x 2 1/2	827912-250	2
35	capscrew, hex gr5 7/16-14 x 3	829107-300	24
36	capscrew, hex gr5 1/2-13 x 1	829108-100	4
37	capscrew, hex gr5 1/2-13 x 3 1/2	829108-350	6
38	capscrew, hex gr5 1-8 x 5 1/2	829116-550	4
39	washer, spr lock reg pltd 7/16	837807-109	24
40	washer, spr lock reg pltd 1/2	837808-125	12
41	washer, spr lock reg pltd 5/8	837810-156	4
42	washer, spr lock reg pltd 3/4	837812-188	2
43	washer, pl-b reg pltd 3/4	838212-112	2
44	hose, heater 5/8	842115-062	1 ft.
45	elbow, 37fl 90m 1/4 x 1/4	860204-025	3
46	nipple, pipe-hex 1/4 x 1/4	860404-025	1
47	nipple, pipe-xs plt 2 1/2 x 5	866440-050	1
48	plug, pipe 1/2” 3000# stl plt	866900-020	1
49	bushing, red pltd 3/8 x 1/4	867101-010	1
50	capscrew, ferry head hd pltd 1/2-13 x 1 3/4	867308-175	12
51	coupling, pipe 1/4 150# plt	869015-010	1
52	engine, generic diesel cat3406e tier ii **(III) (VI)**	-	1
53	fan, cat 3406e **(IV)**	-	1
54	compressor, unit and parts **(V) (VII)**	-	1
A1	Sightglass assembly: refer to *Section 7.17 Sub-assembly - High Pressure Filter / Check Valve / Orifice*.		

Machine Size (CFM / PSI)	Engine (III)	Fan (IV)	Unit (V)
900 / 350	02250125-778	02250092-462	02250091-756
1150 / 350	02250124-731	02250136-317	02250104-038
1350 / 350	02250142-622	02250136-317	02250119-215

(VI) For maintenance on Caterpillar engine oil filter, order replacement filter no. 02250154-063. For maintenance on Caterpillar engine fuel filter, order primary replacement filter no. 02250154-066, and secondary replacement filter no. 02250154-065. For in-depth coverage of the engine, consult the Engine Operator’s Manual.

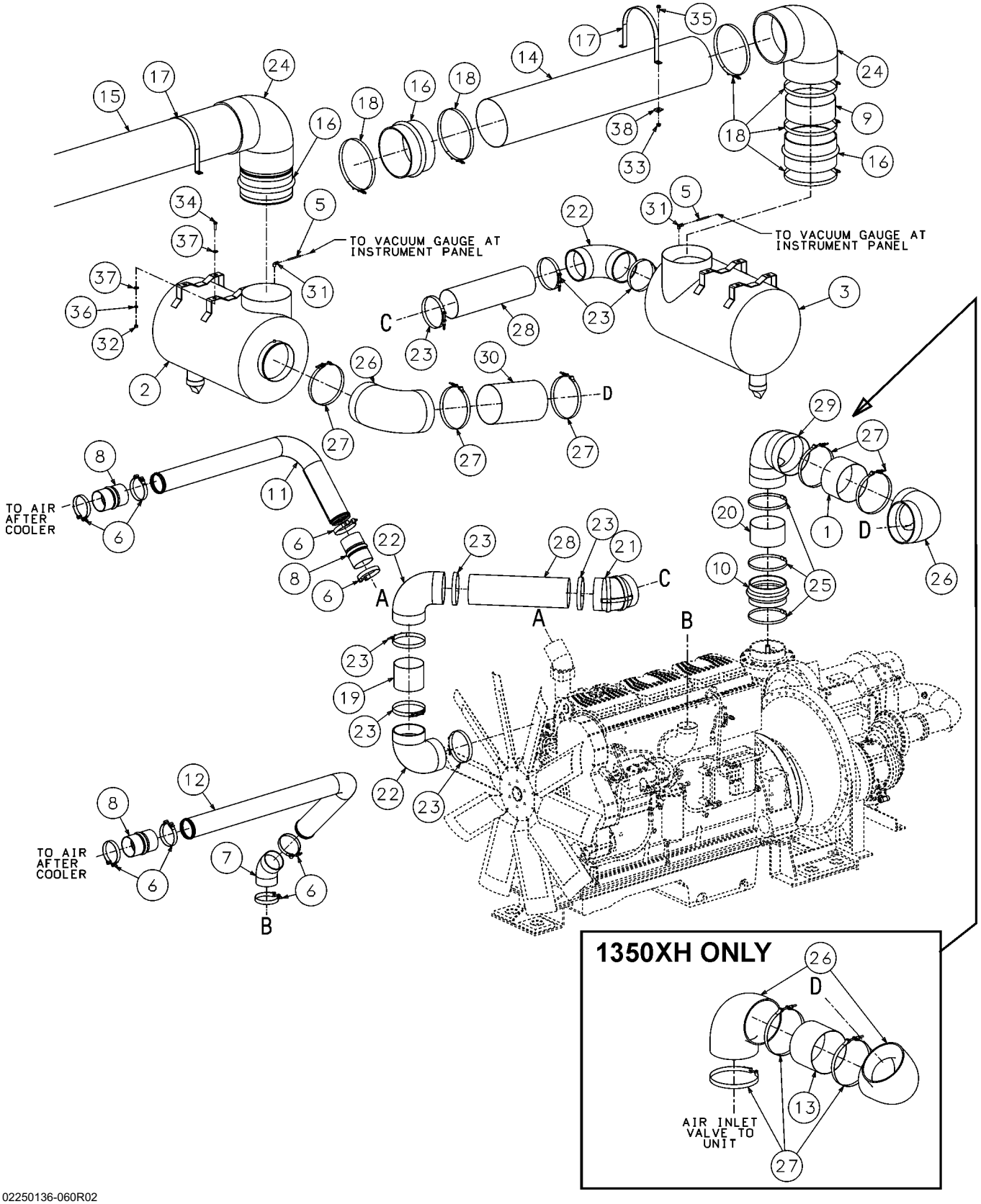
(VII) There is an exchange program whereby a remanufactured compressor unit can be obtained from Sullair distributors or the factory at less cost than the owner could repair the unit. For information regarding the unit exchange program, contact your nearest Sullair representative or the Sullair Corporation.

The shaft seal is not considered part of the compressor unit in regard to the two year warranty. The normal Sullair parts warranty applies. For shaft seal repairs order shaft seal repair kit no. 001811A.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.4 AIR INLET SYSTEM - ALL MODELS



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7.4 AIR INLET SYSTEM - ALL MODELS

key number	*description*	*part number*	*quantity*
1	tube, alum air inlet 8"od x 5"lg	02250043-705	1
2	filter, air 18" dia 1600 cfm **(I)**	02250049-036	1
3	filter, air 18" dia 6" outlet 1600 cfm **(II)**	02250053-402	1
4	valve, assembly inlet 6.50" **(III)**	02250054-763	1
5	tube, nylon .25"od x .04w black	02250054-861	10 ft.
6	clamp, t-bolt ss band 4.50"id	02250084-842	8
7	elbow, chrg air clr 4" id x 45 deg	02250085-092	1
8	hose, hump chrg air 4" id x 6" lg	02250085-094	3
9	tube, 10"od x .063"alum x 4"lg	02250086-250	2
10	hose, hump 7" short	02250115-907	1
11	tube, alum stl 4" beaded ss ii	02250125-075	1
12	tube, alum stl 4" od 90 beaded	02250125-212	1
13	tube, alum air inlet 8"od x 6"lg	02250134-182	1
14	tube, air inlet 10"od x 53"lg	02250135-594	1
15	tube, alum air inlet 10"od x 59"lg	02250135-595	1
16	adapter, 10"od tube rubber	02250135-596	4
17	clamp, 10" dia tube	02250135-707	2
18	clamp, hose t-bolt 10.25 - 10.75 ss	02250149-376	12
19	tube, alum air inlet 6"od x 5"lg	028111	1
20	tube, alum air inlet 7"od x 4"lg	029097	1
21	elbow, rubber 6" id x 45 deg	040303	1
22	elbow, rubber 6" id x 90 deg	040304	3
23	clamp, hose 6 1/2"	040305	8
24	elbow, air inlet 90 rubber 10"	041910	2
25	clamp, hose 7"	041992	3
26	elbow, air inlet 90 rubber	043406	4

Continued on page 55

(I) For maintenance on air filter no. 02250049-036, order primary replacement element no. 02250051-238, and secondary replacement element no. 02250051-239.

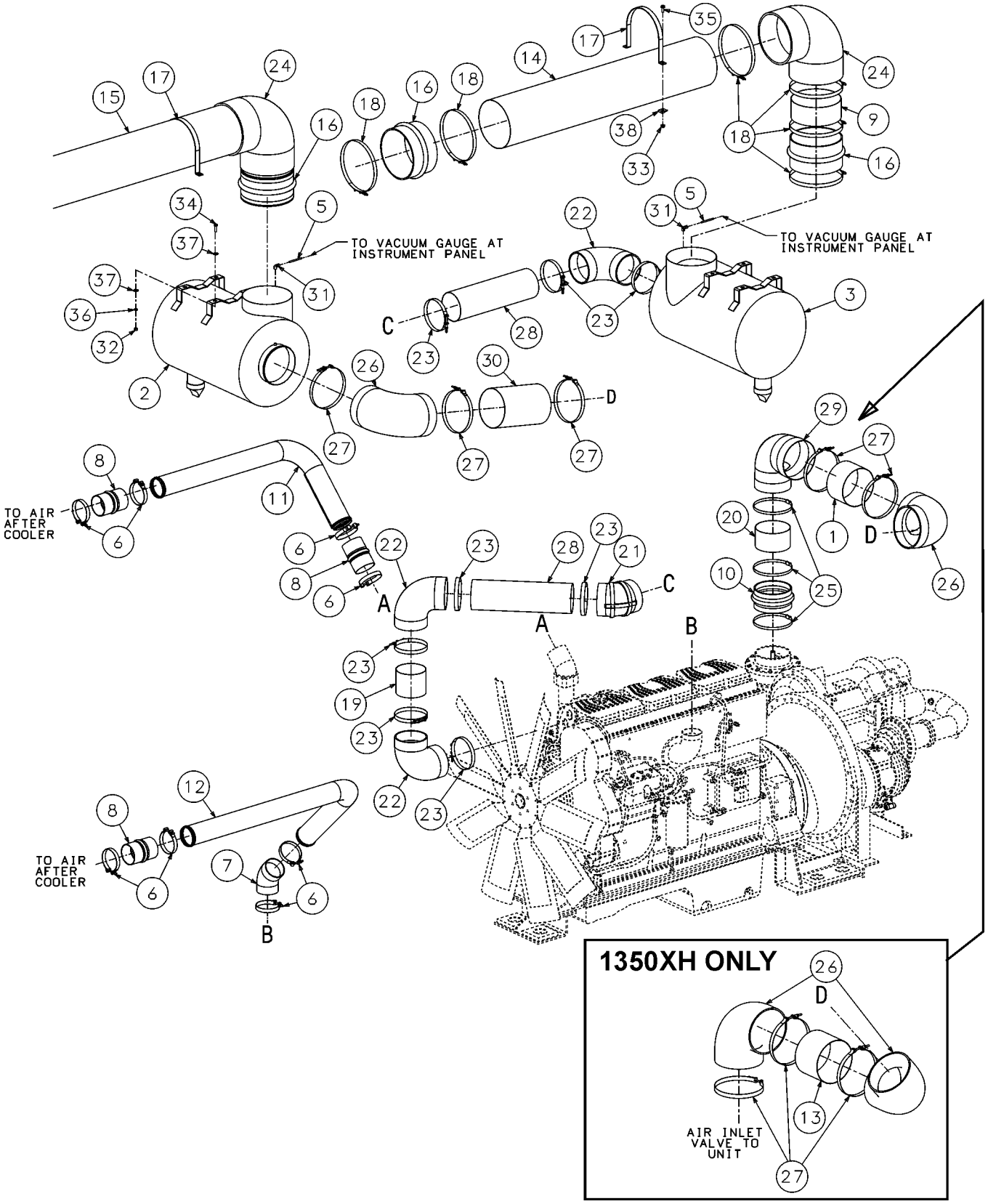
(II) For maintenance on air filter no. 02250053-402, order primary replacement element no. 02250051-238, and secondary replacement element no. 02250051-239.

(III) For complete breakdown of 6.5” inlet valve assembly, refer to *Section 7.13A Inlet Valve Parts - 6.5” - 900XH*. For complete breakdown of 8” inlet valve assembly, refer to *Section 7.13B Inlet Valve Parts - 8” - 1150XH-1350XH*.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.4 AIR INLET SYSTEM - ALL MODELS



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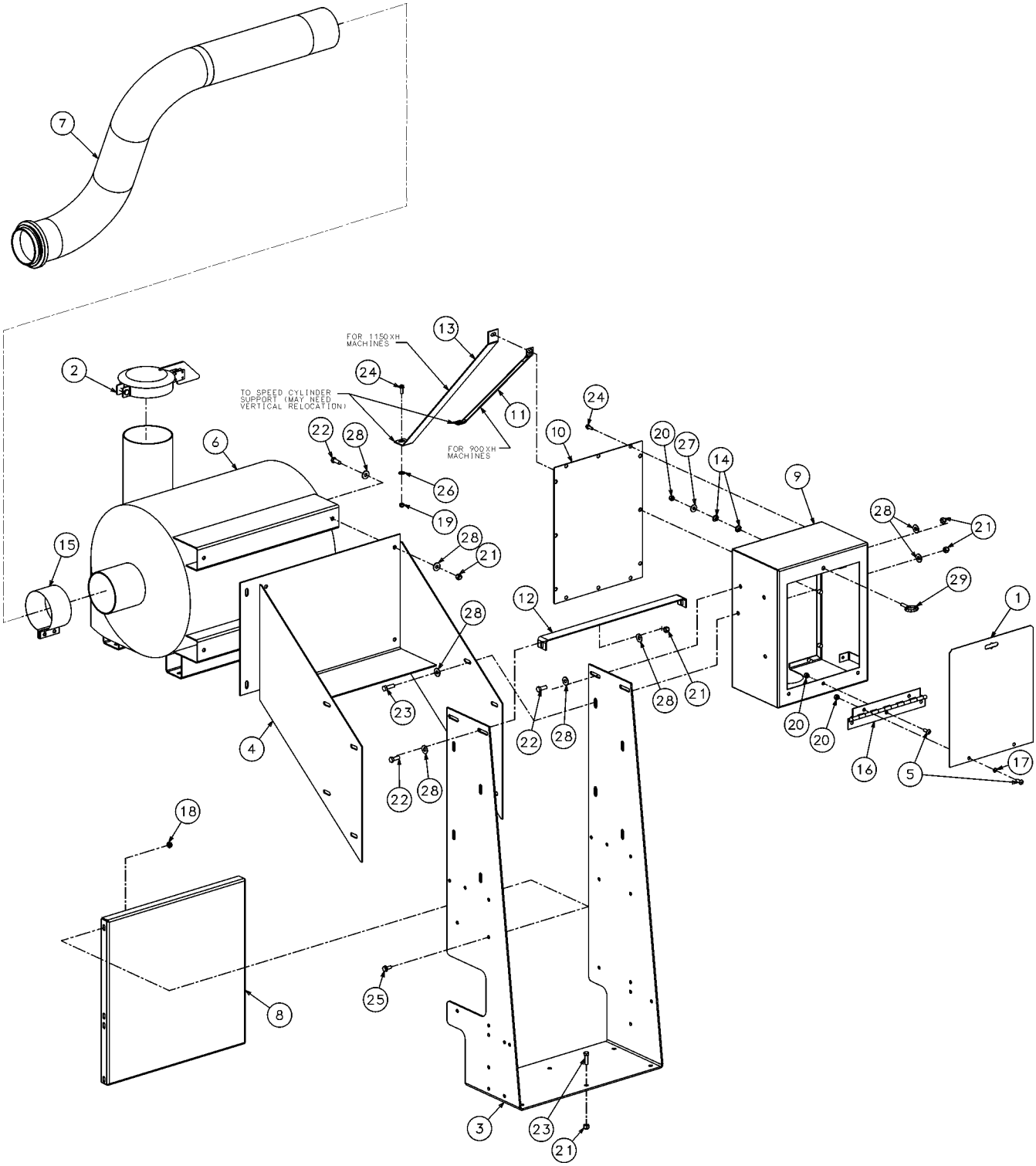
7.4 AIR INLET SYSTEM - ALL MODELS (CONTINUED)

key number	*description*	*part number*	*quantity*
27	clamp, hose 8"	043598	8
28	tube, alum air inlet 6"od x 20"lg	233298	2
29	elbow, rubber 90deg red. 8 x 7"	245796	1
30	tube, alum air inlet 8"od x 12"lg	250006-651	1
31	elbow, 90d 1/4" tube x 1/8"fnpt	250041-286	2
32	nut, hex pltd 3/8-16	825206-337	8
33	nut, hex f pltd 3/8-16	825306-347	4
34	capscrew, hex gr5 3/8-16 x 1 1/4	829106-125	8
35	screw, hex ser washer 3/8-16 x 1	829706-100	4
36	washer, spr lock reg pltd 3/8	837806-094	8
37	washer, pl-b reg pltd 3/8	838206-071	16
38	washer, bevel 3/8 plt	868706-125	4

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.5 EXHAUST SYSTEM - ALL MODELS



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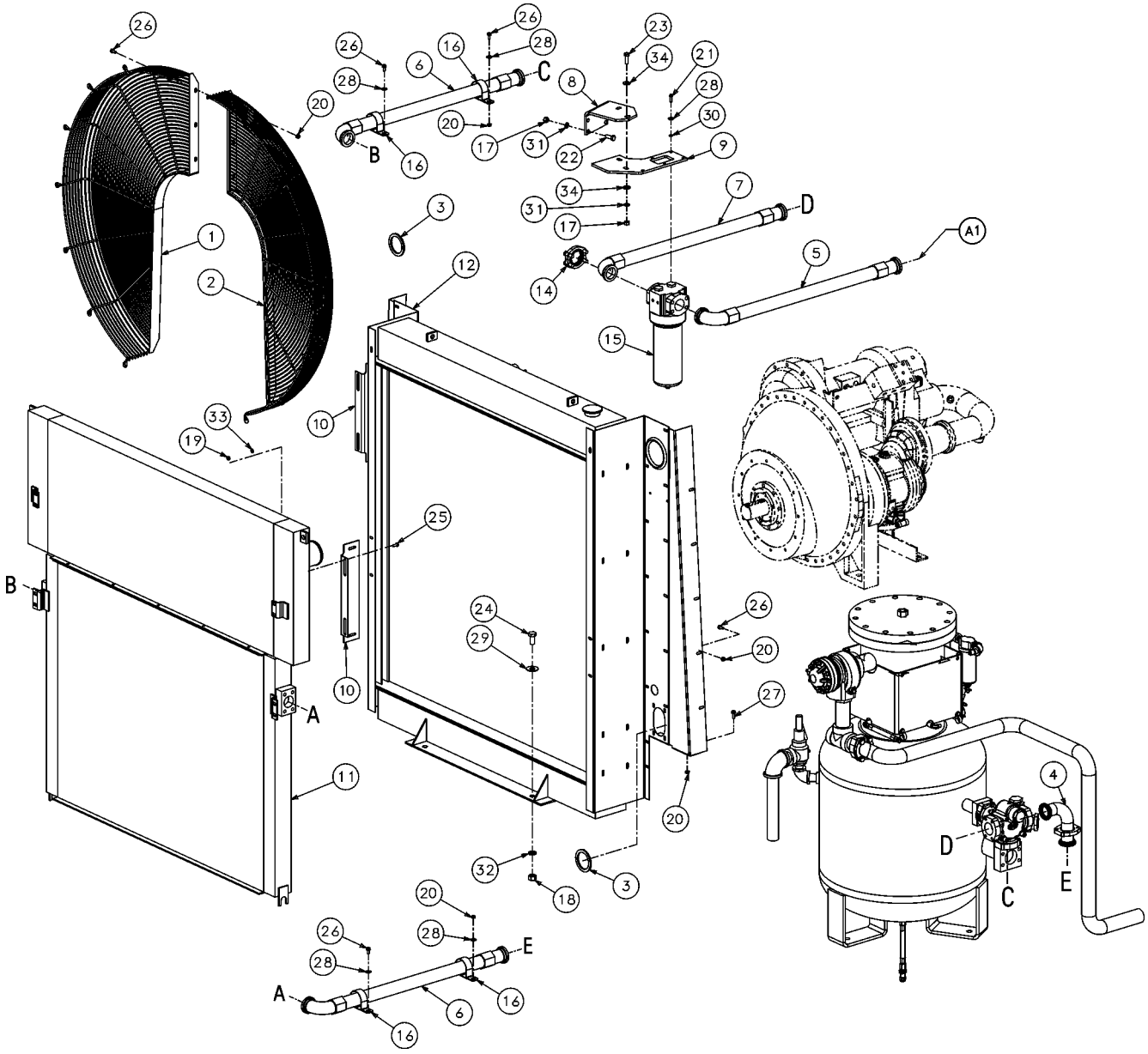
7.5 EXHAUST SYSTEM - ALL MODELS

key number	*description*	*part number*	*quantity*
1	door, instr panel 750	02250046-851	1
2	rain-cap, exhaust 5.75” to 6.35” dia pipe	02250051-589	1
3	supt, ptech filter assy 1200 ac	02250061-795	1
4	support, muffler 1200-1500 ac	02250061-796	1
5	capscr, button head 5/16-18 x 3/4	02250091-543	5
6	muffler, exhaust 19” x 5” inlet	02250093-529	1
7	tube, exh w/half marmn 3406e ii	02250125-074	1
8	brace, muffler support h	02250135-706	1
9	enclosure, instrument panel	02250135-709	1
10	cover, instrument panel backing	02250135-710	1
11	supt, instr box 900 xh open frame	02250137-188	1
12	supt, 900xh open frame	02250137-189	1
13	supt, baffle 1150xha tier ii	02250140-520	1
14	grommet, rubber	040125	2
15	clamp, seal 5”	241260	1
16	hinge, instrument panel door	250008-152	1
17	washer, nylon 5/16”	250011-537	2
18	nut, hex f pltd 5/16-18	825305-283	8
19	nut, hex locking 1/4-20	825504-145	1
20	nut, hex locking 5/16-18	825505-166	6
21	nut, hex locking 3/8-16	825506-198	21
22	capscr, hex gr5 3/8-16 x 1	829106-100	13
23	capscr, hex gr5 3/8-16 x 1 1/4	829106-125	8
24	screw, hex ser washer 1/4-20 x 3/4	829704-075	13
25	screw, hex ser washer 5/16-18 x 3/4	829705-075	8
26	washer, pl-b reg pltd 1/4	838204-071	1
27	washer, pl-b reg pltd 5/16	838205-071	1
28	washer, pl-b reg pltd 3/8	838206-071	30
29	eyebolt, 5/16 -18 x 1 1/8 “ pltd	839105-112	1

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.6A ENGINE RADIATOR AND FLUID COOLING SYSTEM



02250127-635R02

7.6A ENGINE RADIATOR AND FLUID COOLING SYSTEM

key number	*description*	*part number*	*quantity*
1	guard, fan 48” rh 900h/350-1600	02250052-613	1
2	guard, fan 48” lh 900h/350-1600	02250053-495	1
3	channel, ext rub “u” 3/32	02250078-197	2 ft.
4	tube, adapter 2” 90deg 4bsf	02250095-736	1
5	hose, hi-pressure 2” x 173 lg	02250117-235	1
6	hose, hi-pressure 2” x 168 lg	02250117-236	2
7	hose, hi-pressure 2” x 65 lg	02250117-237	1
8	support, bracket oil filter 900xh	02250117-607	1
9	support, bracket oil filter 900xh	02250117-890	1
10	support, cooler oil/air 1600h-1900	02250123-111	2
11	sub assembly, cooler air/oil assy 900xh	02250127-628	1
12	sub assembly, radiator 900xh tier ii **(I)**	02250127-634	1
13	sub assembly, receiver & parts 900xh tier ii **(II)**	02250127-668	1
14	flange, kit sae splt 2”	250016-435	1
15	filter, asm parker 80cnz **(III)**	250031-849	1
15	compr model, 20-12stretch unit **(IV)**	-	1
16	clamp, hose 2 3/8” i.d.	408300-010	4
17	nut, hex unfin 1/2-13	824208-448	2
18	nut, hex unfin 3/4-10	824212-665	1
19	nut, hex pltd 5/16-18	825205-273	1
20	nut, hex f pltd 5/16-18	825305-283	6
21	capscrew, ferry head hd 5/16-18 x 1	828405-100	1
22	capscrew, hex gr5 1/2-13 x 1 1/4	828608-125	1
23	capscrew, hex gr5 1/2-13 x 1 1/2	828608-150	1
24	capscrew, hex gr5 3/4-10 x 1 1/2	828612-150	1
25	capscrew, hex gr5 5/16-18 x 3/4	829105-075	1

Continued on page 61

(I) For additional information pertaining to the radiator sub-assembly no. 02250127-634, consult *Section 7.7, Engine Radiator Assembly - All Models*.

(II) For additional information pertaining to receiver & parts sub-assembly no. 02250127-668, consult *Section 7.15A, Receiver and Parts - 900XH & 1150XH Standard and Aftercooled*.

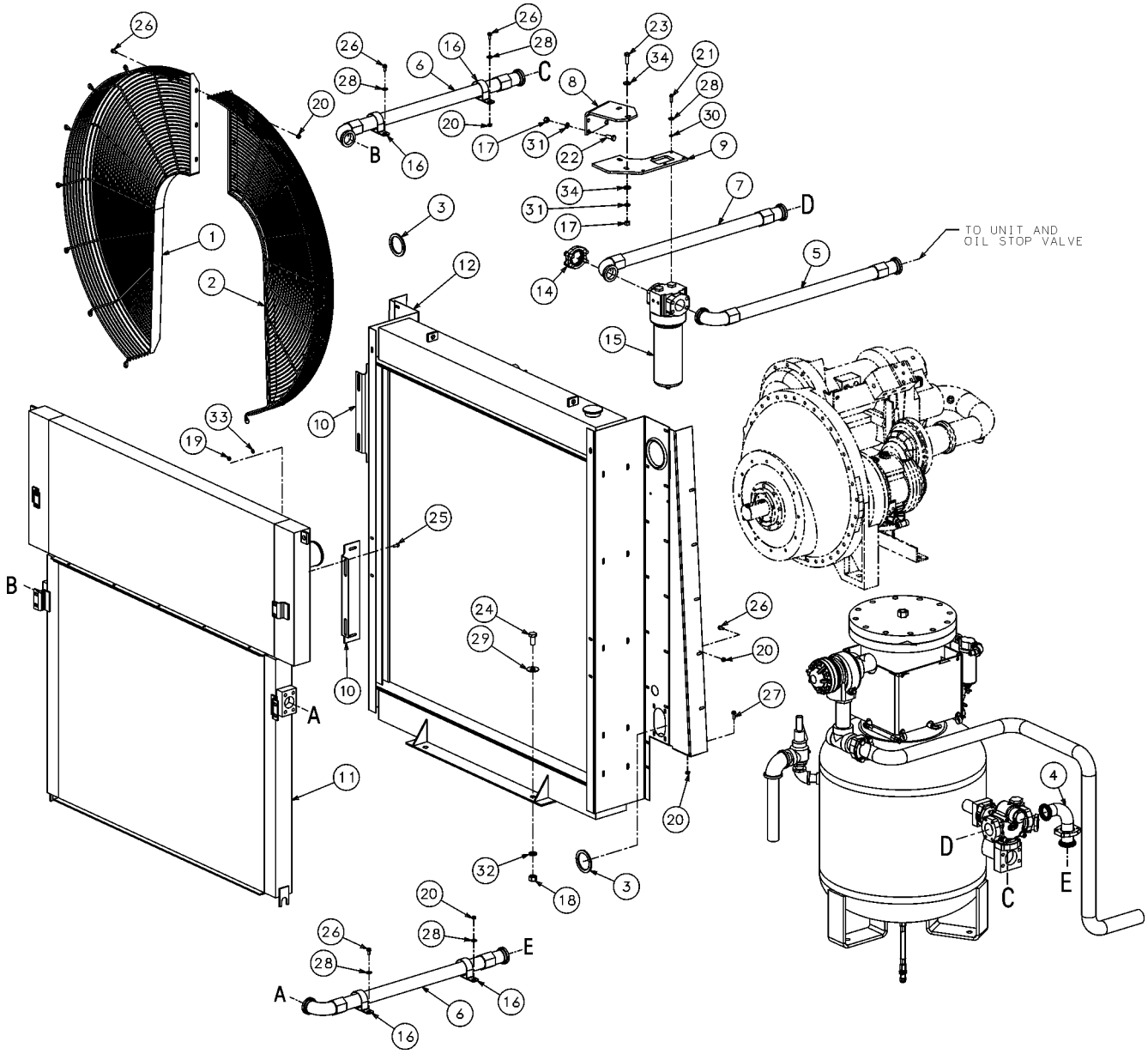
(III) For maintenance on filter assembly no. 250031-849, order replacement element kit no. 250031-850.

(IV) for maintenance on compressor model, consult factory with serial number.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.6A ENGINE RADIATOR AND FLUID COOLING SYSTEM



02250127-635R02

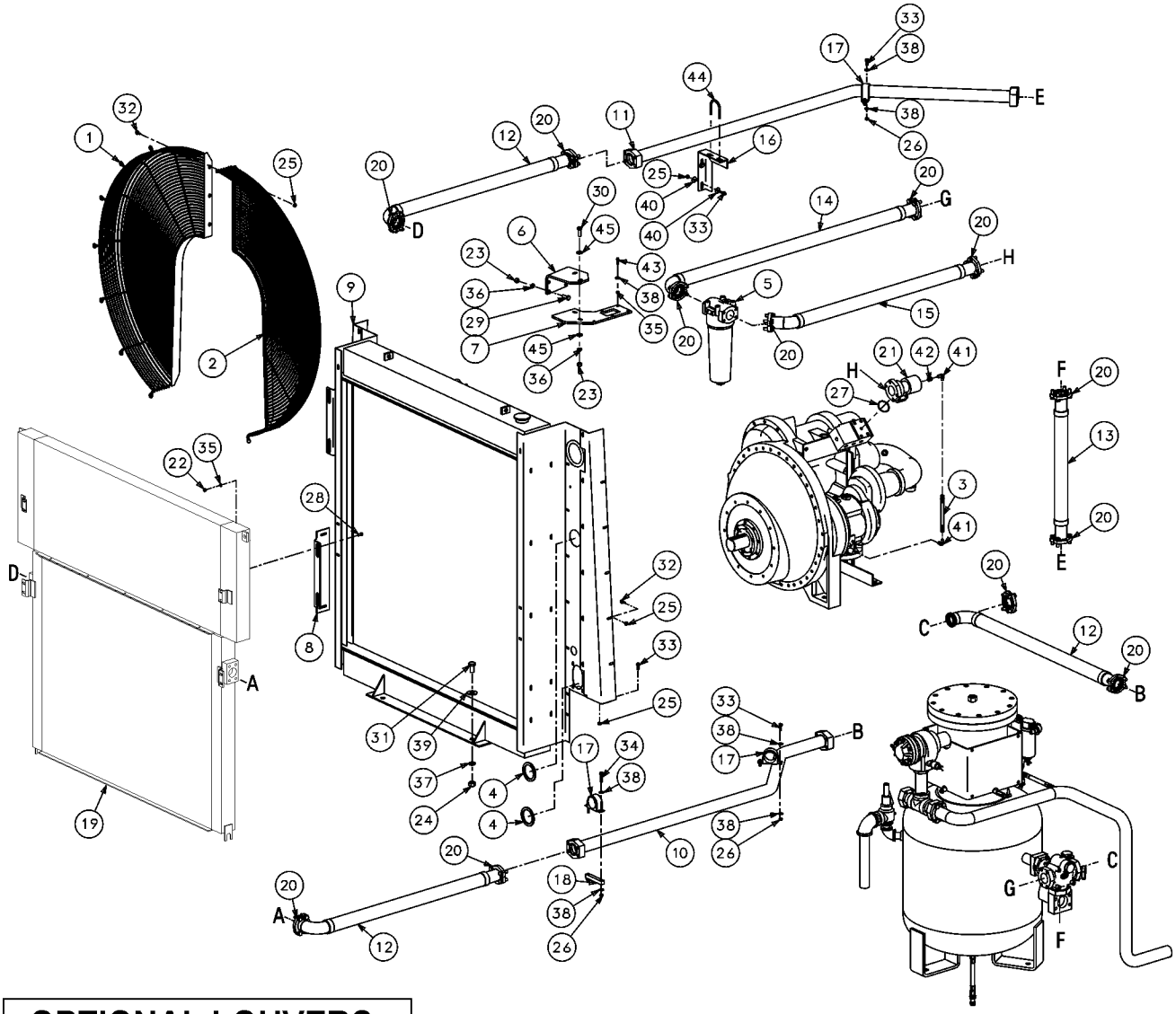
7.6A ENGINE RADIATOR AND FLUID COOLING SYSTEM (CONTINUED)

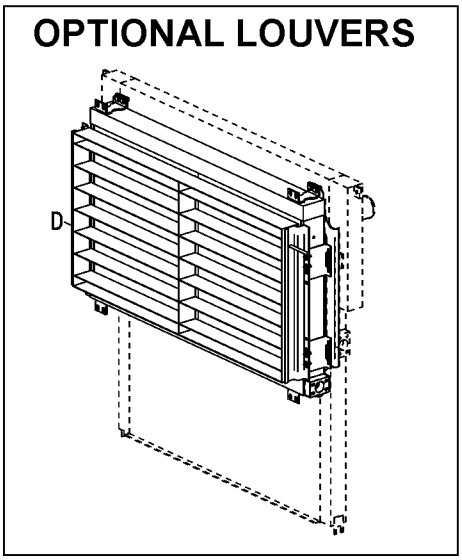
key number	*description*	*part number*	*quantity*
26	screw, hex ser washer 5/16-18 x 3/4	829705-075	5
27	screw, hex ser washer 5/16-18 x 1	829705-100	1
28	washer, pl-b reg unfin 5/16	837205-071	5
29	washer, pl-b reg unfin 3/4	837212-112	1
30	washer, spr lock 5/16	837505-078	1
31	washer, spr lock 1/2	837508-125	2
32	washer, spr lock 3/4	837512-188	1
33	washer, spr lock reg pltd 5/16	837805-078	1
34	washer, extra thk pltd 1/2	870708-153	2

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.6B ENGINE RADIATOR AND FLUID COOLING SYSTEM - AFTERCOOLED





02250150-195R01

7.6B ENGINE RADIATOR AND FLUID COOLING SYSTEM - AFTERCOOLED

key number	*description*	*part number*	*quantity*
1	guard, fan 48” rh 900h/350-1600	02250052-613	1
2	guard, fan 48” lh 900h/350-1600	02250053-495	1
3	hose, medium pressure .25 x 28” lg	02250054-257	1
4	channel, ext rub “u” 3/32	02250078-197	4 ft.
5	filter, oil assy parker **(I)**	02250111-592	1
6	support, bracket oil filter 900xh	02250117-607	1
7	support, bracket oil filter 900xh	02250117-890	1
8	support, cooler oil/air 1600h-1900	02250123-111	2
9	sub-assembly, radiator assy 900xh ac **(II)**	02250131-783	1
10	pipe, asy 2” 900-1350xh 77”lg	02250148-550	1
11	pipe, asy 2” road side 73.75”lg	02250148-551	1
12	hose, asy 2” braided ss 48”lg	02250148-552	3
13	hose, asy 2” braided ss 32” lg	02250148-553	1
14	hose, asy 2” braided ss 65” lg	02250148-554	1
15	hose, asy 2” braided ss 51”lg	02250148-556	1
16	support, pipe 900xh	02250148-575	1
17	clamp, cushion omega for 2” pipe	02250148-710	3
18	support, for 02250148-710	02250148-711	1
19	sub assembly, cooler air/oil assy 900xh	02250127-628	1
	•sub-assembly, clr/air/oil vert flo lvrs 900xh **(III)**	02250150-201	1
20	flange, kit sae splt 2”	250016-435	12
21	valve, oil stop 2” sae code 61 **(IV)**	250041-069	1
22	nut, hex pltd 5/16-18	825205-273	4
23	nut, hex pltd 1/2-13	825208-448	6
24	nut, hex pltd 3/4-10	825212-665	4
25	nut, hex f pltd 5/16-18	825305-283	21
26	nut, hex locking 5/16-18	825505-166	6

Continued on page 65

(I) For maintenance on fluid filter no. 02250111-592, order replacement element no. 250031-850.

(II) For additional information pertaining to the radiator sub-assembly no. 02250127-634, consult *Section 7.7, Engine Radiator Assembly - All Models*.

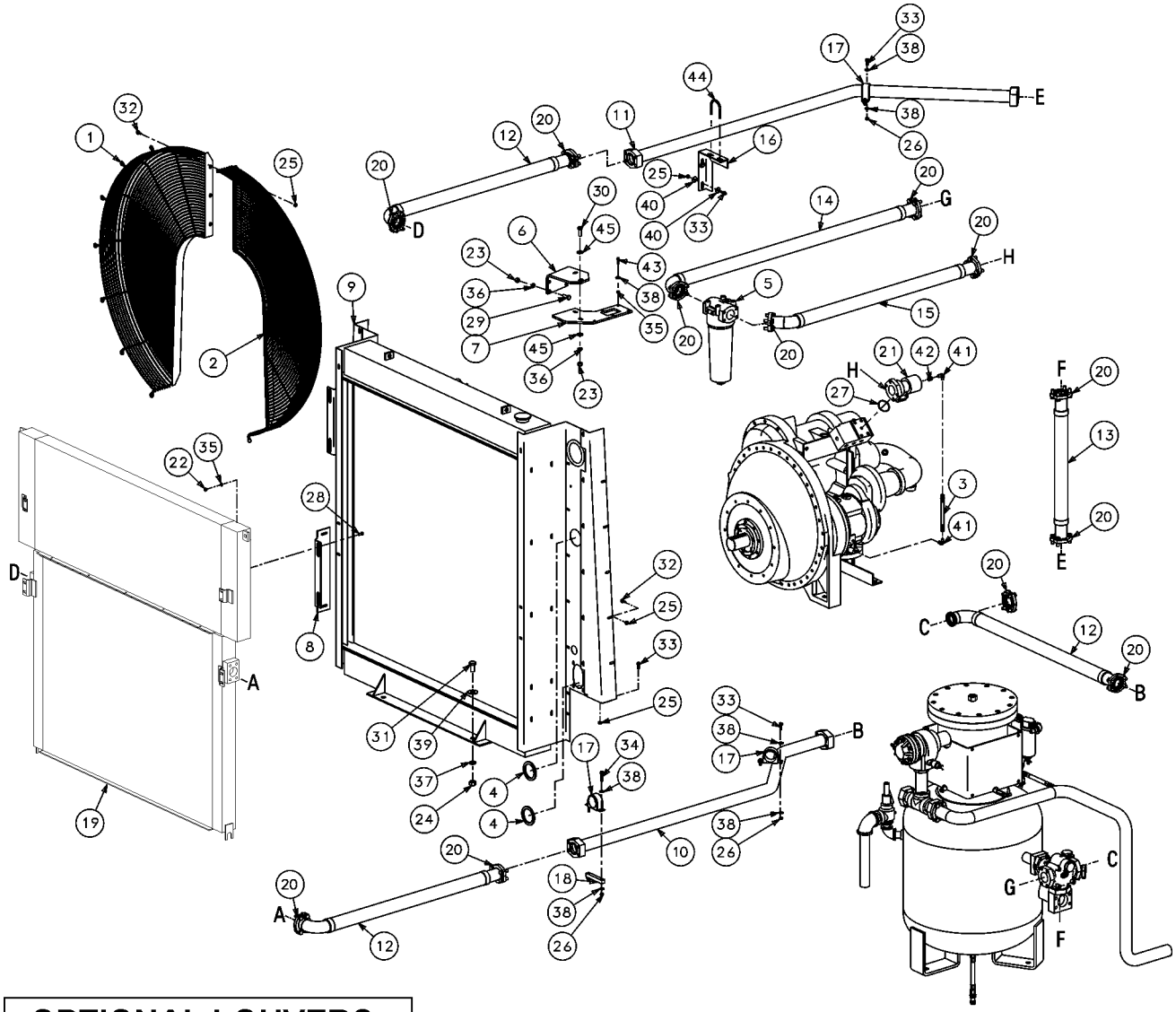
(III) Refer to inset in drawing for sub-assembly with louvers.

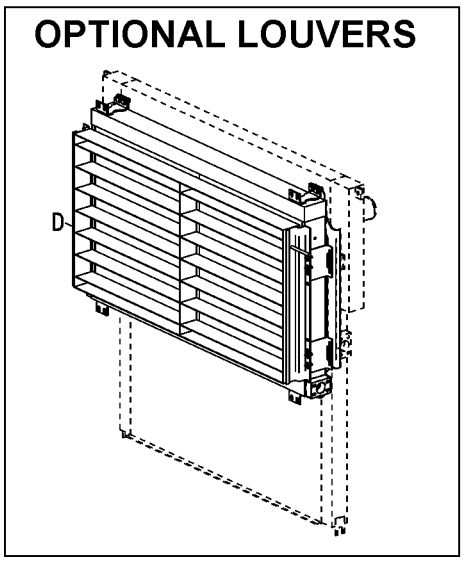
(IV) For maintenance on fluid stop valve no. 250041-069, order repair kit no. 02250051-747.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.6B ENGINE RADIATOR AND FLUID COOLING SYSTEM - AFTERCOOLED





02250150-195R01

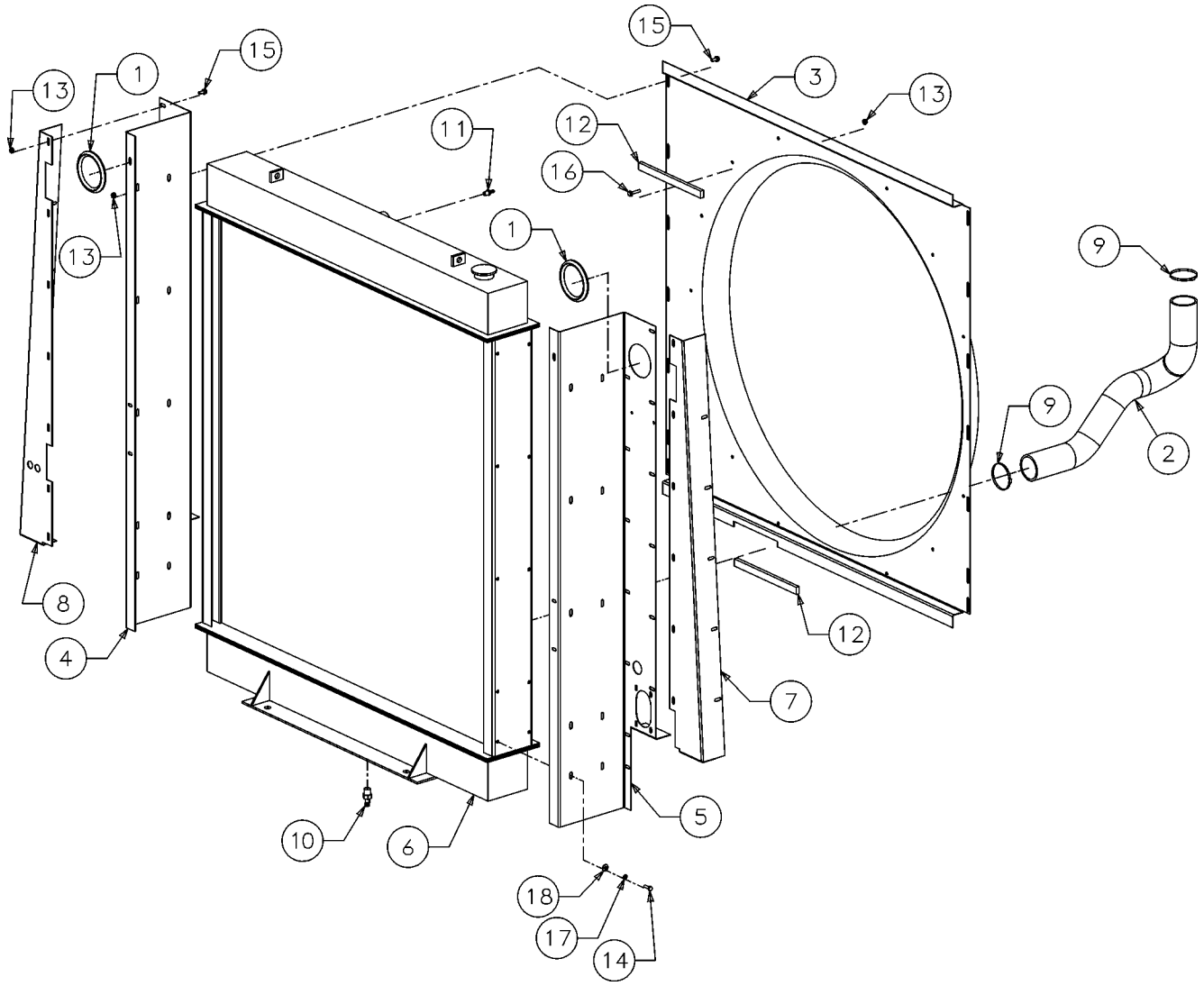
7.6B ENGINE RADIATOR AND FLUID COOLING SYSTEM - AFTERCOOLED (CONTINUED)

key number	*description*	*part number*	*quantity*
27	o-ring, viton 2 1/4 x 1/8”	826502-228	1
28	capscrew, hex gr5 5/16-18 x 3/4	829105-075	4
29	capscrew, hex gr5 1/2-13 x 1 1/4	829108-125	4
30	capscrew, hex gr5 1/2-13 x 1 1/2	829108-150	2
31	capscrew, hex gr5 3/4-10 x 1 1/2	829112-150	4
32	screw, hex ser washer 5/16-18 x 3/4	829705-075	12
33	screw, hex ser washer 5/16-18 x 1	829705-100	8
34	screw, hex ser washer 5/16-18 x 1 3/4	829705-175	2
35	washer, spr lock reg pltd 5/16	837805-078	4
36	washer, spr lock reg pltd 1/2	837808-125	6
37	washer, spr lock reg pltd 3/4	837812-188	4
38	washer, pl-b reg pltd 5/16	838205-071	16
39	washer, pl-b reg pltd 3/4	838212-112	4
40	washer, pl-b wide pltd 5/16	838305-071	4
41	elbow, 37fl 90m 1/4 x 1/4	860204-025	2
42	bushing, red pltd 3/8 x 1/4	867101-010	1
43	capscrew, ferry head hd pltd 5/16-18 x 1	867305-100	4
44	u-bolt,5/16” x 2” pipe pltd	868305-200	1
45	washer, extra thk pltd 1/2	870708-153	4

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.7 ENGINE RADIATOR ASSEMBLY - ALL MODELS



02250127-633R02

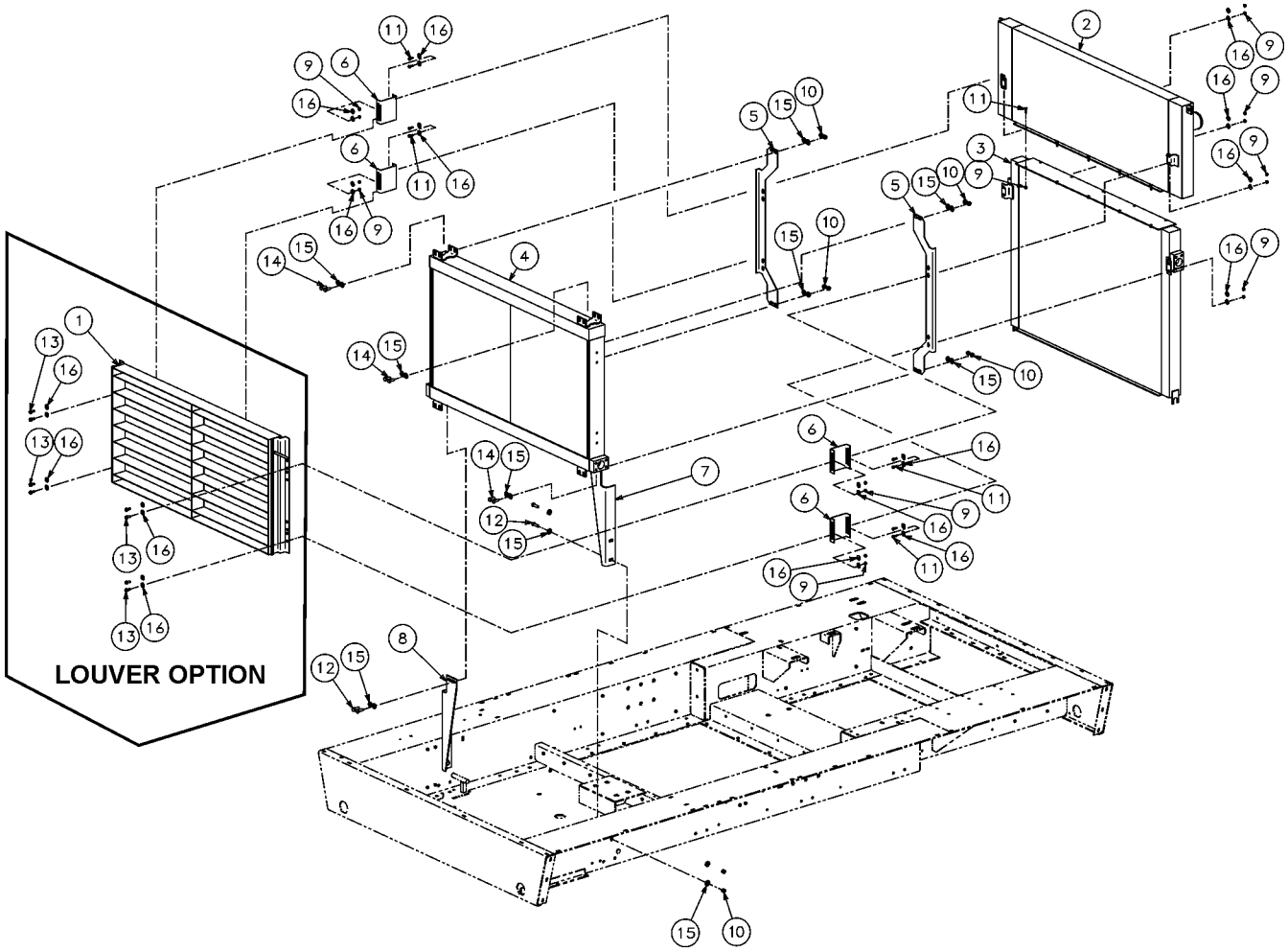
7.7 ENGINE RADIATOR ASSEMBLY - ALL MODELS

key number	*description*	*part number*	*quantity*
1	seal, door extruded sponge	013978	2 ft.
2	hose, rad lower cat 3406	02250048-926	1
3	venturi, 50.50” special	02250092-488	1
4	baffle, rad ss 900xh tier ii	02250127-631	1
5	baffle, rad cs 900xh tier ii	02250127-632	1
6	radiator, 900xh-1900	02250128-893	1
7	baffle, canopy cs 900xh ac	02250131-791	1
8	baffle, canopy ss 900xh ac	02250131-792	1
9	clamp, hose 3”	040343	2
10	draincock,1/2”	041063	1
11	connector, hose 5/16”hose x 1/4”npt	043258	1
12	weatherstrip, 1/2” x 1”	245738	2 ft
13	nut, hex f pltd 5/16-18	825305-283	3
14	capscrew, hex gr5 5/16-18 x 1	829105-100	1
15	screw, hex ser washer 5/16-18 x 3/4	829705-075	2
16	screw, hex ser washer 5/16-18 x 1 1/2	829705-150	1
17	washer, spr lock reg pltd 5/16	837805-078	1
18	washer, pl-b reg pltd 5/16	838205-071	1

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.8 AFTERCOOLER MOUNTING - ALL MODELS



02250150-135R03

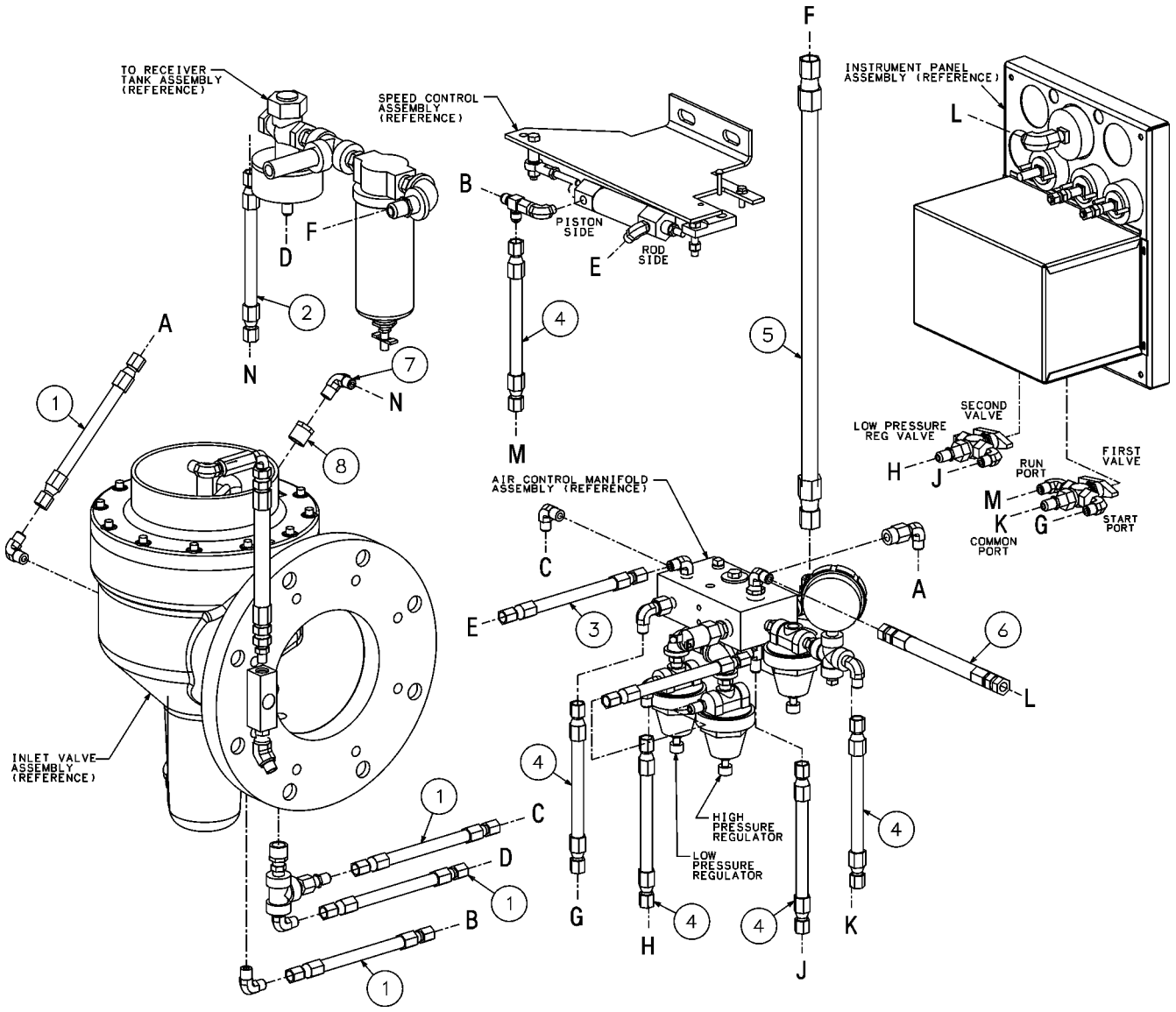
7.8 AFTERCOOLER MOUNTING - ALL MODELS

key number	*description*	*part number*	*quantity*
1	damper, louver acf 1200/1500	02250108-474	1
2	cooler, air cat 3406e tier ii	02250124-822	1
3	cooler, oil ca 3406 tier ii 900xh	02250126-734	1
4	cooler, air vert flow 500 psig	02250150-059	1
5	support, brk vert flow clr 900xh-1150xh	02250150-088	2
6	support, vertical flow clr 900xh-1150xh	02250150-130	4
7	support, aftercooler 900xh-1300xh	02250154-061	1
8	support, aftercooler 900xh-1300xh	02250154-062	1
9	nut, hex f pltd 5/16-18	825305-283	26
10	nut, hex locking 1/2-13	825508-262	12
11	capscrew, hex gr5 5/16-18 x 1	829105-100	18
12	capscrew, hex gr8 1/2-13 x 1 1/2	827908-150	6
13	screw, hex ser washer 3/8-16 x 1	829706-100	8
14	capscrew, hex gr8 1/2-13 x 1 1/4	827908-125	6
15	washer, pl-b reg pltd 1/2	838208-112	24
16	washer, pl-b wide pltd 5/16	838305-071	32

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.9 CONTROL SYSTEM HOSE ROUTING - ALL MODELS



02250133-812R05

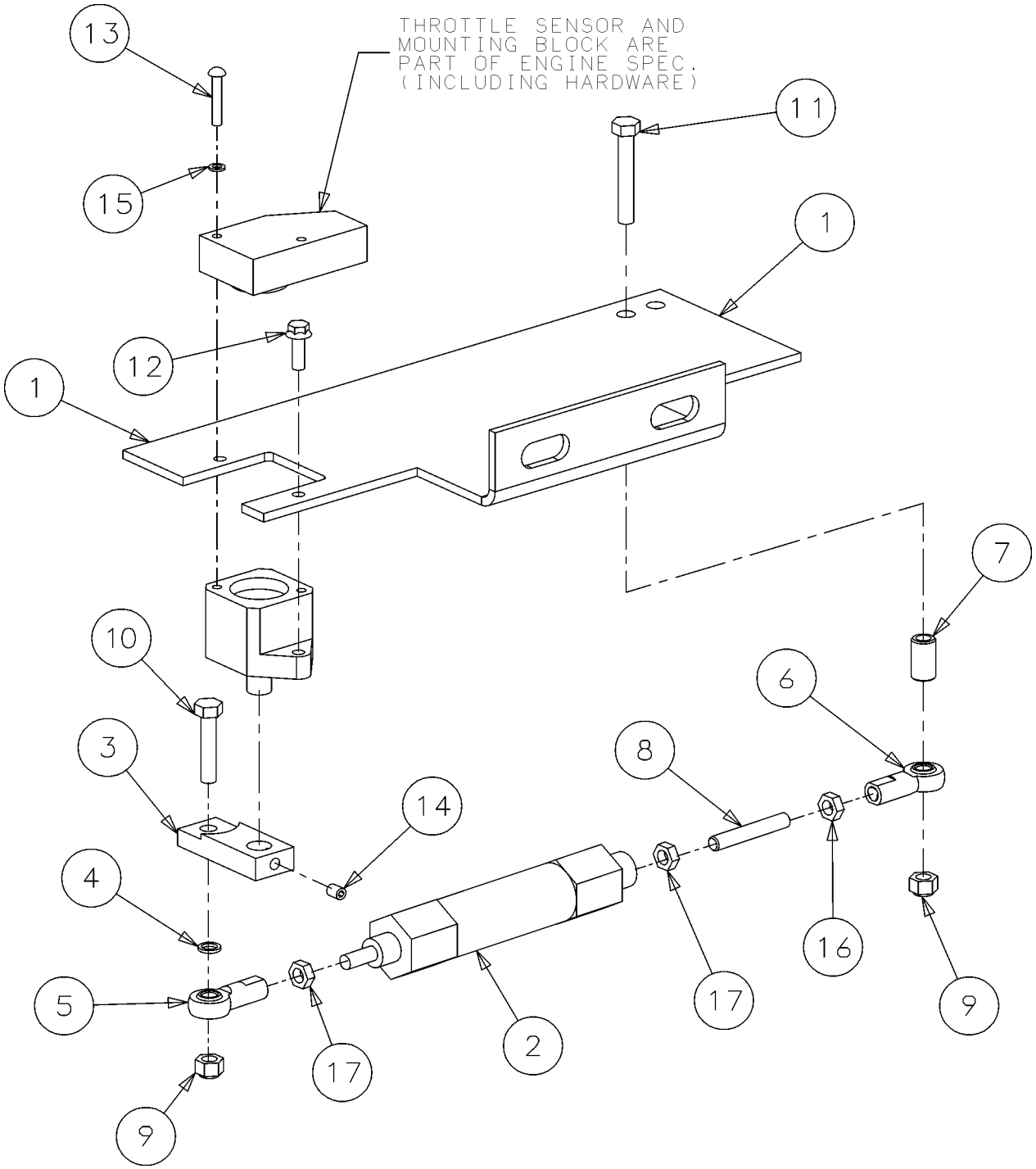
7.9 CONTROL SYSTEM HOSE ROUTING - ALL MODELS

key number	*description*	*part number*	*quantity*
1	hose, mp 5/16 x 98" lg 37deg st	02250073-546	4
2	hose, mp 5/16 x 54" lg 37deg st	02250083-838	1
3	hose, mp 5/16 x 17	02250110-099	1
4	hose, mp 5/16 x 40" lg 37deg st	02250119-172	5
5	hose, drain 3/4 84" 3/4 fsn	02250127-142	1
6	hose, med press .25 x 44" lg	249604-022	1
7	elbow, 37fl 90m 5/16 x 1/4	860205-025	1
8	bushing, red pltd 1/2 x 1/4	867102-010	1

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.10 SPEED CONTROL CYLINDER AND PARTS - ALL MODELS



02250132-482R00

7.10 SPEED CONTROL CYLINDER AND PARTS - ALL MODELS

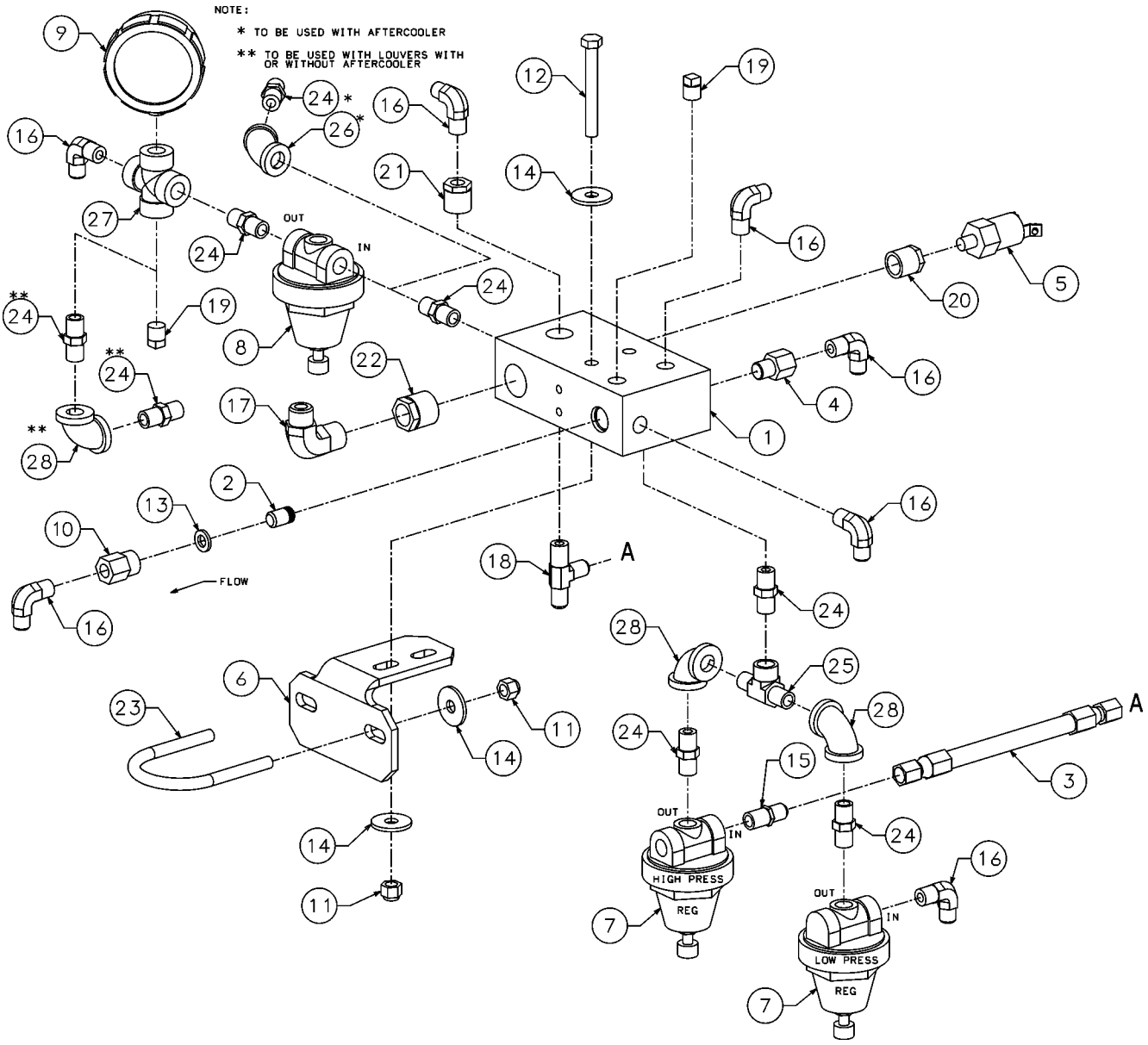
key number	*description*	*part number*	*quantity*
1	support, speed cyl mtg 3406e	02250085-277	1
2	cylinder, air dbl acting **(I)**	02250112-029	1
3	lever, speed control 1600h-1900	02250112-037	1
4	washer, sprlock hi clr 5/16”	02250112-561	1
5	rod end, spherical rh 5/16	040136	1
6	rod end, spherical lh 5/16	042004	1
7	spacer, control butterfly	250010-103	1
8	rod, sullicon ctl 5/15 x 2	250011-491	1
9	nut, hex locking 5/16-18	825505-166	2
10	capscrew, hex gr5 5/16-18 x 1 1/2	829105-150	1
11	capscrew, hex gr5 5/16-18 x 2	829105-200	1
12	screw, hex ser washer 1/4-20 x 3/4	829704-075	1
13	screw, mach-rd hd #10-32 x 1 1/8	831702-118	1
14	screw, set cup 1/4-20 x 3/8	832204-038	1
15	washer, spr lock reg pltd #10	837802-047	1
16	nut, hex jam lh pltd 5/16-24	866605-195	1
17	nut, hex jam rh pltd 5/16-24	868205-195	2

(I) For maintenance on control cylinder no. 02250112-029, order repair kit no. 022250112-030.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.11 AIR CONTROL MANIFOLD ASSEMBLY - ALL MODELS



02250132-419R04

7.11 AIR CONTROL MANIFOLD ASSEMBLY - ALL MODELS

key number	*description*	*part number*	*quantity*
1	housing, air ctrl manifold	02250116-255	1
2	valve, check 1/2” cartridge type	02250116-869	1
3	hose, mp-5 11”lg 37deg svl str	02250118-270	1
4	orifice, .047 .25 fnpt x .25 mnpt	02250118-584	1
5	switch, pressure nc 15 psi 600 mp	02250129-848	1
6	support, control manifold tier ii	02250132-418	1
7	valve, regulator 400 psi **(I)**	048059	2
8	valve, pressure regulator **(II)**	048354	1
9	gauge, ctl air press 0-200 psi	048448	1
10	adapter, female pipe 1/2 x 1/4	811504-025	1
11	nut, hex locking 3/8-16	825506-198	2
12	capscrew, hex gr5 3/8-16 x 3	829106-300	1
13	washer, spr lock reg pltd 3/8	837806-094	1
14	washer, pl-b wide pltd 3/8	838306-112	3
15	connector, 37 fl/mpt pltd 5/16 x 1/4	860105-025	1
16	elbow, 37fl 90m 5/16 x 1/4	860205-025	7
17	elbow, 37fl 90m 1/2 x 1/2	860208-050	1
18	tee, 37fl male rn 5/16 x 1/4	861805-025	1
19	plug, pipe 1/4” 3000# stl plt	866900-010	2
20	bushing, red pltd 1/2 x 1/8	867102-005	1
21	bushing, red pltd 1/2 x 1/4	867102-010	1
22	bushing, red pltd 3/4 x 1/2	867103-020	1
23	u-bolt, 3/8” x 2” pipe pltd	868306-200	1
24	nipple, pipe-hx pltd 1/4 x 1/4	868504-025	5
24	nipple, pipe-hx pltd 1/4 x 1/4	868504-025	8
25	tee, f branch npt 1/4 x 1/4	873104-004	1
26	elbow, pipe 45 deg 1/4” 3000#	877600-010	1
27	cross, pipe 1/4” 3000# plt	877700-010	1
28	elbow, pipe 90 deg 1/4” 3000# plt	877900-010	3

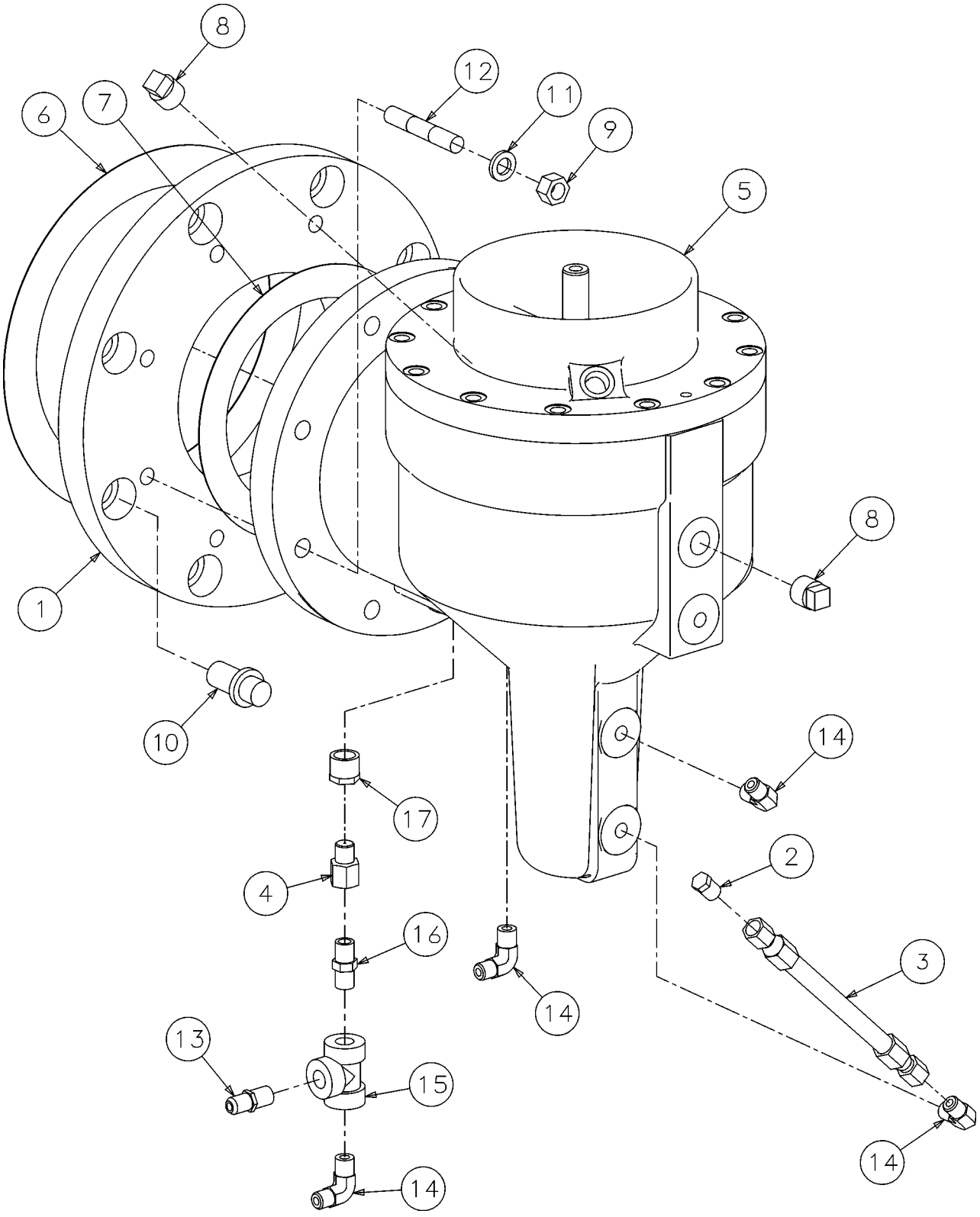
(I) For maintenance on regulator valve no. 048059, order repair kit no. 048409.

(II) For maintenance on pressure regulator valve no. 048354, order repair kit no. 048410.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.12A INLET VALVE AND PARTS (6.5”) - 900XH



02250140-983R01

7.12A INLET VALVE AND PARTS (6.5”) - 900XH

key number	*description*	*part number*	*quantity*
1	adapter, inlet 8.5” to 6.5”	02250062-124	1
2	plug, sae 45 deg 5/16 1/2-20	02250109-209	1
3	hose, medium pressure 5/16 x 4.5”lg 37$s jic	02250110-100	1
4	orifice, .109 .25 fnpt x .25 mnpt	02250118-588	1
5	valve assembly, inlet 6” 350psi **(I) (II)**	02250141-182	1
6	gasket, 11 x 8 5/8 x 1/32	040422	1
7	gasket, 1/32 x 6 1/4idx8 1/4od	040696	1
8	plug, pipe 1/2” 3000# stl	807800-020	2
9	nut, hex unfin 1/2-13	824208-448	1
10	capscrew, ferry head hd 3/4-10 x 1 1/4	828412-125	1
11	washer, spr lock 1/2	837508-125	1
12	stud, threaded 1/2-13 x 3	839408-030	1
13	connector, 37 fl/mpt pltd 5/16 x 1/4	860105-025	1
14	elbow, 37fl 90m 5/16 x 1/4	860205-025	4
15	tee, pipe pltd 1/4	868430-010	1
16	nipple, pipe-hx pltd 1/4 x 1/4	868504-025	1
17	bushing, red hex pltd 1/2 x 1/4	868902-010	1

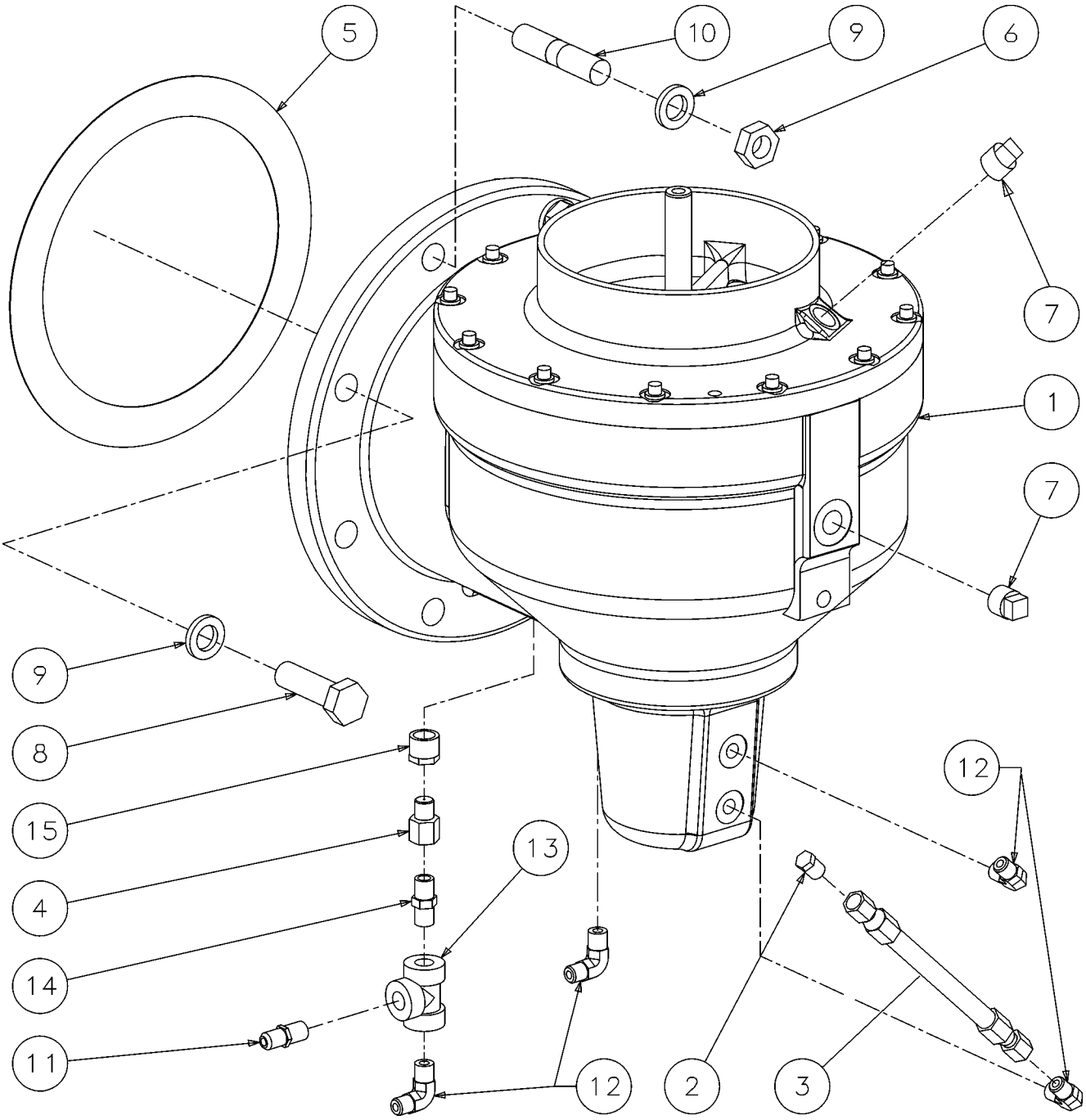
(I) For maintenance on 6.5” inlet valve assembly no. 02250054-763, order repair kit no. 02250073-277, and replacement gasket no. 040696 (refer to key number 7 of this Section).

(II) For additional information pertaining to the 6.5” inlet valve assembly, refer to *Section 7.13A, Inlet Valve Parts- 6.5” - 900XH*.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.12B INLET VALVE AND PARTS (8”) - 1150XH AND 1350XH



02250134-298R01

7.12B INLET VALVE AND PARTS (8”) - 1150XH AND 1350XH

key number	*description*	*part number*	*quantity*
1	sub assembly, 8” inlet valve **(I) (II)**	02250045-626	1
2	plug, sae 45 deg 5/16 1/2-20	02250109-209	1
3	hose, medium pressure 5/16 x 4.5”lg 37° jic	02250110-100	1
4	orifice, .109 .25 fnpt x .25 mnpt	02250118-588	1
5	gasket, 11 x 8 5/8 x 1/32	040422	1
6	nut, thin hex 3/4-10	250034-077	2
7	plug, pipe 1/2” 3000# stl	807800-020	2
8	capscrew, hex gr5 3/4-10 x 2 1/2	828612-250	1
9	washer, spr lock reg pltd 3/4	837812-188	3
10	stud, threaded 3/4-10 x 3 1/2	839412-035	2
11	connector, 37 fl/mpt pltd 5/16 x 1/4	860105-025	1
12	elbow, 37fl 90m 5/16 x 1/4	860205-025	4
13	tee, pipe pltd 1/4	868430-010	1
14	nipple, pipe-hx pltd 1/4 x 1/4	868504-025	1
15	bushing, red hex pltd 1/2 x 1/4	868902-010	1

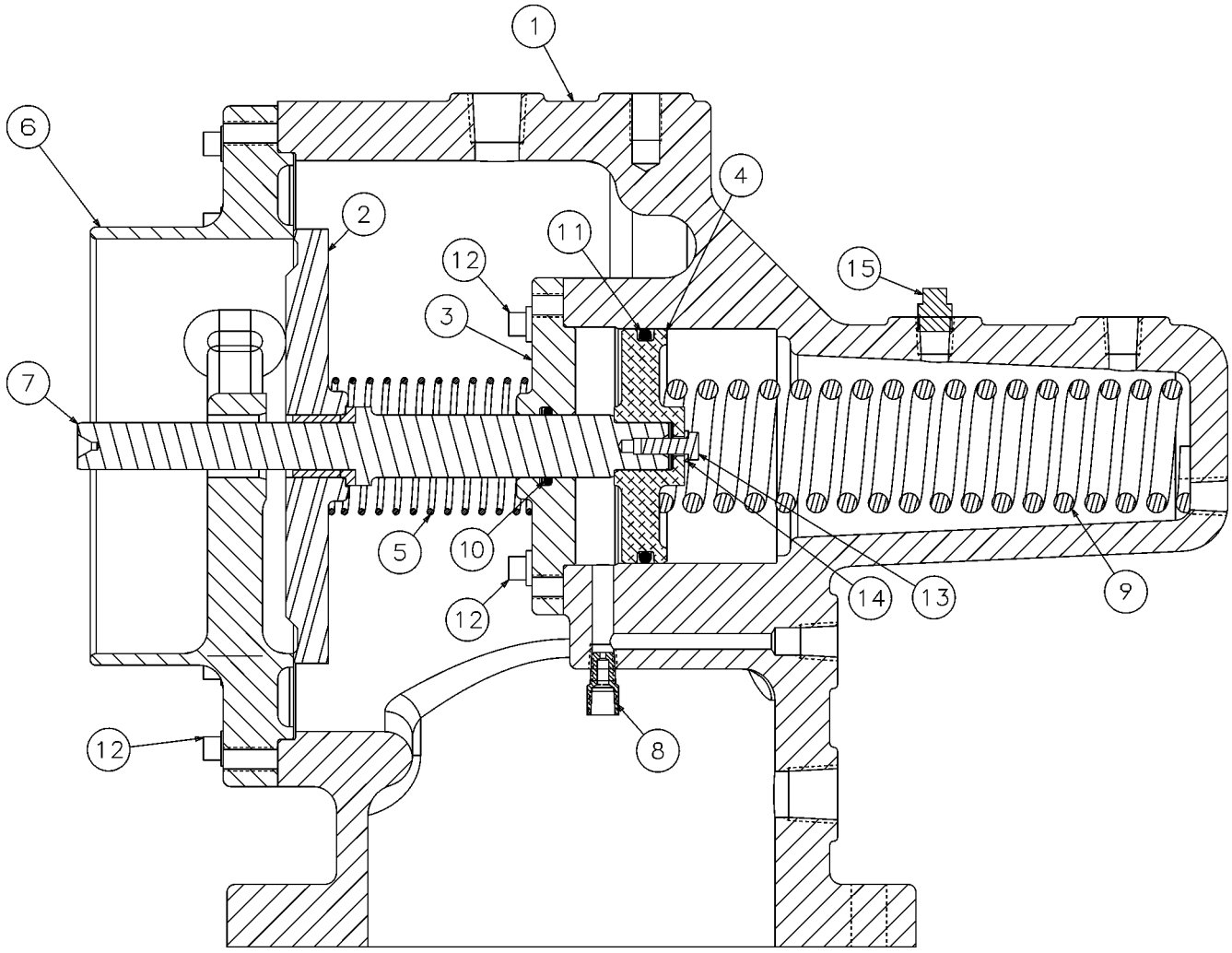
(I) For maintenance on 8” inlet valve assembly no. 02250045-626, order repair kit no. 02250112-531, and replacement gasket no. 040422 (refer to key number 5 of this Section).

(II) For additional information pertaining to the 8” inlet valve assembly, refer to *Section 7.13B, Inlet Valve Parts - 8” 1150XH-1350XH* .

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.13A INLET VALVE PARTS - 6.5” - 900XH



02250054-762R06

7.13A INLET VALVE PARTS - 6.5” - 900XH

key number	*description*	*part number*	*quantity*
1	housing, body 6.5” inlet valve	02250054-750	1
2	plate, assy 6.5” inlet valve	02250054-754	1
3	cover, inter 6.50”valve	02250054-757	1
4	piston, 6.50 inlet valve	02250054-759	1
5	spring, compresion, 1.50 lbs	02250054-761	1
6	cover, assembly 6.50” inlet valve	02250054-868	1
7	shaft, 6.50” inlet valve	02250139-189	1
8	orifice, ctl .094 1/8 fnpt x 1/8 mnpt	250014-060	1
9	spring, com 144#inter	250042-384	1
10	o-ring, viton 1 x 1/8”	826502-214	1
11	o-ring, viton 3 3/8 x 3/16”	826502-340	1
12	capscrew, ferry head hd 3/8-16 x 1 3/4	828406-175	18
13	capscrew, hex gr5 1/4-20 x 3/4	828604-075	1
14	washer, spr lock 1/4	837504-062	1
15	plug, pipe 1/4” 3000# stl plt	866900-010	1

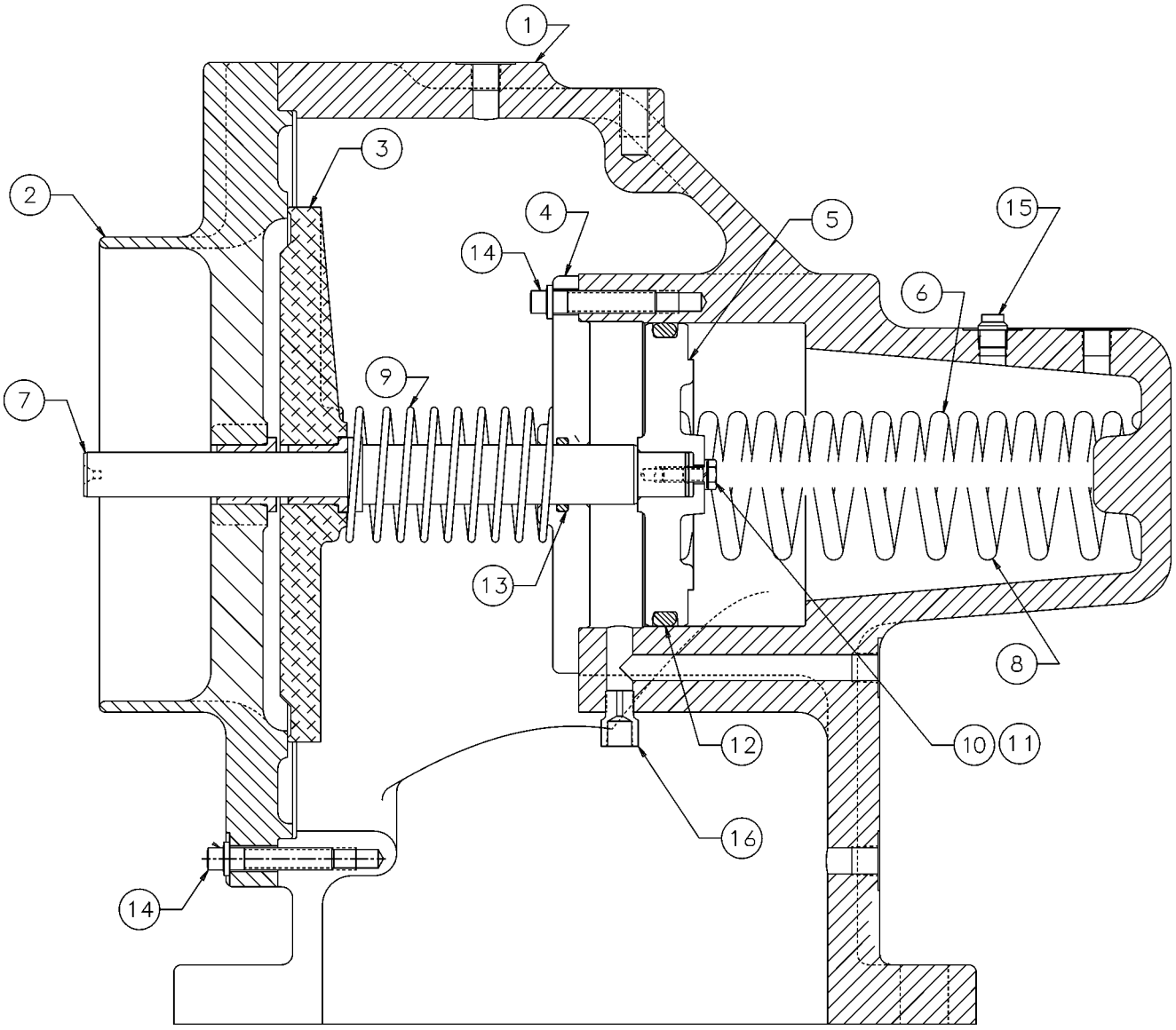
NOTE

For maintenance on 6.5” inlet valve assembly no. 02250054-763, order repair kit no. 02250073-277, and replacement gasket no. 040696 (refer to key number 7 of *Section 7.12A*).

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.13B INLET VALVE PARTS - 8” - 1150XH AND 1350XH



02250045-625R05

7.13B INLET VALVE PARTS - 8” - 1150XH AND 1350XH

key number	*description*	*part number*	*quantity*
1	housing, body 8” inlet valve	250042-276	1
2	cover, assembly 8” inlet valve	02250048-491	1
3	plate, flow control 8” inlet valve	250042-297	1
4	cover, inter 8” inlet valve	250042-301	1
5	piston, 8” inlet valve	250042-299	1
6	spring, comp 144 lbs inter	250042-384	1
7	shaft, 8” inlet valve	02250139-188	1
8	spring, comp 109 lbs outer	250042-383	1
9	spring, comp 2.61 lbs	250042-656	1
10	capscr, hx gr. 5 1/4-20 x 3/4	828604-075	1
11	washer, springlock reg. 1/4	837504-062	1
12	o-ring, viton 4 5/8 x 1/4	826502-426	1
13	o-ring, viton 1 x 1/8	826502-214	1
14	screw, ferry hd,3/8-16 x 13/4 lg	828406-175	18
15	plug, pip e 1/4 -1 8 npt; stl 3000#	807800-010	1
16	orifice, .093 x .125m x .125f	250014-060	1

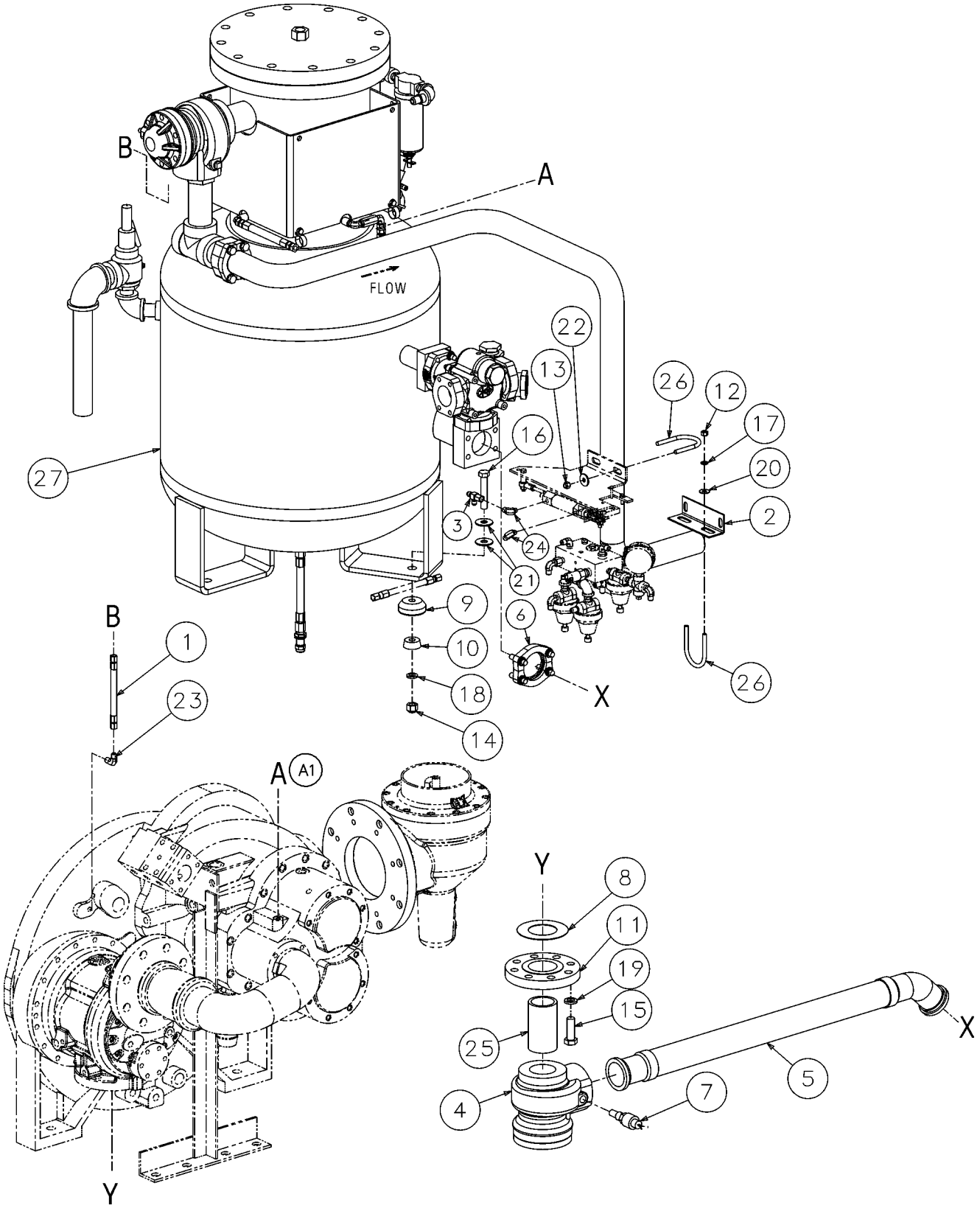
NOTE

For maintenance on 8” inlet valve assembly no. 02250045-626, order repair kit no. 02250112-531, and replacement gasket no. 040422 (refer to key number 5 of *Section 7.12B*).

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.14A DISCHARGE SYSTEM - 900XH AND 1150XH



02250127-667R10

7.14A DISCHARGE SYSTEM - 900XH AND 1150XH

key number	*description*	*part number*	*quantity*
1	hose, medium pressure .25 x 104” lg	02250054-259	1
2	angle, discharge pipe support 3”	02250056-338	1
3	tee, 37fl swivel f-m-m	02250073-323	1
4	sub assembly, vlv assy 2.5 npt x 2.5 4bsf disch **(I)**	02250081-044	1
5	hose, disch 2.5” st stl 900xh	02250092-744	1
6	flange, kit sae splt 2.5” - viton	02250099-416	1
7	switch, temp-265f 54” los nc	045641	1
8	gasket, 2-1/2” flange	046053	1
9	mount, vibration (50 durometer)	047628	1
10	mount, vibration isolator 185q	047630	1
11	flange, thrd 2 1/2” 300# rf	820330-040	1
12	nut, hex pltd 3/8-16	825106-337	1
13	nut, hex locking 3/8-16	825506-198	1
14	nut, hex locking 5/8-11	825510-329	1
15	capscrew, hex gr8 3/4-10 x 2 1/4	827912-225	1
16	capscrew, hex gr5 5/8-11 x 3 1/2	829110-350	1
17	washer, spr lock reg pltd 3/8	837806-094	1
18	washer, spr lock reg pltd 5/8	837810-156	1
19	washer, spr lock reg pltd 3/4	837812-188	1
20	washer, pl-b reg pltd 3/8	838206-071	1
21	washer, pl-b reg pltd 5/8	838210-112	2
22	washer, pl-b wide pltd 3/8	838306-112	1
23	elbow, 37fl 90m 1/4 x 1/4	860204-025	1
24	elbow, 37fl 90m 5/16 x 1/8	860205-012	2
25	nipple, pipe-xs plt 2 1/2 x 5	866440-050	1
26	u-bolt, 3/8” x 2” pipe pltd	868306-200	2
27	sa, receiver & parts **(II)**	02250127-668	1
A1	Refer to *Section 7.17 Sub-assembly - High Pressure Filter / Check Valve / Orifice* for additional information.		

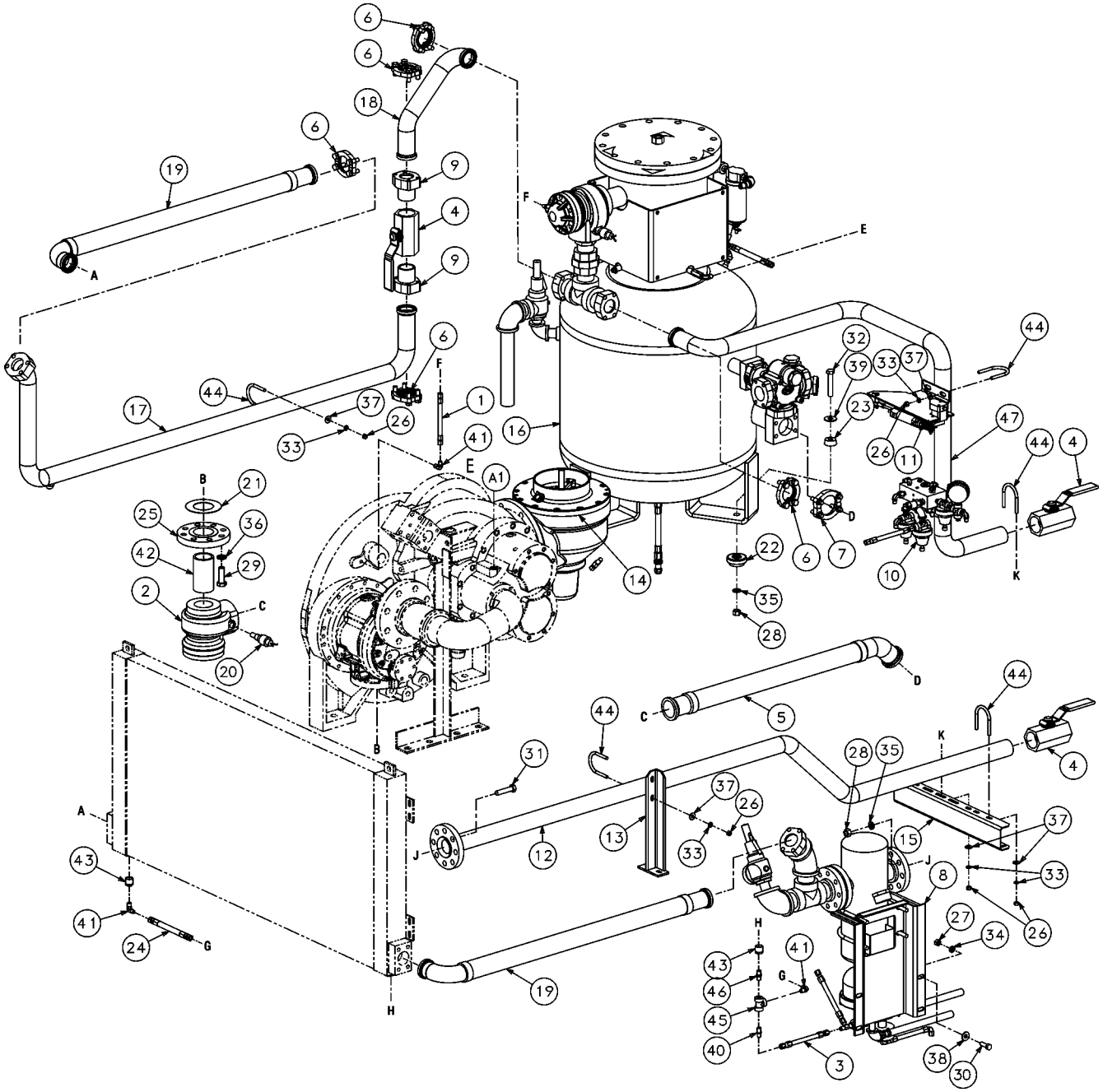
(I) For maintenance on assembly valve sub-assembly no. 02250081-044, order repair kit no. 606208-001, and replacement gasket no. 046053 (see key number 8 of this Section). For additional information, consult *Section 7.18, Discharge / Check Valve Assembly*.

(II) For additional information pertaining to receiver and parts sub-assembly no. 02250127-668, refer to *Section 7.15A Receiver and Parts - 900XH & 1150XH Standard and Aftercooled*.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.14B DISCHARGE SYSTEM - 900XH-1150XH AFTERCOOLED



02250139-931R06

7.14B DISCHARGE SYSTEM - 900XH-1150XH AFTERCOOLED

key number	*description*	*part number*	*quantity*
1	hose, medium pressure .25 x 86” w/37 swvls	02250054-261	1
2	sub assembly, vlv assy 2.5 npt x 2.5 4bsf disch **(I)**	02250081-044	1
3	hose, medium pressure 5/16 x 54” lg 37deg st	02250083-838	1
4	valve, ball 2” fnpt w/o drain	02250086-337	3
5	hose, disch 2.5” st stl 900xh	02250092-744	1
6	flange, kit sae splt 2” - viton	02250099-415	5
7	flange, kit sae splt 2.5” - viton	02250099-416	1
8	sub assembly, water trap assy 900xh ac **(II)**	02250131-654	1
9	adapter, 2” tube assy w/4-bolt flg	02250131-977	2
10	sub assembly, air control manifold 900xh tier ii **(III)**	02250132-421	1
11	sub assembly, speed control tier ii **(IV)**	02250132-481	1
12	pipe, assembly trap/svr vlv 900xh ac	02250133-469	1
13	support, pipe cs 900xh	02250133-724	1
14	sub assembly, inlet valve 8” 1150/350 **(V)**	02250134-299	1
15	support, discharge pipe 1150xha w/o canopy	02250139-929	1
16	sub assembly, receiver cat 1150xha w/o canopy **(VI)**	02250139-932	1
17	pipe, assembly rec tank/aftclr 900xhh ac	02250142-706	1
A1	Refer to *Section 7.17 Sub-assembly - High Pressure Filter / Check Valve / Orifice* for additional information.		

Continued on page 89

(I) For maintenance on valve sub-assembly no. 02250081-044, order repair kit no. 606208-001, and replacement gasket no. 046053 (refer to key number 21 of this Section).

(II) For additional information pertaining to water trap sub-assembly no. 02250131-654, consult *Section 7.16, Water Separator Trap - Aftercooled Only*.

(III) For additional information pertaining to air control manifold sub-assembly no. 02250132-421, consult *Section 7.11, Air Control Manifold Assembly - All Models*.

(IV) For additional information pertaining to speed control sub-assembly no. 02250132-481, consult *Section 7.10, Speed Control Cylinder and Parts - All Models*.

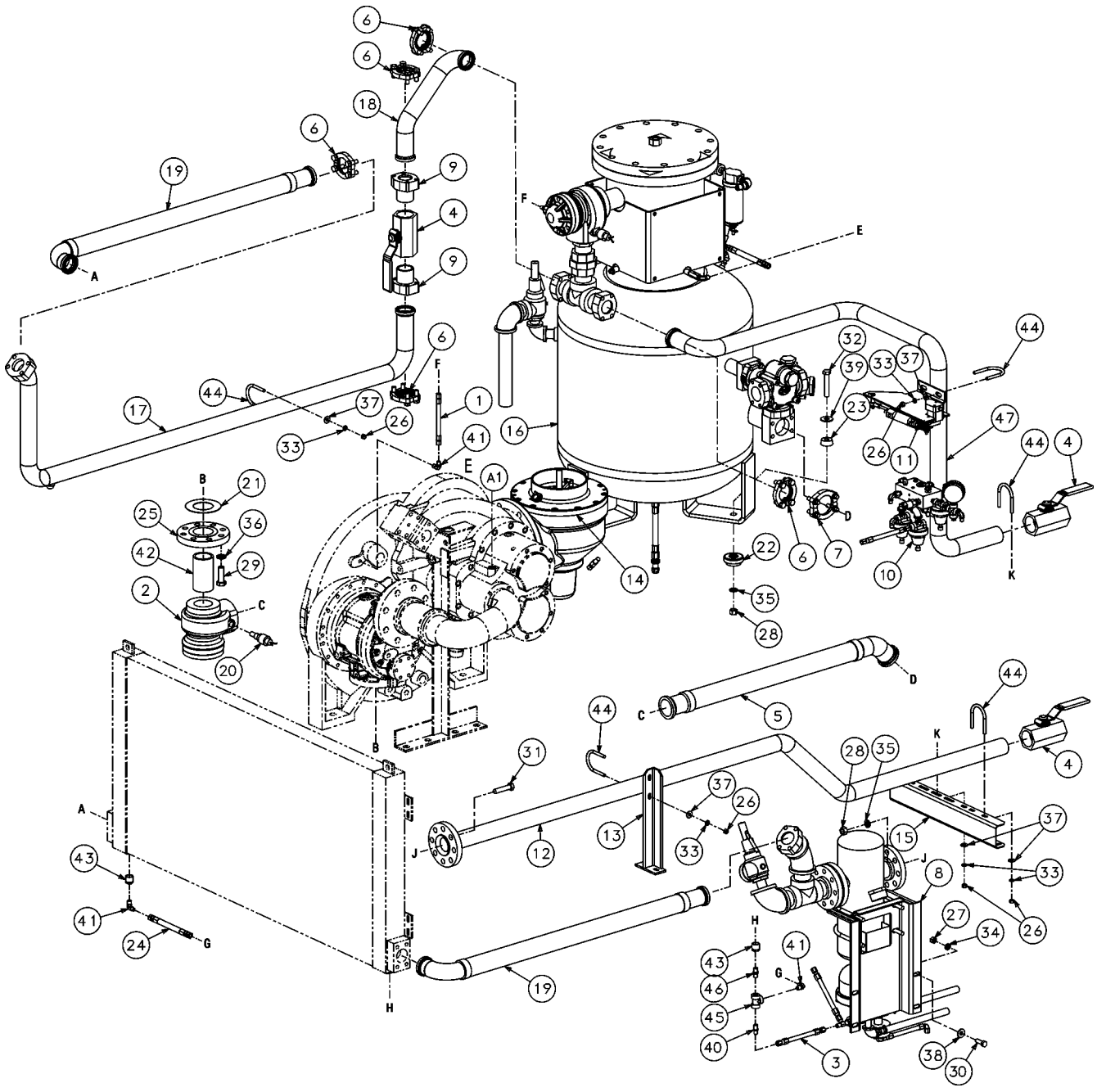
(V) For additional information pertaining to inlet valve sub-assembly no. 02250134-299, consult *Section 7.12B, Inlet Valve and Parts (8”) - 1150XH-1350XH* for external parts, and *Section 7.13B, Inlet Valve and Parts - 8” - 1150XH-1350XH* for assembly.

(VI) For additional information pertaining to receiver sub-assembly no. 02250139-932, consult *Section 7.15B, Receiver and Parts - 1350XH Standard and Aftercooled*, and *Section 7.17, Sub-assembly - High Pressure Filter / Check Valve / Orifice*.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.14B DISCHARGE SYSTEM - 900XH-1150XH AFTERCOOLED



02250139-931R06

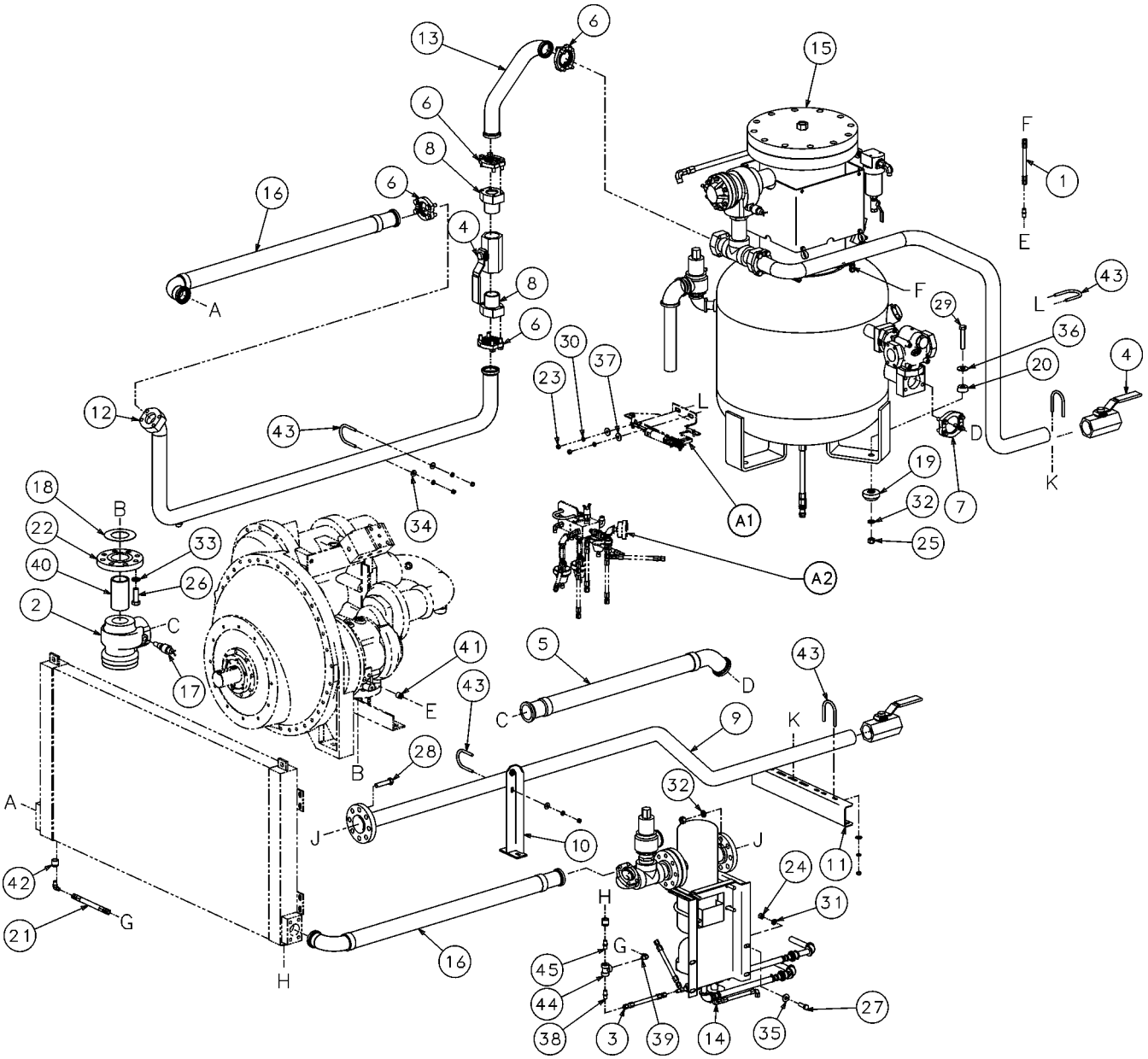
7.14B DISCHARGE SYSTEM - 900XH-1150XH AFTERCOOLED (CONTINUED)

key number	*description*	*part number*	*quantity*
18	pipe, asy rec tnk/a-clr 1150/500 ac w/val	02250142-708	1
19	hose, asy 2” braided ss 48”lg	02250148-552	2
20	switch, temp-265f 54” los nc	045641	1
21	gasket, 2-1/2” flange	046053	1
22	mount, vibration (50 durometer)	047628	1
23	mount, vibration isolator 185q	047630	1
24	hose, med press .25 x 58” lg	249604-027	1
25	flange, thrd 2 1/2” 300# rf	820330-040	1
26	nut, hex pltd 3/8-16	825106-337	5
27	nut, hex pltd 1/2-13	825208-448	1
28	nut, hex pltd 5/8-11	825210-559	2
29	capscrew,hex gr8 3/4-10 x 2 1/4	827912-225	1
30	capscrew, hex gr5 1/2-13 x 1 1/2	829108-150	1
31	capscrew, hex gr5 5/8-11 x 2 3/4	829110-275	1
32	capscrew, hex gr5 5/8-11 x 3 1/2	829110-350	1
33	washer, spr lock reg pltd 3/8	837806-094	5
34	washer, spr lock reg pltd 1/2	837808-125	1
35	washer, spr lock reg pltd 5/8	837810-156	2
36	washer, spr lock reg pltd 3/4	837812-188	1
37	washer, pl-b reg pltd 3/8	838206-071	5
38	washer, pl-b reg pltd 1/2	838208-112	1
39	washer, pl-b reg pltd 5/8	838210-112	1
40	connector, 37 fl/mpt pltd 5/16 x 1/4	860105-025	1
41	elbow, 37fl 90m 1/4 x 1/4	860204-025	3
42	nipple, pipe-xs plt 2 1/2 x 5	866440-050	1
43	bushing, red pltd 3/4 x 1/4	867103-010	2
44	u-bolt, 3/8” x 2” pipe pltd	868306-200	5
45	tee, pipe pltd 1/4	868430-010	1
46	nipple, pipe-hx pltd 1/4 x 1/4	868504-025	1
47	pipe, asy 2” 900xh open frame	02250142-801	1

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.14C DISCHARGE SYSTEM - 1350XH AFTERCOOLED



02250148-288R01

7.14C DISCHARGE SYSTEM - 1350XH AFTERCOOLED

key number	*description*	*part number*	*quantity*
1	hose, medium pressure .25 x 86” w/37 swvls	02250054-261	1
2	sub-assembly, vlv assy 2.5 npt x 2.5 4bsf disch **(I)**	02250081-044	1
3	hose, medium pressure 5/16 x 54” lg 37deg st	02250083-838	1
4	valve, ball 2” fnpt w/o drain	02250086-337	3
5	hose, disch 2.5” st stl 900xh	02250092-744	1
6	flange, kit sae splt 2” - viton	02250099-415	7
7	flange, kit sae splt 2.5” - viton	02250099-416	2
8	adapter, 2” tube assy w/4-bolt flg	02250131-977	2
9	pipe, assembly trap/svr vlv 900xh ac	02250133-469	1
10	support, pipe cs 900xh	02250133-724	1
11	support, discharge pipe 1150xha w/o canopy	02250139-929	1
12	pipe, assembly rec tank/aftclr 900xhh ac	02250142-706	1
13	pipe, asy rec tnk/a-clr 1150/500 ac w/val	02250142-708	1
14	sub-assembly, water sep 1350xha **(II)**	02250147-984	1
15	sub-assembly, rec tnk 1350/350 **(III)**	02250148-285	1
16	hose, asy 2” braided ss 48”lg	02250148-552	2
17	switch, temp-265f 54” los nc	045641	1
18	gasket, 2-1/2” flange	046053	1
19	mount, vibration (50 durometer)	047628	3
20	mount, vibration isolator 185q	047630	3
21	hose, med press .25 x 58” lg	249604-027	1
22	flange, thrd 2 1/2” 300# rf	820330-040	1
A1	Refer to *Section 7.10 Speed Control Cylinder and Parts - All Models* for additional information.		
A2	Refer to *Section 7.11 Air Control Manifold Assembly - All Models* for additional information.		

Continued on page 93

(I) For additional information pertaining to 2.5” valve sub-assembly no. 02250081-044, consult *Section 7.18, Discharge / Check Valve Assembly*.

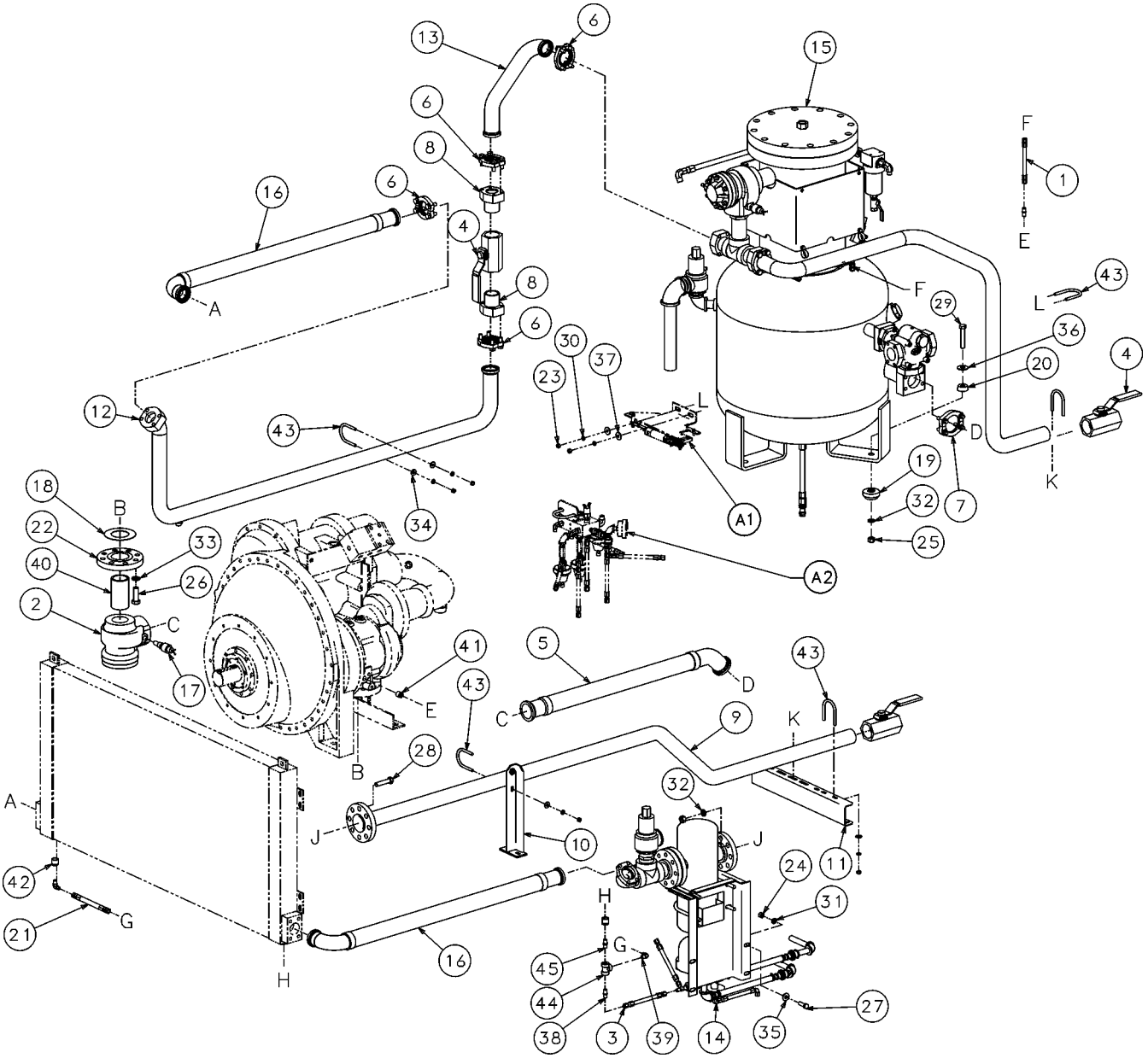
(II) For additional information pertaining to water separator sub-assembly no. 02250147-984, consult *Section 7.16, Water Separator Trap - Aftercooled Only*.

(III) For additional information pertaining to receiver tank sub-assembly no. 02250148-285, consult *Section 7.15B, Receiver and Parts - 1350XH Standard and Aftercooled*, and *Section 7.17 Sub-assembly - High Pressure Filter / Check Valve / Orifice*.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.14C DISCHARGE SYSTEM - 1350XH AFTERCOOLED



02250148-288R01

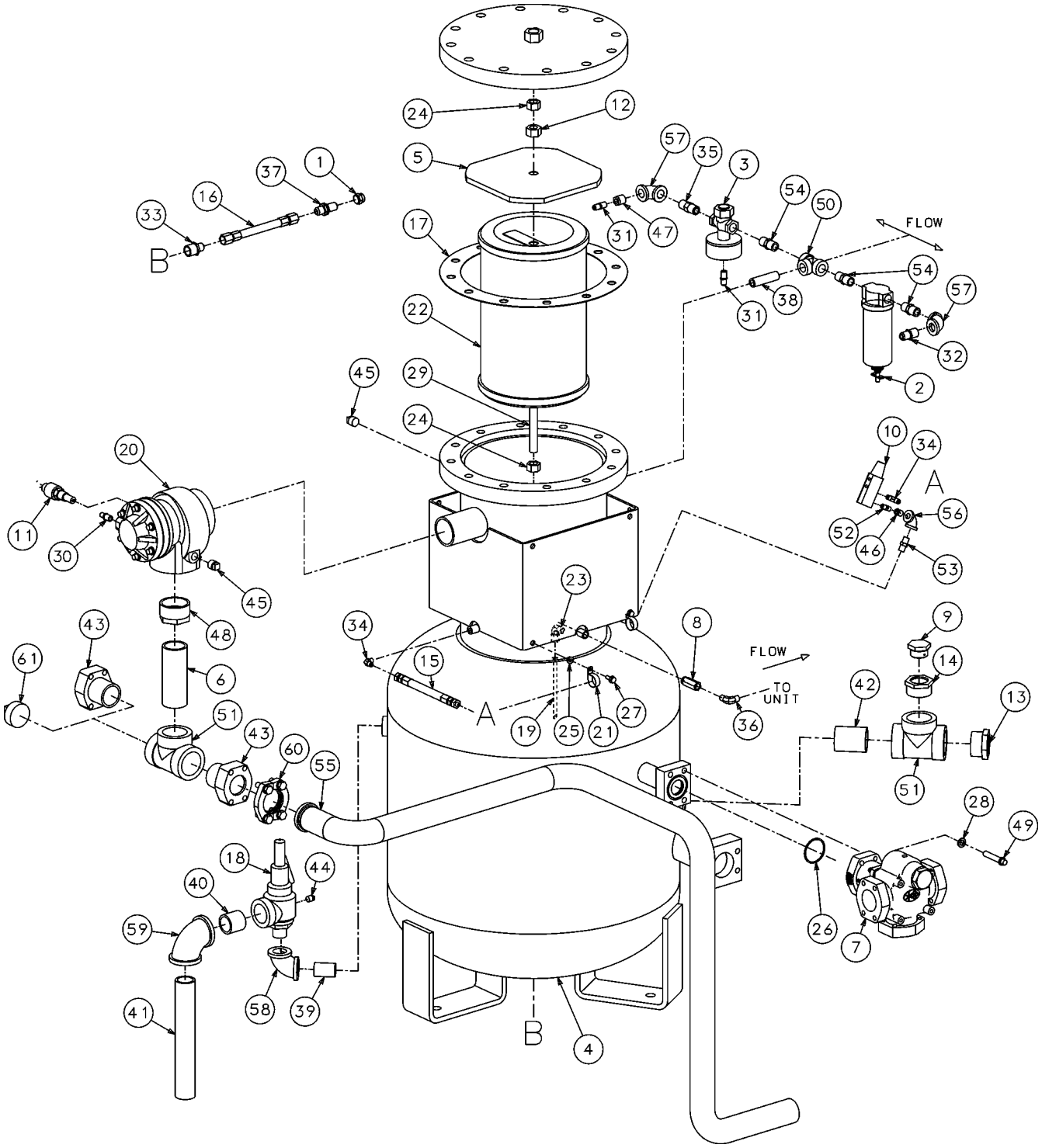
7.14C DISCHARGE SYSTEM - 1350XH AFTERCOOLED (CONTINUED)

key number	*part description*	*number*	*quantity*
23	nut, hex pltd 3/8-16	825106-337	10
24	nut, hex pltd 1/2-13	825208-448	4
25	nut, hex pltd 5/8-11	825210-559	12
26	capscrew, hex gr8 3/4-10 x 2 1/4	827912-225	8
27	capscrew, hex gr5 1/2-13 x 1 1/2	829108-150	4
28	capscrew, hex gr5 5/8-11 x 2 3/4	829110-275	8
29	capscrew, hex gr5 5/8-11 x 3 1/2	829110-350	3
30	washer, spr lock reg pltd 3/8	837806-094	10
31	washer, spr lock reg pltd 1/2	837808-125	4
32	washer, spr lock reg pltd 5/8	837810-156	14
33	washer, spr lock reg pltd 3/4	837812-188	8
34	washer, pl-b reg pltd 3/8	838206-071	8
35	washer, pl-b reg pltd 1/2	838208-112	4
36	washer, pl-b reg pltd 5/8	838210-112	3
37	washer, pl-b wide pltd 3/8	838306-112	2
38	connector, 37 fl/mpt pltd 5/16 x 1/4	860105-025	2
39	elbow, 37fl 90m 1/4 x 1/4	860204-025	2
40	nipple, pipe-xs plt 2 1/2 x 5	866440-050	1
41	bushing, red pltd 1/2 x 1/4	867102-010	1
42	bushing, red pltd 3/4 x 1/4	867103-010	2
43	u-bolt, 3/8” x 2” pipe pltd	868306-200	5
44	tee, pipe pltd 1/4	868430-010	1
45	nipple, pipe-hx pltd 1/4 x 1/4	868504-025	1

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.15A RECEIVER AND PARTS - 900XH & 1150XH STANDARD AND AFTERCOOLED



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7.15A RECEIVER AND PARTS - 900XH & 1150XH STANDARD AND AFTERCOOLED

key number	*description*	*part number*	*quantity*
1	cap, nut .50 x 37d flare	02250044-227	1
2	separator, moisture 425 psi @ 265deg **(I)**	02250058-442	1
3	valve, blwdwn n.c. 5.4:1 ratio **(II)**	02250069-820	1
4	receiver, air/oil vert. 400 psig	02250077-466	1
5	plate, receiver 425xh & 900xh	02250121-613	1
6	nipple, pipe-xs plt 2 x 6	866432-060	1
7	valve, thermal 210 deg 2” sae 4bsf **(III)**	02250142-938	1
8	valve, inline check(1/4”npt)dc	045244	1
9	plug, o-ring boss sae 1 1/4	040029	1
10	indicator, delta-p 10lb 110-185dpq	042148	1
11	switch, temp-265f 54” los nc	045641	1
12	nut, d-loc 3/4-10	046255	1
13	glass, sight oil level 2”	048046	1
14	adapter, oil fill high press	234342	1
15	hose, med press .25 x 30” lg	249604-019	1
16	hose, med press 0.50 x 038”	249608-021	1
17	gasket, sep cover hi pressure	250006-536	1
18	valve, relief 1” x 1-1/2” 400 psig	250026-145	1
19	tube, stainless steel 5/16 x 6.25 lg	250029-235	1
20	valve, sa, vlv min press/chk asm 2.5” **(IV)**	02250164-871	1
21	clamp, hose 5/8” i.d.	408300-005	2
22	element, sep 750-1150/350 (vtn) **(V)**	409805-007	1
23	elbow, tube 90 deg m 5/16 x 1/4	810505-025	1
24	nut, hex pltd 3/4-10	825212-665	2
25	nut, hex f pltd 5/16-18	825305-283	2

Continued on page 97

(I) For maintenance on moisture separator no. 02250058-442, order replacement filter no. 02250058-441.

(II) For maintenance on blowdown valve no. 02250069-820, order repair kit no. 02250077-469.

(III) For maintenance on thermal by-pass valve no. 02250142-938, order repair kit no. 02250142-940.

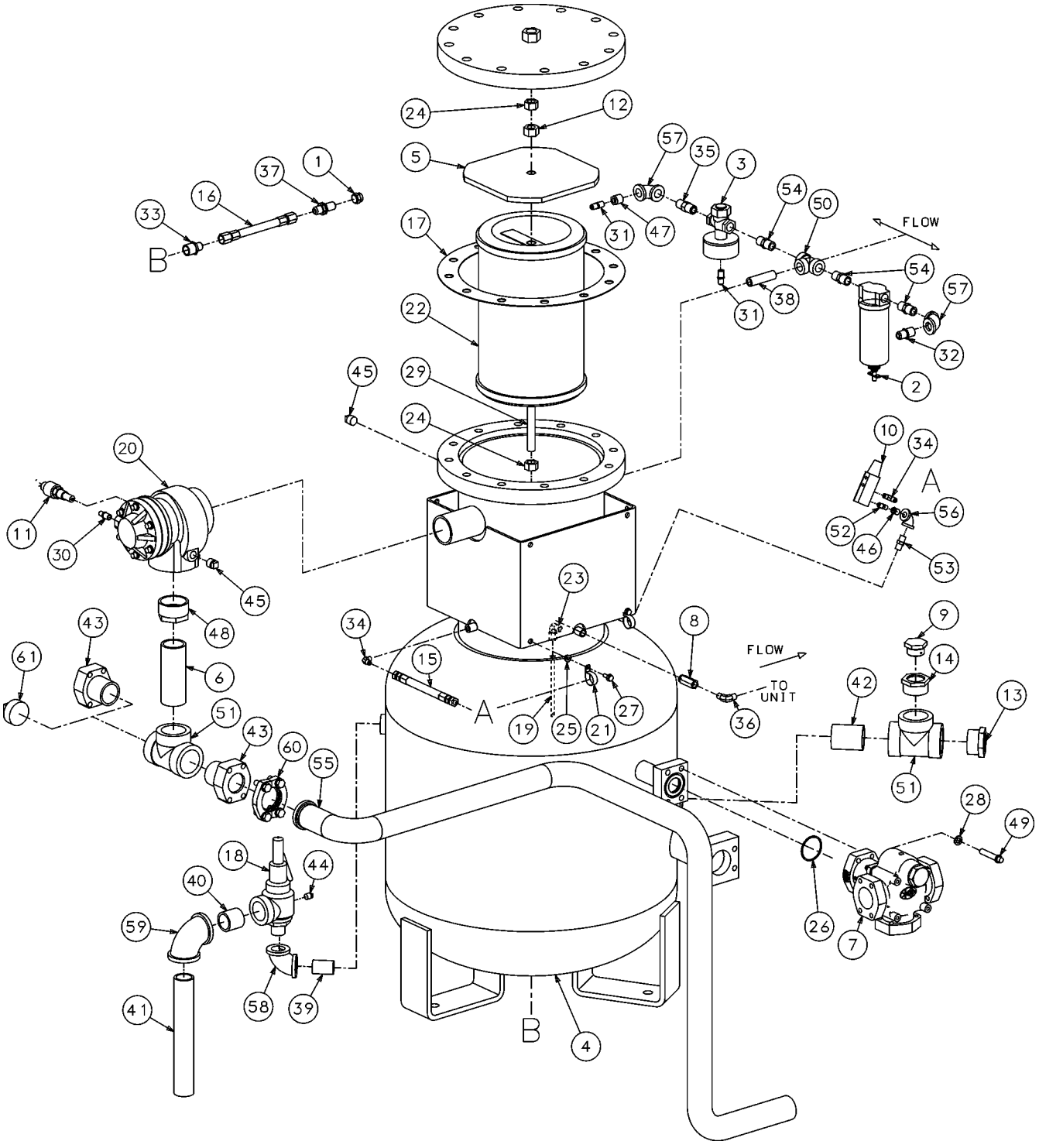
(IV) For additional information on minimum pressure / check valve assembly no. 02250164-871, consult factory with machine serial number.

(V) For maintenance on separator element no. 409805-007, order replacement kit no. 250028-244.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.15A RECEIVER AND PARTS - 900XH & 1150XH STANDARD AND AFTERCOOLED



02250127-666R14

7.15A RECEIVER AND PARTS - 900XH & 1150XH STANDARD AND AFTERCOOLED (CONTINUED)

key number	*description*	*part number*	*quantity*
26	o-ring, viton 2 1/4 x 1/8”	826502-228	1
27	screw, hex ser washer 5/16-18 x 3/4	829705-075	2
28	washer, spr lock reg pltd 1/2	837808-125	4
29	rod, threaded plated 3/4-10 x 19	843512-190	1
30	connector, 37 fl/mpt pltd 1/4 x 1/4	860104-025	1
31	connector, 37 fl/mpt pltd 5/16 x 1/4	860105-025	2
32	connector, 37 fl/mpt pltd 1/2 x 1/2	860108-050	1
33	connector, 37 fl/mpt pltd 1/2 x 3/4	860108-075	1
34	elbow, 37fl 90m 1/4 x 1/8	860204-012	2
35	orifice, .125 .50m x .50m	02250154-059	1
36	elbow, pipe-90m 1/4 x 1/4	860504-025	1
37	union, 37fl bhd 1/2	862108-050	1
38	nipple, pipe-xs plt 1/2 x 3	866408-030	1
39	nipple, pipe-xs plt 1 x 2	866416-020	1
40	nipple, pipe-xs plt 1 1/2 x cl	866424-000	1
41	nipple, pipe-xs plt 1 1/2 x 12	866424-120	1
42	nipple, pipe-xs plt 2 x 3	866432-030	1
43	adapter, 2” tube assy w/4-bolt flg **(VI)**	02250131-977	1
44	plug, pipe 1/4” 3000# stl plt	866900-010	1
45	plug, pipe 1/2” 3000# stl plt	866900-020	2
46	bushing, red pltd 1/4 x 1/8	867100-005	1
47	bushing, red pltd 1/2 x 1/4	867102-010	1
48	bushing, red pltd 2 1/2 x 2	867110-080	1
49	capscrew, ferry head hd pltd 1/2-13 x 2 1/2	867308-250	4
50	tee, pipe pltd 1/2	867700-020	1
51	tee, pipe pltd 2	867700-080	2
52	nipple, pipe-hx pltd 1/8 x 1/8	868502-012	1
53	nipple,pipe-hx pltd 1/4 x 1/4	868504-025	1
54	nipple, pipe-hx pltd 1/2 x 1/2	868508-050	3
55	pipe, asy 2” 900xh open frame	02250142-801	1
56	elbow, pipe 90 deg 1/4” 3000# plt	877900-010	1

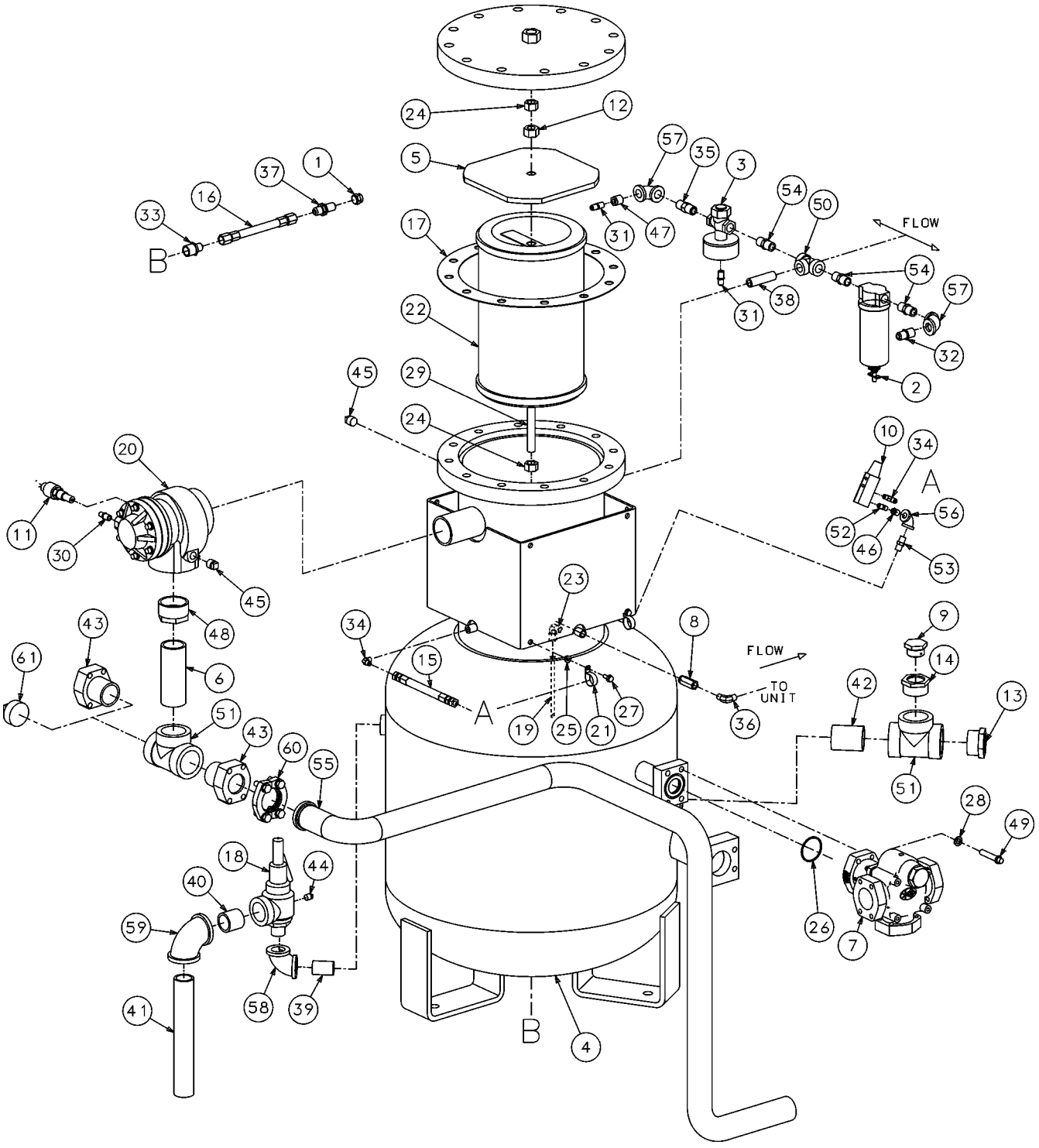
Continued on page 99

(VI) Used for air-cooled machine.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.15A RECEIVER AND PARTS - 900XH & 1150XH STANDARD AND AFTERCOOLED



02250127-666R14

7.15A RECEIVER AND PARTS - 900XH & 1150XH STANDARD AND AFTERCOOLED (CONTINUED)

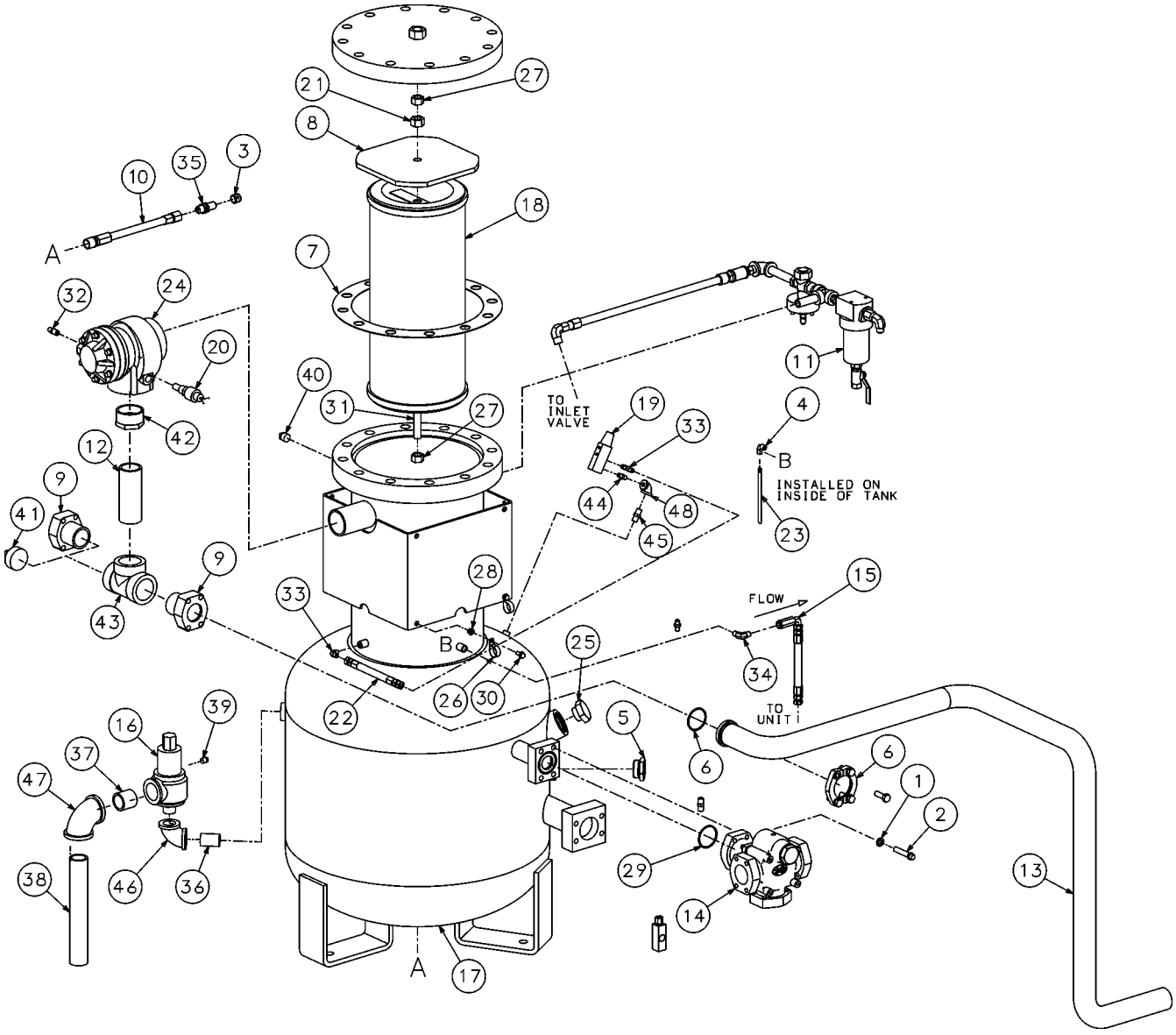
key number	*description*	*part number*	*quantity*
57	elbow, pipe 90 deg 1/2” 3000# plt	877900-020	2
58	elbow, pipe 90 deg 1” 3000# plt	877900-040	1
59	elbow, pipe 90 deg 1 1/2” 3000# plt	877900-060	1
60	flange, kit sae splt 2” - viton	02250099-415	1
61	plug, pipe 2” 3000# stl plt **(VII)**	866900-080	1

(VII) Used for standard machine.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.15B RECEIVER AND PARTS- 1350XH STANDARD AND AFTERCOOLED



02250148-287R02

7.15B RECEIVER AND PARTS- 1350XH STANDARD AND AFTERCOOLED

key number	*description*	*part number*	*quantity*
1	washer, spr lock reg pltd 1/2	837808-125	4
2	capscr, ferry hd pltd 1/2-13 x 2 1/2	867308-250	4
3	cap, nut .50 x 370 flare	02250044-227	1
4	elbow, 900 5/16” tube x 1/4”npt	02250081-218	1
5	plug, sight glass 1-7/8” sae	02250097-611	1
6	flg, kit sae splt 2” -vi ton	02250099-415	1
7	gskt, sep cover h i press **(I)**	02250116-862	1
8	plate, rece iver 425xh & 900xh	02250121-613	1
9	adpt, 2” tube assy w/4-bolt flg **(II)**	02250131-977	2
10	hose, mp 0.50 x 1-1/16 sae x 38” lg	02250135-495	1
11	sa, bdv 900/500 tier ii	02250135-530	1
12	nipple, pipe-xs plt 2 x 6	866432-060	0
13	pipe, asy 2” 900xh open frame	02250142-801	1
14	vlv, thrm 210 deg 2” sae 4bsf **(III)**	02250142-938	1
15	sa, hi press flr/check/orifice **(IV)**	02250145-168	1
16	vlv, rlf 1 x1 1/2 440 psig	02250147-981	1
17	rec, air/oil vrtcl 600psig 1350	02250148-251	1
18	sep, air/oil 1350/175/350 spcl **(V)**	02250148-253	1
19	indicator, delta-p 10lb 110-185dpo	42148	1
20	switch, temp-265f 54” los nc	45641	1
21	nut, d-loc 3/4-10	46255	1
22	hose, med press. 25 x 30” lg	249604-019	1
23	tube, stainless steel 5/16 x 6.25 lg	250029-235	1

Continued on page 103

(I) This gasket is included in kit no. 02250148-260 for separator element (refer to key no. 18 of this Section).

(II) Use for air-cooled machine.

(III) For maintenance on thermal valve no. 02250142-938, order repair kit no. 02250142-940. **NOTE:** When performing maintenance on thermal valve, order replacement viton o-ring no. 826502-228, which seals between the thermal valve and the receiver tank (refer to key no. 29 of this Section).

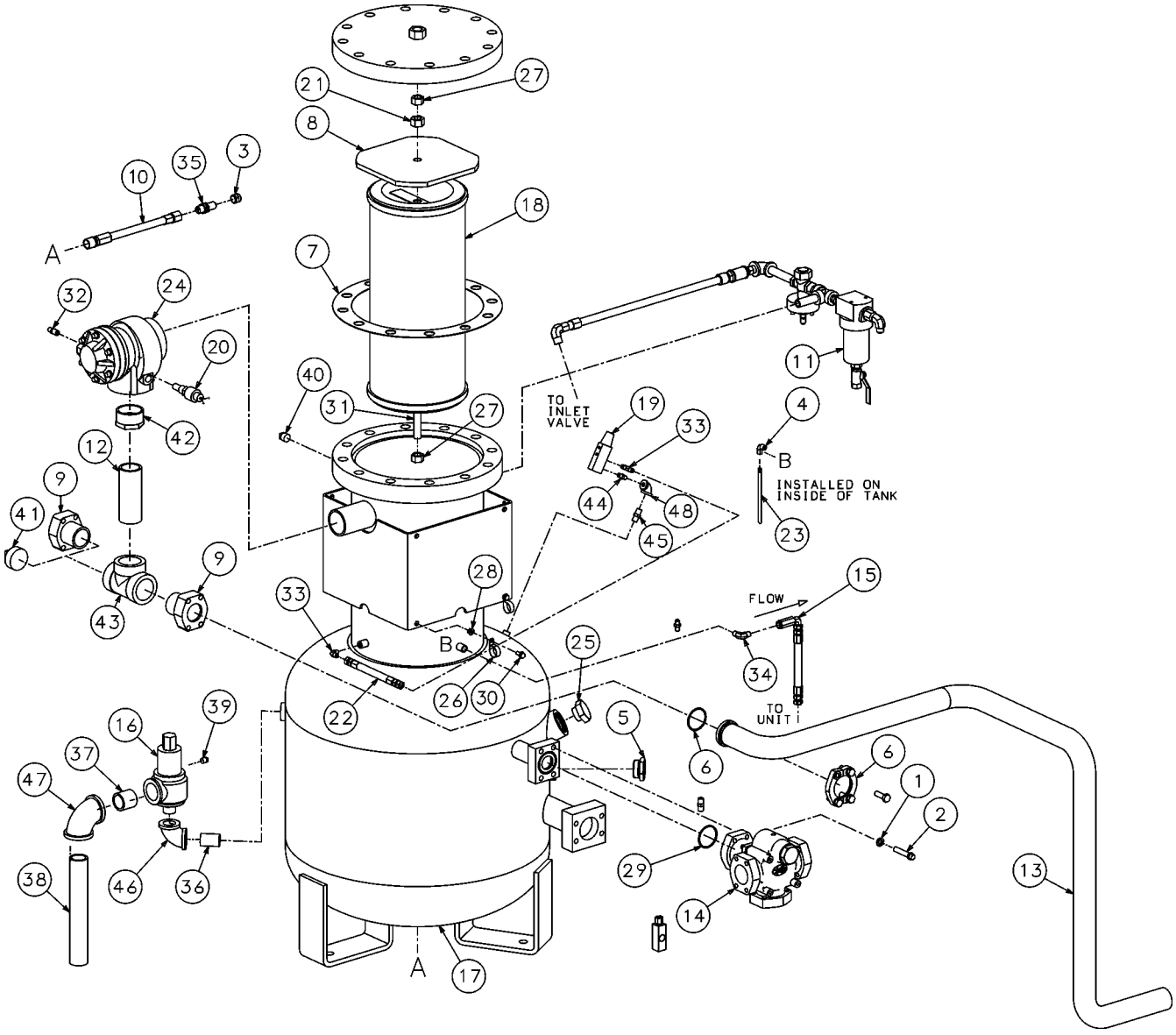
(IV) For complete breakdown of high pressure filter / check valve / orifice sub-assembly, refer to *Section 7.17 Sub-assembly - High Pressure Filter / Check Valve / Orifice*.

(V) For maintenance on air/fluid separator no. 02250148-253, order maintenance kit no. 02250148-260.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.15B RECEIVER AND PARTS- 1350XH STANDARD AND AFTERCOOLED



02250148-287R02

7.15B RECEIVER AND PARTS- 1350XH STANDARD AND AFTERCOOLED (CONTINUED)

key number	*description*	*part number*	*quantity*
24	sa, vlv min press/chk asm(2.5") **(VI)**	02250164-871	1
25	plug, str tho 1 5/8-12 sae vit	250042-627	1
26	clamp, hose 5/8" 1.0.	408300-005	2
27	nut, hex pltd 3/4-10	825212-665	2
28	nut, hex f pltd 5/16-18	825305-283	2
29	o-ring, vi ton 2 1/4 x 1/8"	826502-228	1
30	screw, hex ser washer 5/16-18 x 3/4	829705-075	2
31	rod, thrd pltd 3/4-10 x 27	843512-270	0
32	conn, 37 fl/mpt pltd 1/4 x 1/4	860104-025	1
33	elbow, 37fl 90m 1/4 x 1/8	860204-012	2
34	elbow, pipe-90m 1/4 x 1/4	860504-025	1
35	union, 37fl bhd 1/2	862108-050	1
36	nipple, pipe-xs plt 1 x 2	866416-020	1
37	nipple, pipe-xs plt 1 1/2 x cl	866424-000	1
38	nipple, pipe-xs plt 1 1/2 x 12	866424-120	1
39	plug, pipe 1/4" 3000 # stl plt	866900-010	1
40	plug, pipe 1 /2" 3000 # stl plt	866900-020	1
41	plug, pipe 2" 3000# stl plt **(VII)**	866900-080	1
42	bushing, red pltd 2 1/2 x 2	867110-080	1
43	tee, pipe pltd 2	867700-080	1
44	nipple, pipe-hx pltd 1/8 x 1/8	868502-012	1
45	nipple, pipe-hx pltd 1/4 x 1/4	868504-025	1
46	elbow, pipe 90 deg 1" 3000 # plt	877900-040	1
47	elbow, pipe 90 deg 1 1/2" 3000# plt	877900-060	1
48	elbow, red 1/4 x 1/8 3000# plt	878001-005	1

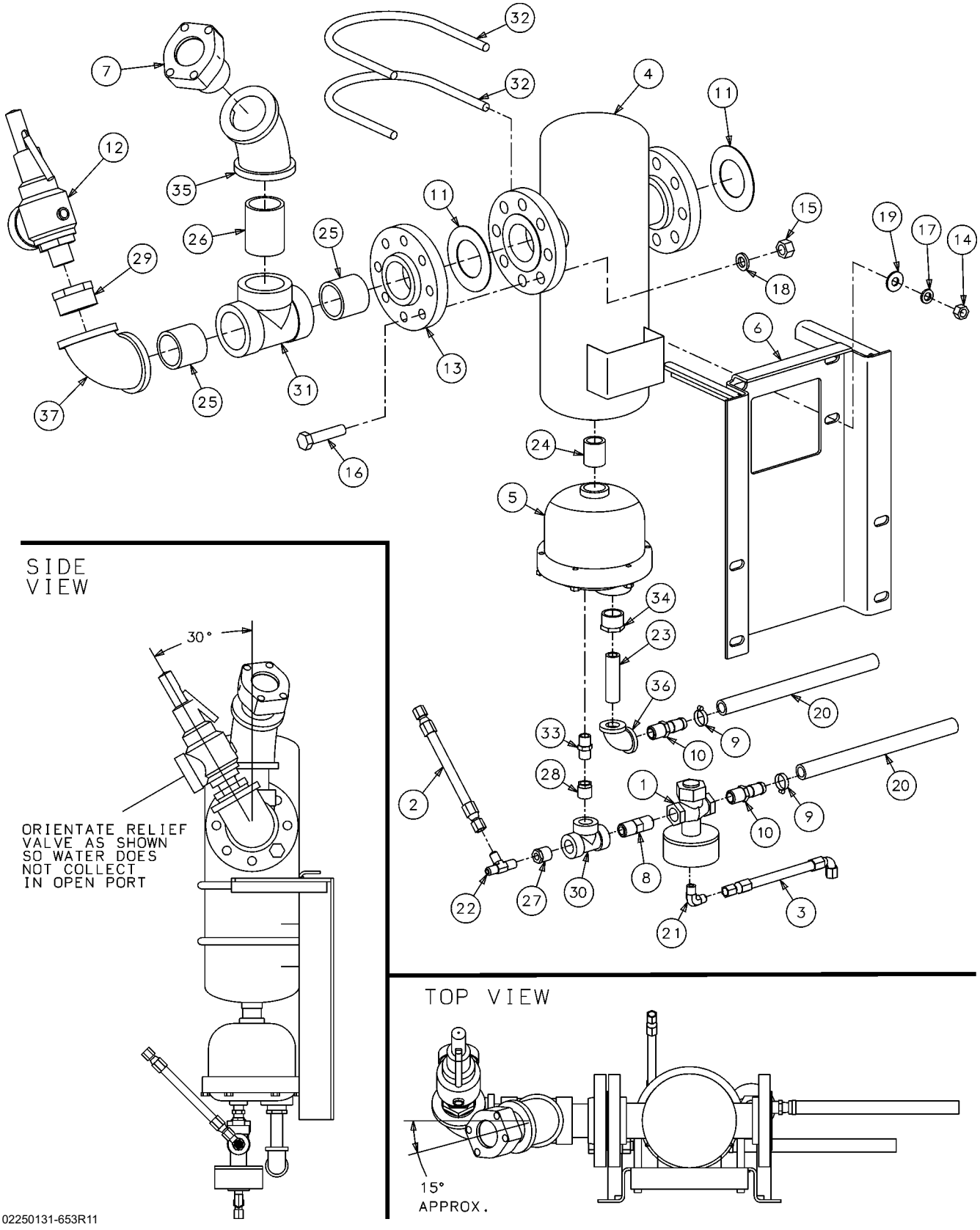
(VI) For maintenance on minimum pressure / check valve no. 02250164-871, order repair kit no. 02250166-761.

(VII) Use for standard machine.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.16 WATER SEPARATOR TRAP - AFTERCOOLED ONLY



02250131-653R11

7.16 WATER SEPARATOR TRAP - AFTERCOOLED ONLY

key number	*description*	*part number*	*quantity*
1	valve, blwdwn n.c. 5.4:1 ratio **(I)**	02250069-820	1
2	hose, medium pressure 5/16 x 85” lg 37deg st	02250073-544	1
3	hose, medium pressure 5/16 x 54”lg 37deg jic 90	02250077-839	1
4	separator, t type gas/liq 2” npt	02250131-542	1
5	trap, drain float type 1” npt	02250131-543	1
6	panel, separator assy 900xh ac	02250131-656	1
7	adapter, 2” tube assy w/4-bolt flg	02250131-977	1
8	orifice, .060 .50m x .50m	02250161-248	1
9	clamp, hose 1/2”	043197	2
10	fitting, hose end m 5/8 x 1/2	044408	2
11	gasket, asa flange 150# 2”	240621-006	2
12	valve, relief 1” x 1-1/2” 400 psig	250026-145	1
13	flange, thrd 2” 300# rf	820330-032	1
14	nut, hex pltd 1/2-13	825208-448	4
15	nut, hex pltd 5/8-11	825210-559	8
16	capscrew, hex gr5 5/8-11 x 2 3/4	829110-275	8
17	washer, spr lock reg pltd 1/2	837808-125	4
18	washer, spr lock reg pltd 5/8	837810-156	8
19	washer, pl-b reg pltd 1/2	838208-112	4
20	hose, heater 5/8	842115-062	2 ft.
21	elbow, 37fl 90m 5/16 x 1/4	860205-025	1
22	tee, 37fl male rn 5/16 x 1/4	861805-025	1
23	nipple, pipe-xs plt 1/2 x 3	866408-030	1
24	nipple, pipe-xs plt 1 x cl	866416-000	1
25	nipple, pipe-xs plt 2 x cl	866432-000	2
26	nipple, pipe-xs plt 2 x 3	866432-030	1
27	bushing, red pltd 1/2 x 1/4	867102-010	1
28	bushing, red pltd 1/2 x 3/8	867102-015	1
29	bushing, red pltd 2 x 1	867108-040	1
30	tee, pipe pltd 1/2	867700-020	1
31	tee, pipe pltd 2	867700-080	1

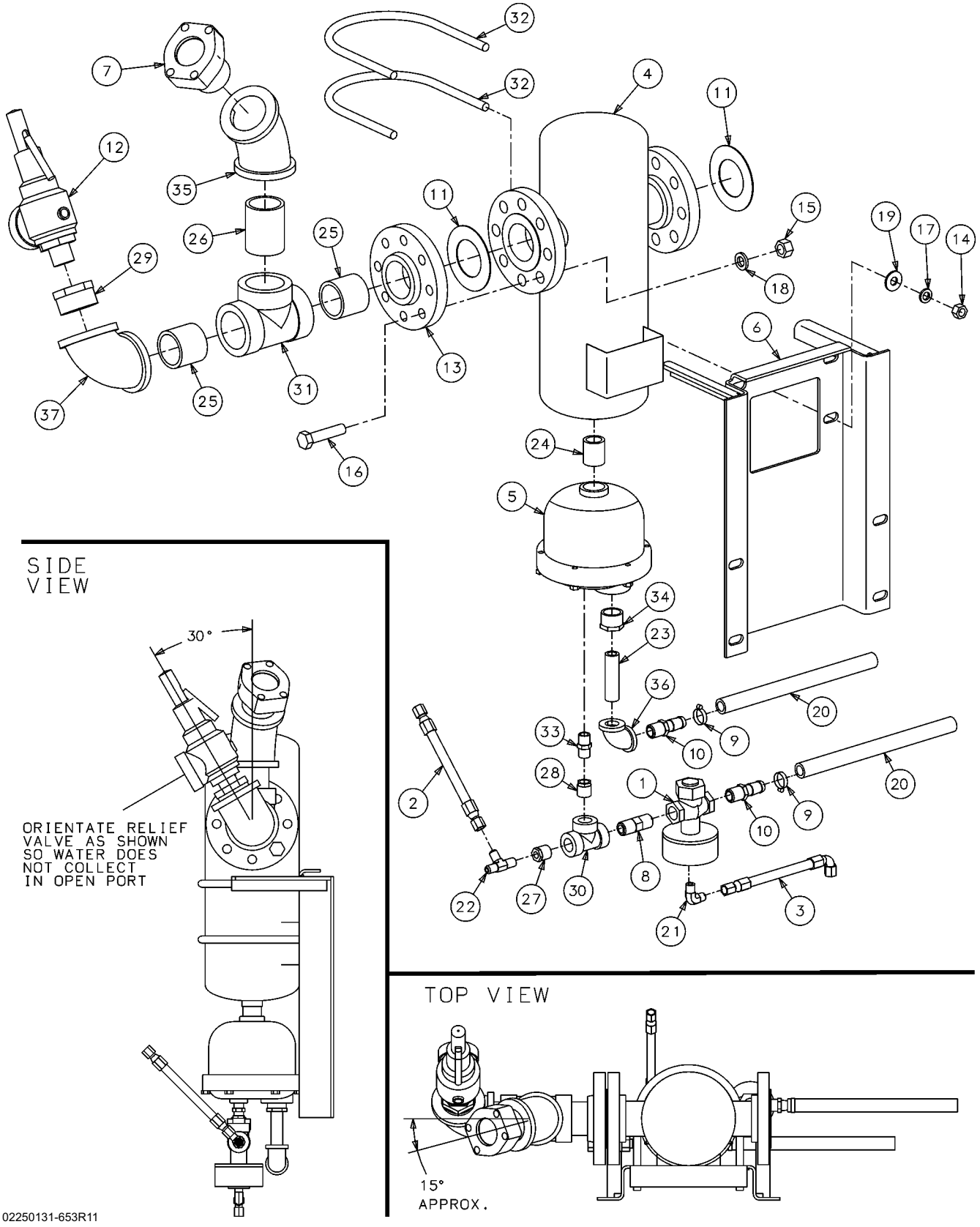
Continued on page 107

(I) For maintenance on blowdown valve no. 02250069-820, order repair kit no. 02250077-469.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.16 WATER SEPARATOR TRAP - AFTERCOOLED ONLY



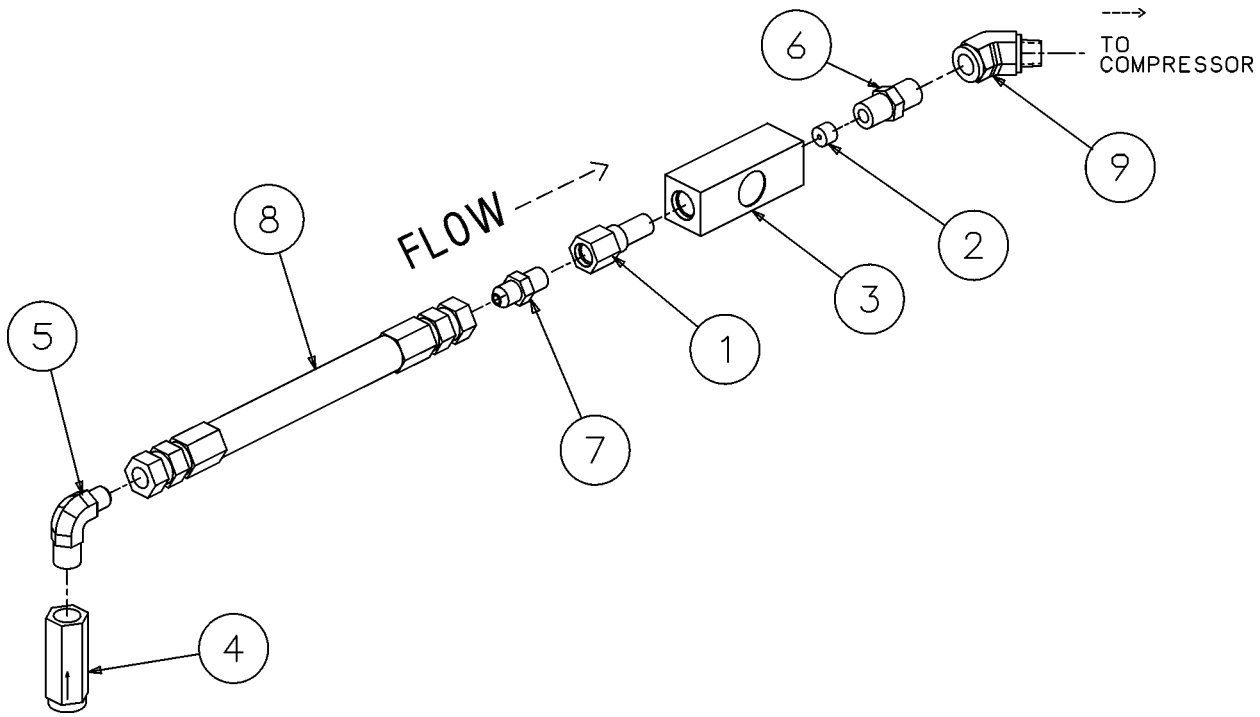
7.16 WATER SEPARATOR TRAP - AFTERCOOLED ONLY (CONTINUED)

key number	*description*	*part number*	*quantity*
32	u-bolt, 1/2” x 6” pipe pltd	868308-600	2
33	nipple, pipe-hx pltd 3/8 x 3/8	868506-038	1
34	bushing, red hex pltd 1 x 1/2	868904-020	1
35	elbow, pipe 45 deg 2” 3000#	877600-080	1
36	elbow, pipe 90 deg 1/2” 3000# plt	877900-020	1
37	elbow, pipe 90 deg 2” 3000# plt	877900-080	1

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

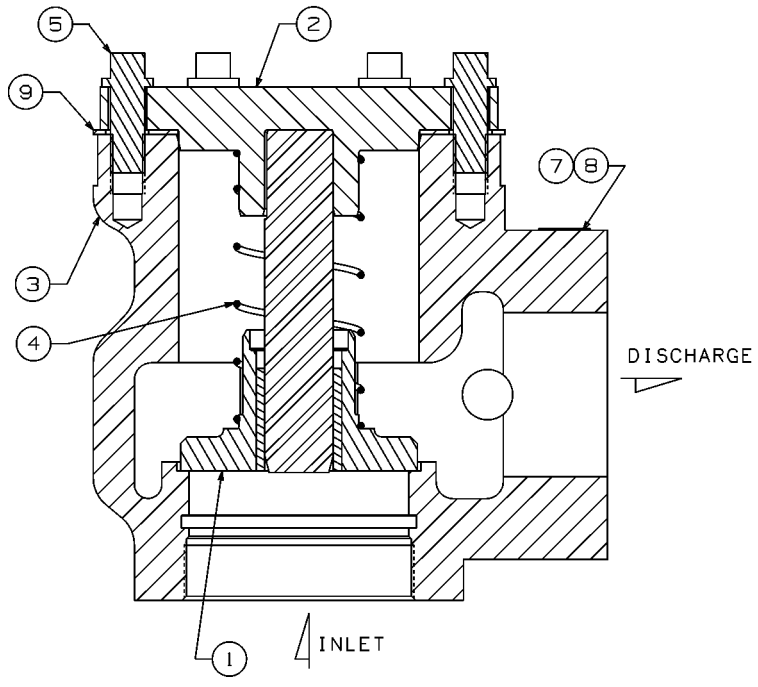
Section 7
ILLUSTRATIONS AND PARTS

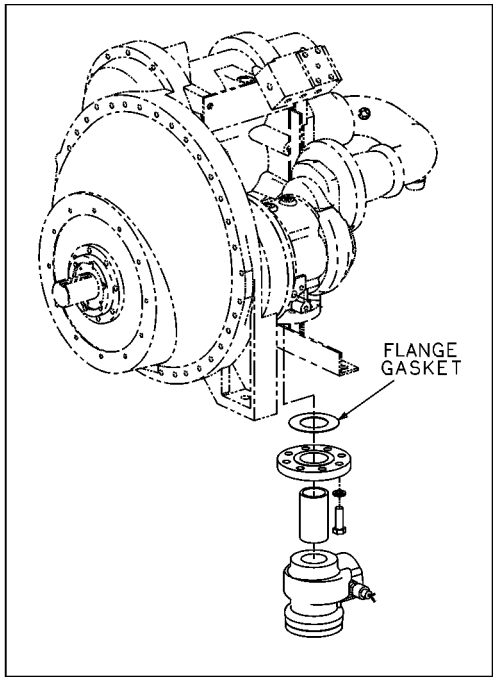
7.17 SUB-ASSEMBLY - HIGH PRESSURE FILTER / CHECK VALVE / ORIFICE



02250145-009R01

7.18 DISCHARGE / CHECK VALVE ASSEMBLY





02250049-879R04

7.17 SUB-ASSEMBLY - HIGH PRESSURE FILTER / CHECK VALVE / ORIFICE

key number	*description*	*part number*	*quantity*
1	filter, assembly screen filter **(I)**	02250117-782	1
2	orifice, plug brass 1/8”npt x 3/32”	02250125-776	1
3	sightglass, orf block sae	02250126-129	1
4	valve, inline check (1/4”npt) dc	045244	1
5	elbow, 37fl 90m 1/4 x 1/4	860204-025	1
6	nipple, pipe-hx pltd 1/4 x 1/4	868504-025	1
7	connector, straight x jic 7/16 x 7/16	870104-004	1
8	hose,med press .25 x 44” lg	249604-022	1
9	elbow, 45° 1/4 street	02250162-941	1

(I) For maintenance on filter assembly no. 02250117-782, order replacement assembly no. 02250117-782.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

7.18 DISCHARGE / CHECK VALVE ASSEMBLY

key number	*description*	*part number*	*quantity*
1	discharge check assy **(I)**	250003-977	1
2	cover, valve discharge	02250077-816	1
3	body, check valve	**consult chart below**	1
4	spring, discharge	40263	1
5	capscrew, 1/2-13unc x 1 1/4	822408-125	6
6	plug, pipe 1/2	807800-020	2
7	plate, identification	248418	1
8	screw, drive #8 x 3/8	839608-060	2
9	gasket, mp cover	224593	1

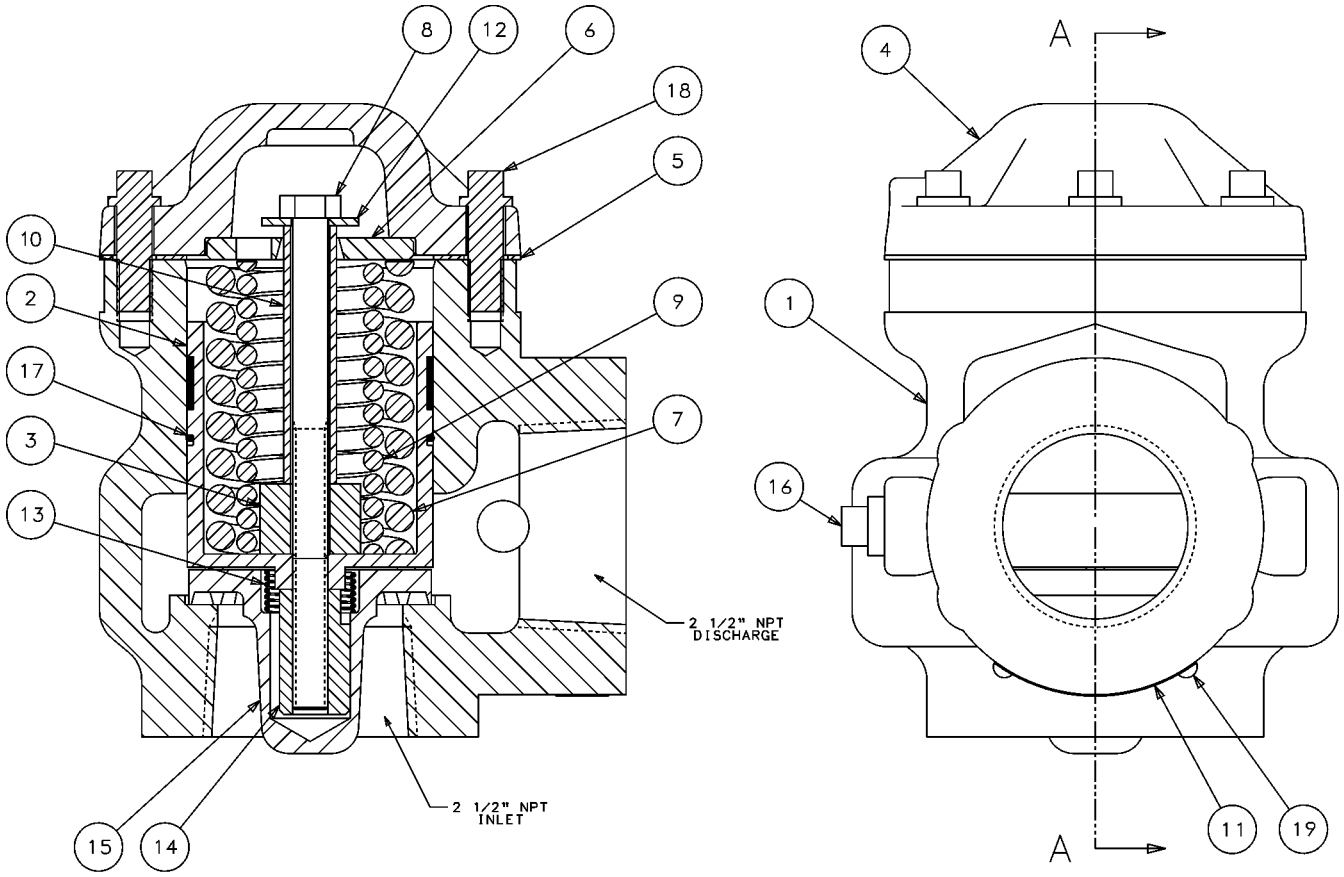
(I) For maintenance on discharge check valve assembly, order repair kit no. 606208-001.

ITEM #3	INLET	DISCHARGE	ASSEMBLY P/N
234475	3" NPT	3" NPT	016732B
02250045-892	2.5 NPT	2.5 NPT	02250049-880
02250073-670	2.5 NPT	2.5 4 BSF	02250081-044
02250125-896	M85	2.5 4 BSF	02250126-832
02250125-898	M85	3" 4 BSF	02250127-507

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.19 MINIMUM PRESSURE / CHECK VALVE



SECTION A–A

02250164-870R01

7.19 MINIMUM PRESSURE / CHECK VALVE

key number	*description*	*part number*	*quantity*
1	body assy, min/press valve	02250045-892	1
2	piston, min/pressure valve	02250045-893	1
3	spacer, min/press valve spring	02250045-894	1
4	cover. mpv lv dhh20 gi ma	224589	1
5	gasket, mp cover	224593	1
6	retainer, 2.94 x 0.31 spl	224594	1
7	spring, min pressure valve	02250164-872	1
8	capscrew, hex gr8 1/2-13 x 7”	242104	1
9	spring, com 2.09x7.07 150lb	02250164-873	1
10	spacer. 00.75x00.56x3.68	242552	1
11	plate, identification	248418	1
12	washer, pl b r 1/2 hardened	249031	1
13	spring, compr 1.293od w/.063	250031-844	1
14	sleeve, check vlv guide min press	250031-845	1
15	piston, 250039-629 min press	250031-846	1
16	plug, pipe 1/2” 3000# stl	807800-020	1
17	o-ring, viton 3 1/4 x 3/32”	826502-152	1
18	capscrew, ferry head hd 1/2-13 x 1 1/2	828408-150	6
19	screw, drive rd hd #8 x 3/8	839608-060	2

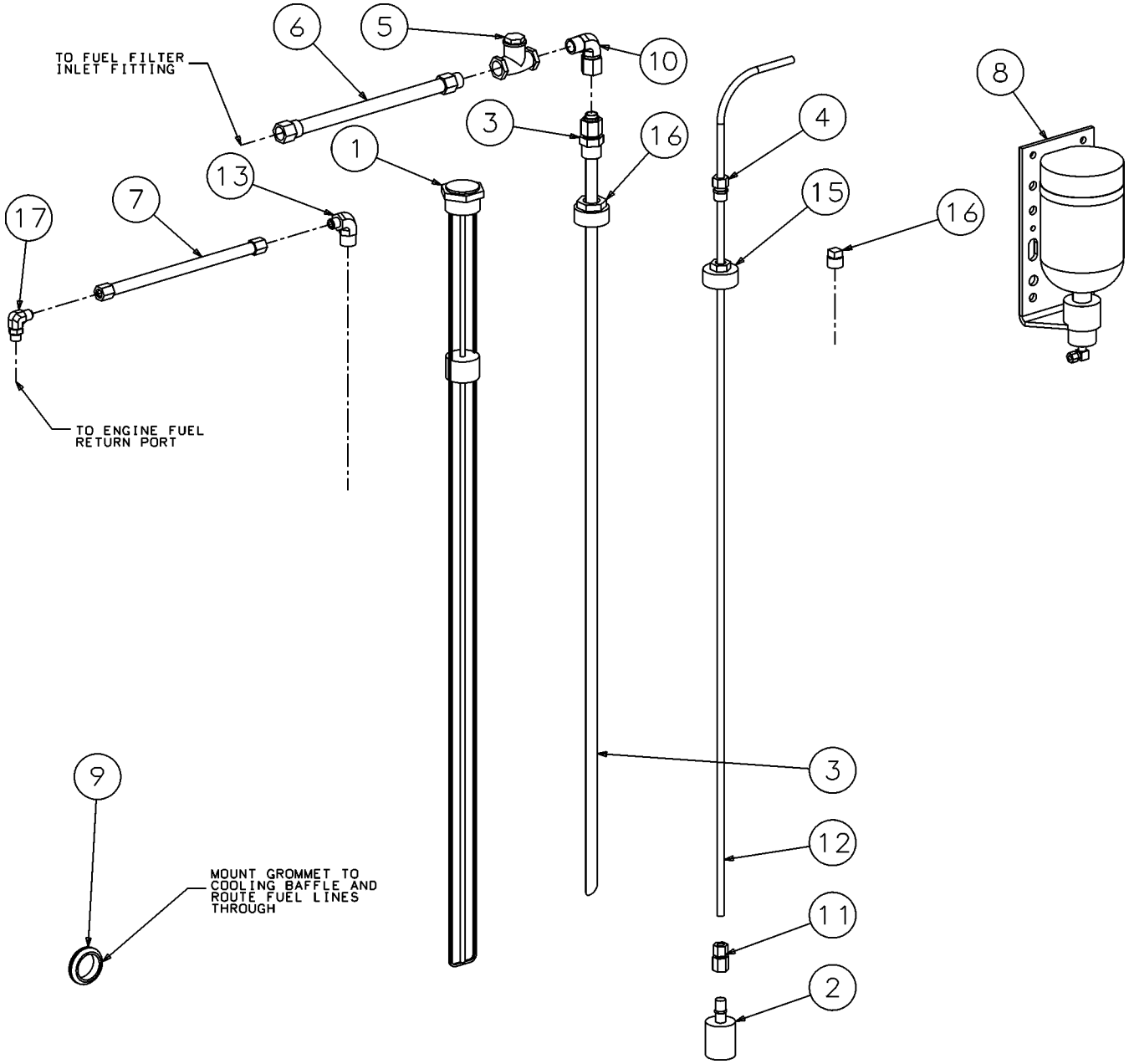
NOTE

For maintenance on discharge check valve assembly, order repair kit no. 02250166-761.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.20 FUEL SYSTEM AND PARTS - ALL MODELS



02250136-066R00

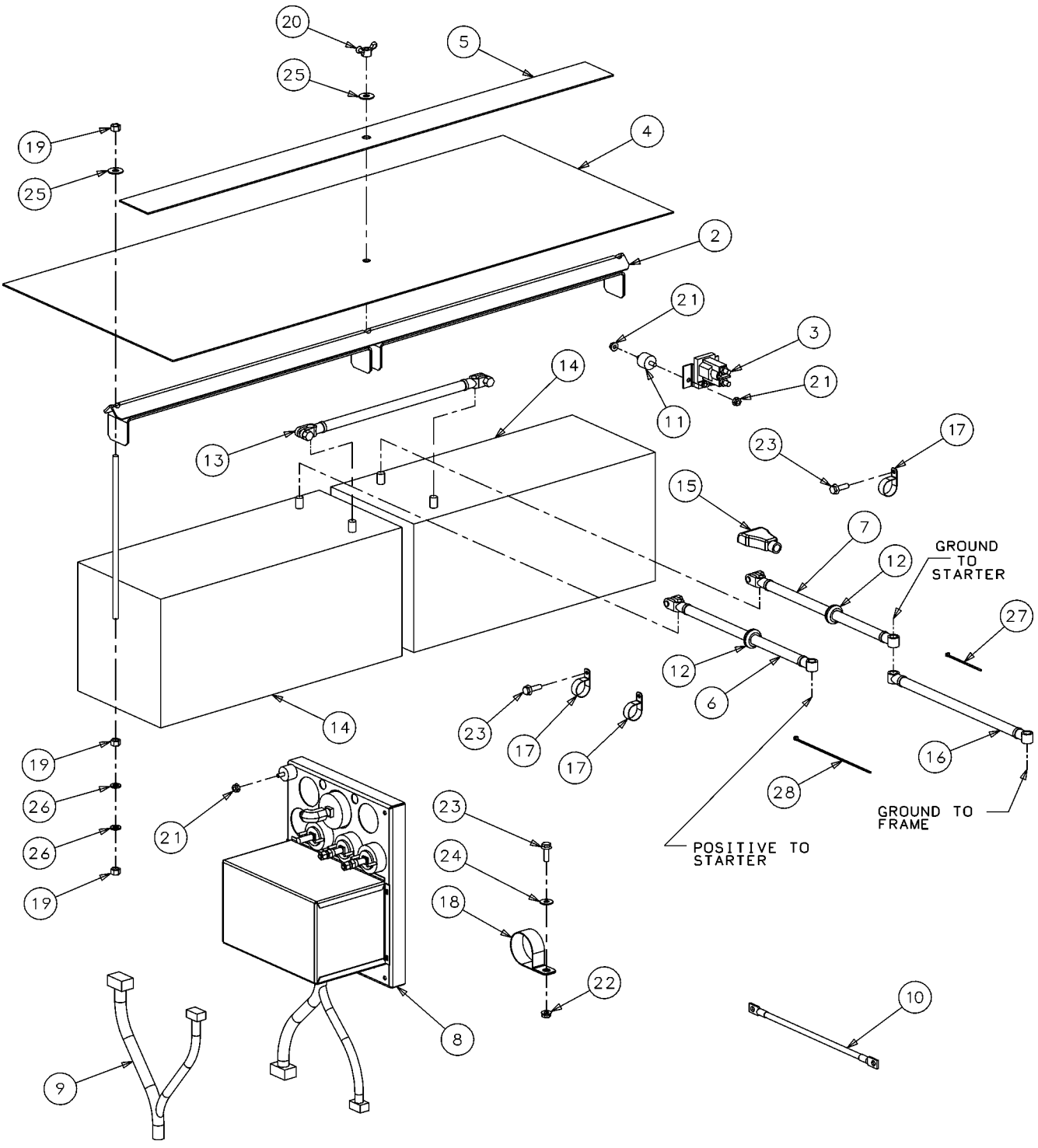
7.20 FUEL SYSTEM AND PARTS - ALL MODELS

key number	*description*	*part number*	*quantity*
1	sender, fuel level 45” length	02250047-049	1
2	sw, liq level vert fuel 12v	02250047-335	1
3	tube, assy fuel pick-up 16000	02250049-998	1
4	conn, tube 3/8t x 3/8p special	02250051-257	1
5	valve, check fuel 1/2” npt	02250111-934	1
6	hose, fuel 1/2 x 98” lg rgd/swl	02250125-437	1
7	hose, fuel rtrn swv/swv 3/8* 12	02250126-242	1
8	aid, starting elec 24v 1600cat	250017-204	1
9	grommet, rubber 1-3/4” hol e	250020 -358	1
10	elbow, tube 90 deg m 5/8 x 1/2	810510 -050	1
11	conn, tube female 1/4p x 3/8t	812106-025	1
12	tubing, steel 3/8”	841115-006	5 ft.
13	elbow, 37fl 90m 3/8 x 1/2	860206-050	1
14	plug, pipe 1/2” 3000# stl plt	866900-020	1
15	bushing, red hex pltd 1 1/2 x 3/8	868906-015	1
16	bushing, red hex pltd 1 1/2 x 3/4	868906-030	1
17	conn, 900 str x jlc 9/16 x 9/16	870606-038	1

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.21 ELECTRICAL PARTS - ALL MODELS



02250127-727R01

7.21 ELECTRICAL PARTS - ALL MODELS

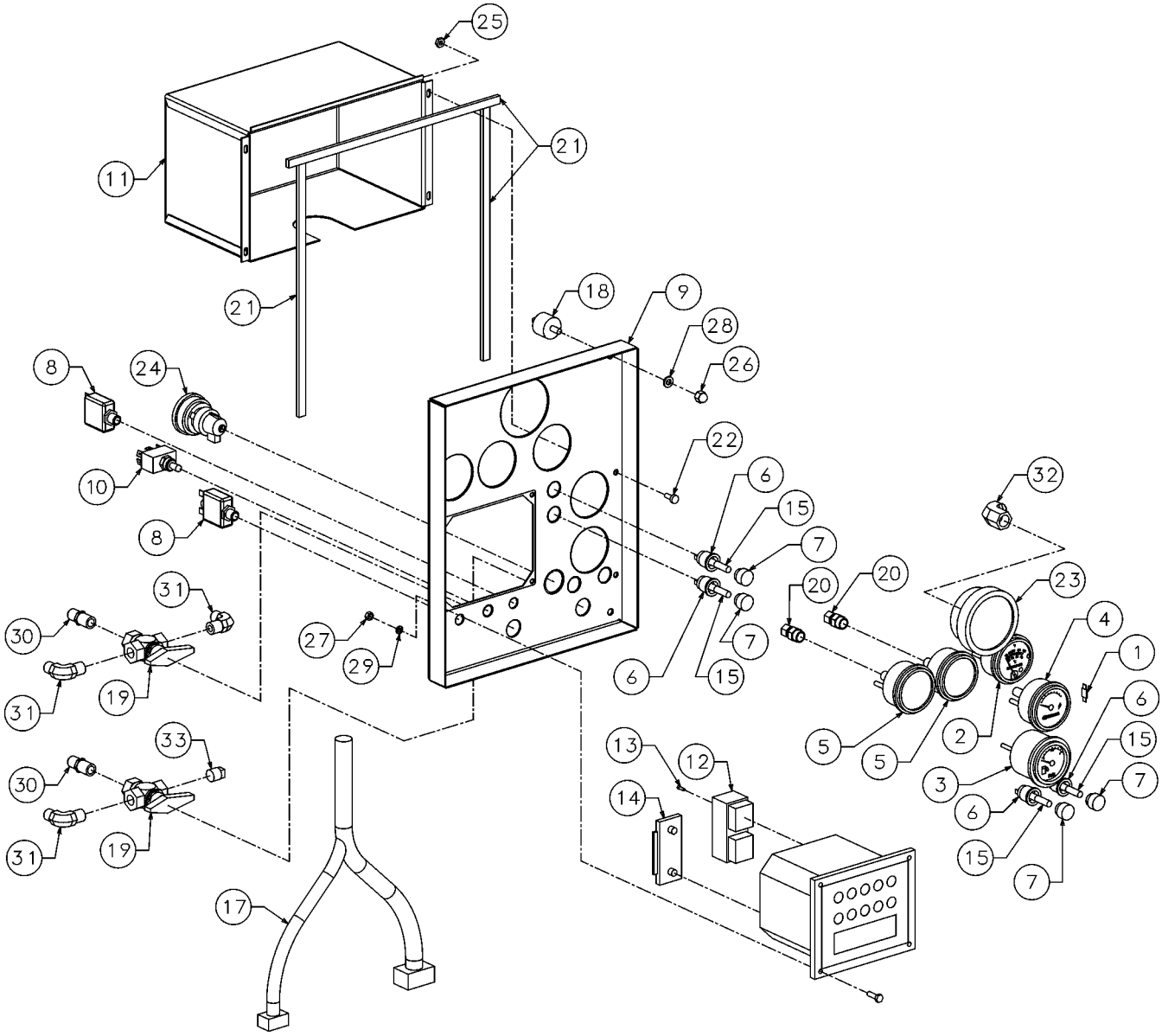
key number	*description*	*part number*	*quantity*
1	rod, 3/8-16 x 12”	020130	3
2	hold down, battery 16000	02250048-005	1
3	sol, spno 24vdc cont -duty	02250051-629	1
4	cover, battery rubber 900/350-1600	02250053-256	1
5	plate, battery cover 1300h-1600	02250053-257	1
6	cable, batt 2/0 x 114” lg red	02250058-614	1
7	cable, batt 2/0 x 114” lg black	02250058-615	1
8	pnl, instr 900 xh tier ii **(I)**	02250127-728	1
9	harness, eng/compr 900xh tier ii	02250127-732	1
10	cable, ground #4 awg blk c 15	02250137-257	1
11	isolator, vibration l” od x 3/4” tall	040091	2
12	grommet, rubber 1” hole	040162	2
13	cable, battery 1/0 12	040318	1
14	battery, 8d/12 volt -wet	040703	2
15	boot, battery terminal	041561	4
16	cable, battery 34” 3/8-1/2 eye black	250034-212	1
17	clamp, hose 5/8” i.d.	408300-005	3
18	clamp, hose 1 13/16” i.d.	408300-009	2
19	nut, hex unfin 3/8-16	824206-337	8
20	nut, wing pltd 3/8-16	824815-006	1
21	nut, hex f pltd 1/4-20	825304-236	8
22	nut, hex f pltd 5/16-18	825305-283	2
23	screw, hex ser washer 5/16-18 x 1	829705-100	4
24	washer, pl-b reg unfin 5/16	837205-071	2
25	washer, pl-b reg unfin 3/8	837206-071	3
26	washer, spr lock 3/8	837506-094	2
27	wrap, tie nylon ty 23m	843200-023	8
28	wrap, tie nylon tf4-8	843200-025	20

(I) For complete breakdown of instrument panel parts, refer to *Section 7.22 Instrument Panel and Parts - All Models*.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.22 INSTRUMENT PANEL AND PARTS - ALL MODELS



02250127-728R03

7.22 INSTRUMENT PANEL AND PARTS - ALL MODELS

key number	*description*	*part number*	*quantity*
1	divider, voltage 24v system	02250047-254	1
2	gauge, temp mech 72” 140-300 of	02250050-514	1
3	gauge, fuel level 12vdc 2”	02250050-519	1
4	gauge, vm 24dc 2” dia	02250050-521	1
5	gauge, restr fltr 30” wc 2”	02250051-144	2
6	lamp, 24v annunciator panel	02250054-511	4
7	lens, flat top amber	02250075-312	4
8	circuit breaker, 15 amp	02250084-933	2
9	panel, instr 1600 h cat340 6e **(I)**	02250086-008	1
10	switch, toggle spot on-none-mo	02250086-011	1
11	cover, instr panel wiring 1600h	02250086-113	1
12	plug, 40 pos male sealed	02250087-540	1
13	plug, sealing plug and recept	02250087-547	34
14	circuit, board first out annun	02250087-558	1
15	lamp, miniature 24v-psb	02250094-725	4
16	decal, instrument panel 900xh tier ii	02250127-731	1
17	harness, instr panel 900xh tier ii	02250127-733	1
18	isolator, vibration 1”00 x 3/4”tall	040091	4
19	valve, 3-way ball (press sel)	044205	2
20	conn, str 1/4t pls 1/8 npt f	250021-379	2
21	weatherstrip, 3/16 x 3/8	250022-436	3 ft.
22	screw, mach ph ill #10-24 x 1/2	250025-692	4
23	gauge, pressure 2.5” cbm 600 psi	250032-761	1
24	switch, ignition anti-restart	250034-601	1
25	nut, hex pltd #10-24	825202-130	4
26	nut, acorn pltd 1/4-20	825615-004	4
27	nut, hex metric m5 x .8	825905-080	4
28	washer, spr lock 1/4	837504-062	4
29	washer, spr lock-metric pltd m5	838805-120	4
30	conn, 37 fl/mpt pltd 5/16 x 1/4	860105-025	2

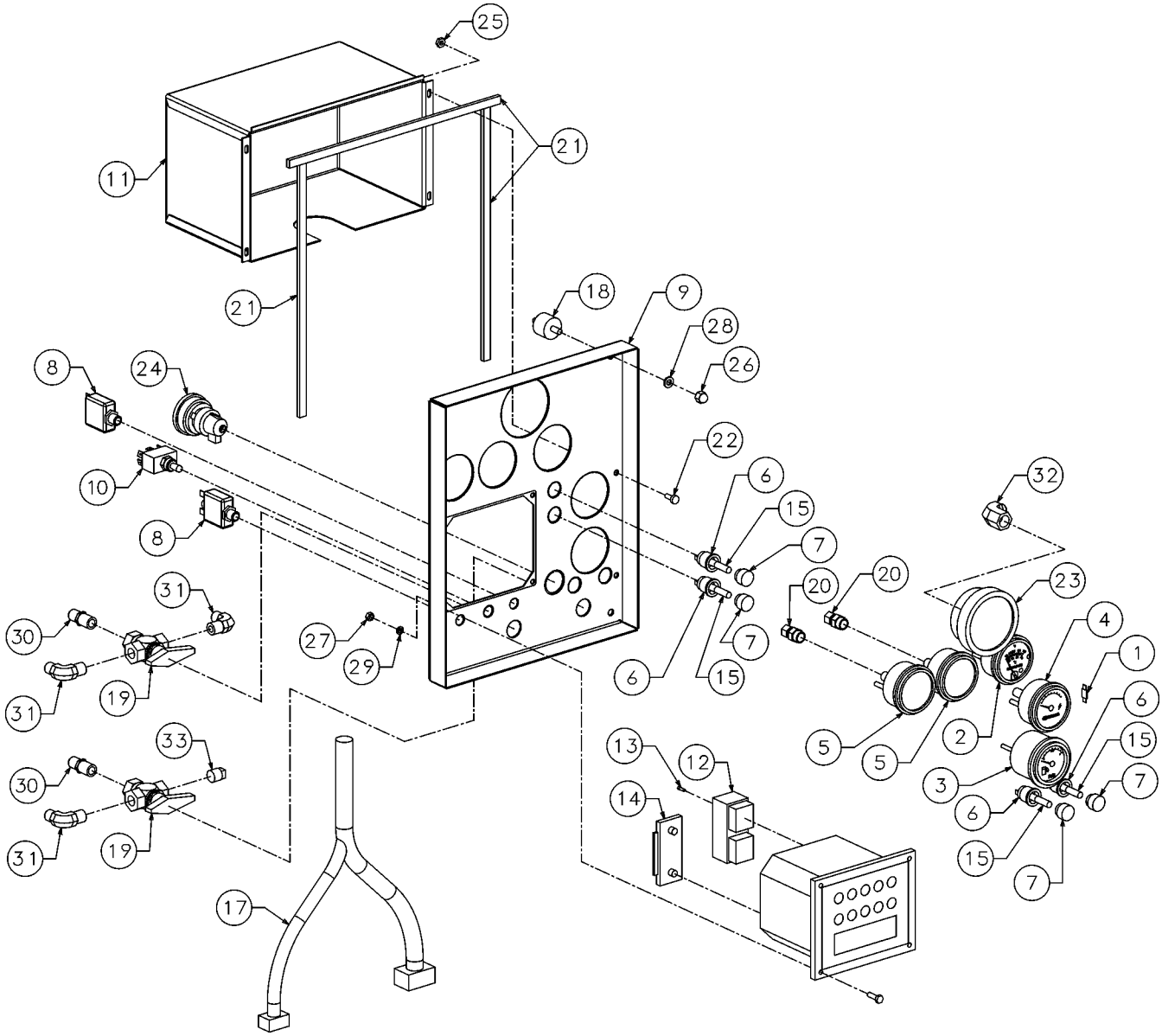
Continued on page 119

(I) For detailed view of panel screen, consult *Section 7.24, Decal Group* (refer to key number 30 /part number 02250086-010).

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.22 INSTRUMENT PANEL AND PARTS - ALL MODELS



02250127-728R03

7.22 INSTRUMENT PANEL AND PARTS - ALL MODELS (CONTINUED)

key number	*description*	*part number*	*quantity*
31	elbow, 37fl 90m 5/16 x 1/4	860205-025	3
32	elbow, 37fl 90f 5/16 x 1/4	860305-025	1
33	plug, pipe 1 /4” 3000 # stl plt	866900 -010	1

NOTE

Engine mounting panel: decal and bazel are supplied with engine. For additional assisstance, consult factory with serial number of machine.

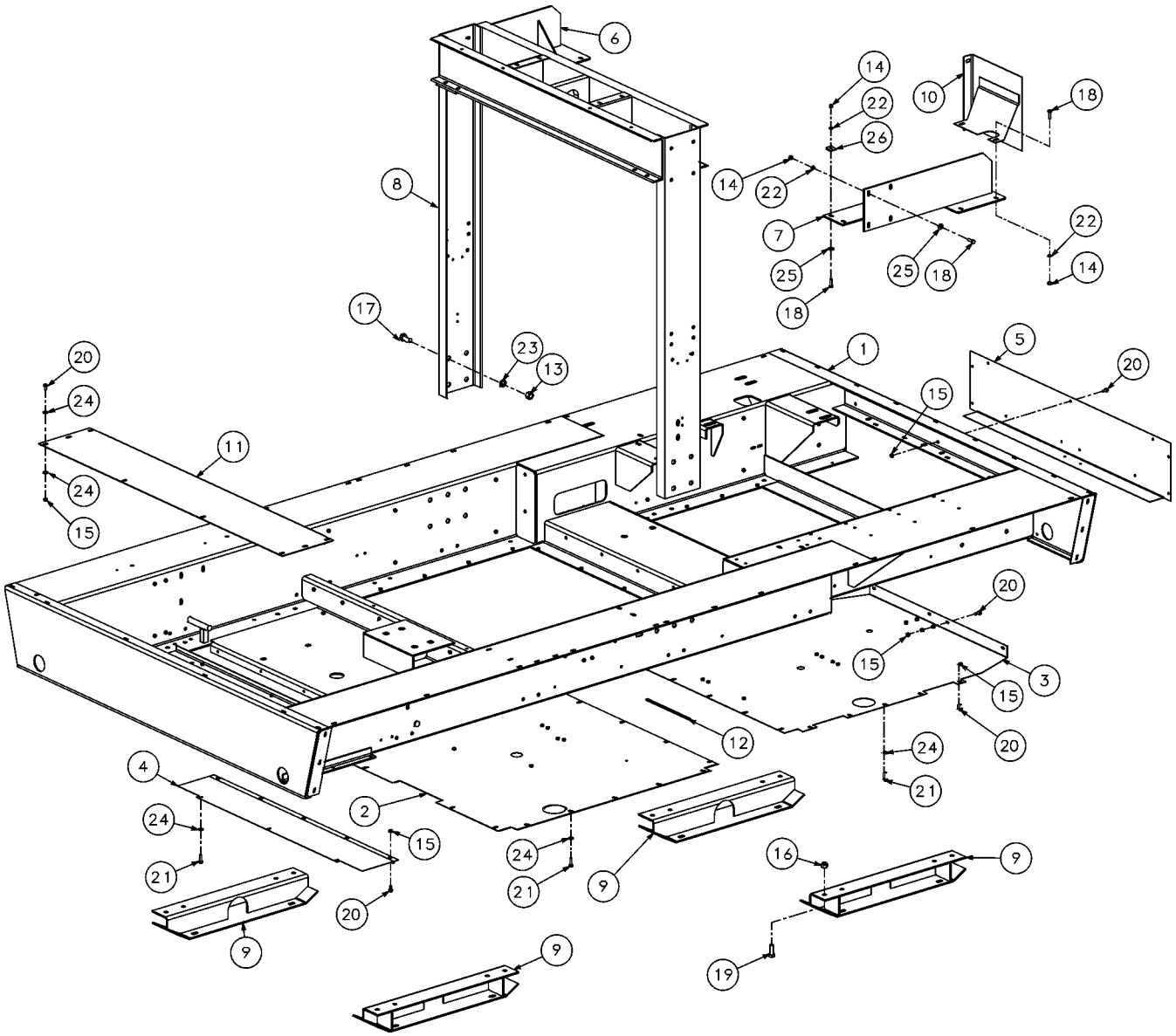
NOTE

Refer to wiring diagram in Figure 2-7 (in *Section 2, Description*) for harness installation.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.23 FRAME AND PARTS



02250136-503R02

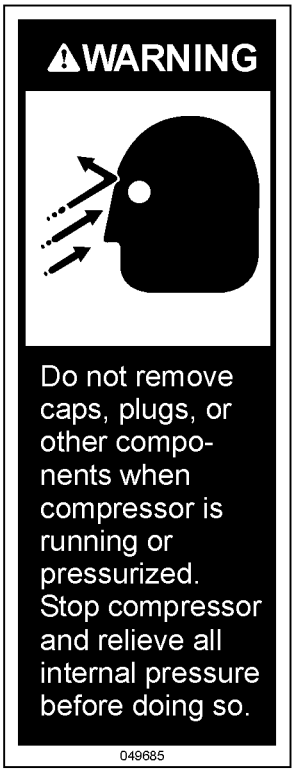
7.23 FRAME AND PARTS

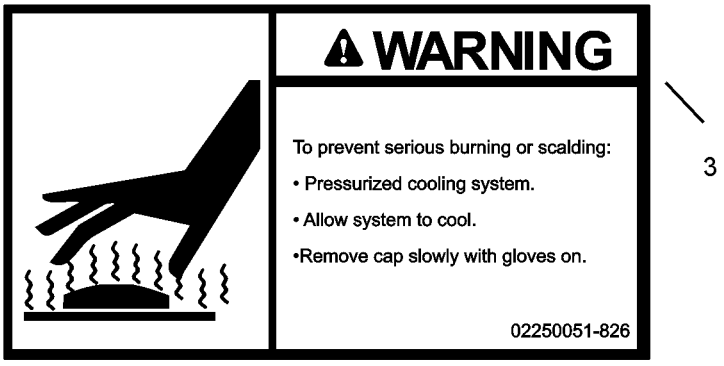
key number	*description*	*part number*	*quantity*
1	frame, assembly 1600q	02250044-003	1
2	panel, belly pan frm mid 1600q	02250044-408	1
3	panel, belly pan frm frt 1600q	02250044-409	1
4	panel, hinged rear frm 1600q	02250044-410	1
5	panel, frame frt 4w option 1600q	02250050-086	1
6	support, air filter ss	02250135-591	1
7	support, air filter cs	02250135-592	1
8	bail, lifting 900xh through 1900	02250135-708	1
9	mount, utility feet 4”	02250136-210	4
10	support, muffler 900xh open frame	02250137-182	1
11	cover, batt 900xh open frame	02250137-187	1
12	weatherstrip, 3/16 x 3/8	250022-436	1 ft.
13	nut, hex unfin 3/4-10	824212-665	1
14	nut, hex pltd 3/8-16	825106-337	3
15	nut, hex f pltd 5/16-18	825305-283	5
16	nut, hex locking 5/8-11	825510-329	1
17	capscrew, hex gr8 3/4-10 x 1 3/4	828212-175	1
18	capscrew, hex gr5 3/8-16 x 1 1/4	829106-125	3
19	capscrew, hex gr5 5/8-11 x 1 3/4	829110-175	1
20	screw, hex ser washer 5/16-18 x 3/4	829705-075	5
21	screw, tc-hex 5/16-18 x 1 1/4	834205-125	3
22	washer, spr lock reg pltd 3/8	837806-094	3
23	washer, spr lock reg pltd 3/4	837812-188	1
24	washer, pl-b reg pltd 5/16	838205-071	5
25	washer, pl-b reg pltd 3/8	838206-071	2
26	washer, bevel 3/8 plt	868706-125	1

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.24 DECAL GROUP





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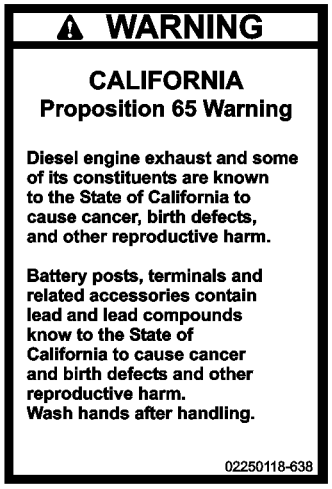

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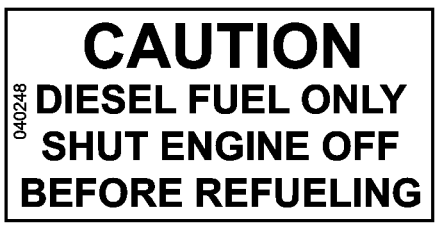


7.24 DECAL GROUP

key number	*description*	*part number*	*quantity*
1	decal, warning 100/1600 **(I)**	250028-258	1
2	sign, warning compressor fluid fill cap	049685	1
3	decal, warning pressurized clg sys	02250051-826	1
4	sign, warning sever belt drive	049964	1
5	sign, warning hot surfaces	407408	2
6	sign, warning sever fan port	049965	2
7	decal, warning proposition 65 (U.S. compressors only)	02250118-638	1
8	decal, diesel fuel	040248	1

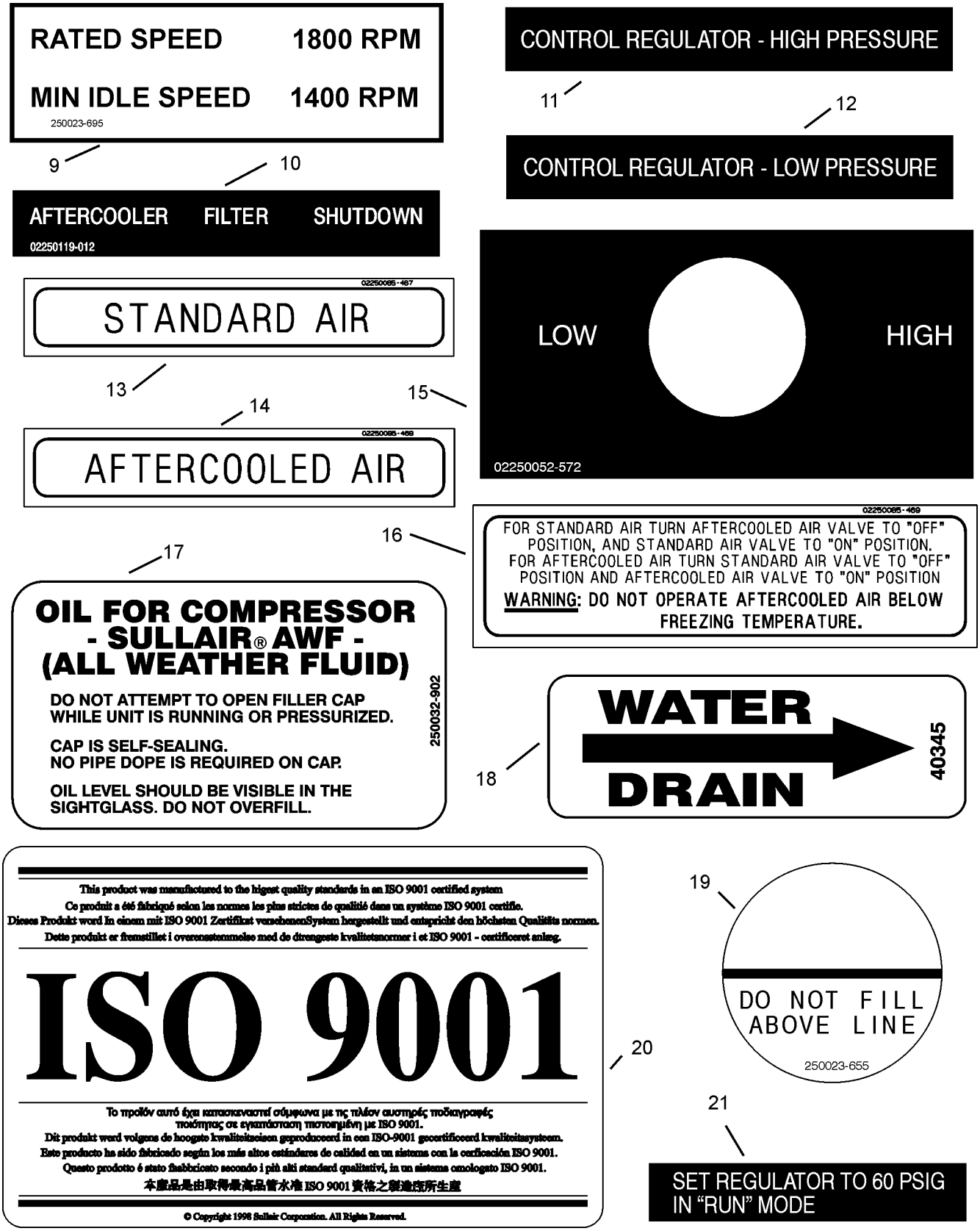
Continued on page 125

(I) OSHA guidelines are superseded by any Federal, State or Local regulations whenever applicable.

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.24 DECAL GROUP



7.24 DECAL GROUP (CONTINUED)

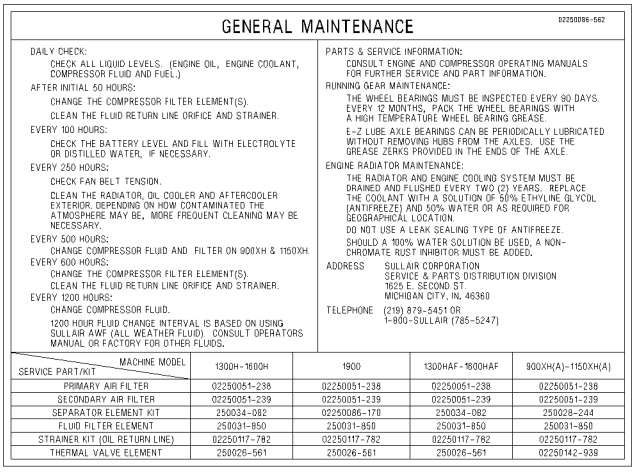
key number	*description*	*part number*	*quantity*
9	decal, rated speed 1800/1400 RPM	250023-695	1
10	decal, aftercooler filter warning	02250119-012	1
11	decal, control regulator high pressure	02250075-085	1
12	decal, control regulator low pressure	02250075-086	1
13	decal, standard air (all XHA models)	02250085-467	1
14	decal, aftercooled air (all XHA models)	02250085-468	1
15	decal, high / low	02250052-572	1
16	decal, aftercooler warning (all XHA models)	02250085-469	1
17	decal, Sullair AWF	250032-902	1
18	decal, water drain	040345	1
19	decal, receiver fluid fill level 1.75”	250023-655	1
20	decal, ISO 9001	02250057-624	1
21	decal, run mode	02250075-087	1

Continued on page 127

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.24 DECAL GROUP



GENERAL MAINTENANCE

02250086-562

DAILY CHECK:
CHECK ALL LIQUID LEVELS. (ENGINE OIL, ENGINE COOLANT, COMPRESSOR FLUID AND FUEL.)

AFTER INITIAL 50 HOURS:
CHANGE THE COMPRESSOR FILTER ELEMENT(S).
CLEAN THE FLUID RETURN LINE ORIFICE AND STRAINER.

EVERY 100 HOURS:
CHECK THE BATTERY LEVEL AND FILL WITH ELECTROLYTE OR DISTILLED WATER, IF NECESSARY.

EVERY 250 HOURS:
CHECK FAN BELT TENSION.
CLEAN THE RADIATOR, OIL COOLER AND AFTERCOOLER EXTERIOR. DEPENDING ON HOW CONTAMINATED THE ATMOSPHERE MAY BE, MORE FREQUENT CLEANING MAY BE NECESSARY.

EVERY 500 HOURS:
CHANGE COMPRESSOR FLUID AND FILTER ON 900XH & 1150XH.

EVERY 600 HOURS:
CHANGE THE COMPRESSOR FILTER ELEMENT(S).
CLEAN THE FLUID RETURN LINE ORIFICE AND STRAINER.

EVERY 1200 HOURS:
CHANGE COMPRESSOR FLUID.
1200 HOUR FLUID CHANGE INTERVAL IS BASED ON USING SULLAIR AWF (ALL WEATHER FLUID). CONSULT OPERATORS MANUAL OR FACTORY FOR OTHER FLUIDS.

PARTS & SERVICE INFORMATION:
CONSULT ENGINE AND COMPRESSOR OPERATING MANUALS FOR FURTHER SERVICE AND PART INFORMATION.

RUNNING GEAR MAINTENANCE:
THE WHEEL BEARINGS MUST BE INSPECTED EVERY 90 DAYS. EVERY 12 MONTHS, PACK THE WHEEL BEARINGS WITH A HIGH TEMPERATURE WHEEL BEARING GREASE.
E-Z LUBE AXLE BEARINGS CAN BE PERIODICALLY LUBRICATED WITHOUT REMOVING HUBS FROM THE AXLES. USE THE GREASE ZERKS PROVIDED IN THE ENDS OF THE AXLE.

ENGINE RADIATOR MAINTENANCE:
THE RADIATOR AND ENGINE COOLING SYSTEM MUST BE DRAINED AND FLUSHED EVERY TWO (2) YEARS. REPLACE THE COOLANT WITH A SOLUTION OF 50% ETHYLINE GLYCOL (ANTIFREEZE) AND 50% WATER OR AS REQUIRED FOR GEOGRAPHICAL LOCATION.
DO NOT USE A LEAK SEALING TYPE OF ANTIFREEZE.
SHOULD A 100% WATER SOLUTION BE USED, A NON-CHROMATE RUST INHIBITOR MUST BE ADDED.

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MICHIGAN CITY, IN. 46360

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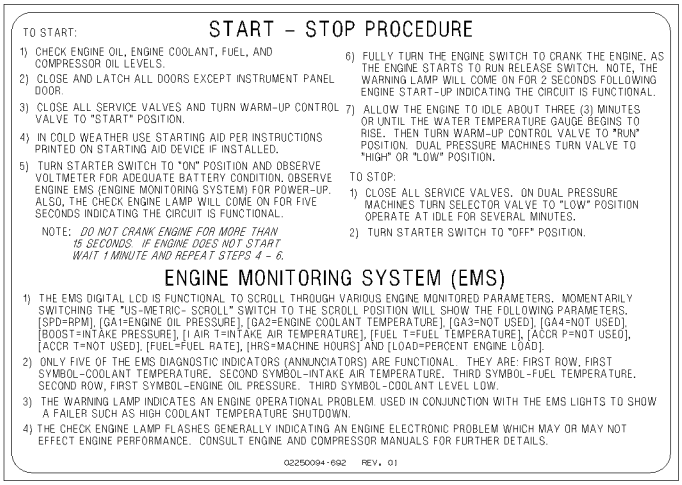
1-800-SULLAIR (785-5247)

SERVICE PART/KIT \ MACHINE MODEL	1300H-1600H	1900	1300HAF-1600HAF	900XH(A)-1150XH(A)
PRIMARY AIR FILTER	02250051-238	02250051-238	02250051-238	02250051-238
SECONDARY AIR FILTER	02250051-239	02250051-239	02250051-239	02250051-239
SEPARATOR ELEMENT KIT	250034-082	02250086-170	250034-082	250028-244
FLUID FILTER ELEMENT	250031-850	250031-850	250031-850	250031-850
STRAINER KIT (OIL RETURN LINE)	02250117-782	02250117-782	02250117-782	02250117-782
THERMAL VALVE ELEMENT	250026-561	250026-561	250026-561	02250142-939

22



START - STOP PROCEDURE

TO START:

1) CHECK ENGINE OIL, ENGINE COOLANT, FUEL, AND COMPRESSOR OIL LEVELS.
2) CLOSE AND LATCH ALL DOORS EXCEPT INSTRUMENT PANEL DOOR.
3) CLOSE ALL SERVICE VALVES AND TURN WARM-UP CONTROL VALVE TO "START" POSITION.
4) IN COLD WEATHER USE STARTING AID PER INSTRUCTIONS PRINTED ON STARTING AID DEVICE IF INSTALLED.
5) TURN STARTER SWITCH TO "ON" POSITION AND OBSERVE VOLTMETER FOR ADEQUATE BATTERY CONDITION. OBSERVE ENGINE EMS (ENGINE MONITORING SYSTEM) FOR POWER-UP. ALSO, THE CHECK ENGINE LAMP WILL COME ON FOR FIVE SECONDS INDICATING THE CIRCUIT IS FUNCTIONAL.

NOTE: *DO NOT CRANK ENGINE FOR MORE THAN 15 SECONDS. IF ENGINE DOES NOT START, WAIT 1 MINUTE AND REPEAT STEPS 4 - 6.*

6) FULLY TURN THE ENGINE SWITCH TO CRANK THE ENGINE. AS THE ENGINE STARTS TO RUN RELEASE SWITCH. NOTE, THE WARNING LAMP WILL COME ON FOR 2 SECONDS FOLLOWING ENGINE START-UP INDICATING THE CIRCUIT IS FUNCTIONAL.
7) ALLOW THE ENGINE TO IDLE ABOUT THREE (3) MINUTES OR UNTIL THE WATER TEMPERATURE GAUGE BEGINS TO RISE. THEN TURN WARM-UP CONTROL VALVE TO "RUN" POSITION. DUAL PRESSURE MACHINES TURN VALVE TO "HIGH" OR "LOW" POSITION.

TO STOP:

1) CLOSE ALL SERVICE VALVES. ON DUAL PRESSURE MACHINES TURN SELECTOR VALVE TO "LOW" POSITION OPERATE AT IDLE FOR SEVERAL MINUTES.
2) TURN STARTER SWITCH TO "OFF" POSITION.

ENGINE MONITORING SYSTEM (EMS)

1) THE EMS DIGITAL LCD IS FUNCTIONAL TO SCROLL THROUGH VARIOUS ENGINE MONITORED PARAMETERS. MOMENTARILY SWITCHING THE "US-METRIC- SCROLL" SWITCH TO THE SCROLL POSITION WILL SHOW THE FOLLOWING PARAMETERS. [SPD=RPM], [GA1=ENGINE OIL PRESSURE], [GA2=ENGINE COOLANT TEMPERATURE], [GA3=NOT USED], [GA4=NOT USED], [BOOST=INTAKE PRESSURE], [I AIR T=INTAKE AIR TEMPERATURE], [FUEL T=FUEL TEMPERATURE], [ACCR P=NOT USED], [ACCR T=NOT USED], [FUEL=FUEL RATE], [HRS=MACHINE HOURS] AND [LOAD=PERCENT ENGINE LOAD].
2) ONLY FIVE OF THE EMS DIAGNOSTIC INDICATORS (ANNUNCIATORS) ARE FUNCTIONAL. THEY ARE: FIRST ROW, FIRST SYMBOL-COOLANT TEMPERATURE. SECOND SYMBOL-INTAKE AIR TEMPERATURE. THIRD SYMBOL-FUEL TEMPERATURE. SECOND ROW, FIRST SYMBOL-ENGINE OIL PRESSURE. THIRD SYMBOL-COOLANT LEVEL LOW.
3) THE WARNING LAMP INDICATES AN ENGINE OPERATIONAL PROBLEM. USED IN CONJUNCTION WITH THE EMS LIGHTS TO SHOW A FAILER SUCH AS HIGH COOLANT TEMPERATURE SHUTDOWN.
4) THE CHECK ENGINE LAMP FLASHES GENERALLY INDICATING AN ENGINE ELECTRONIC PROBLEM WHICH MAY OR MAY NOT EFFECT ENGINE PERFORMANCE. CONSULT ENGINE AND COMPRESSOR MANUALS FOR FURTHER DETAILS.

02250094-692 REV. 01

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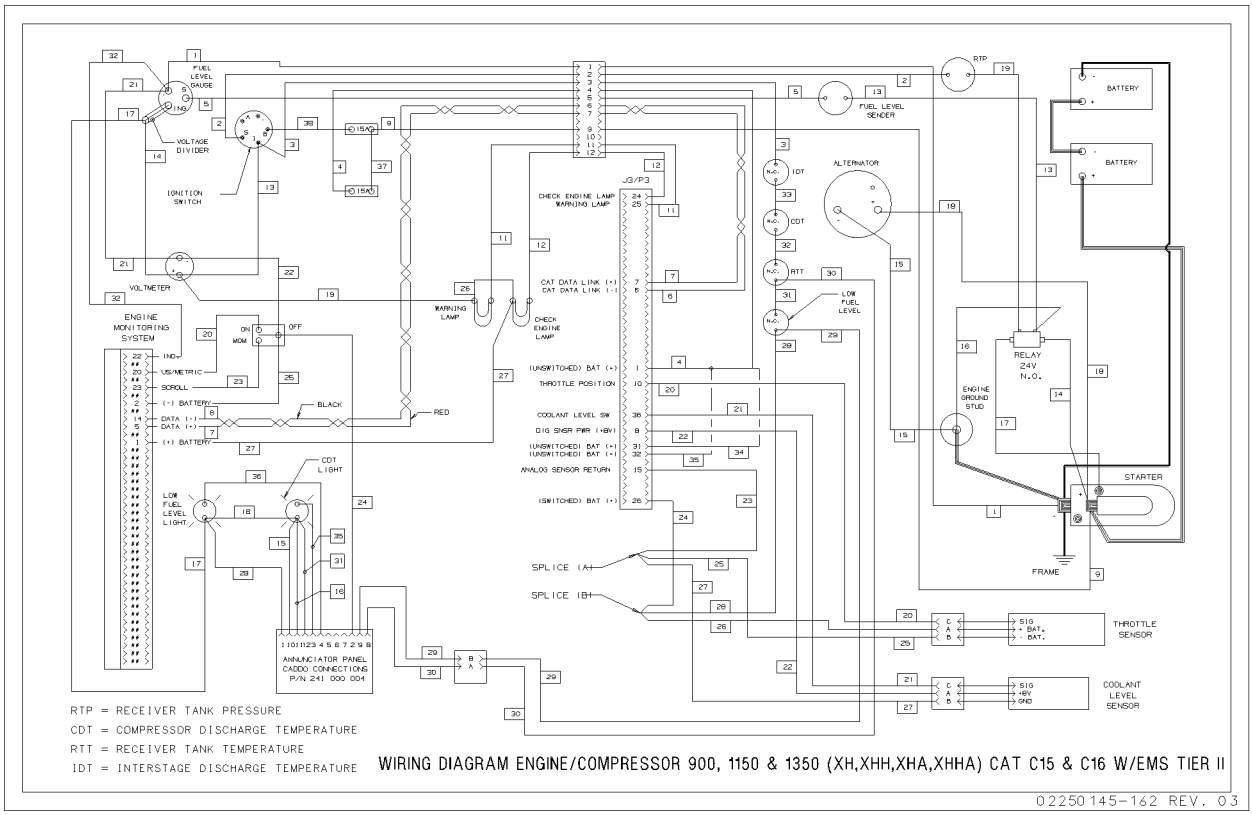


7.24 DECAL GROUP (CONTINUED)

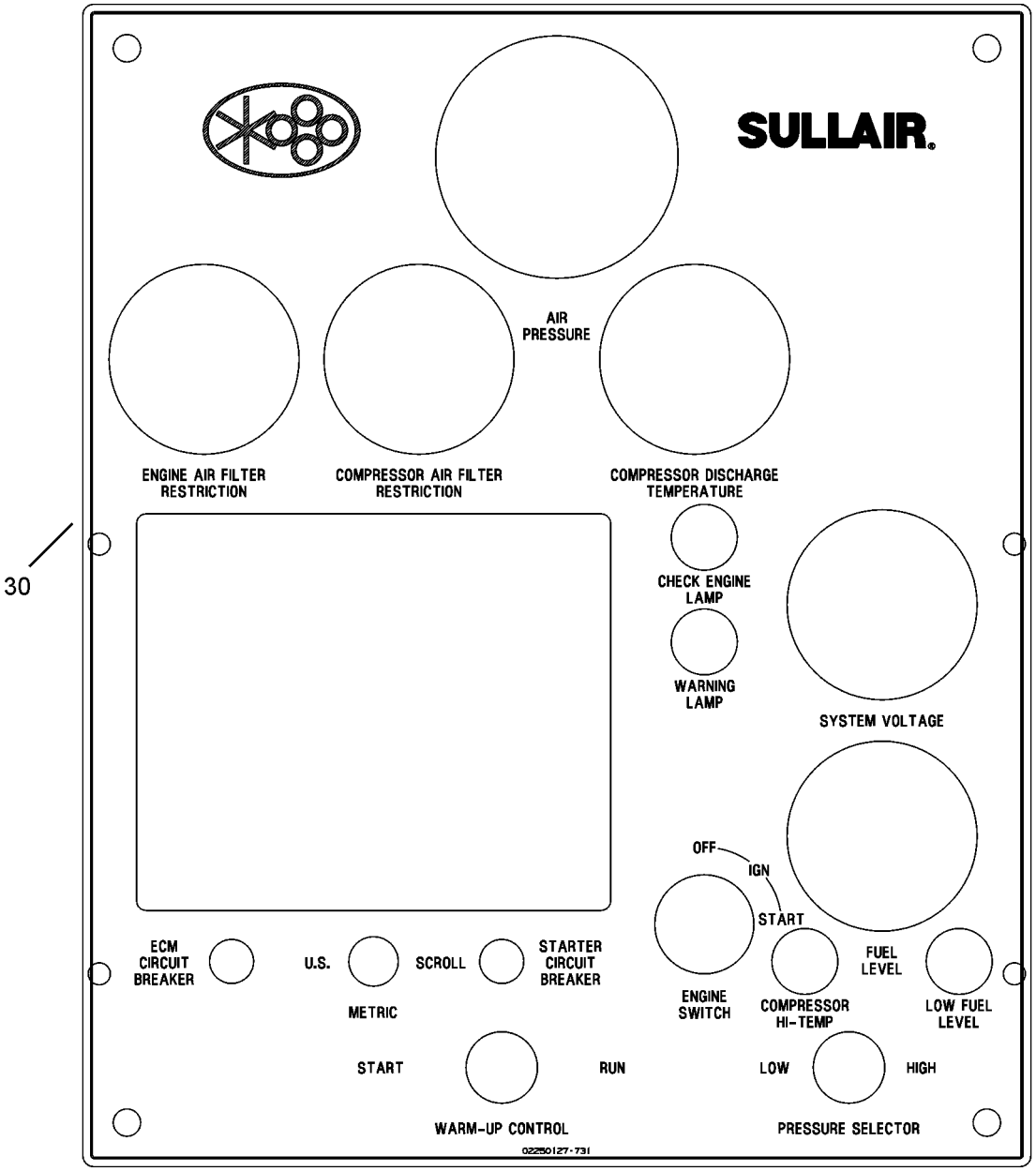
key number	*description*	*part number*	*quantity*
22	decal, maintenance 1600H - 1900 Cat 3406e	02250086-562	1
23	decal, start - stop EMS functions	02250094-692	1
26	decal, rating 900XH - black	02250121-400	1
	• decal, rating 900XH - white (not shown)	02250121-401	1
	• decal, rating 1150XH - black (not shown)	02250138-298	1
	• decal, rating 1150XH - white (not shown)	02250138-299	1
	• decal, rating 1350XH - black (not shown)	02250147-921	1
	• decal, rating 1350XH - white (not shown)	02250147-922	1
25	decal, CAT Diesel Power	02250109-529	1
27	decal, wiring diagram cat c15 tii 900xh	02250145-162	1

Continued on page 129

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.24 DECAL GROUP



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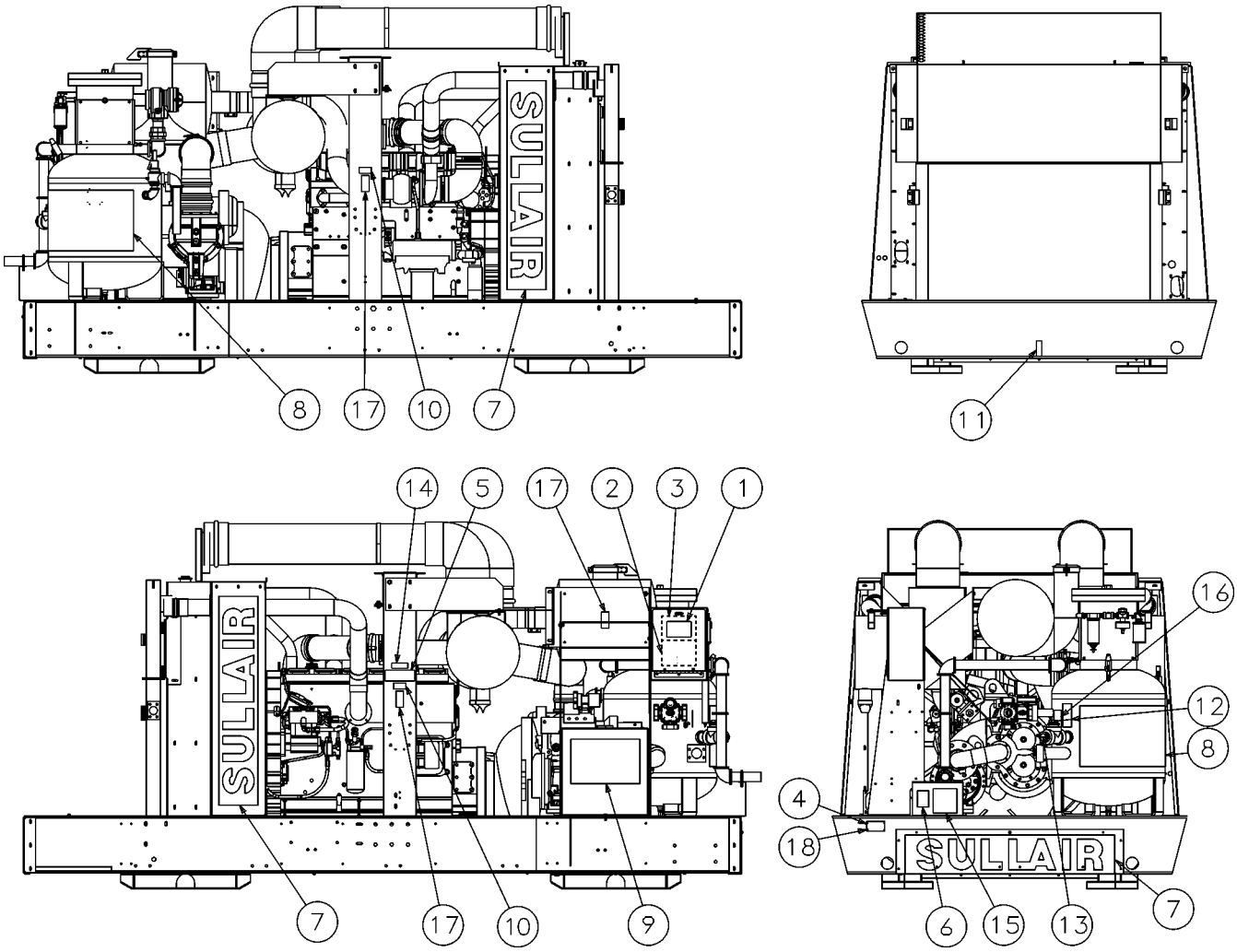
7.24 DECAL GROUP (CONTINUED)

key number	*description*	*part number*	*quantity*
30	decal, panel 900xh tii	02250127-731	1
31	decal, Sullair logo 8.12” x 67” black	02250057-607	1

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.25 DECAL LOCATIONS



02250136-067R03

7.25 DECAL LOCATIONS

key number	*description*	*part number*	*quantity*
1	decal, iso 9001 blk 3.44x5.75	02250057-624	1
2	decal, maintenance 425xh-1150xhh cat c-16	02250154-354	1
3	decal, start/stop ems functions	02250094-692	1
4	npl, sullair serial no. 1850-8f	02250108-078	1
5	decal, cat diesel power	02250109-529	1
6	decal, lead warning proposition 65	02250118-638	1
7	decal, sullair 7.63 x 45.75 white	02250121-332	3
8	decal, 900xh sullair	**(I)**	1
9	decal, wire-diagram cat c15	02250127-584	1
10	decal, diesel fuel	040248	2
11	decal, water drain	040345	1
12	decal, warning oil fill	049685	1

Continued on page 133

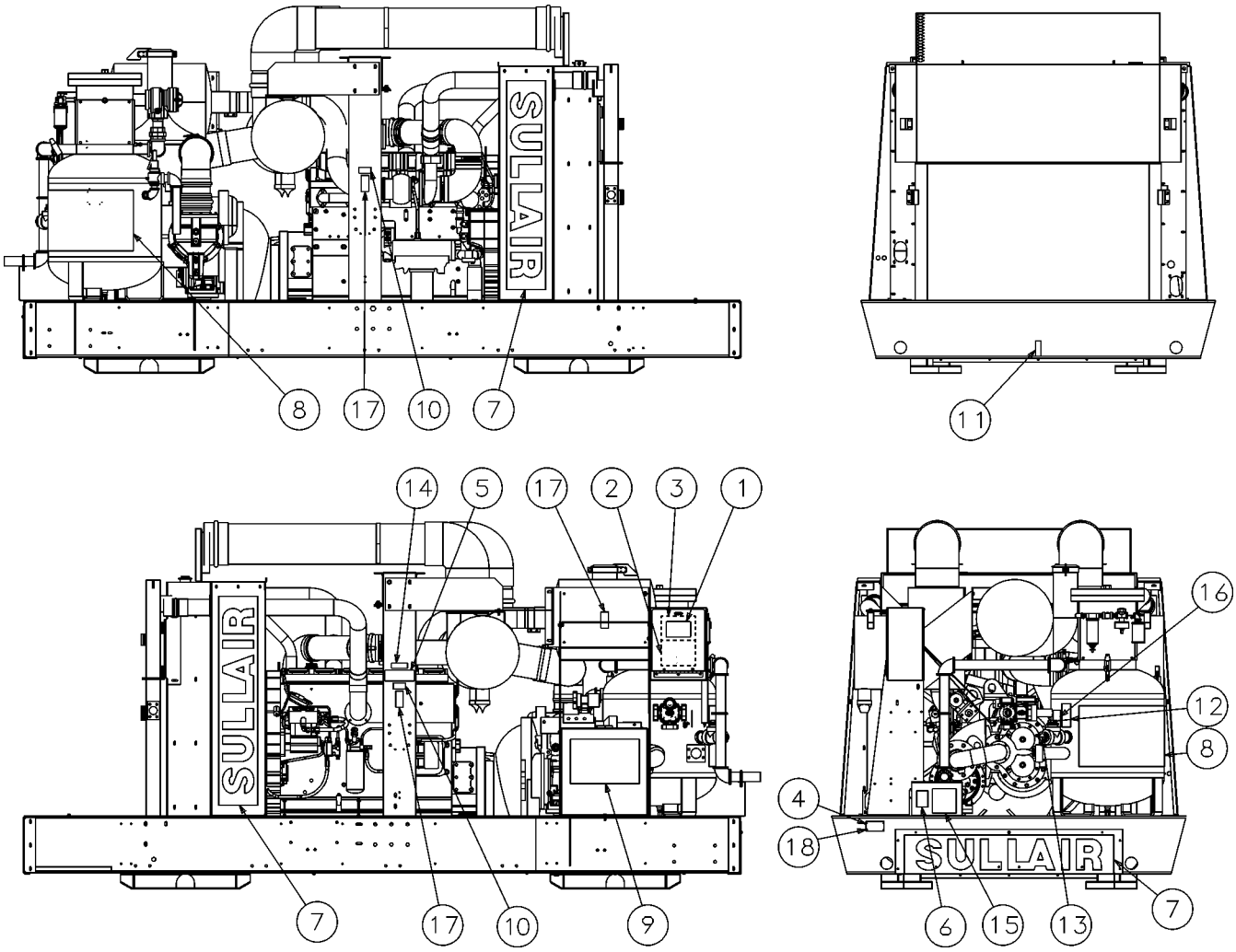
(I) To determine correct part number for specific model and color decal, consult *Section 7.24 Decal Group* (key number 26), for a breakdown of part numbers by model and color.

DECAL, GROUP 600-1600Q (250021-833) : These decals are on one sheet			
QTY	**PART NO.**	**DESCRIPTION**	**LOCATION**
4	040345	decal, water drain	radiator drain
			engine drain (2 x)
			rear shown
2	040248	decal, caution diesel fuel only	shown (2 x)
2	407408	decal, warning hot surfaces	lifting bail (2 x)
2	049965	decal, sever fan	each side of venturi
3	049964	decal, warning sever belt	each side of venturi
			near end of alternator
1	049685	decal, warning pressurized vessel	receiver tank fill
1	250028-258	decal, warning group 100-1600	air discharge
1	250032-902	decal, compressor fluid AWF	receiver tank fill
1	02250051-826	decal, warning pres. cooling sysem	near radiator fill

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

Section 7
ILLUSTRATIONS AND PARTS

7.25 DECAL LOCATIONS



02250136-067R03

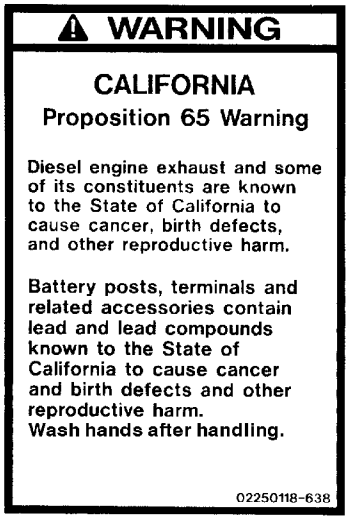
7.25 DECAL LOCATIONS (CONTINUED)

key number	*description*	*part number*	*quantity*
13	decal, receiver oil fill level	250023-655	1
14	decal, rated 1800 idle 1400 rpm	250023-695	1
15	decal, warning group	250028-258	1
16	decal, sullair awf	250032-902	1
17	decal, hot surfaces	407408	3
18	rivet, pop 1/8 x 3/8	843102-038	4

DECALS NOT SHOWN ON DRAWING			
PART NO.	**DESCRIPTION**	**QTY**	**LOCATION**
02250052-572	decal, high pressure select instrument panel	1	instrument panel
02250075-085	decal, low press control reg back pressure reg	1	back pressure regulator
02250075-086	decal, high pressure valve back pressure reg	1	back pressure regulator
02250075-087	decal, 60 psig run mode reducing regulator	1	reducing regulator

PLEASE NOTE: WHEN ORDERING PARTS, INDICATE THE SERIAL NUMBER OF COMPRESSOR

NOTES


WARNING
CALIFORNIA
Proposition 65 Warning
Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.
Battery posts, terminals and related accessories contain lead and lead compounds known to the State of California to cause cancer and birth defects and other reproductive harm.
Wash hands after handling.
02250118-638

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E06