

Sullivan

Palatek

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User Manual

Portable Air Compressors

250 cfm
Deutz Diesel Engine
Wheel-Mounted

D250PDZ
Tier 4 Final

DOCUMENT INFORMATION:

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RECORD KEEPING:

Record the model and serial number of the compressor for future reference when contacting the factory for service or parts.

Model Number: _____

Serial Number: _____

DISCLAIMER:

Although this manual is checked for conformity with the machines described, we cannot guarantee that all errors will be excluded. Necessary corrections will be made in future editions of this manual. This manual is subject to change without notice.

REVISION HISTORY:

#	DATE	SECTION(S)	DESCRIPTION
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WARRANTY

Portable Compressors

Sullivan-Palatek, Inc. warrants its new portable air compressor products to be free from defects in material and workmanship, subject to the following provisions:

Warranty Registration: To validate the warranty for each product the purchaser shall complete and return the warranty registration form within 30 days of delivery to the first user or rental.

Warranty Period: The warranty period for applicable Sullivan-Palatek products is as follows (subject to the Exclusions and Limitations noted below):

Air ends on new machines – stator and rotor assembly: Single stage compressor models: the first to expire; 42 months from shipment by Sullivan-Palatek or 36 months from delivery to the first user. **Two stage high pressure** compressor models: the first to expire; 30 months from shipment by Sullivan-Palatek or 24 months from delivery to the first user. **Remainder of new portable air compressor machines:** the first to expire; 18 months from shipment by Sullivan-Palatek or 12 months from delivery to the first user.

Parts, accessories and attachments sold separately from machines, excluding warranty replacement parts and hand tools: the first to expire; 6 months from shipment by Sullivan-Palatek or 3 months from delivery to the first user.

Warranty replacement parts: remainder of the original warranty period of the replaced part.

Sullivan-Palatek's Obligations: Sullivan-Palatek's exclusive obligations with respect to breach of warranty are (i) to repair or replace (at Sullivan-Palatek option and subject to return of defective parts) any defective part, (ii) to pay the reasonable cost of making the repair or reinstalling the replacement part and (iii) only for air compressors having two or more axles, to reimburse up to four hours travel labor at the travel reimbursement rate and mileage at the mileage reimbursement rate for up to 200 miles (100 miles travel radius) per event to make repairs.

Customer's Responsibility: As a condition to Sullivan-Palatek's obligations under this warranty, Customer shall (i) give Sullivan-Palatek written notice of any warrantable failure of any Sullivan-Palatek product within the applicable warranty period, (ii) make the product available for repair at a Sullivan-Palatek authorized repair facility, (iii) pay all costs of returning failed parts to Sullivan-Palatek, (iv) pay shipping costs for replacement parts, (v) pay reasonable travel expenses for field repairs performed at customer's request and (vi) pay the costs of investigating performance complaints that are not covered by this warranty.

Exclusions and Limitations: Air end seals are not warranted. Engines, tires and batteries are not warranted by Sullivan-Palatek and are warranted only by the manufacturers of these components. Sullivan-Palatek has no obligation for product failures or defects resulting from overloading, misuse, neglect, accident, failure to comply with Sullivan-Palatek's product manual or failure to install product improvements provided by Sullivan-Palatek. Use on a product of attachments, accessories or service parts not supplied or recommended by Sullivan-Palatek may, at Sullivan-Palatek's option, void the warranty of that product. Sullivan-Palatek has no obligation to pay costs of returning defective parts to Sullivan-Palatek or shipping replacement parts to customer.

THIS WARRANTY IS SULLIVAN-PALATEK'S ONLY WARRANTY OF ITS PORTABLE AIR COMPRESSOR PRODUCTS AND IS IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED. ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED. SULLIVAN-PALATEK HAS NO OBLIGATION UNDER THIS WARRANTY OR OTHERWISE (REGARDLESS OF THE FORM OF ACTION) FOR SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES, INCLUDING WITHOUT LIMITATION LOST PROFITS OR LOST INCOME.

This warranty applies to all Sullivan-Palatek portable air compressors shipped after April 1, 2011 unless expressly superseded by a later warranty. In the event of any conflict between this warranty and earlier warranty statements, the terms of this warranty will apply.

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.

ABOUT THIS MANUAL

I.I SAFETY INSTRUCTIONS

Instructions for the safe operation and maintenance of the Sullivan-Palatek air compressor are located throughout this manual. These instructions are presented with different labels according to the level of risk involved, described as follows.

WARNING! *is used when death or personal injury could occur if the instruction is not followed.*

CAUTION! *is used when damage to property could occur if the instruction is not followed.*

NOTE! *is used to inform the reader of installation, operation or maintenance information that is important but not hazardous.*

I.II MANUAL ORGANIZATION

Anyone operating or servicing the Sullivan-Palatek air compressor should read this entire manual and be familiar with its information. The chart below is a quick guide to the contents in this manual.

SECTION 1: SAFETY

This section contains important basic information regarding the compressor such as general safety precautions for maintaining and operating portable air compressors.

SECTION 2: SPECIFICATIONS

This section contains all the engineering information related to the specific air compressor such as application data, dimensional drawings and wiring diagrams.

SECTION 3: COMPONENT DESCRIPTION

This section contains information about how the different systems and components function within an air compressor.

SECTION 4: TRANSPORTING AND LOCATING

This section contains instructions and safety guidelines for transporting and locating a portable air compressor.

SECTION 5: OPERATION

This section contains an overview of the compressor controls, initial start-up procedures, and how to start and stop the air compressor.

SECTION 6: MAINTENANCE

This section contains a maintenance schedule and step-by-step instructions for performing common maintenance procedures.

SECTION 7: TROUBLESHOOTING

This section contains symptoms, causes and remedies for common air compressor malfunctions.

SECTION 8: PARTS CATALOG

This section contains procedures for ordering parts, a list of recommended spare parts to keep on hand, and exploded assembly drawings with corresponding parts lists of all the parts on the air compressor.

I.III SUPPLEMENTAL DOCUMENTS

For more detailed information on certain components or optional equipment specific to this compressor, supplemental documents are provided in addition to the standard compressor manual.



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SAFETY

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1.1 GENERAL SAFETY

Safety is a prime consideration in the design and manufacture of the compressor. Ultimately, the responsibility for safe operation rests with the individuals who use and maintain the compressor. The following safety precautions are offered as a guide for the safe operation and maintenance of this machinery.

Only trained and authorized personnel who have read and understand this operator's manual should operate the air compressor. Failure to follow the instructions, procedures, and safety precautions in this manual will increase the possibility of 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. If an unsafe condition exists or maintenance is required, tag the air compressor and render it inoperative by disconnecting the battery so others who may not know of the unsafe condition cannot attempt to operate it until the unsafe condition is corrected.

Use and operate the air compressor only in full compliance with all pertinent Federal, State and Local codes or requirements including OSHA, EPA and other relevant agency requirements.

Do not modify this compressor or install attachments without consulting the manufacturer.

Known and potential hazards associated with the operating and servicing of portable air compressors are detailed in the following paragraphs. Not all hazards can be anticipated and the operator of the equipment is ultimately responsible for identifying hazardous and dangerous conditions, avoiding dangerous operation and preventing accidents.

1.2 PRESSURE RELEASE

Do not open sump (receiver) oil filler cap when compressor is running and air system is pressurized. Shut down the compressor and bleed the sump (receiver) pressure to zero before removing the oil filler cap.

Do not remove radiator cap until the coolant temperature is below its boiling point. Then loosen cap slowly to its stop, to relieve any excess pressure. Make sure coolant is not boiling before removing cap completely.

The ethyl ether in the replaceable cylinders used in diesel engine ether starting aid systems is under pressure. Do not puncture or incinerate these 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.

1.3 FIRES AND EXPLOSION

WARNING! *Fire or explosion can result from electrical arcing from terminal, battery connections and improperly grounded equipment.*

WARNING! *Fire or explosion can result from spilled fuel, oil and other flammable liquids.*

Refuel at a service station or from a fuel tank designed for the purpose. Ground the machine to mobile dispensers prior to refueling.

Immediately clean up any spills or leaking fuel, battery electrolyte, oil, or anti-freeze solution.

Shut off the air compressor and allow it to cool. Keep sparks, flames, and other sources of ignition away and do not permit smoking in the vicinity when adding fuel, checking or adding electrolyte to batteries, checking or adding oil, checking diesel engine ether starting aid systems or replacing ether cylinders, or when refilling air line anti-icing systems with anti-freeze.

Do not permit liquids to accumulate in bottom of the compressor frame. Prevent contact with acoustical 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. Do not use flammable solvents for cleaning purposes.

Disconnect the grounded (negative) battery connection prior to attempting any repairs or cleaning inside the enclosure. Tag the ground cable with a warning not to reconnect until servicing is complete.

Keep electrical wiring, battery terminals and other terminals in good condition. Replace any wiring, which has cracked, cut, abraded, or otherwise degraded insulation. Replace terminals, which are worn, discolored, or corroded. Keep all terminals clean and tight. Turn off battery charger before making or breaking connections to the battery. Wear a face shield whenever servicing or working on the battery.

Keep tools and other grounded conductive objects away from exposed live electrical parts to avoid arcing, which might serve as a source of ignition.

Replace damaged fuel tanks or lines. Do not store or attempt to operate the compressor with any known leaks in the fuel system or oil lines.

Prior to welding or making weld repairs on the compressor, remove any acoustical material or other material that may be damaged by heat or that may support combustion, including diesel engine ether starting aid cylinders and anti-icing system components containing anti-freeze compound.

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

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

Open all access doors and allow the enclosure to ventilate prior to attempting to start the engine. Use this time to check the engine and compressor oil levels, etc.

Do not operate compressor under low overhanging leaves or permit leaves and foliage to contact hot exhaust system surfaces when operating in forested areas.

Ethyl ether used in diesel engine ether starting aid systems is extremely flammable. Change cylinders and service 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).

WARNING!

Use only properly installed and plumbed ether starting aid systems connected to the diesel engine. Do not spray ether into compressor air inlet filter or into an air filter that serves both the engine and the compressor. Serious damage to the compressor or personal injury may result.

Anti-freeze compound used in airline anti-icing 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 anti-freeze compound to temperatures above 150 °F (65 °C). Vapors from the anti-freeze compound are heavier than air. Do not store compound or discharge treated air in confined or unventilated area. Do not store containers or anti-freeze compound in direct sunlight.

1.4

MOVING PARTS

Keep hands, arms, and other parts of the body as well as clothing away from belts, pulleys, and other moving parts.

Do not attempt to operate the compressor with the fan guard or other guards removed.

Wear snug fitting clothing and confine long hair when working around compressors or any machinery.

Keep access doors closed except when repairing, adjusting or performing service, or when starting or stopping the compressor.

Make sure all personnel are clear of the compressor prior to starting, operating, or shutting the compressor off.

Shut off engine before servicing. This includes, but is not limited to, adding fuel, oil, coolant, lubricants, airline anti-freeze compound, or battery electrolyte, or before replacing ether starting aid cylinders.

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

Shut down the engine before making adjustments. Make adjustment, and then start engine to check adjustment. If adjustment is incorrect, shut off the engine, readjust, then restart engine to recheck the adjustment.

Avoid slips and falls when working around the compressor. Keep hands, feet, floors, controls, and walking surfaces clean and free of oil, water, anti-freeze, or other liquids to minimize the possibility of slips or falls. Use extreme caution when ground is covered with ice or snow.

1.5

HOT SURFACES, SHARP EDGES, SHARP CORNERS AND VACUUM

Avoid contact with hot oil, hot coolant, hot surfaces, and sharp edges and corners.

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

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

Keep a first aid kit available. Seek medical assistance promptly in case of injury. Do not ignore small cuts and burns. They may lead to infection.

Keep all loose clothing and parts of the body away from engine and/or compressor intakes or air filter intakes.

1.6 TOXIC AND IRRITATING SUBSTANCES

WARNING!

Do not use air from this compressor for breathing air. Breathing unfiltered air from this compressor can result in serious injury or death.

NOTE!

Under specific guidelines and in full compliance with OSHA Standards 29 CFR 1920 and any other federal, state, or local codes or regulations compressed air can be used for breathing air. Sullivan-Palatek does not provide equipment and instructions for this application and its products are not produced for this application or use.

Do not use airline anti-icing systems in airlines supplying respirators or other breathing air utilization and equipment, and do not discharge air from these systems in unventilated or other confined areas.

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

Carbon monoxide will kill. If the machine is operated indoors, discharge engine exhaust outdoors and be certain that there are no exhaust system leaks that can discharge exhaust within the building.

Locate this compressor so that exhaust will not be carried toward personnel, air intakes servicing personnel areas, or toward the air intake of this or any other portable or stationary compressor.

Fuel, oil, coolant, lubricant, and battery electrolyte used in this compressor are typical of the industry. Care should be taken to avoid accidental ingestion or skin or eye contact. In the event of ingestion or contact, seek medical treatment promptly. Do not induce vomiting if fuel is ingested. Wash with soap and water in the event of skin contact.

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 and wash with large quantities of water.

WARNING!

Ethyl ether used in diesel engine starting aid systems is toxic, harmful, and can be fatal if swallowed. Avoid contact with the skin or eyes and avoid breathing the fumes. If swallowed, do not induce vomiting but seek medical help immediately.

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

If ethyl ether or air line anti-icing system anti-freeze compound enters the eyes or if fumes irritate the eyes, they should be washed with large quantities of clean water for at least 15 minutes. Medical attention should be obtained immediately.

Do not store ether cylinders or airline anti-icing system anti-freeze compound in operator's cabs or in unapproved containers.

The anti-freeze compound used in airline anti-icing 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 a glass of clean, warm water until vomit is clear, then administer two teaspoons of baking soda in a glass of clean water. Have patient lie down and cover eyes to exclude light. Seek medical assistance.

1.7 ELECTRICAL SHOCK

Keep the towing vehicle or equipment carrier, compressor hoses, tools, and all personnel at least 10 feet from power lines and buried cables. Greater separation from power lines may be prudent when working around high voltage. Contact the utility company for guidance.

Keep all parts of the body, any hand-held tools, or other conductive objects away from exposed live parts of the compressor 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.

1.8 ENTRAPMENT

Make sure all personnel are out of compressor before closing and latching enclosure doors. Larger compressors can hold a man. If it is necessary to enter the enclosure to perform service or adjustments, secure the access door in the open position to avoid the possibility of others closing and latching the door and inform personnel before entering the enclosure.

2 SPECIFICATIONS

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2.1

TECHNICAL DATA

2.1.1 D250PDZ

COMPRESSOR		
Type	Single Stage, Oil Flooded Rotary Screw	
Rated Delivery	cfm (m ³ /min)	250 (7.1)
Rated Operating Pressure	psig (bar)	100 (6.9)
Rated Operating Pressure Range	psig (bar)	70–165 (4.8–11.3)
Ambient Temperature Range	°F (°C)	-20 to +125 (-29 to +52)
Oil Capacity	gallons (L)	5.5 (21)
Total Receiver Volume	ft ³ (L)	1.7 (48)
Air Service Connector	NPT	Two 3/4-in
Type Cooling System	Oil to Air	
Type Air Intake System	Two Stage Dry	
Type of Control	0–100% Demand	
Tire Size	ST205-75D15 LRC	
Estimated Weight, Serviced	lbs (kg)	2385 (1082)

ENGINE		
Type	Diesel	
Engine Make	Deutz	
Engine Model	TD 2.9L4 (Tier 4 Final)	
Number of Cylinders	4	
Bore and Stroke	in (mm)	3.6 × 4.3 (92 × 110)
Displacement	in ³ (L)	177 (2.9)
Horsepower @ Rated RPM	hp (kW)	74 (55)
Total Oil Capacity	qts (liters)	9 (8.5)
Cooling System Capacity	qts (liters)	14 (13.2)
Battery Rating Volts	volts	12
Cold Cranking Amps @ 0°F (-18°C)	amps	800
Full Load Speed	rpm	2400
Idle Speed	rpm	1650
Fuel Tank Capacity	gallons (L)	29 (109.8)

2.2

DIMENSIONAL DRAWING

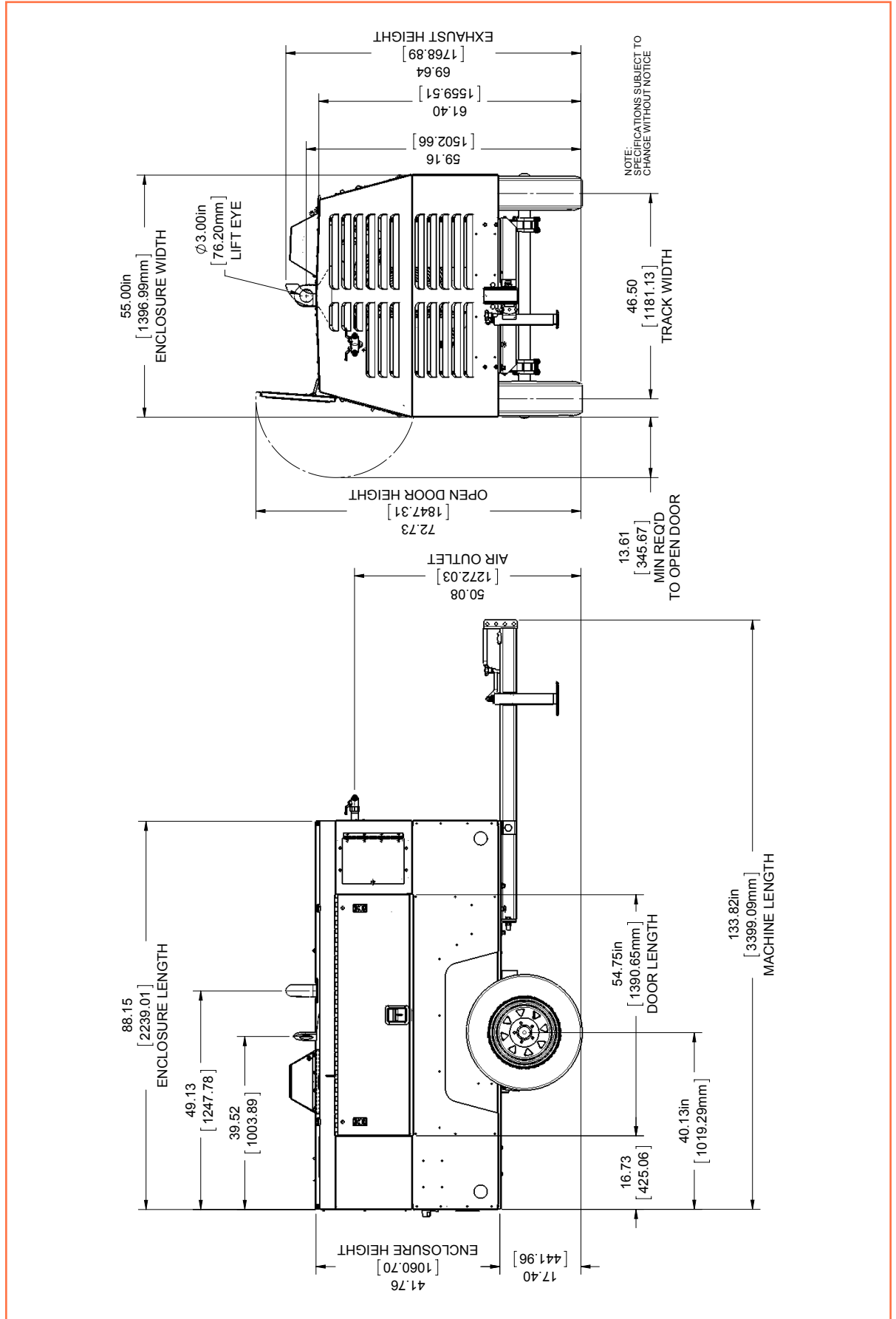


FIGURE 2-1. D185PDZ GENERAL DIMENSIONS 20140512

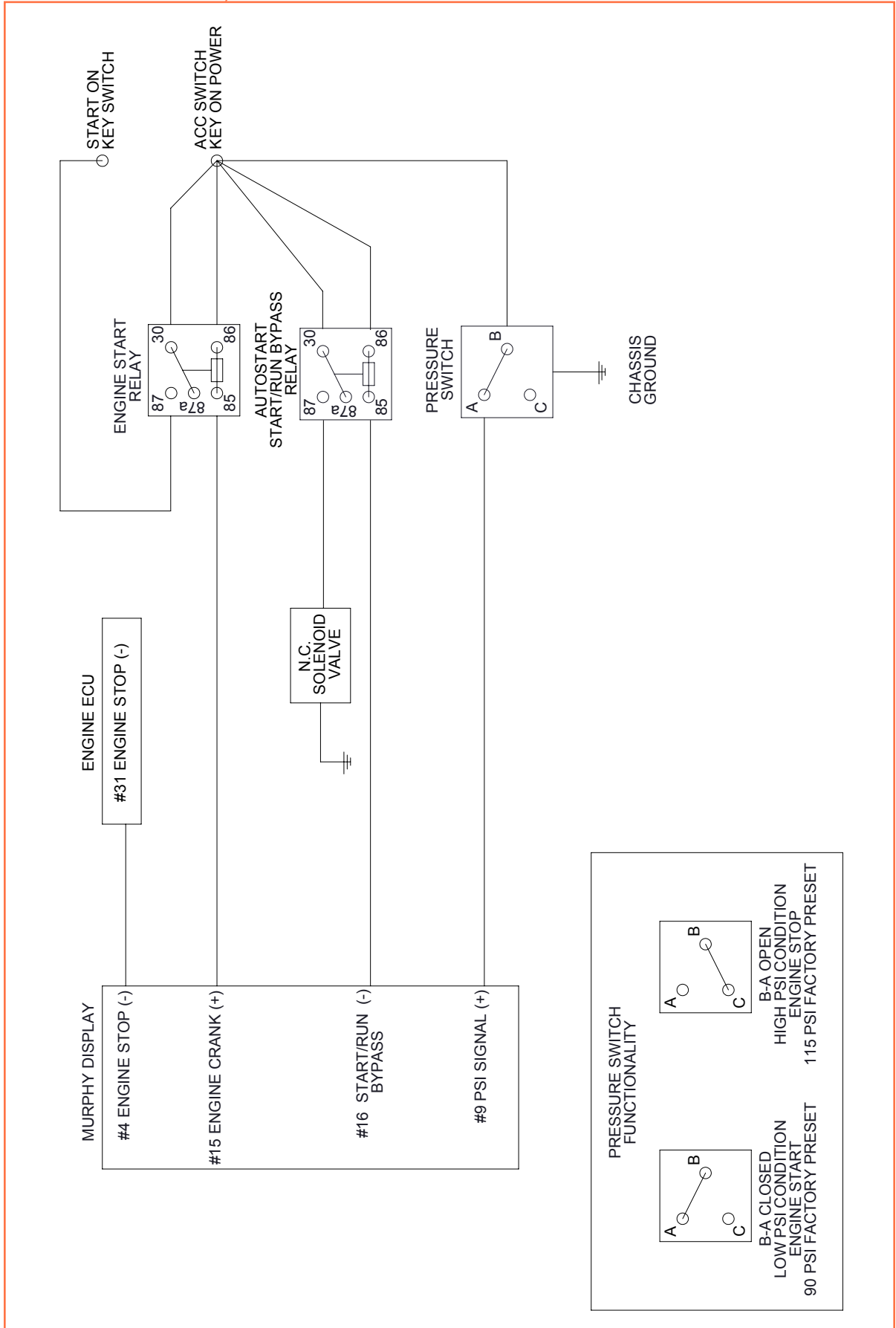
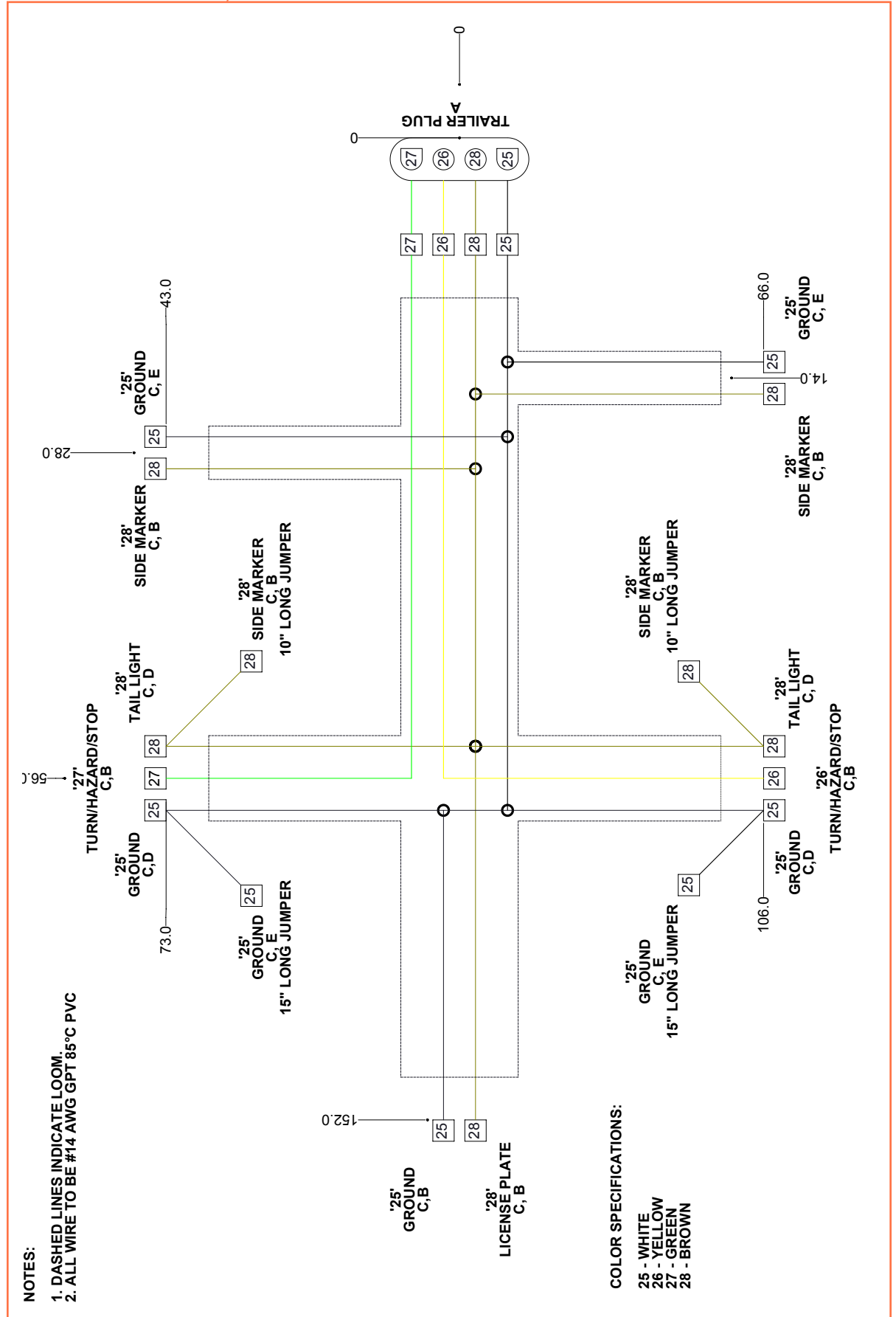


FIGURE 2-2. WD 15109 DIAGRAM, WIRING AUTOSTART DEUTZ PV480 (REV 01)

2.4

WIRING DIAGRAM, TRAILER HARNESS



NOTES:
 1. DASHED LINES INDICATE LOOM.
 2. ALL WIRE TO BE #14 AWG GPT 85°C PVC

COLOR SPECIFICATIONS:
 25 - WHITE
 26 - YELLOW
 27 - GREEN
 28 - BROWN

FIGURE 2-3. WD 15106 DIAGRAM, WIRING D185-375 TRAILER HARNESS (REV 00)

3

COMPONENT DESCRIPTION

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3.1 PORTABLE COMPRESSOR PACKAGE

The compressor is a single stage, oil flood lubricated rotary screw air compressor. The compressor package is available as a portable wheel-mounted unit, utility mounted unit or galvanized skid-mounted unit for offshore applications. All models are enclosed in a weather-resistant acoustical enclosure.

The complete operating unit consists of a diesel engine for power, a compressor assembly, air/oil separator system, cooling system for the engine and compressor oil, instrumentation, pneumatic control system, and acoustical enclosure.

3.2 ENGINE

The compressor is powered by a diesel engine. For detailed information on the diesel engine refer to the Engine Operators Manual provided with each compressor.

3.2.1 ENGINE COOLING SYSTEM

The engine cooling system utilizes a conventional engine radiator, thermostat, water pump, and fan to maintain the engine coolant at a desired operating temperature. An additional charge air cooler is required for some diesel engines in order to meet EPA emission standards under tier II regulations.

3.2.2 ENGINE TO COMPRESSOR DRIVE

The compressor and engine are connected through a non-lubricated spline coupling. It consists of a drive ring registered and bolted directly to the engine flywheel and either a splined hub or a disc attached to the compressor drive shaft. Because of low starting torque, no clutch is required.

3.3 AIREND ASSEMBLY

The compressor assembly is an oil flooded, positive displacement, single stage rotary screw unit. Components include a stator housing, male and female rotors, bearings, and bearing supports. Engine power is transferred to the male rotor through a coupling and, if a gear-driven unit, through gears in the gear housing. The male rotor drives the female rotor.

3.3.1 COMPRESSION CYCLE

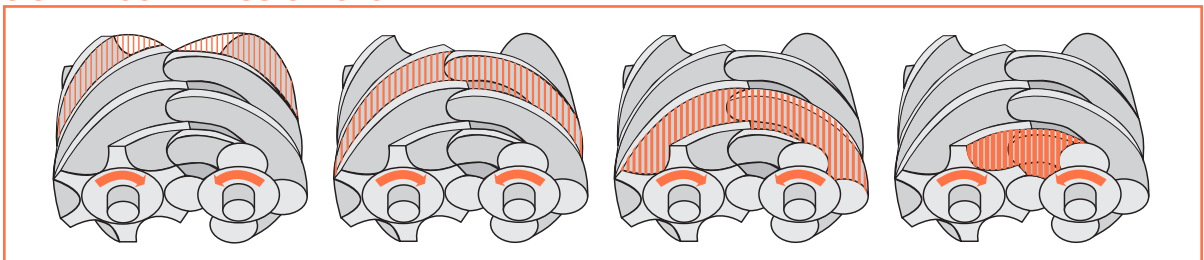


FIGURE 3-1. DIAGRAM, COMPRESSION CYCLE

Air at atmospheric pressure is drawn in through the inlet and compressed by the rotation of the rotors. During the compression cycle, oil is injected into the compressor performing three important functions:

1. Lubricate the rotating parts and bearings.
2. Provide cooling for the compressed air.
3. Seal the running clearances between the rotors.

3.4 DISCHARGE SYSTEM

3.4.1 RECEIVER/SUMP

From the compressor discharge, oil-laden air enters the receiver/sump tank above the oil level and most of the oil is separated from the air by gravity. The oil runs downward and accumulates for recirculation, while the remaining oil mist passes through the separator element. The oil separator is located in the upper portion of the receiver/sump. When air is demanded at the service line, it passes through the separator element, which provides the final stages of air/oil separation.

3.4.2 MINIMUM PRESSURE VALVE

A minimum pressure valve is provided at the service air outlet (at the top of the separator). This valve serves to maintain a minimum discharge pressure of 65 to 80 psig in operation, which is required to assure proper air/oil separation. At normal operating pressure of 90 to 125 psig, this valve is wide open, effectively removing any restriction to airflow.

3.5

LUBRICATION SYSTEM

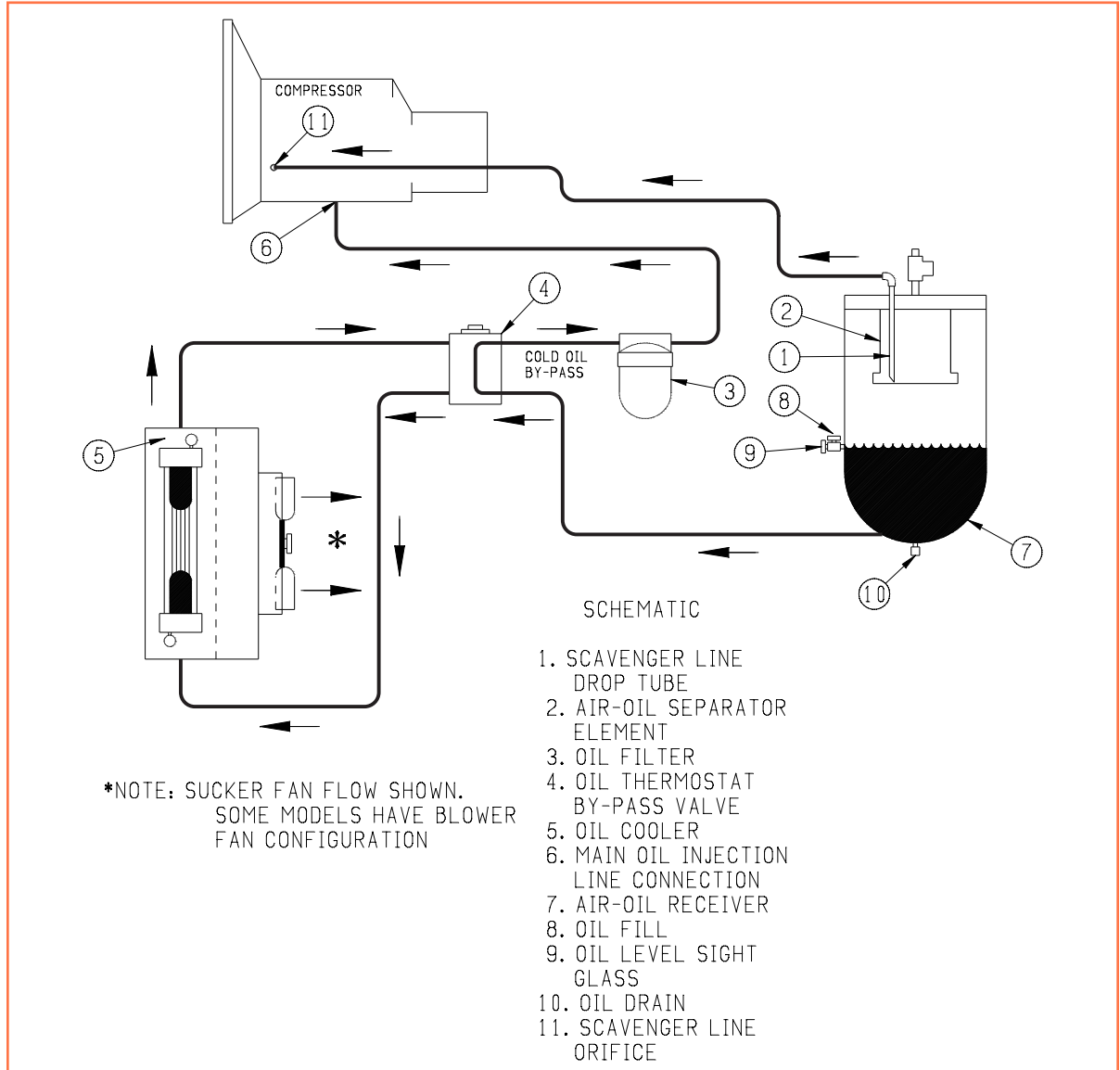


FIGURE 3-2. DIAGRAM, OIL PIPING 185-375 (REV 00)

Oil from the compressor oil sump at compressor discharge pressure is directed through the cooling system and oil filter to a lower pressure region of the compressor stator. At the same time, oil is directed to the bearings and shaft seal of the compressor. The oil-laden air is then discharged back into the sump.

The compressor cooling system consists of an oil cooler mounted adjacent to the engine radiator. Cooling air is drawn through the cooler by the engine fan while oil is circulated through it by the receiver/sump pressure.

3.5.1 OIL RETURN LINE

The oil that is removed by the separator, gravitates to the bottom of the separator and is returned through an orifice in the oil return line, which leads to a lower pressure region of the compressor.

3.5.2 THERMAL BY-PASS VALVE

The thermal by-pass valve is the center of the compressor temperature regulating system. The valve is designed to be fully open, allowing the oil to bypass the cooler until the oil temperature reaches 110°F. Above 110°F, the valve gradually closes down and becomes completely closed when the oil temperature reaches approximately 140°F. The valve has a built-in pressure relief feature so that a pressure drop across the valve of 50 PSI will cause it to open. Therefore, if the cooler should become plugged the thermal valve will open regardless of temperature, thus providing lubrication to the compressor until the protective circuit shuts the machine down due to high compressor discharge temperature.

3.5.3 OIL FILTER

The compressor oil filter is of the full-flow replaceable element type. The filter has an internal by-pass valve to assure adequate oil flow with cold oil or a plugged oil filter element.

3.6

CAPACITY CONTROL SYSTEM

The control system is designed to match air supply to air demand and to prevent excessive discharge pressure when the compressor is operating but air is not being used. Control of air delivery is accomplished both by inlet valve regulation and engine speed control as directed by the adjustable discharge pressure regulator valve.

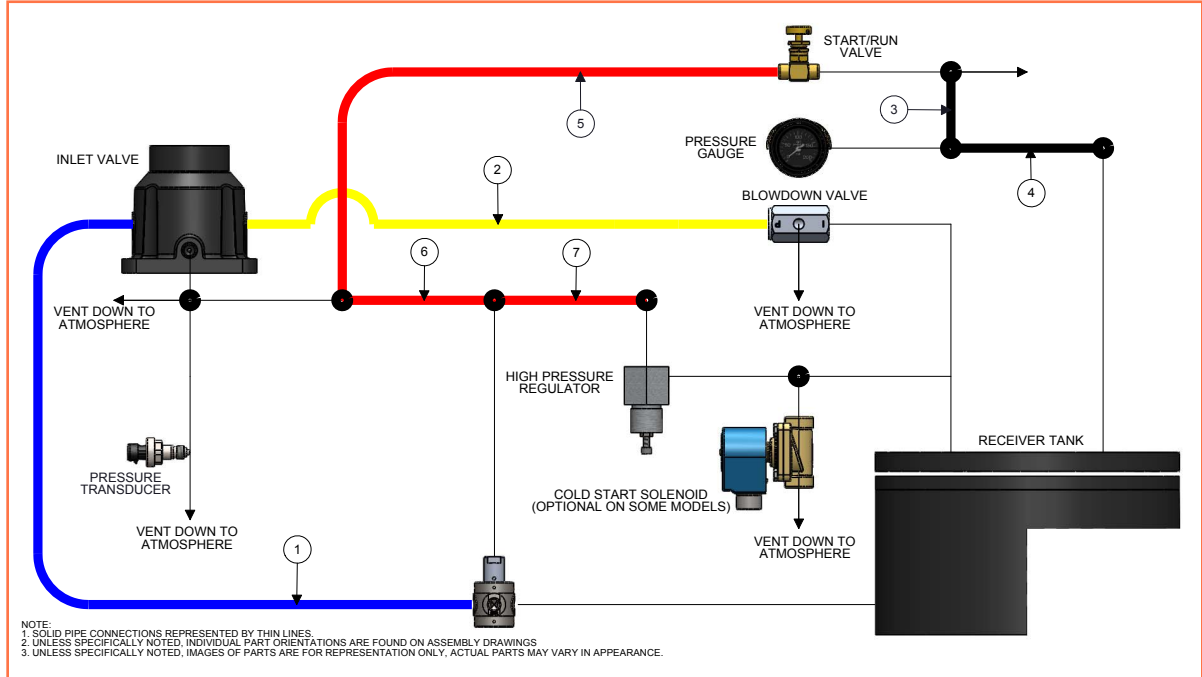


FIGURE 3-3. CD 00016 DIAGRAM, CONTROL D185-

The following discussion explains the operation of the control from a condition of “no load” to a condition of “full capacity” at working pressure. For the working pressure range of your machine, refer to applicable data in the specifications section. The inlet valve cylinder pressure chamber is pneumatically connected to the dry side of the receiver via the pressure regulator valve that when the separator pressure is below the set point of the regulator valve no pressure will exist in the inlet valve cylinder, and the modulating piston will be held at the fully-opened position by the pre-load of the modulating spring. Under these conditions, the inlet valve will remain wide open, causing the compressor to deliver full capacity. As the demand for air decreases, the receiver pressure will rise, and when this pressure level exceeds the set point of the pressure regulator valve, control signal pressure will be allowed to enter the inlet valve chamber which in turn will move the modulating piston and the valve plate to a closed condition, thereby throttling the incoming air. A pressure transducer controls the engine speed. Whenever less than full capacity is required, receiver pressure increases, thereby opening the pressure regulator, which allows a pressure signal to reduce the engine speed until it matches the air requirements from 100% down to 60%. From 60% down to 0% both engine speed reduction and inlet valve modulation act together to reduce air output.

3.6.1 INLET VALVE

The inlet valve assembly is the heart of the control system, which regulates the amount of air entering the compressor. The engine speed is regulated by a pressure transducer signal through the CANBUS and SPEC. From full to approximately 60 percent capacity, the delivery is controlled by engine speed and a gradual closing of the inlet valve. When unloaded the inlet valve is closed to prevent atmospheric air from entering the compressor.

3.6.2 BUTTERFLY VALVE (1300–1800 CFM)

On 1300-1800 cfm units the air intake system consists of a normally closed butterfly valve used in conjunction with a pneumatic type inlet valve. During start-up the butterfly valve remains closed, which results in reduced engine load. The butterfly valve has a built-in passage that permits a small amount of air to enter the compressor. As the pressure increases over 8 psi, the butterfly valve begins to open, admitting more air to the compressor. When the receiver pressure reaches 13 to 14 psi, the butterfly valve will be fully open and the pneumatic valve will take over. With the start-run valve in the start position, the unit will unload when the air receiver reaches 20 psi.

3.6.3 START-RUN VALVE

The start-run valve is used to by-pass the compressor pressure regulator valve. This results in reduced load and reduced engine speed at start-up. Once the engine is warmed up, the valve is moved to the **RUN** position. In the **START** position, the start-run valve is open. In the **RUN** position, it is closed.

3.6.4 REGULATOR VALVE (DISCHARGE PRESSURE)

This valve is used to select the desired discharge pressure within the operating pressure range. Turning the regulator adjustment screw clockwise increases the unloaded pressure, and counter-clockwise reduces the unloaded pressure. Observe discharge pressure gauge on the instrument panel for compressor discharge pressure.

3.6.5 AUTOMATIC BLOWDOWN VALVE

This valve relieves pressure in the system upon shutdown. It is closed when the compressor is in operation; however, at shutdown, the inlet valve closes, the unit becomes pressurized and sends a pressure pulse to open the normally closed blow down valve.

3.6.6 RECIRCULATING VALVE

This valve functions automatically in response to the regulated control pressure. Receiving the unload signal to the inlet valve, the recirculation valve is opened allowing a small quantity of pressurized sump air to be recirculated through the compressor in order to hold a positive pressure signal on the inlet side of the air end to prolong the shaft seal life.

3.7 NOISE CONTROL SYSTEMS

Noise control systems incorporated in this compressor have been designed to meet the requirements of federal noise control regulations. The principal components of the noise control systems include the enclosure, engine exhaust system, and compressor intake system. The enclosure has been designed to provide the required noise reduction while maintaining a good distribution of cooling airflow to the radiator and oil cooler. Additionally, low noise emission is a key factor in selecting diesel engines to power the compressors.

3.8 INSTRUMENT PANEL

The instrument panel contains all the necessary controls and instrumentation for operation. It is conveniently located and enclosed by a lockable, hinged door. Following is an explanation of the principal controls and instruments:

3.8.1 SULLIVAN-PALATEK ELECTRONIC CONTROLLER (SPEC)

The Sullivan-Palatek Electronic Controller (SPEC) monitors all critical compressor and engine parameters, provides warning and shutdown information and has complete engine diagnostic capabilities. Parameters monitored by the SPEC include engine speed, compressor temperature, engine oil pressure, engine temperature, battery voltage and fuel level. The SPEC provides warning and shutdown information from high compressor temperature or low fuel level. It also has complete engine diagnostic capabilities that can read and display fault codes from the J1939 CANBUS. Multiple language options are available including English, Spanish, French, Italian and German.

NOTE!

Engine derate and shutdown are controlled by the engine ECU and displayed on the SPEC.

3.8.2 START-RUN SWITCH

The start-run (load-unload) valve is provided to unload the compressor for easier start-up in cold weather. When positioned on **START (UNLOAD)**, this valve bypasses the pressure-regulating valve, thereby closing the inlet valve with reduced discharge pressure. After the compressor is warmed up, the start-run (load-unload) valve can be turned to **RUN (LOAD)** position. The unit is then ready for full-load operations. Prior to shutdown, the start-run (load-unload) valve must be turned to the **START** position and the service valve opened and closed to reduce pressure to approximately 70 psi. Shutdown under full load can damage the compressor and put unnecessary strain on the drive components.

3.8.3 COMPRESSOR DISCHARGE PRESSURE GAUGE

This gauge indicates the discharge air pressure. Normal operating pressure is 70 to 115 psig or, for single stage high-pressure compressors, 70 to 150 psig.

3.8.4 IGNITION SWITCH

In the **START** position it is used to electrically energize the engine starter motor solenoid. For diesel engines it also controls the engine fuel solenoid.

3.9 ELECTRICAL AND PROTECTIVE CIRCUIT SYSTEM

The compressor electrical system is a 12-volt negative ground system used on smaller-capacity compressors and a 24-volt negative ground system used on larger capacity compressors. It is equipped with a protective circuit to minimize damage. This could be caused by high compressor discharge temperature, high engine water temperature, or low engine oil pressure. Refer to Wiring Diagram, Diesel Engine, as required. The following conditions will cause automatic shutdown of the compressor.

1. Compressor discharge air temperature (CDT) approximately 265 °F (129 °C). A warning is shown when the temperature reaches 245 °F (118 °C).
2. Low engine oil pressure (EOP) of approximately 15 psi (100 kpa).
3. High water temperature (EWT) approximately 215 °F (101 °C).
4. Low fuel (LF) at approximately 5% or 1/16 of the fuel tank.

3.10 ENGINE SHUTDOWN PROTECTION

Sullivan-Palatek uses electronically controlled engines in the 185–1800 CFM lines of compressors. Personnel operating and maintaining these compressors **MUST** be familiar with and understand the operation and protection features available with these engines.

WARNING!

Failure to follow the electronic control warnings and attempts to override, bypass or ignore these warnings can lead to severe engine damage. This damage will not be covered by either the engine manufacturer's or Sullivan-Palatek's warranty.

Electronically controlled engines have software that monitors engine parameters during operation. If the parameters exceed the normal operating threshold, the engine software will take appropriate actions to protect the engine from damage. There are two levels of action: derate and shutdown. If either of these actions are initiated, the software will also activate the yellow warning sign and red engine shutdown/diagnostic warning sign on the Sullivan-Palatek Electronic Controller (SPEC).

3.10.1 ENGINE DERATE

The first level of protection offered by the controller is the derate feature. The engine will derate the power output of the engine by 35% in an attempt to correct the parameters that are out of range. In almost every case, power deration will result in the engine stalling, which will protect the engine from damage.

NOTE!

The red shutdown warning will be lit on the SPEC screen at this time.

3.10.2 ENGINE SHUTDOWN

The second level of protection offered by the controller is to shut down the engine. If the derate feature cannot correct the unsafe parameters or the engine does not stall, the controller will shut the engine down to protect it from damage.

NOTE!

The warning and shutdown information will be lit on the SPEC at this time.

If either of these protection features activate, the engine needs to be checked by an authorized distributor of Sullivan-Palatek products or an authorized engine manufacturer's dealer before attempting to run the machine again.

WARNING! *Failure to inspect and correct the fault in the engine or at the point of the external sensor will result in repeated derates and shutdowns, which can and will often lead to engine damage.*

NOTE! *The engine software stores all derate and shutdown information to be reviewed by the engine manufacturer's representative. Attempts to restart the compressor without repairing the fault sensed by the protection system will also be stored by the engine software and will void the engine manufacturer's warranty.*

NOTE! *The Sullivan-Palatek warranty DOES NOT COVER the engine. The engine and its components are warrantied only by the engine manufacturer.*

Operators, rental customers and anyone responsible for the operation and maintenance of these compressors MUST be instructed and briefed on the proper responses to control module warnings. In particular, they must be instructed to report these instances and not attempt restarting the compressor until faults are cleared by certified personnel.

4 TRANSPORTING AND LOCATING

TOPICS IN THIS SECTION:

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» Drawbars and Brake Actuators	20
» Preparing to Tow	20
» Towing	21
» Parking or Locating Compressor	22

4.1

LIFTING

This compressor is provided with a lifting bail for routine lifting and loading such as onto trucks or oil platforms. It is not intended for extended airlift such as by helicopter. Support the compressor by slings under the main frame with appropriate spreader bars when air lifting the machine. Lift only in full compliance with OSHA Standards 29 CFR 1910 subpart N and other applicable regulations.

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

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

Make sure lifting hook has a functional safety latch, or equivalent, and is fully engaged before lifting compressor from the ground.

Do not attempt to lift in high winds.

Keep all personnel out from under and away from the compressor when suspended.

Lift compressor slowly and smoothly, without jerking.

Lift compressor no higher than necessary, use guidelines and have spotters properly located.

Do not leave suspended compressor unattended.

Set compressor down only on level surfaces 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. If the compressor is provided with parking brakes, make sure they are set; and always, block or chock both sides of all running wheels plus drawbar stabilizer leg before disengaging the lifting hook.

4.2

WARNING!

DRAWBARS AND BRAKE ACTUATORS

Proper alignment and installation of mounting hardware is essential when installing the drawbars and actuators. Check nut threads and start attachment bolt by hand to prevent cross-threading. Failure to comply with this warning may cause property damage and serious bodily harm or death. Maintain torque within recommended ranges.

4.3

PREPARING TO TOW

Damaged or worn towing components can result in separation of the compressor from the towing vehicle during towing. Inspect all towing components of both the compressor and towing vehicle for cracks, excessive wear or damage. Check for loose or damaged bolts, nuts or other fasteners. Replace or repair any damaged or worn parts before towing the compressor.

The towing vehicle and its coupling device and points of attachment must be rated for towing the wet weight of the air compressor and the weight of stored tools, hose and other equipment plus parasitic accumulation such as mud, snow and ice.

Always back the towing vehicle to the compressor and position it for coupling the compressor.

Use a lifting device such as a jack or chain hoist to lift or lower unit to avoid injury to yourself or others. Do not attempt to raise or lower drawbar by hand if the weight is more than can be safely handled.

Avoid pinch and crushing injury. Keep hands and fingers clear of the coupling device and all other pinch points. Keep feet clear of drawbar in case it should slip.

The coupling device must be fully engaged, closed, locked and the safety latches are engaged.

The towing restraint chains must be attached to the tow vehicle to support the drawbar in the event of accidental uncoupling. Cross chains under front of drawbar before passing them through points of attachment on towing vehicle. Pass each towing restraint chain through its point of attachment on the towing vehicle. Hook each chain to by passing the grab hook over, not through, a link.

The coupling device must be free to move throughout the full range of travel while towing. Verify that other components, wires, chains and vehicle attachments do not interfere with or restrict motion of any part of the compressor.

Make sure chain length, and if provided, brake and electrical interconnections have sufficient slack to prevent strain when turning and maneuvering. All chains and connections must be supported so they cannot drag or rub on road, terrain, or towing vehicle surfaces. Dragging or rubbing of this equipment will cause wear resulting in damage, and render this equipment inoperative.

Fully retract front stabilizer screw jack and any rear stabilizer legs (if provided). If a retractable caster wheel is provided, pull the lock pin, raise and fold the caster wheel, then make sure pin is re-engaged to secure caster wheel in full up and locked position with the wheel horizontal.

Tires must be in good condition, the correct size and load range, and be inflated to the specified pressures. Do not change tire size or type.

Wheel lug nuts must be tightened to the specified torque.

If provided, make sure all stop, tail, directional, and clearance lights are operating properly and that lenses are clean and unbroken. Ensure that all reflectors and reflecting surfaces including the slow moving vehicle emblem on the compressor are clean and functional.

Make sure air delivery hoses are disconnected or fully retracted and secured on hose reels, if provided.

Make sure all access doors and toolbox 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.

Make sure parking breaks on towing vehicle are set and that wheels are chocked or blocked before releasing the compressor parking brakes, if provided.

Before beginning to tow the compressor, test brake operation, including breakaway switch operation if provided.

4.4 TOWING

WARNING!

Maintain proper torque on wheel lug nuts:

Single axle: 85 to 95 LB-FT

Two and three axle: 65 to 75 LB-FT

Failure to maintain lug tightness may result in a wheel loosening and leaving the compressor and causing injury or death or property damage.

Observe and follow all local, state and federal traffic laws. Note and adhere to speed limits and minimum highway speed.

Do not exceed maximum towing speeds. Reduce speed accordingly, as dictated by posted signs, weather, road, or terrain conditions.

Remember that portable air compressors may approach or exceed the weight of the towing vehicle. Maintain increased stopping distance accordingly.

Grades in excess of 15° (27%) or any grade that would over-extend the towing or braking ability of the towing vehicle should be avoided.

When towing the compressor, avoid potholes, rocks, rough terrain, obstructions and soft shoulders. Damage to the undercarriage and suspension can result.

Do not permit any person to ride in or on the compressor while being towed. Serious injury can result.

Make sure the area behind and under the compressor is clear of all persons, animals and obstructions prior to backing.

Do not permit anyone to stand or ride on the drawbar, or to stand or walk between the compressor and the towing vehicle. Serious injury or death can result.

4.4.1 MAXIMUM TOWING SPEEDS ON SMOOTH, DRY ROADS

Single axle compressors: 55mph (90kmh)

Two and three axle compressors: 50mph (80kmh)

WARNING!

Failure to comply with maximum towing speeds may cause property damage and serious bodily injury or death.

4.5

PARKING OR LOCATING COMPRESSOR

Park or locate compressor on level ground or across grade.

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

Park or locate compressor to cause the prevailing wind to direct the exhaust fumes and radiator heat away from the compressor air inlet openings and to prevent ingestion of dust and debris from the work site.

Set parking brakes and disconnect breakaway switch cable and all other interconnecting electrical and break connections, if provided.

Block or chock both sides of all wheels.

Block or chock both sides of drawbar stabilizer leg or jack.

Unhook chains and remove them from the points of attachment on the towing vehicle, then hook chains to each other on drawbar or wrap chains around the drawbar in order to keep them off the ground.

If provided, lower front screw jack and rear stabilizer legs, if provided. Make sure the ground is firm and capable of supporting the weight of the compressor.

If the compressor is provided with a swivel caster wheel, pull pin and lower caster wheel, then make sure pin is re-engaged to secure caster wheel in the full-down and locked position.

Disconnect coupling device, keeping hands and fingers clear of all pinch points. Do not attempt to lift the drawbar of portable compressors by hand if the weight is more than you can safely handle - usually weights in excess of 50 pounds. Use a lifting device such as a jack or chain hoist to lift the drawbar to avoid injury to yourself or others.

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.

NOTE!

These guidelines also apply for locating and securing non-towed compressors (skid mounted and utility models). Obviously, reference to towing may not apply.

5 OPERATION

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» Normal Starting.....	26
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5.1

INSTRUMENT PANEL

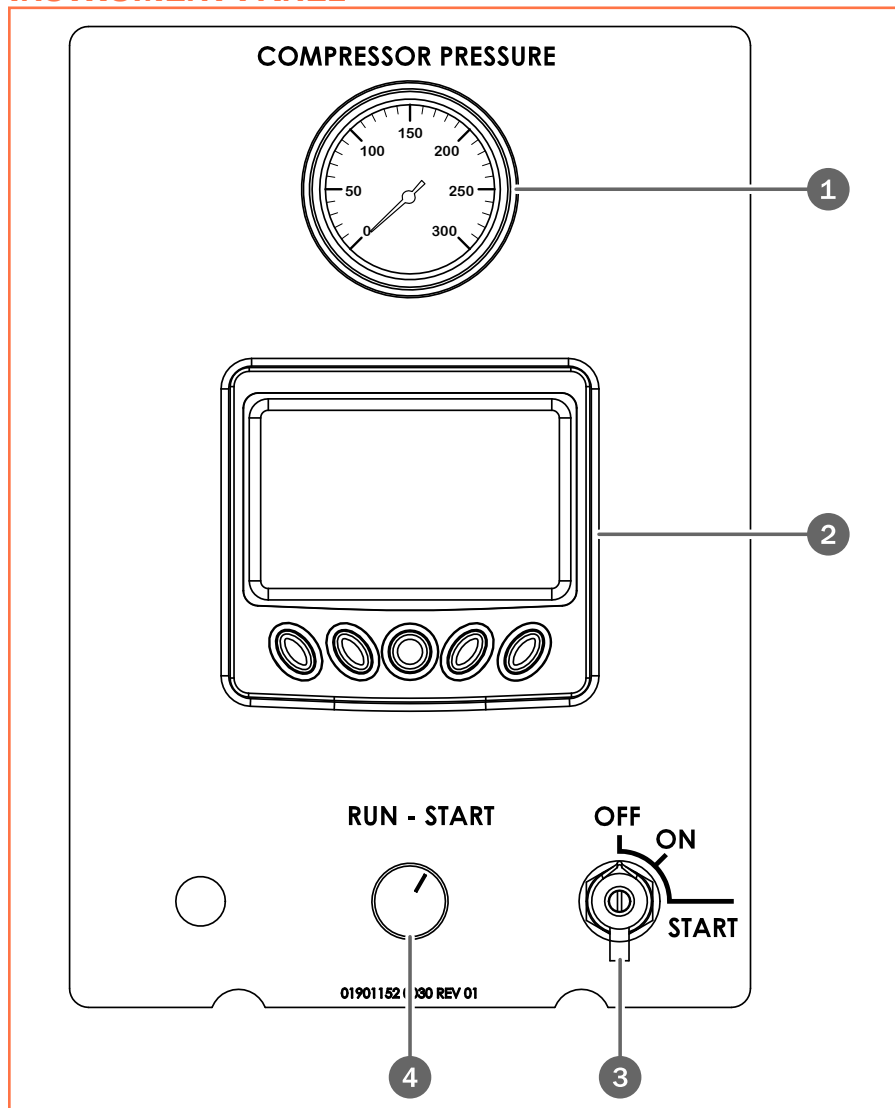


FIGURE 5-1. 00717680 0145 INST ASSY,DEUTZ PV480 SINGLE (REV 00)

ITEM	NAME	DESCRIPTION
1	Discharge Air Pressure	Gauge displays discharge air pressure of compressor.
2	Sullivan-Palatek Electronic Controller (SPEC)	Monitors engine and compressor parameters, displays warning and shutdown information and displays engine diagnostic information from the engine ECU
3	Ignition Switch	START position electrically energizes engine starter motor solenoid.
4	Start-Run Switch	START allows compressor to be started. RUN allows full-load operation.

NOTE!

For more information about the function of the instrumental panel components, refer to **3.8 INSTRUMENT PANEL**.

5.1.1 DEFAULT SPEC KEYPAD FUNCTIONS

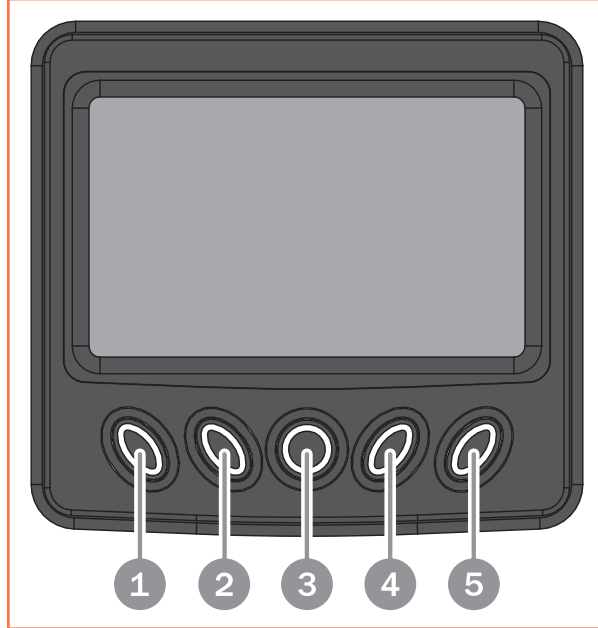


FIGURE 5-1. SPEC KEYPAD

ITEM	NAME	Function
1	Soft Key 1	Previous page
2	Soft Key 2	Decrease Contrast
3	Soft Key 3	Settings / Gauge Display
4	Soft Key 4	Increase Contrast
5	Soft Key 5	Next Page

NOTE!

Pages with unique button functions will display button functionality with a symbol directly above the buttons.

5.2

RECEIVING

Each compressor is operated and tested at the factory before shipment. This testing assures that the unit is operating properly and that the compressor will deliver its rated capacity. Regardless of the care taken at the factory, there is a possibility that adjustments may be altered or damage may occur during shipment. For this reason it is recommended that the unit be checked for proper operation and carefully inspected before it is put in service. The machine should be observed for any possible malfunction during the first few hours of operation.

NOTE!

Satisfactory performance of the compressor depends upon the operator's knowledge of the controls, instruments, and recommended operating procedures. Consequently, the preceding sections of this manual and also the entire Engine Operator's Manual should be read and understood before attempting to start and operate this machine.

5.3

PNEUMATIC TOOLS APPLICATION

WARNING!

Compressed air can be dangerous. Serious injury or death can result from the improper selection, use or application of tools and attachments to this compressor.

WARNING!

Never inject compressed air into a bodily orifice.

WARNING!

Never direct compressed air at or toward a person or animal.

WARNING!

Do not breathe air produced by a portable air compressor.

Install an appropriate flow-limiting valve between the compressor service air outlet and the shut-off (throttle) valve when an air hose exceeding 1/2" inside diameter is to be connected to the shut-off (throttle) valve. This is to reduce pressure in case of hose or connection failure, per OSHA Standard 29 CFR 1926.302 (as) (7).

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

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

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

Do not use tools that are rated below the maximum relief valve rating on this compressor. Do not exceed manufacturer's rated safe operating pressures for these items.

Secure all hose connections by wire, chain, or other suitable retaining devices to prevent tools or hose ends from being accidentally disconnected. Unrestrained disconnected hoses can flail around and cause injury or damage.

Vent and release all internal pressure prior to opening any line, fitting, hose, valve, drain plug or connection. This includes components such as filters, line oilers and optional airline anti-icing systems.

WARNING! *Serious injury can result from the direct discharge of compressed air. Do not allow personnel to be in line or front of the discharge opening of the service valve, hoses or tools or other points of compressed air discharge.*

Air gun cleaning devices must not be used and pressures above 30 psig (2 Bars). Always use an appropriate regulator to reduce pressure at the cleaning tool and always use with effective chip guarding and personal protective equipment per OSHA Standard 29 CFR 1910.242 (b).

WARNING! *Serious injury or death may result from horseplay with air hoses and compressed air. HORSEPLAY - DO NOT DO IT, DO NOT ALLOW IT!*

5.4 PREPARING FOR INITIAL START-UP

1. Inspect the compressor, engine, and other assemblies for damage or loose connections which might have occurred during shipment.
2. Check the engine's crankcase oil level. If required, add oil as recommended in the Engine Manual.
3. Check the radiator coolant level. Also, if the machine will be exposed to sub-freezing temperatures, check the specific gravity to ascertain the freezing point of the coolant.
4. Fill the fuel tank with fuel recommended in the Engine Manual.

WARNING! *Never add gasoline to diesel fuel tank - serious damage to the engine will result.*

5. If necessary, add lubricating oil to the compressor sump. Refer to the Lubrication and Maintenance section for lubricating oil specifications.
6. Check battery posts and cable clamps to assure proper contact. Connect positive cable and negative cable battery terminals. Turn ignition switch to accessories position. Check gauge panel light or voltmeter. If connections are secure light will be on, or voltmeter will register voltage. If not, the battery may need an initial charge to activate it.

5.5 NORMAL STARTING

1. Inspect the compressor, engine and other assemblies for damage or loose connections.
2. Check engine coolant, oil fuel, and battery fluid levels. Check compressor receiver oil level.
3. Close service valves.
4. Set start-run valve to START position.
5. Turn engine start switch to allow unit to rotate a few revolutions so that the unit will turn freely.
6. Turn ignition switch to ON position. Allow display to boot up and show gauges.
7. Turn ignition switch to START position and hold until engine starts.
8. Let engine warm up to 140° F. Set start-run valve to RUN position. Compressor is now ready for full load operation.

NOTE! *If the engine stops, do not attempt to restart with the oil receiver under pressure.*

5.6 NORMAL STOPPING

1. Position start-run valve to **START**. Close all service valves.
2. Run engine at low idle for 1 to 2 minutes.
3. Open and close the service valve to reduce pressure to approximately 60 psi or less.
4. Turn ignition switch to **OFF**.

5.7 EMERGENCY STOP

Press red emergency stop button.

5.8 OPERATING UNDER EXTREME CONDITIONS

5.8.1 COLD WEATHER OPERATION

Use the correct coolant anti-freeze solution and engine oil for the lowest possible temperature expected.

CAUTION!

Make sure coolant and engine oil are approved by the engine manufacturer.

When operating the compressor at ambient temperatures below 20°F, use lubricants suited for these conditions. Refer to the Lubrication and Maintenance section of this manual.

Optional starting aids and component pre-starting warming devices are available for some models for cold weather starting.

WARNING!

Do not inject ether starting fluid directly into air intake.

5.8.2 HOT WEATHER OPERATION

Keep the engine cooling system filled with clean coolant.

Check the coolant level daily or before each shift.

Keep the outside of the radiator and oil cooler clean.

Locate the unit in a well-ventilated area.

When operating in humid conditions, change the compressor oil more frequently.

5.8.3 DUSTY OR SANDY AREAS

When possible, wet down the area surrounding the operating site to keep dust and blowing sand to a minimum.

Inspect air filters before each operating shift or daily.

Keep radiator and oil cooler clean. Check daily and wash or blow clean as needed.

WARNING!

Check the compressor sump oil level only when the compressor is not operating and system is completely relieved of pressure.

Open pressure relief valve to ensure relief of system air pressure when performing maintenance on compressor air/oil system.

Failure to comply with this warning may cause property damage and serious bodily harm or death.

5.9 OPERATING SUGGESTIONS

Replace any faulty gauge immediately.

Allow at least ten feet of unobstructed area in front of cooling air inlets and outlets to assure good airflow.

If compressor is connected to a common header with one or more compressors, a check valve must be provided between each compressor and header.

Check instruments periodically during operation. If not in a normal operating zone, refer to the section on troubleshooting.

Make sure that the correct type and viscosity of lubricating oils and fuel are used, especially in extreme ambient temperatures.

Keep batteries fully charged and properly maintained.

Keep control linkage clean and lightly lubricated.

5.10 JUMP STARTING

WARNING!

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

WARNING!

Batteries contain acid which is corrosive. Do not allow battery acid to contact eyes, fabrics, or painted surfaces. Serious personal injury or property damage may result. Flush contacted areas thoroughly with water immediately. Wear an acid resistant apron and face shield when jump starting the compressor.

1. Remove all vent caps from the battery or batteries in the compressor. Do not permit dirt or foreign matter to enter the open cells.
2. Check fluid level. If low, bring to a proper level before attempting to jump-start.

CAUTION! Attempt jump-starting from another vehicle or piece of equipment with a negative ground electrical system and with the same voltage and battery size as the battery or batteries supplied with the compressor.

CAUTION! Do not attempt to jump-start using motor generator sets, welders, or other sources of DC power. Serious damage may result.

3. Bring the starting vehicle beside the compressor, but do not permit metal-to-metal contact between the compressor and the starting vehicle. Set the parking brakes of the compressor (if provided) and the starting vehicle, or chock or block both sides of all wheels. Place the starting vehicle in neutral or park, turn off nonessential accessory electrical loads and start its engine.

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

CAUTION! Prevent accidental contact between jumper cable terminal clips or clamps or any metallic portion of either the compressor or the starting vehicle to eliminate the possibility of arcing, which might serve as a source of ignition.

NOTE! Positive battery terminals are usually identified by a plus (+) sign on the terminal and the letters POS near the terminal. A negative sign (-) or the letters NEG near the terminal usually identify the negative battery terminals.

4. Connect one end of a jumper cable to the positive battery terminal in the starting vehicle. When jump-starting a 24V compressor, and if the starting vehicle is provided with two (2) 12V batteries connected in series, connect the jumper cable to the positive terminal of the ungrounded battery.
5. Connect one end of the other jumper cable to the grounded negative terminal of the battery in the starting vehicle. When jump starting a 24V compressor, and if the starting vehicle is provided with (2) 12V batteries connected in series, connect the jumper cable to the negative terminal of the grounded compressor battery.
6. Check your connections. Do not attempt to start a 24V compressor with a 12V system in the starting vehicle. Do not apply 24V to a 12V system in the compressor. Connect the other end of the same jumper cable to a clean portion of the compressor engine block away from fuel lines, the crankcase breather opening, and the battery.
7. Start the compressor following normal procedure. Avoid prolonged cranking. Damage to the starter may occur.
8. 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 on the compressor, and then disconnect the other end of the same cable from the grounded negative terminal of the battery on the starting vehicle.
9. Then disconnect the other jumper cable from the positive terminal of the battery in the compressor, or if provided with (2) 12V batteries connected in series, from an ungrounded battery in the compressor.
10. Finally, disconnect the other end of the same jumper cable from the positive terminal of the battery in the starting vehicle, or from the positive terminal of the ungrounded battery in the starting vehicle if it is provided with two (2) 12V batteries connected in series.
11. Remove and carefully dispose of the dampened cloths. They may be contaminated with acid. Replace vent caps. The use of maintenance-free batteries may obviate this step.

6

MAINTENANCE

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» Compressor Shaft Oil Seal	35
» Control Adjustments	35

6.1

MAINTENANCE SCHEDULE

COMPRESSOR MAINTENANCE SCHEDULE								
PROCEDURE	FREQUENCY (HOURS)					AS REQUIRED	SEE NOTE	REF.
	DAILY	50	250	1000	2000			
Check oil level (before starting)	x						1	6.4
Check radiator coolant level	x						1	
Check fuel supply (before starting)	x						1	
Check air filter elements	x						1,7	6.8
Check for fuel, oil air and water leaks	x						1	
Drain water from compressor sump		x					2	6.4
Drain water and sediment from fuel tank		x					2,7	
Change compressor oil and oil filter element		x		x			2,4,6	6.4 & 6.5
Check drawbar and bolt torque			x				3	6.2
Check wheel lug nuts			x				3	
Check tire pressure			x				3	
Inspect lifting frame (before each lift)			x				3	
Change compressor air filter element				x			4,7	6.8
Check axle spring shackles and mounting bolts				x			4	
Clean battery terminals				x			4	
Check battery hold-downs and cables for wear				x			4	
Check compressor shaft seal for leaking				x			4	6.13
Check air filter piping, fittings and clamps				x			4	
Check radiator hoses and clamps				x			4	
Check engine and compressor supports				x			4	
Replace air/oil separator element					x		5	6.10
Check all door gaskets, hinges and latches					x		5	
Drain engine radiator coolant and replace					x		5	
Clean and flush cooling system					x		5	6.12
Check protective circuits and verify proper function					x		5	
Check sump pressure relief valve					x		5	
Inspect and clean oil system thermostat						x	6	6.11
Check control adjustment						x	6	6.14
Re-pack wheel bearings						x	6	

NOTES

- | | |
|---|--|
| 1. Or every 10 hours of operation or on rent return | 5. Or annually |
| 2. Or weekly | 6. After first 50 hours of operation |
| 3. Or before returning to ready line | 7. More frequently in extreme operating conditions (dusty, humid, low temperature) |
| 4. Or 6 months | |

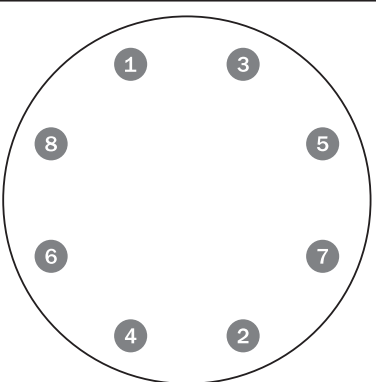
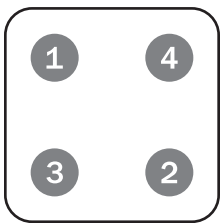
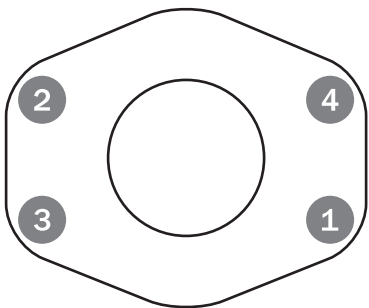
6.2

BOLT TORQUE GUIDELINES

6.2.1 INCH FASTENERS

Inch Fasteners Torque				
Size	SAE Grade 5 (ft-lb)		SAE Grade 8 (ft-lb)	
	Dry	Oiled	Dry	Oiled
1/4-20	8	6	12	9
5/16-18	17	13	25	18
3/8-16	30	23	45	35
7/16-14	50	35	70	55
1/2-13	75	55	110	80
9/16-12	110	80	150	110
5/8-11	150	110	220	170
3/4-10	260	200	380	280

6.2.2 TORQUE SEQUENCE

Typical Bolt Torque Patterns		
Circular Pattern (8-Bolt)	Square Pattern	Flange Pattern
		

6.3

COMPRESSOR LUBRICANT SPECIFICATIONS

WEATHER-ALL™ COMPRESSOR FLUID is designed for all types of rotary screw air compressors used in varying conditions encountered in the construction industry. Sullivan-Palatek's Weather-All is formulated as a Multi-Viscosity fluid with additives for maximum protection against scuffing and wear to bearings and rotors. Extensive testing has shown this fluid exhibits excellent resistance to foaming, oil oxidation and corrosion. Special attention has been made toward limiting rust of ferrous metals and corrosion of yellow metals.

6.3.1 PRODUCT FEATURES AND BENEFITS

Our Weather-All lubricant will provide extended life compared to other brand oils.

Weather-All fluid provides quick water separation which helps protect equipment in wet and humid service environments.

Our compressor fluid has an excellent viscosity index (), as well as, low pour point (-°F).

This specially formulated multi-viscosity compressor fluid provides wear control for steel and brass parts when operating at maximum pressure ratings, resulting in excellent compressor operation.

Weather-All Compressor Fluid combines the superior additive technology and quality hydrocarbon based oils for Extended Life and is a custom-formulated lubricant specifically designed for long life under the severe, demanding conditions normally encountered in recirculating systems such as rotary screw compressors.

Weather-All combines the advantages of a synthesized hydrocarbon, which results in performance improvements beyond conventional mineral oils and many synthetic oils.

6.3.2 CHARACTERISTICS

- » Exceptional oxidative stability
- » Low sludging tendency
- » Thermal & hydrolytic stability
- » Improved performance
- » Rust and corrosion inhibited
- » Viscosity stability
- » Lower equipment maintenance
- » Extended anti-wear protection
- » Longer life
- » Low evaporation loss

WEATHER-ALL COMPRESSOR FLUID	
ISO Viscosity Grade	32
SAE Viscosity Grade	SW-20
Viscosity, cst. 210 °F	50 SUS
Viscosity, cst. 100 °F	170 SUS
Normal Service Life	2000 hours
Viscosity Index	180
Pour Point	-40 °C
	-40 °F
Flash Point	199 °C

NOTE! These values are not intended for use in preparing specifications.

6.4 COMPRESSOR LUBRICATION

Change oil at least once a year, even if the normal oil change period in hours has not yet been reached.

CAUTION! Never mix synthetic lubricants with hydrocarbon lubricants. Never mix synthetic lubricants manufactured from different base products. Severe damage to the compressor system may result.

Contamination of non-detergent mineral oils with traces of ATF, or detergent motor oils, may lead to problems such as foaming, and plugging of filters, orifices, and lines. Lubricant manufacturers include a variety of additives in the blending process to enhance lubrication, product life and performance. Mixing different types or brands of lubricants is not recommended due to the possibility of a dilution of the additives or a reaction between additives of different types.

Environmental conditions in the area of compressor operation such as the presence of reactive gases or vapors in the air may lead to chemical changes and premature degradation of the lubricant. The useful life of synthetic lubricants may extend the normally recommended drain and replace period; however, the user is encouraged to closely monitor the lubricant condition and to participate in an oil analysis program with the fluid supplier. When ambient conditions exceed those noted, or if conditions warrant use of "extended life" lubricants, contact Sullivan-Palatek for a recommendation.

6.4.1 FILL

Before adding or changing compressor oil, completely relieve the sump of pressure. Venting the sump tank pressure relief valve will do this.

6.4.2 LEVEL

The proper oil level, when unit is shut down and oil has had time to settle, is across the center of the oil level sight glass. For oil sump capacity, see the Compressor Specifications section.

WARNING! **Compressor must be shut down and pressure completely relieved from system before checking fluid levels. Open pressure relief valve to assure relief of system air pressure. Failure to comply with this warning may cause property damage and serious bodily harm or death.**

6.4.3 DRAIN

Always warm compressor thoroughly prior to changing the compressor oil. A drain valve is provided at the bottom of the sump tank and oil cooler. When changing the oil, make sure system is completely drained to reduce potential contamination. Oil is added at the fill plug on the side of the sump tank.

WARNING! **Do not attempt to drain water, remove the oil level fill plug, or break any connection in the air or oil system until all the pressure has been relieved. Check by manually opening the sump pressure relief valve. Serious injury or death may result if this warning is not followed.**

6.5 COMPRESSOR OIL FILTER

Replace the oil filter element once after the first 50 hours of operation, then every 1,000 hours or before returning to the ready line. Replace more frequently in extreme operation conditions such as high temperatures, low temperatures or high humidity.

6.5.1 INSPECTION

The compressor oil filter should be checked making sure it has the proper element and it is properly installed and not leaking.

6.5.2 REMOVAL

1. Make sure the system pressure is relieved.
2. Place oil spill pan under filter.

6.5.3 INSTALLATION

6.6 ENGINE LUBRICATION

Refer to Engine Operator's Manual for recommended engine lubricating oil, service intervals and maintenance practices.

6.7 GREASE

Use a multi-purpose type grease (MKG) or multi-purpose type grease with molybdenum disulfide (MPGM) conforming to MIL-L-7866 for all parts.

6.8 AIR INTAKE FILTER

Check daily, every 10 hours of operation or on rent return. Replace every 1,000 hours or 6 months. Replace more frequently in dusty conditions.

6.8.1 INSPECTION

The air filter element should be thoroughly inspected for holes by placing a lamp inside and carefully checking for areas of bright light passing through the element. Inspect for dust leaking past the air filter element, seal, and retaining bolt. Maximum pressure drop for proper operation is 20 inches of water. Air filter element condition indicators are available as optional equipment on most models.

6.8.2 REMOVAL

1. Open the locking devices and remove air filter cover.
2. Remove the used element by turning counter-clockwise to unscrew.

6.8.3 INSTALLATION

1. Screw the new filter into place by turning clockwise.
2. Place cover back on air filter and close locking devices.

The air intake filters are heavy duty, two-stage dry elements to protect the engine and compressor from dust and foreign objects.

6.9 OIL RETURN LINE

Check the oil return line periodically to make sure that it does not become clogged. A clogged line results in excessive oil consumption and oil in the service lines.

6.9.1 INSPECTION

Inspect oil return line for clogging.

6.9.2 CLEANING

If clogging is indicated, check and clean the entire line, including the orifice fitting at the compressor end, and the siphon tube inside the separator. Usually, blowing with a reverse flow of compressor air will clean the line.

6.10 AIR/OIL SEPARATOR

Replace the air/oil separator every 2,000 hours or annually. The air/oil separator employs a unitized element.

The separator element is a single piece unit, which requires replacement when it fails to remove the oil from the discharge air. Prior to replacing the separator element be sure to check the oil return line and orifice for plugging or restrictions.

WARNING! *Prevent separator flash or fire. Maintain the separator element in proper condition and do not allow it to become plugged with dirt and oxidized oil. Be certain that the sump lid is properly grounded to the sump when installing a new separator.*

WARNING! *The combination of a build-up of dirt and oxidized oil can clog the element causing an increase in air velocity at narrow points on the element media. Elevated temperatures at these points can result in ignition of the fluid in the oil sump.*

6.10.1 REMOVAL

1. Relieve sump pressure to zero pressure.
2. Disconnect oil return line. Loosen fitting and pull siphon tube up out of separator.
3. Remove service air piping from minimum pressure valve.
4. Mark and disconnect necessary tubing at separator cover and then remove cover.

6.10.2 INSTALLATION

WARNING! *Failure to properly ground the sump lid and separator can result in the build-up of an electric charge leading to ignition inside the sump (do not remove staples in separator gasket). Failure to comply with this warning may cause property damage and serious bodily harm or death.*

1. Remove and replace element.

WARNING! *Lid and sump tank top must be clean to ensure proper grounding between element and tank. Make sure grounding staples are in top and bottom gasket.*

2. Replace separator cover; tighten bolts gradually in an opposing manner until required torque is reached. Refer to **6.2 Bolt Torque Guidelines**.
3. Install service air piping and reconnect all tubing. When replacing the oil return siphon tube, allow it to contact the bottom of the sump tank then back off about 1/8 inch.
4. Clean oil return line and orifice.

NOTE! *If the separator element has to be replaced frequently because it is plugged, it is an indication that dirt is entering the inlet system, the compressor oil filter is faulty, or the oil is breaking down. The complete inlet system, starting with the air cleaner, and all joints in piping to the inlet valve, should be checked for leaks.*

6.11 THERMAL BY-PASS VALVE

Inspect and clean the thermal by-pass valve if the unit shuts down because of high compressor discharge air temperature.

6.11.1 INSPECTION

Inspect the valve by removing it from the by-pass housing. Sediment particles may lodge in the valve-seating surface and prevent it from closing, thereby allowing hot oil to pass directly to the compressor without being cooled.

6.12 OIL COOLER

The interior of the oil cooler should be cleaned every 2,000 hours, annually or when the pressure drop across the cooler at full load exceeds 25 psi.

6.12.1 INSPECTION

Inspect compressor oil system for signs of varnish.

6.12.2 REMOVAL

1. Drain compressor fluid.
2. Remove oil cooler.

6.12.3 CLEANING

Circulate a suitable solvent to dissolve and remove varnish and sludge.

6.12.4 INSTALLATION

1. Replace oil cooler and fill compressor with fresh oil.
2. Operate the machine normally for 50 hours.
3. After 50 hours, change compressor oil and install a new oil filter element.

6.13 COMPRESSOR SHAFT OIL SEAL

Check the compressor shaft seal for leaking oil every 1,000 hours or 6 months.

6.13.1 INSPECTION

Inspect the compressor shaft seal for signs of leaking oil.

NOTE! *If replacement is necessary, removal and installation instructions will be provided with the shaft seal kit.*

6.14 CONTROL ADJUSTMENTS

6.14.1 ENGINE SPEED ADJUSTMENTS

For proper adjustment the engine must be started and warmed up. The proper grade of oil and fuel must be used and a clean air filter must be in place. Prior to making any adjustment, be sure that the regulator setting is high enough to prevent air leakage from the regulator vent hole. Close the service air valve so that the unit unloads. Check the compressor discharge pressure gauge for approximately psig. If necessary, make pressure discharge adjustment as described above. Make engine speed adjustments as follows.

6.14.2 FULL LOAD SPEED

Open the service air valve so that the compressor loads then throttle as necessary to hold discharge pressure at desired setting. Be sure there is no air leakage from the pressure regulator or control line. If speed is too high reposition the throttle control air cylinder. If speed is too low make the opposite adjustment. Secure locknuts after proper speed is obtained.

NOTE! *For full load speed and discharge pressure see dimension and specifications pages.*

6.14.3 IDLE SPEED

Once the full load speed adjustment has been made, the idle speed should be in the range of 1400 RPM. To check the idle speed, close the service air valve so that the compressor unloads. If idle speed is too high, reposition throttle control air cylinder or lengthen linkage rod to engine slightly. Make opposite adjustment to lower speed.

It may be necessary to repeat both of the adjustments several times before the settings balance out, to get the recommended idle and full load speed.

7

TROUBLESHOOTING

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7.1 INTRODUCTION

This section contains instructions for troubleshooting the equipment following a malfunction. Each symptom of trouble for a component or system is followed by a list of probable causes of the trouble and suggested procedures to be followed to eliminate the cause.

The procedures listed should be performed in the order in which they are listed, although the order may be varied if the need is indicated by conditions under which the trouble occurred. In any event, the procedures, which can be performed in the least amount of time and with the removal or disassembly of the fewest parts, should be performed first.

7.2 UNPLANNED SHUTDOWN

POSSIBLE CAUSE	ACTION
Low Fuel	Fill the machine with fuel and retest.
Water or contamination in fuel filter	Replace all fuel filters and drain the water from the fuel tank(s).
Improper fan belt tension	Adjust or replace the fan belt or tensioner as needed.
Obstruction in radiator and/or oil cooler	Remove any external obstructions and clean the coolers.
Broken hoses or oil lines	Repair/Replace any broken hoses or oil lines.
Loose or broken wires	Repair/Replace any loose or broken wires.
Low engine coolant and/or high engine coolant temperature	Check the engine coolant level. Add as needed. Clean the coolers. Check the fan belt tension. Adjust or replace as needed. Refer to engine manufacturer's manual.
High compressor discharge temperature	Check compressor oil level. Add as needed. Clean the coolers and pressure check. Check the fan belt tension. Adjust or replace as needed. Verify correct operation of thermal by-pass valve. Change compressor oil and oil filter element. Clean oil cooler internally.
Low engine oil pressure switch open	Check engine oil. Add as needed. Verify the engine oil pressure exceeds the engine manufacturer's recommended pressure with the engine running.

*If none of the above caused the shutdown, restart the engine and observe the engine oil pressure, engine water temperature, and compressor discharge temperature and pressure. Refer to the wiring diagrams and information on the protection circuits for shutdown conditions. If it is found that low engine oil pressure or high engine water temperature is causing the shutdown, refer to the engine manufacturer's manual.

7.3

DISCHARGE PRESSURE IS TOO LOW

POSSIBLE CAUSE	ACTION
Start/Run valve in the START position	Move the Start/Run valve to the RUN position and retest.
Too much air demand	Add additional compressor to handle the demand or decrease the air demand.
Service valve open	Close service valve and retest.
Service line leaks	Repair any leaks found and retest.
Compressor inlet air filter restricted	Replace the air filter and retest.
Improper control operation	See improper control operation section.
Regulator valve faulty or misadjusted	Properly adjust the regulator. Replace the regulator valve if necessary.

7.4

DISCHARGE PRESSURE IS TOO HIGH OR RELIEF VALVE BLOWS

POSSIBLE CAUSE	ACTION
Inlet valve not closing properly	Check the white sealing ring for the poppet valve, to ensure it is intact and not damaged. (185–375 CFM Compressors)
Discharge pressure gauge faulty	Replace the faulty gauge.
Regulator valve faulty or misadjusted	Properly adjust the regulator. Replace the regulator if necessary.
Oil separator plugged	Replace the oil separator. Clean the scavenger tube.
Pressure relief valve faulty	Replace the faulty relief valve.
Compressor shaft seal leaking	Replace the compressor shaft seal and retest.
Ice or debris in control lines	Clean the control lines of debris. Thaw out the control lines to remove the ice build-up. Optional heater kit available. Direct the lines so there is a low point to drain any condensate.

7.5

RELIEF VALVE BLOWS WITH THROTTLE LEVER IN IDLE POSITION

POSSIBLE CAUSE	ACTION
Inlet valve not closing properly	Check the white sealing ring for the poppet valve, to ensure it is intact and not damaged. (185–375 CFM Compressors)
Regulator valve faulty or misadjusted	Properly adjust the regulator. Replace the regulator if necessary
Control system leaks	Repair any leaks and retest.

7.6

PRESSURE DOES NOT BLOW DOWN AFTER SHUTDOWN

POSSIBLE CAUSE	ACTION
Automatic blow down valve may be faulty	Check operation of the automatic blow down valve. Replace if necessary.
Air line from inlet valve or sump to blow down valve may be restricted	Verify the pilot signal is reaching the automatic blow down valve. Verify the blow down valve is plumbed correctly.

7.7 COMPRESSOR OIL LEVEL IS DECREASING EXCESSIVELY

POSSIBLE CAUSE	ACTION
Oil line leaking	Repair or replace any leaking lines and retest.
Oil cooler leaking	Repair or replace the leaking oil cooler and retest.
Compressor shaft seal leaking	Replace the compressor shaft seal and retest.
Oil in service line	See oil in service line section.

7.8 OIL IN SERVICE LINE

POSSIBLE CAUSE	ACTION
Oil return line plugged or restricted	Remove the oil return line and clean.
Separator element plugged or damaged	Replace the separator element and change compressor oil.
Discharge pressure below 70 psi	The air demand maybe too much. Add compressors or decrease the demand. Adjust the discharge pressure above 70 psi. Check MPV operation, rebuild/replace as needed

7.9 ENGINE DOES NOT ACCELERATE OR WILL NOT MAINTAIN FULL LOAD SPEED

POSSIBLE CAUSE	ACTION
Compressor discharge pressure too high	Adjust the pressure to the maximum operating pressure for the machine.
Improper control operation	See Improper control operation section
Engine idle speed set too low	Adjust the idle speed to the Sullivan-Palatek recommended rpm.
Operating above maximum altitude rating of engine	Refer to engine manufacturer's recommendation on maximum altitude.
Engine problem	Have an authorized engine repair facility inspect the engine.

7.10 SEPARATOR PLUGGING

POSSIBLE CAUSE	ACTION
Dirt and dust blockage in air inlet filters	Replace the air inlet filters
Check compressor oil filter element	Replace the compressor oil and filter if necessary.

If the separator element has to be replaced frequently because it is plugging up, it is an indication that foreign material may be entering the compressor inlet or the compressor oil is breaking down. Compressor oil can break down prematurely for a number of reasons:

1. Extreme operating temperature
2. Failure to drain condensate from oil sump
3. Using the improper type of oil
4. Mixing different types of oil
5. Prolonged operation at extreme ambient temperatures
6. Foreign material, gases or vapors entering compressor inlet

7.11 ENGINE SPEED CONTROL DOES NOT CHANGE TO IDLE SPEED WITH SERVICE VALVES CLOSED

POSSIBLE CAUSE	ACTION
Bad or broken wires to SPEC or pressure transducer	Fix or replace broken wires
Discharge pressure regulator faulty	Properly adjust the regulator Rebuild/replace the regulator if necessary
Bad pressure transducer	Replace pressure transducer
Bad SPEC	Replace the SPEC or flash new program

7.12 ENGINE SPEED CONTROL DOES NOT CHANGE TO FULL SPEED WITH AIR DEMAND

POSSIBLE CAUSE	ACTION
Start/Run valve is positioned in START instead of RUN	Move the Start/Run valve to the RUN position
Bad or broken wires to SPEC or pressure transducer	Fix or replace broken wires
Discharge pressure regulator faulty	Properly adjust the regulator Rebuild/replace the regulator if necessary
Bad pressure transducer	Replace pressure transducer
Bad SPEC	Replace the SPEC or flash new program

7.13 ENGINE STALLS WHEN AIR DEMAND IS LOW

POSSIBLE CAUSE	ACTION
Idle speed may be set too low.	Adjust the idle speed to the Sullivan-Palatek recommended rpm.

7.14 COMPRESSOR OIL LEAKING IN CONTROL LINES/ORIFICES

POSSIBLE CAUSE	ACTION
Compressor oil level in sump tank too full.	Check and adjust compressor oil as needed.
Diaphragm in recirculation valve ruptured.	Inspect the diaphragm, rebuild/replace as needed.
Blow down valve O-ring faulty.	Inspect the blow down valve, rebuild/replace as needed.
Inlet valve modulating piston ring faulty.	Inspect the inlet valve, rebuild/replace as needed.
High compressor discharge temperature	Check the compressor oil level, Add oil as needed. Clean the oil cooler. Check the fan belt. Adjust or replace as needed. Check thermal by-pass valve (compressor oil thermostat). Change compressor oil and oil filter element. Clean the oil cooler internally.

8

PARTS CATALOG

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8.1 ORDERING PARTS

On the following pages are a list of recommended spare parts to keep on hand to minimize downtime for the most common maintenance and a complete parts listing with exploded drawings for all the parts on the compressor.

Parts should be ordered from the nearest full-service distributor or factory authorized compressor center. Only call the factory if parts cannot be obtained locally. Before calling to order parts, please have the model and serial number information available. This information can be found on the serial number plate located on the compressor.

NOTE!

Use the space provided on the inside cover of the manual to record the model and serial number of the compressor for future reference.

8.1.1 CONTACT INFORMATION

For replacement parts and manuals, contact us at:

Sullivan-Palatek, Inc.
1201 West US Highway 20
Michigan City, IN 46360
T: 219-874-2497
F: 219-872-5043
Toll Free: 800-438-6203
www.sullivanpalatek.com

8.2 PARTS DRAWINGS

The parts drawings are exploded drawings of the various assemblies and sub-assemblies which make up this machine. Standard models and more popular options available are covered.

NOTE!

In referring to the rear, the front or to either side of the unit, always consider the drawbar end of the unit as the front. Standing at the rear of the unit facing the drawbar (front) will determine the right and left sides.

8.3 FASTENERS

Both SAE/inch and ISO/metric hardware have been used in the design and assembly of these units. In the disassembly and reassembly of parts, extreme care must be taken to avoid damaging threads by the use of wrong fasteners.

8.4

RECOMMENDED SPARE PARTS

D250PDZ

DESCRIPTION	QTY	PART NUMBER
ELEMENT, AIR FILTER (PRIMARY)	1	01900522 0008
ELEMENT, AIR FILTER (SECONDARY)	1	01900522 0022
ELEMENT, OIL FILTER (COMPRESSOR)	1	01900520 0012
ELEMENT, OIL FILTER (ENGINE)	1	01900522 0103
ELEMENT, FUEL FILTER (PRIMARY)	1	01900522 0105
ELEMENT, FUEL WATER SEPARATOR	1	01900522 0104
ELEMENT, AIR/OIL SEPARATOR	1	00543117 0026
FLUID, COMPRESSOR WEATHER-ALL (5 GALLON)	1	00823062 0009
FLUID, COMPRESSOR WEATHER-ALL (55 GALLON)	1	00823062 0010
SENDER, COMPRESSOR DISCHARGE TEMP.	1	05019415 0053
SWITCH, IGNITION	1	00600701 0406
GAUGE, PRESSURE 2.5-IN PSI	1	05018310 0019
VALVE, SAFETY	1	03100-008
VALVE, 2-WAY 1/4 NPT (START-RUN)	1	05019820 0002
VALVE, PRESSURE REGULATOR	1	09661-002
BELT, FAN	1	01900152 0058
PUMP, FUEL DEUTZ 2.9L	1	05018974 0008

NOTE!

Use only service parts supplied or recommended by Sullivan-Palatek. Use of substitutes may void warranty. See Warranty for details.

8.5

SERVICE KITS

Service kits are available for basic servicing of the compressor and engine. Buying kits offers savings over buying individual parts. There are annual kits (wet or dry) for a year's worth of compressor and engine servicing and line service kits for a single compressor and engine service.

DESCRIPTION	CONTENTS	PART NUMBER
SERVICE KIT, ANNUAL (WET)	4	ELEMENT, AIR FILTER (PRIMARY)
	4	ELEMENT, AIR FILTER (SECONDARY)
	2	ELEMENT, OIL FILTER (COMPRESSOR)
	2	ELEMENT, OIL FILTER (ENGINE)
	2	ELEMENT, FUEL FILTER
	1	ELEMENT, SEPARATOR
	2	FLUID, COMPRESSOR WEATHER-ALL (5 GALLON)
SERVICE KIT, ANNUAL (DRY)	4	ELEMENT, AIR FILTER (PRIMARY)
	4	ELEMENT, AIR FILTER (SECONDARY)
	2	ELEMENT, OIL FILTER (COMPRESSOR)
	2	ELEMENT, OIL FILTER (ENGINE)
	2	ELEMENT, FUEL FILTER
	1	ELEMENT, SEPARATOR
SERVICE KIT, LINE	2	ELEMENT, AIR FILTER (PRIMARY)
	2	ELEMENT, AIR FILTER (SECONDARY)
	1	ELEMENT, OIL FILTER (COMPRESSOR)
	1	ELEMENT, OIL FILTER (ENGINE)
	1	ELEMENT, FUEL FILTER
	1	FLUID, COMPRESSOR WEATHER-ALL (5 GALLON)

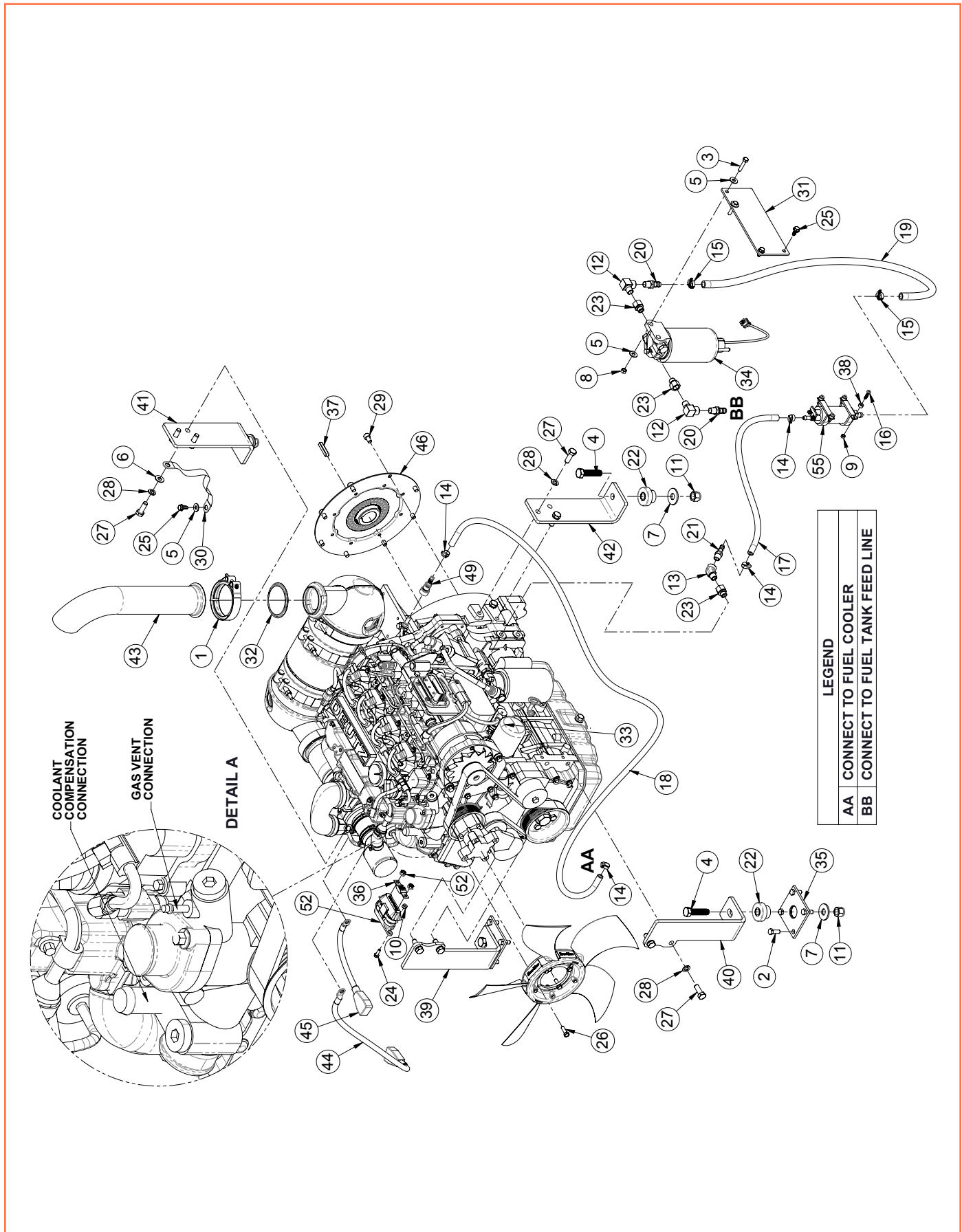


FIGURE 8-1. 00717585 0247 ENGINE ASSY, DEUTZ FT4 D210PHDZ (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00519352 0001	CLAMP, V-BAND EXHAUST DEUTZ	1
2	00900115 0013	BOLT, HEX HEAD 3/8" X 1"	8
3	00900115 0032	BOLT, 5/16-18 X 1.50 HEX HD GR 5	2
4	00900115 0075	SCREW, HHCS 5/8-11 X 2.5 GR5	4
5	00900321 0003	WASHER, FLAT 5/16 ZN PLT	5
6	00900321 0004	WASHER, FLAT 3/8 ZN PLT	1
7	00900321 0006	WASHER, FLAT, 5/8" ZN PLT	4
8	00900490 0062	NUT, NYLOK 5/16-18 ZN PLT	2
9	00900490 0064	NUT, NYLOK 10-24 ZN PLT	4
10	00900490 0071	NUT, NYLOK 1/4-20 ZN PLT	2
11	00900490 0128	NUT, NYLOC .63-11 ZN PLT	4
12	00901052 0002	ELBOW, 3/8M X 3/8F 90° 3000#	2
13	00901058 0006	ELBOW, 3/8MPT X 3/8FPT 45° 3000#	1
14	00902319 0001	CLAMP, HOSE 0.22 - 0.63	4
15	00902319 0002	CLAMP, HOSE 1/2 X 29/32	2
16	00905850 0088	SCREW, SLOT PAN HEAD 10-24 X 1.0	4
17	00906814 0006	HOSE, 0.38"ID X 20.0"LG 250 PSI	1
18	00906814 0006	HOSE, 0.38"ID X 78.0"LG 250 PSI	1
19	00906814 0008	HOSE, 0.50"ID X 38.0"LG 300 PSI	1
20	00906843 0008	FITTING, 1/2" HOSE X 3/8 NPT	2
21	00906843 0066	FITTING, BARB, 3/8" HOSE 3/8 NPT	1
22	00910335 0007	ISOLATOR, VIBRATION 450#	4
23	00910623 0616	ADAPTER, M16 O-RING X 3/8 NPTF	3
24	00913792 0054	BOLT, 1/4-20 X 3/4 THD FORM	2
25	00913792 0055	SCREW, 5/16-18 X 3/4 THD FORM SS	3
26	00925012 0917	SCREW, M8-1.25 X 25MM LG HEX HD	4
27	00925012 1121	SCREW, HHCS M12-1.75 X 35MM	10
28	00925081 0120	LOCK WASHER, SPR, METRIC #12	10
29	00925201 1030	BOLT, SHCS M10-1.5 X 16MM 12.9 BLK OXIDE	8
30	01660689	STRAP, GROUND	1
31	01900216 0626	BRACKET, FUEL-WATER SEPARATOR	1
32	01900460 0055	GASKET, EXHAUST DEUTZ 2.9L	1
33	01900522 0103	ELEMENT, OIL FILTER DEUTZ	1
34	01900522 0104	FUEL-WATER SEPARATOR DEUTZ	1
35	01900546 0005	PAD, MOTOR MOUNT	2
36	01900640 0125	FUSE, TYPE AMG 125 AMP HIGH-AMP	1
37	01900858 0001	KEY, 3/8 X 3/8 X 1-7/8 RND END	1
38	01901416 0416	SPACER, 1/2"OD X 1/4"ID X 1/4"	4
39	01901520 0469	SUPPORT, ENGINE FR	1
40	01901520 0470	SUPPORT, ENGINE FL	1
41	01901520 0471	SUPPORT, ENGINE RR	1
42	01901520 0472	SUPPORT, ENGINE RL	1
43	01901567 0161	TUBE, EXHAUST, D210PHDZ	1

ITEM	PART NUMBER	DESCRIPTION	QTY
44	05017420 0032	CABLE, BATTERY POS 16.0 LG	1
45	05017420 0054	CABLE, BATTERY NEG 11.0 LG	1
46	05017720 0041	COUPLING, DRIVE D185-250	1
47	05017990 0173	ENGINE, DEUTZ DT2.9L 74HP	1
48	05018080 0059	FAN, SUCTION 19.0 DIA DEUTZ	1
49	05018231 0003	FITTING, 3/8 BARB FUEL DEUTZ	1
50	05018395 0219	HARNESS, ENGINE DEUTZ	1
51	05018395 0228	HARNESS, ENGINE-ECU DEUTZ	1
52	05018460 0005	HOLDER, FUSE, TYPE AMG HIGH AMP	1
53	05018680 0061	LEAD WIRE, ALT 4GA 62.0 LG	1
54	05018680 0062	LEAD WIRE, ALT 4GA 16.0 LG	1
55	05018974 0008	PUMP, FUEL DEUTZ 2.9L	1

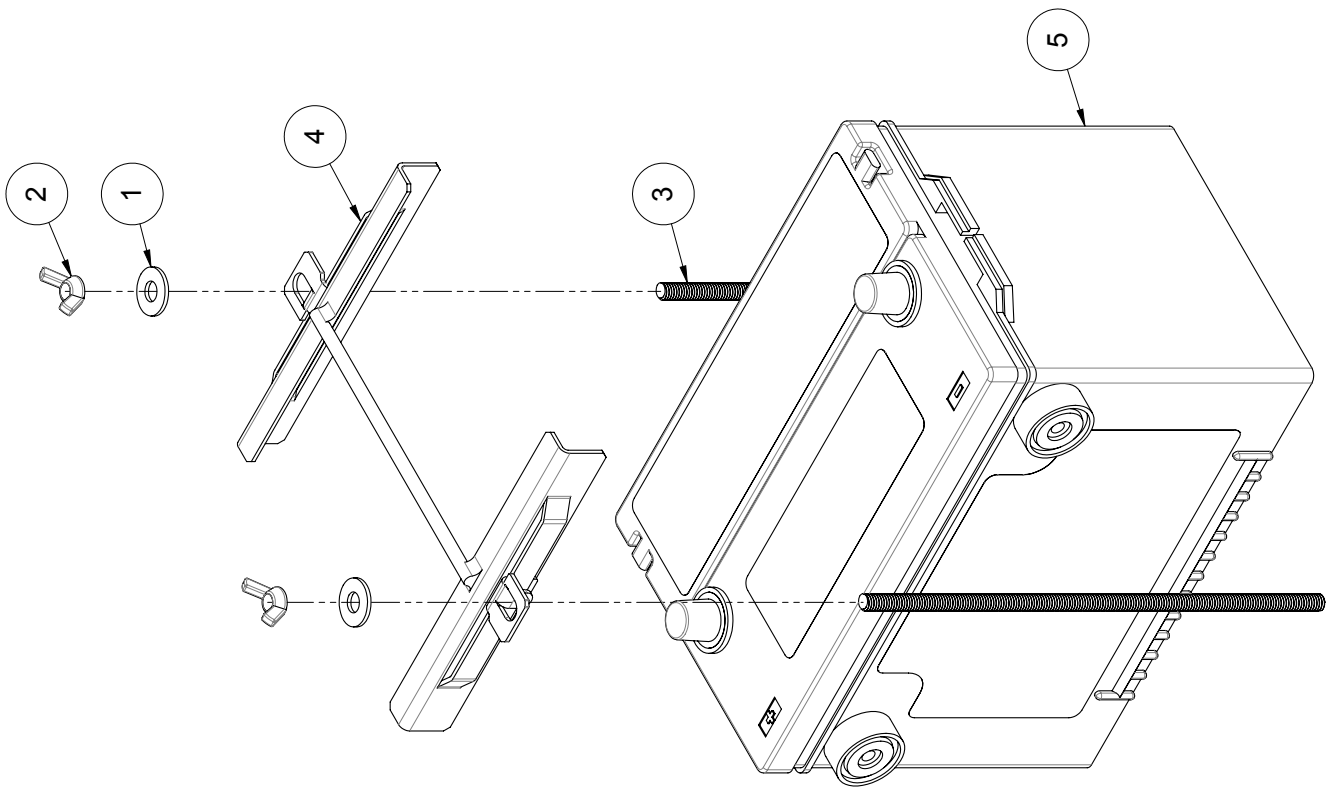


FIGURE 8-2. 00717300 0012 BATTERY ASSY, D185-250 850CCA (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00900321 0003	WASHER, FLAT 5/16 ZN PLT	2
2	00903192 0003	NUT, WING 5/16-18	2
3	00910106 0230	ROD, THREADED 5/16-18 X 10.0	2
4	03903040 0022	BRACKET, BATTERY	1
5	05017195 0007	BATTERY, 12 VDC 850CCA	1

8.8

COMPRESSOR ASSEMBLY

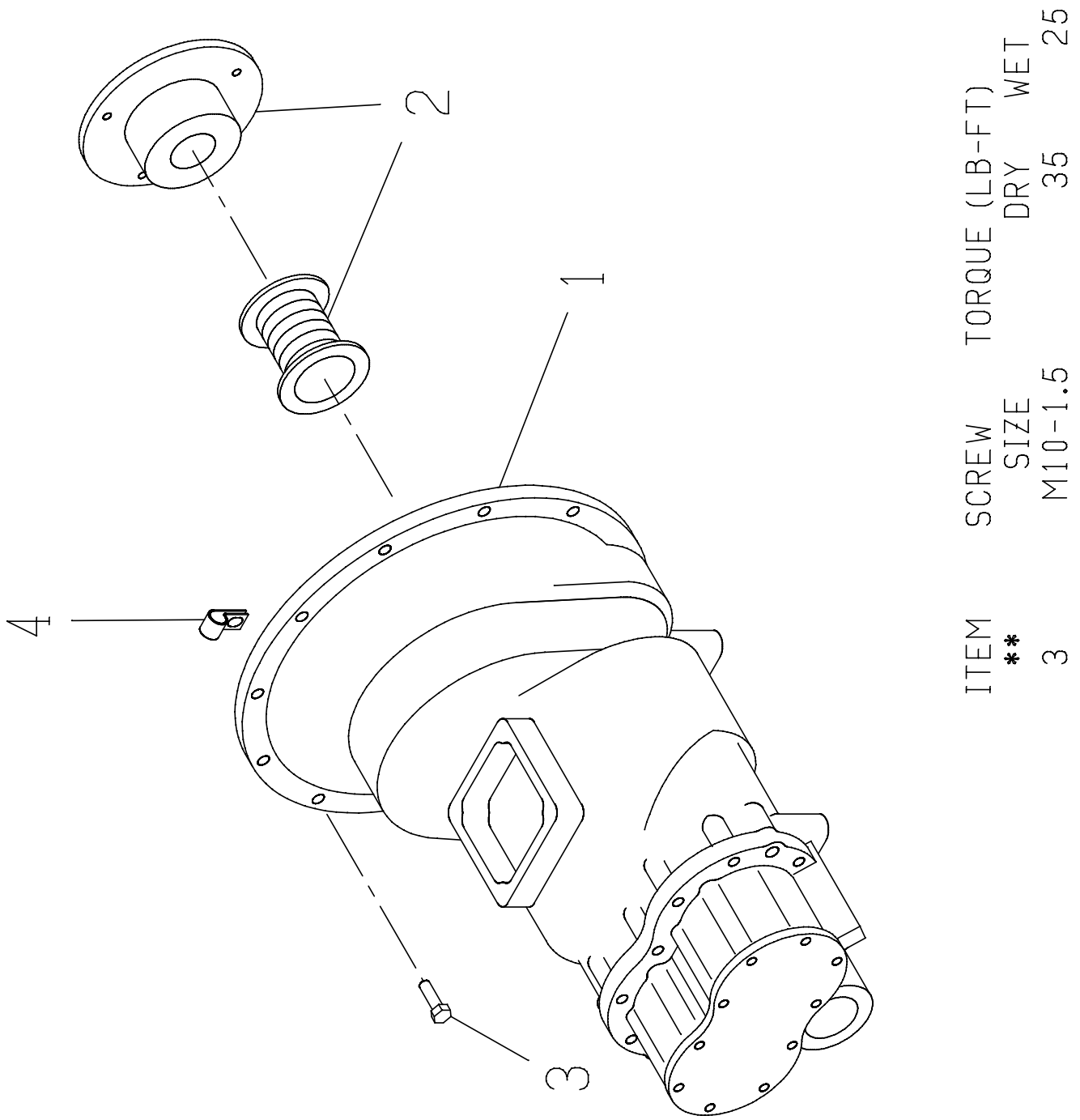
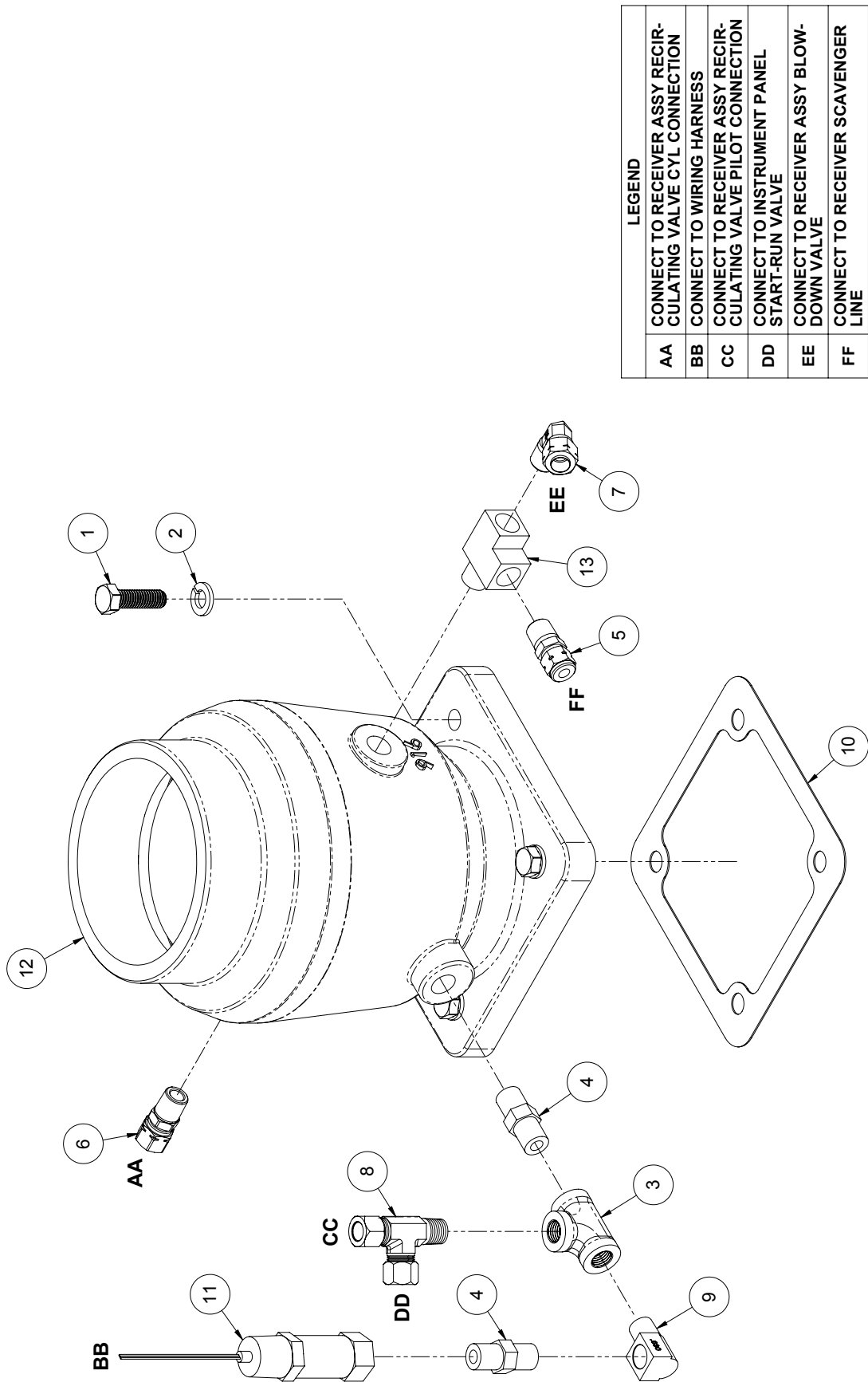


FIGURE 8-3. 00717488 0096 COMPRESSOR AND MTG PARTS 127 MM (REV 1)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00501170 1430	COMP. ASSY, 127.5 MM X 1.76-2.02 GR	1
2	00701701 0290	KIT, SHAFT SEAL 108 & 127 MM	1
3	00925012 1021	SCREW, M10-1.5 X 35mm LG	10
4	00902905 0004	CLAMP, SUPPORT .75" ID	1



LEGEND	
AA	CONNECT TO RECEIVER ASSY RECIRCULATING VALVE CYL CONNECTION
BB	CONNECT TO WIRING HARNESS
CC	CONNECT TO RECEIVER ASSY RECIRCULATING VALVE PILOT CONNECTION
DD	CONNECT TO INSTRUMENT PANEL START-RUN VALVE
EE	CONNECT TO RECEIVER ASSY BLOW-DOWN VALVE
FF	CONNECT TO RECEIVER SCAVENGER LINE

FIGURE 8-4. 00717985 0054 INLET VALVE ASSY D250PDZ (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00900115 0023	BOLT, 3/8-16 X 1.250 HEX HD GR5	4
2	00900305 0003	WASHER, LOCK 0.38 ZN PLT	4
3	00901091 0002	TEE, PIPE 0.25NPT 150# GLV	1
4	00906058 0004	NIPPLE, HEX PIPE 1/4 X 1/4	2
5	00906242 0044	CONNECTOR, 0.25 MPT X 0.25 T	1
6	00915543 0064	CONNECTOR 3/8 TUBE X 1/4 MNPT	1
7	00915557 0064	ELBOW, 3/8 TUBE X 1/4 MNPT	1
8	00915564 0064	TEE, RUN 3/8 TUBE X 1/4 NPT	1
9	01900592 0042	ELBOW, ORIFICE .030	1
10	01900664 0025	GASKET, INLET VALVE, 127MM	1
11	05019205 0007	SENDER, PRESSURE 0-200PSI	1
12	05019790 0012	VALVE, INLET 4.0 OD 127MM	1
13	95510-004	TEE, STRT BR 1/4	1

8.10 AIR FILTER ASSEMBLY

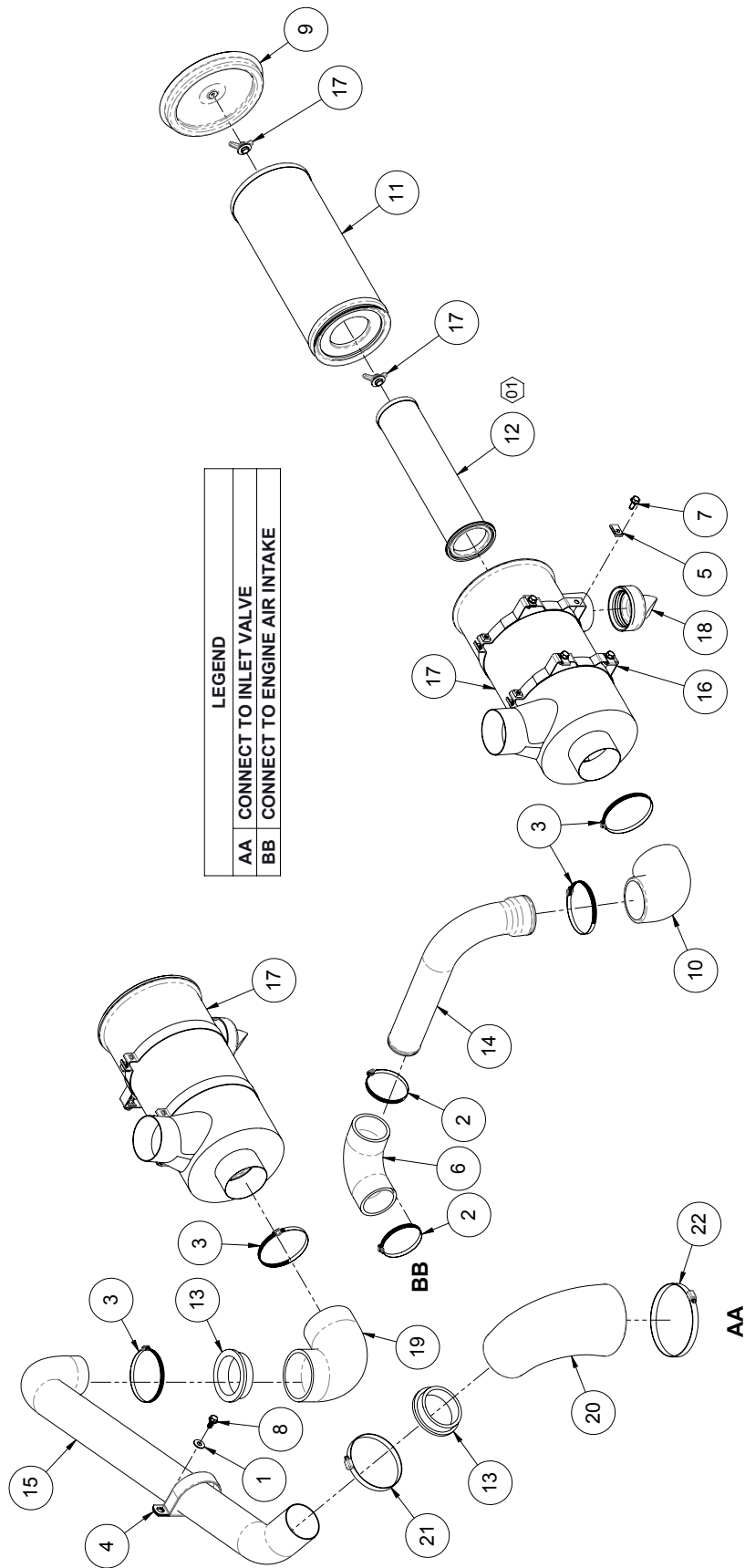


FIGURE 8-5. 00717642 0190 AIR FILTER ASSY, D250PDZ (REV 01)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00900321 0003	WASHER, FLAT 5/16 ZN PLT	1
2	00902319 0014	CLAMP, HOSE 2-13/16 - 3-3/4"	2
3	00902319 0017	CLAMP, HOSE 3-9/16 X 4-1/2"	4
4	00902905 0017	CLAMP, SUPPORT 3.56 ID	1
5	00909088 0005	NUT, SPEED 5/16-18 U-TYPE	8
6	00910411 0003	ELBOW, 2-1/2" HVY DUTY RUBBER	1
7	00913792 0039	SCREW, THRD FORM 5/16-18 X 1/2" SS	8
8	00913792 0055	SCREW, 5/16-18 X 3/4 THD FORM SS	1
9	01900416 0047	COVER, AIR CLEANER 8.00	-
10	01900500 0005	ELBOW, REDUCING 90 DEG 3 X 3.5	1
11	01900522 0008	ELEMENT, AIR FILTER 8.00	-
12	01900522 0022	ELEMENT, SAFETY	-
13	01901192 0010	INSERT, 3.00 X 3.50	2
14	01901564 0125	TUBE, ENGINE AIR INTAKE	1
15	01901567 0162	TUBE, AIR END INTAKE D250PDZ	1
16	05017180	BAND, 8.0 IN, AIR CLEANER	4
17	05017585	FILTER, AIR 8.0 OD 2 STAGE	2
18	05019836 0002	VALVE, VACUATOR	-
19	91411-035	ELBOW, RUBBER 3.5 X 3.5 90°	1
20	91411-535	ELBOW, RUBBER RED 5" X 3.5" 90°	1
21	92320-144	CLAMP, HOSE 4-1/2"	1
22	92320-176	CLAMP, HOSE 5-1/2"	1

8.11 RECEIVER ASSEMBLY

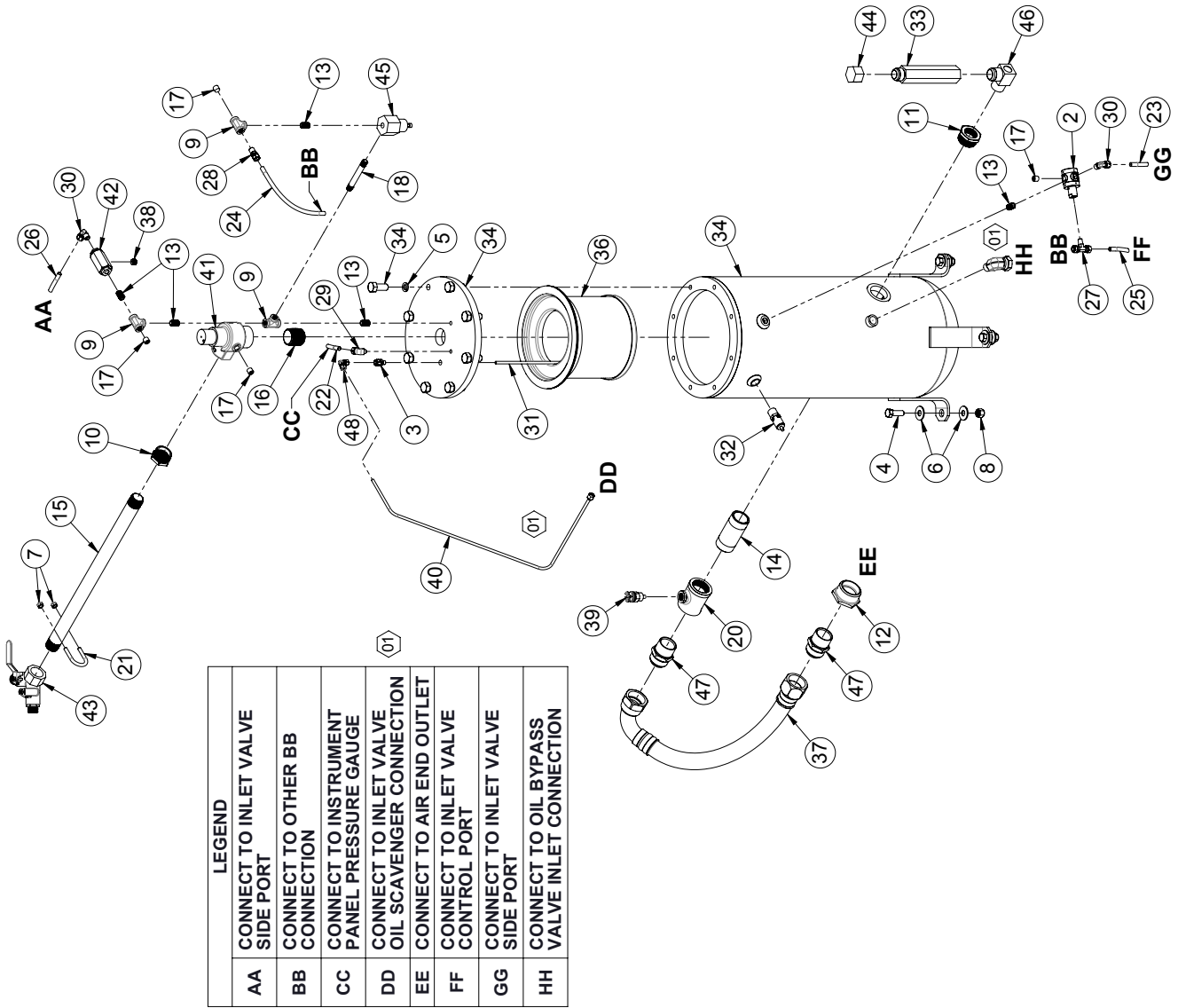


FIGURE 8-6. 00717884 0179 RECEIVER ASSY D250PDZ (REV 01)

ITEM	PART NUMBER	DESCRIPTION	QTY
NI	0 222487	TIE, PLASTIC 8.5 LG	20
2	00519456 0013	VALVE, RECIRCULATING	1
3	00543286 0002	CONNECTOR, 1/8 MNPT X 1/4 TUBE	1
4	00900115 0034	BOLT, HHCS 1/2-13 X 1.50 LG GR5	4
5	00900305 0004	WASHER, LOCK 0.50 ZN PLT	8
6	00900321 0005	WASHER, FLAT 1/2 ZN PLT	8
7	00900490 0062	NUT, NYLOK 5/16-18 ZN PLT	2
8	00900490 0103	NUT, NYLOC 0.50-13	4
9	00901091 0002	TEE, PIPE 0.25NPT 150# GLV	3
10	00901161 0017	BUSHING, PIPE 1-1/4 NPT X 1.0 NPT 150# GLV	1
11	00901161 0020	BUSHING, PIPE 1.0 X 1.5 150# GLV	1
12	00901168 0026	BUSHING, REDUC 2.00 X1.50 300#	1
13	00901177 0002	NIPPLE, PIPE 1/4 CLOSE SCH80 GALV	5
14	00901177 0134	NIPPLE, PIPE 1.50 X 4.0 XS GLV	1
15	00901177 0474	NIPPLE, PIPE 1.0 X 21.0 SCH 80 GLV	1
16	00901179 2016	NIPPLE, PIPE 1.25 CLOSE GLV	1
17	00901921 0002	PLUG, PIPE 1/4 NPT HEX SOC HD	4
18	00902469 0128	NIPPLE, PIPE 0.25 X 4.0 SCH40 GLV	1
19	00903873 0003	COCK, DRAIN .375 MNPT BRASS	1
20	00905330 0065	TEE, REDUCING 1.5 X 0.5 X 1.5 150# GLV	1
21	00909003 0013	U-BOLT .031-18 X 1.38 DIA	1
22	00910084	TUBING, 3/8 OD X 20.38 LG BLK	1
23	00910084 0002	TUBING, 3/8 OD X 12.0 LG BLU	1
24	00910084 0004	TUBING, 3/8 OD X 9.0 LG RED	1
25	00910084 0004	TUBING, 3/8 OD X 12.25 LG RED	1
26	00910084 0005	TUBING, 3/8 OD X 40.0 LG YEL	1
27	00915534 0062	TEE, 0.38 TUBE X 0.13 MPT BRANCH BRS	1
28	00915543 0064	CONNECTOR 3/8 TUBE X 1/4 MNPT	1
29	00915557 0062	ELBOW, 3/8 TUBE X 1/8 MNPT	1
30	00915557 0064	ELBOW, 3/8 TUBE X 1/4 MNPT	2
31	01901551 0045	TUBE, UPPER OIL RETURN	1
32	03100-008	VALVE, RELIEF 1/2 NPT 200 PSIG	1
33	03903311 0001	NECK, OIL FILL	1
34	03903448 0015	RECEIVER, TANK D185-250	1
35	05017000 0019	ELBOW, 1/2MPT X 3/4FSPT 90°	1
36	05018000 0001	ELEMENT, SEPARATOR AIR-OIL D250	1
37	05018485 0406	HOSE ASSY, DISCHARGE	1
38	05018805 0007	ORIFICE, 0.078 ID X 0.25 MPT	1
39	05019415 0053	SWITCH, TEMPERATURE SENDER	1
40	05019550 0130	TUBE ASSY, LOWER OIL RETURN	1
41	05019610 0005	VALVE, MIN PRESS 1-1/4 FNPT	1
42	05019660 0012	VALVE, BLOWDOWN	1
43	05019835 0037	VALVE, SVC 1.00 FNPT INLET X (2) .75 OUTLETS	1

ITEM	PART NUMBER	DESCRIPTION	QTY
44	07255-016	CAP, VENTED	1
45	09661-002	VALVE, REGULATOR	1
46	17254-016	SIGHT GLASS, 1" STR THD	1
47	94035-024	CONNECTOR, 1 1/2" MNPT X 1 1/2" MJIC	2
48	96390-004	ELBOW, UNION 0.25 TUBE STEEL	1

8.12 CONTROL TUBING, SINGLE PRESSURE

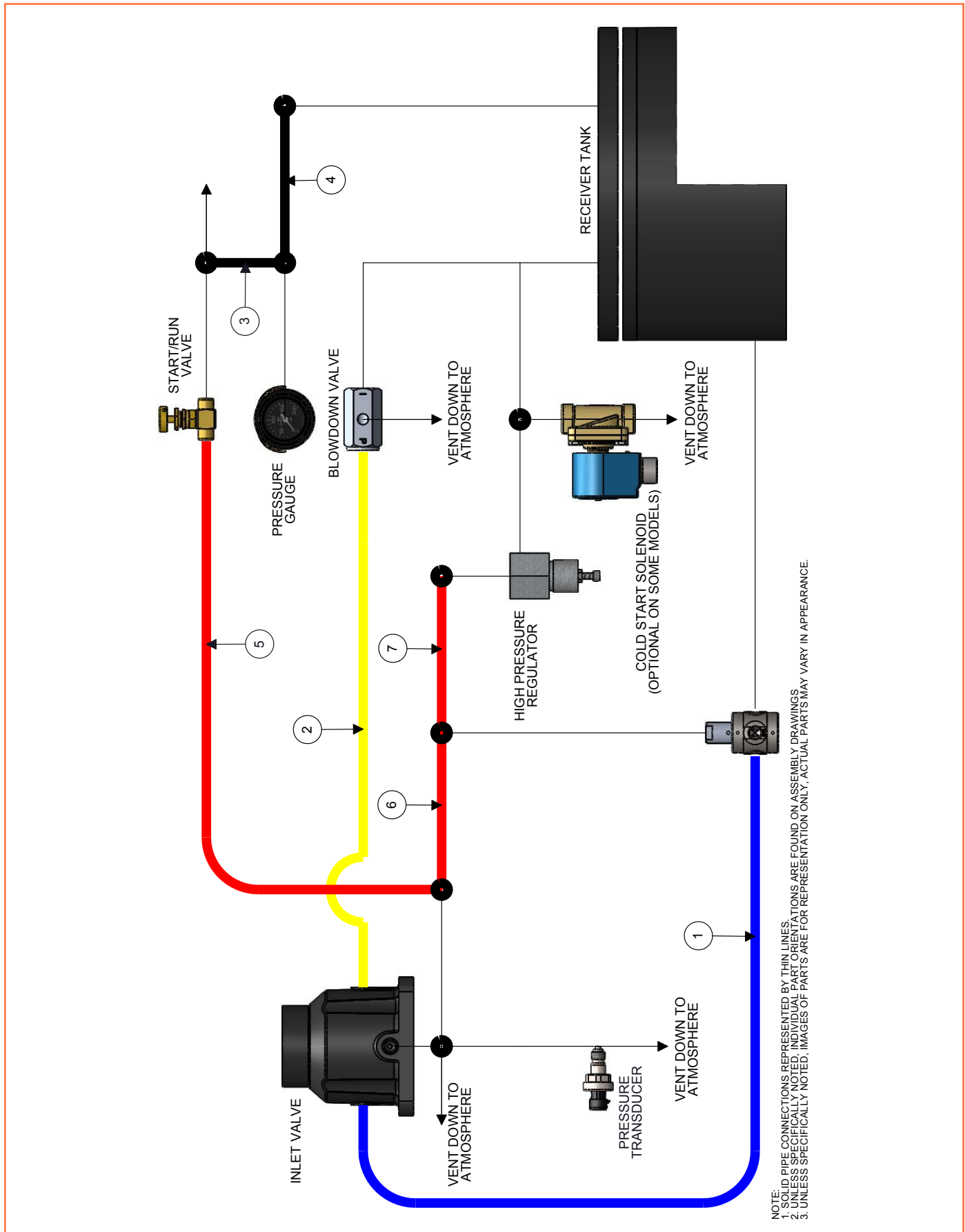


FIGURE 8-7. CD 00016 DIAGRAM, CONTROL D185-

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00910084 0002	TUBING,NYLON 3/8" BLUE	48"
2	00910084 0005	TUBING,NYLON 3/8" YELLOW	40"
3	00910084	TUBING,NYLON 3/8" BLACK	11"
4	00910084	TUBING,NYLON 3/8" BLACK	45"
5	00910084 0004	TUBING,NYLON 3/8" RED	36"
6	00910084 0004	TUBING,NYLON 3/8" RED	18"
7	00910084 0004	TUBING,NYLON 3/8" RED	40"

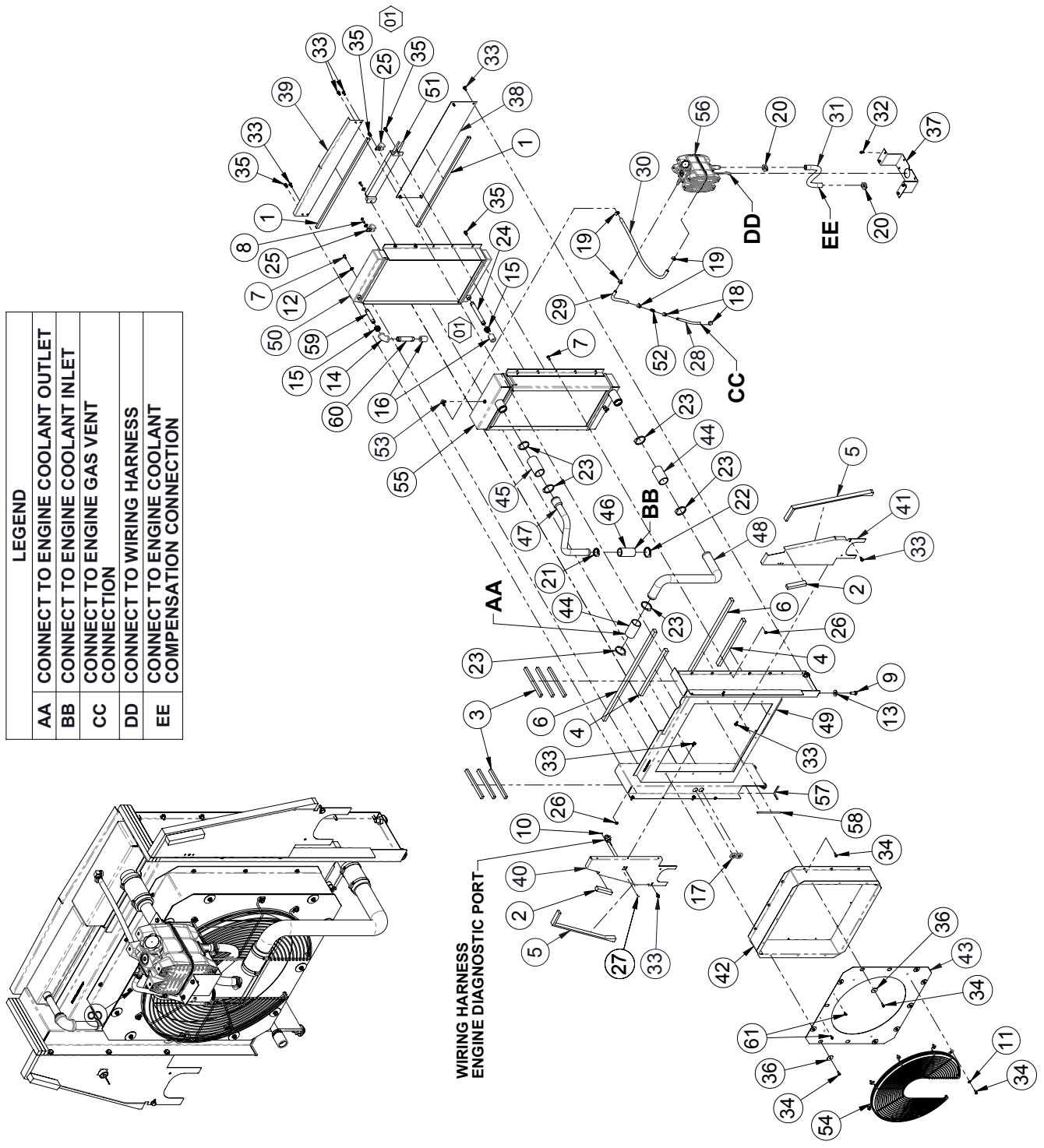


FIGURE 8-8. 00717532 0158 COOLING ASSY, D250PDZ (REV 01)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00800736	TAPE, FOAM 0.50 X 0.75 X 30.50 LG	2
2	00816666	TAPE, FOAM 1.0 X 1.0 X 5.0 LG	2
3	00816666	TAPE, FOAM 1.0 X 1.0 X 9.38 LG	6
4	00816666	TAPE, FOAM 1.0 X 1.0 X 15.5 LG	2
5	00816666	TAPE, FOAM 1.0 X 1.0 X 26.50 LG	2
6	00816666	TAPE, FOAM 1.0 X 1.0 X 30.50 LG	2
7	00900115 0002	BOLT, HEX HEAD 5/16-18 X 3/4	9
8	00900115 0012	BOLT, 0.31-18 X 1.0 HEX HD GR 5	1
9	00900115 0024	SCREW, HHCS 1/2-13 X 1-1/4" LG GR5	4
10	00900214 0024	NUT, 3-48 ZN PLT	4
11	00900321 0002	WASHER, FLAT 1/4 ZN PLT	7
12	00900321 0003	WASHER, FLAT 5/16 ZN PLT	6
13	00900321 0005	WASHER, FLAT 1/2 ZN PLT	4
14	00901027 0005	ELBOW, PIPE 90° 0.75NPT 150# GLV	1
15	00901161 0009	BUSHING, PIPE 3/4 X 1/2 GLV	2
16	00901286 0005	COUPLING, PIPE 3/4 NPT 150# GLV	2
17	00901414 0310	GROMMET, RUBBER, 0.75 ID X 1.63 OD	2
18	00902319 0001	CLAMP, HOSE 0.22 - 0.63	2
19	00902319 0002	CLAMP, HOSE 1/2 X 29/32	4
20	00902319 0004	CLAMP, HOSE 0.69-1.25	2
21	00902319 0006	CLAMP, HOSE 13/16 - 1-3/4	1
22	00902319 0008	CLAMP, HOSE 1-5/16 - 2-1/4	1
23	00902319 0009	CLAMP, HOSE 1-9/16 X 2-1/2	6
24	00902469 0220	NIPPLE, PIPE 0.50 X 7.0 GLV SCH40	1
25	00902905 0024	CLAMP, SUPPORT 1.25 ID	2
26	00905376 0005	LOCKNUT, FLEX 5/16-18 ZN PLT	10
27	00905850 0109	SCREW, PHCS 3-48 X 0.50 PHIL	4
28	00906814 0004	HOSE, 0.25 ID X 12.0" LG 250 PSI	1
29	00906814 0006	HOSE, 0.38 ID X 12.0" LG 250 PSI	1
30	00906814 0006	HOSE, 0.38 ID X 24.0" LG 250 PSI	1
31	00906814 0012	HOSE, 0.75 ID X 19.0" LG 250 PSI	1
32	00913792 0038	BOLT, THRD FORM 1/4-20 X 1/2	4
33	00913792 0039	SCREW, THRD FORM 5/16-18 X 1/2" SS	15
34	00913792 0054	BOLT, 1/4-20 X 3/4 THD FORM	28
35	00913792 0055	BOLT, THRD FORM 0.31-18 X 0.75 SS	6
36	00917850 0006	WASHER, BODY 1/4" X 1-1/2" OD	9
37	01900216 0603	BRACKET, COOLANT TANK	1
38	01900416 0058	COVER, LOWER BAFFLE	1
39	01900416 0059	COVER, UPPER BAFFLE	1
40	01901000 0552	PANEL, BAFFLE, CURBSIDE	1
41	01901000 0553	PANEL, BAFFLE, STREET SIDE	1
42	01901378 0053	ADAPTER, FAN ORIFICE	1
43	01901378 0055	ORIFICE PLATE, D210PDZ	1

ITEM	PART NUMBER	DESCRIPTION	QTY
44	01901492 0001	SLEEVE, 2.0 ID X 4.0 LG	2
45	01901492 0028	SLEEVE, 2.0 ID X 4.5 LG	1
46	01901492 0030	SLEEVE, RUBBER 1.5 ID X 4.0 LG	1
47	01901562 0133	TUBE, RADIATOR UPPER	1
48	01901562 0134	TUBE, RADIATOR LOWER	1
49	03903400 0090	SHROUD, RADIATOR & OIL	1
50	05017705 0005HA	COOLER, OIL D210-D250	1
51	05017705 0062	COOLER, FUEL D185PDZ	1
52	05018231 0001	FITTING, 3/8 BARB X 1/4 BARB	1
53	05018231 0002	ELBOW, 90° 3/8 BARB X 1/4 NPT	1
54	05018385 0013	GUARD, FAN, 20" DIA	1
55	05019010 0041	RADIATOR, ENGINE D185-250	1
56	05019492 0011	TANK, COOLANT RECOVERY 3.5L	1
57	08753-001	MOLDING, EDGE VINYL 4.2" LG	1
58	08753-001	MOLDING, EDGE VINYL 6.75" LG	1
59	92469-139	NIPPLE, 0.50 X 3.50 SCH40 GLV	1
60	92469-149	NIPPLE, 0.75 X 4.50 SCH40 GLV	1
61	94302-035	SCREW, SELF DRILL 1/4-3/4LG	2

8.14 OIL FILTER AND PIPING

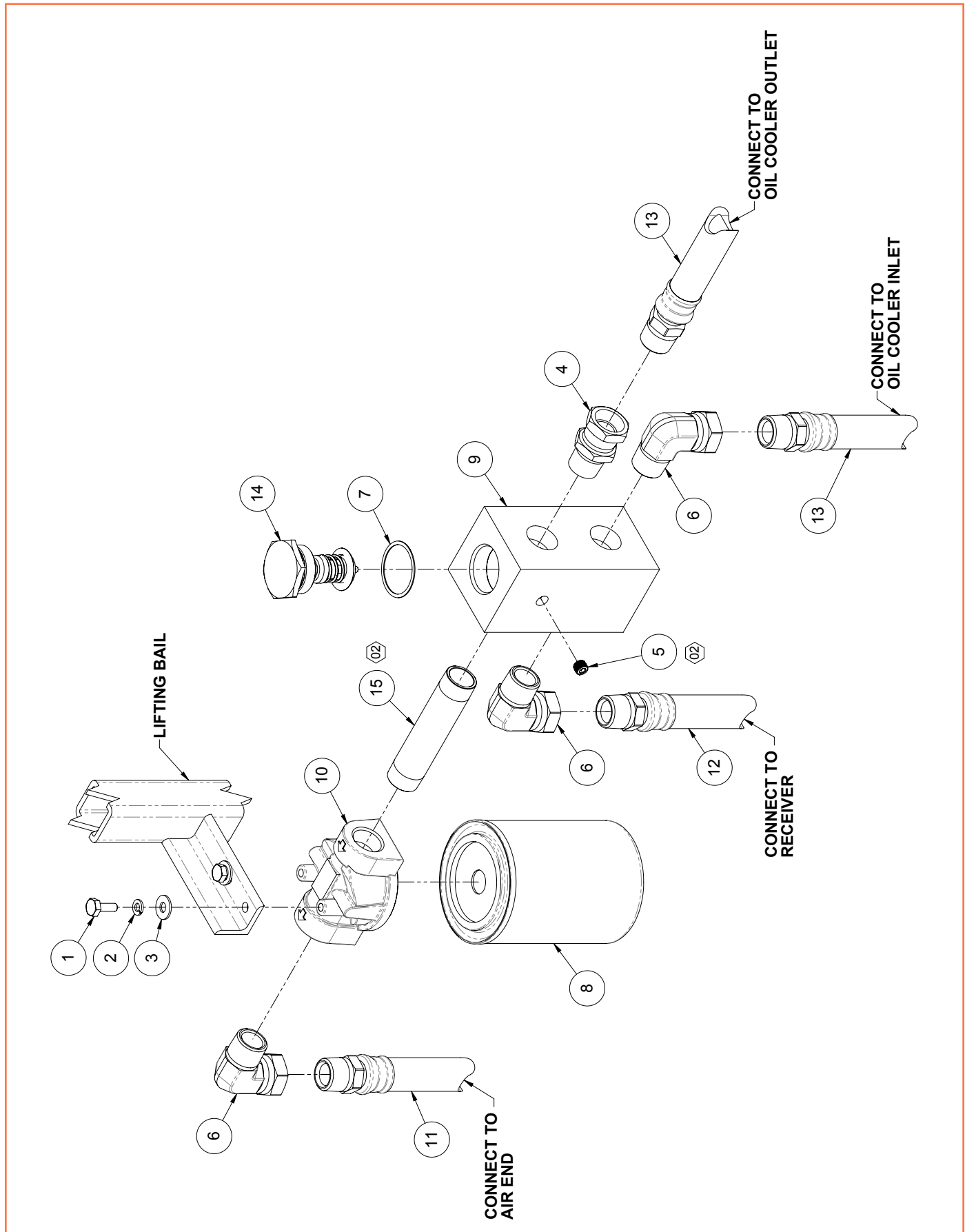
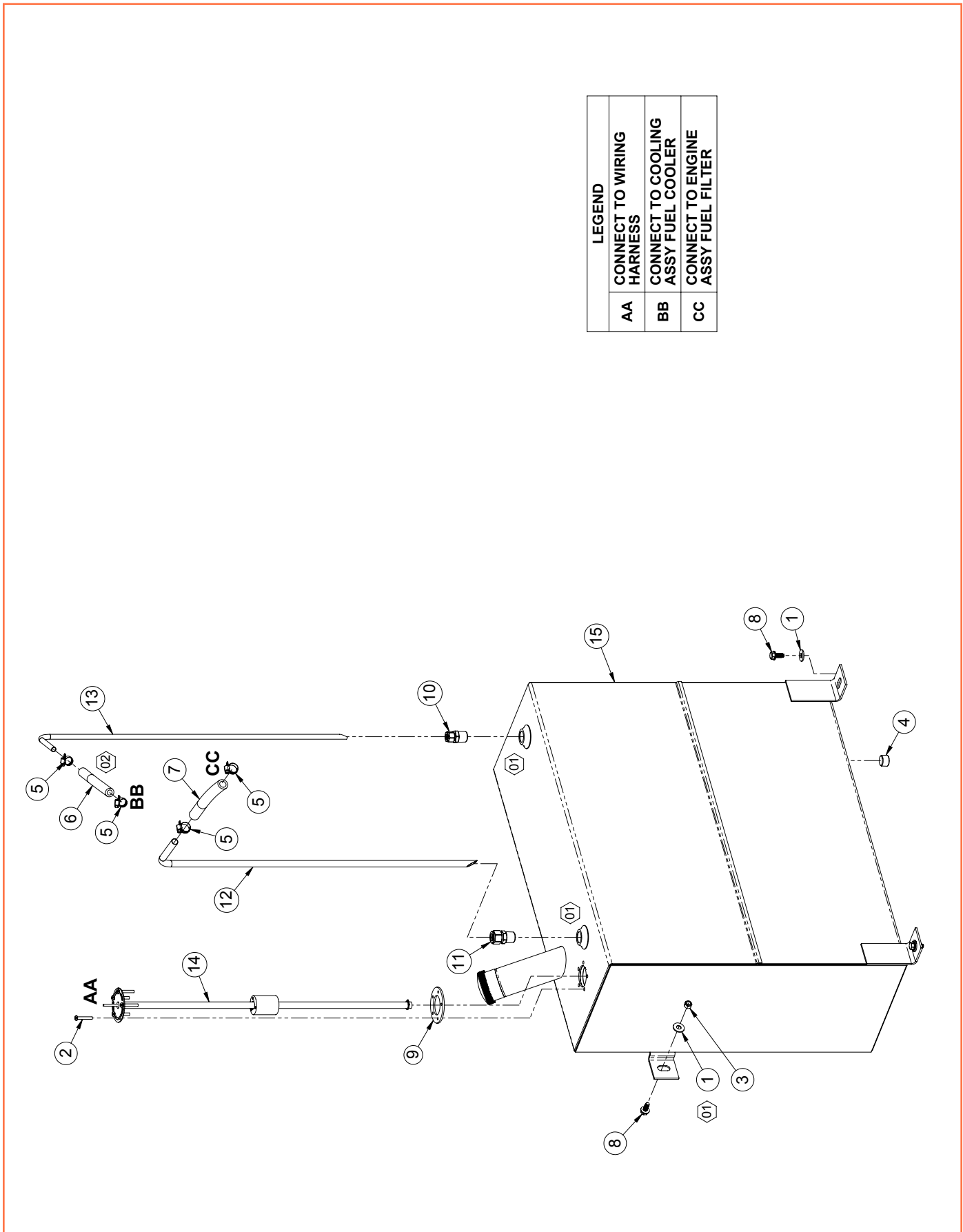


FIGURE 8-9. 007176M20 0053 FILTER, OIL & PIPING (REV 02)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00900115 0001	SCREW, 1/4-20 X 3/4 LG GR5	2
2	00900305 0001	LOCKWASHER, SPRING 1/4"	2
3	00900321 0002	WASHER, FLAT 1/4 ZN PLT	2
4	00900716 0017	UNION, ADPT, SWIVEL 3/4 MPTXFPT	1
5	00901921 0001	PLUG, PIPE 1/8" HEX SOCKET HEAD	1
6	00903686 0008	UNION, MALE ELBOW 3/4 X 3/4NPT	3
7	01228207 0025	GASKET, THERMOSTAT, 1-1/2"	1
8	01900520 0012	ELEMENT, OIL FILTER	1
9	01900808 0001	HOUSING, THERMOSTAT	1
10	05018185 0003	FILTER ASSY, OIL	1
11	05018485 0095	HOSE ASSY, 3/4NPT X 23.0 OAL	1
12	05018485 0096	HOSE ASSY, 3/4NPT X 35.0 OAL	1
13	05018485 0174	HOSE ASSY, 3/4NPT X 30.0 OAL	2
14	05019505 0009	VALVE, THERMOSTAT 170 ° F	1
15	92469-149	NIPPLE, 0.75 X 4.50 SCH40 GLV	1

8.15 FUEL TANK ASSEMBLY



LEGEND	
AA	CONNECT TO WIRING HARNESS
BB	CONNECT TO COOLING ASSY FUEL COOLER
CC	CONNECT TO ENGINE ASSY FUEL FILTER

FIGURE 8-10. 00717972 0118A TANK ASSY, FUEL D185PDZ (REV 02)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00900321 0003	WASHER, FLAT 5/16 ZN PLT	3
2	00900336 0238	SCREW, #10-24X1-1/4 ORING	5
3	00900490 0062	NUT, NYLOK 5/16-18 ZN PLT	1
4	00901925 0005	PLUG, PIPE .500 HEX SOCKET STAINLESS	1
5	00902319 0002	CLAMP, HOSE 1/2 X 29/32	4
6	00906814 0006	HOSE, 0.38" ID X 120.0" LG 250 PSI	1
7	00906814 0008	HOSE, 0.50" ID X 31.0" LG 250 PSI	1
8	00913792 0055	SCREW, 5/16-18 X 3/4 THD FORM SS	3
9	01225508	GASKET, FUEL SENDER	1
10	01900592 0054	ADAPTER, 0.38 T X 0.50MPT	1
11	01900592 0055	ADAPTER, 0.50 T X 0.50MPT	1
12	01901551 0088	TUBE, FUEL FEED	1
13	01901551 0089	TUBE, FUEL RETURN	1
14	05019189 0010	SENDER, FUEL LEVEL DEUTZ	1
15	05019475 0072	TANK, FUEL 30 GAL D185PDZ	1

8.16

INSTRUMENT PANEL ASSEMBLY

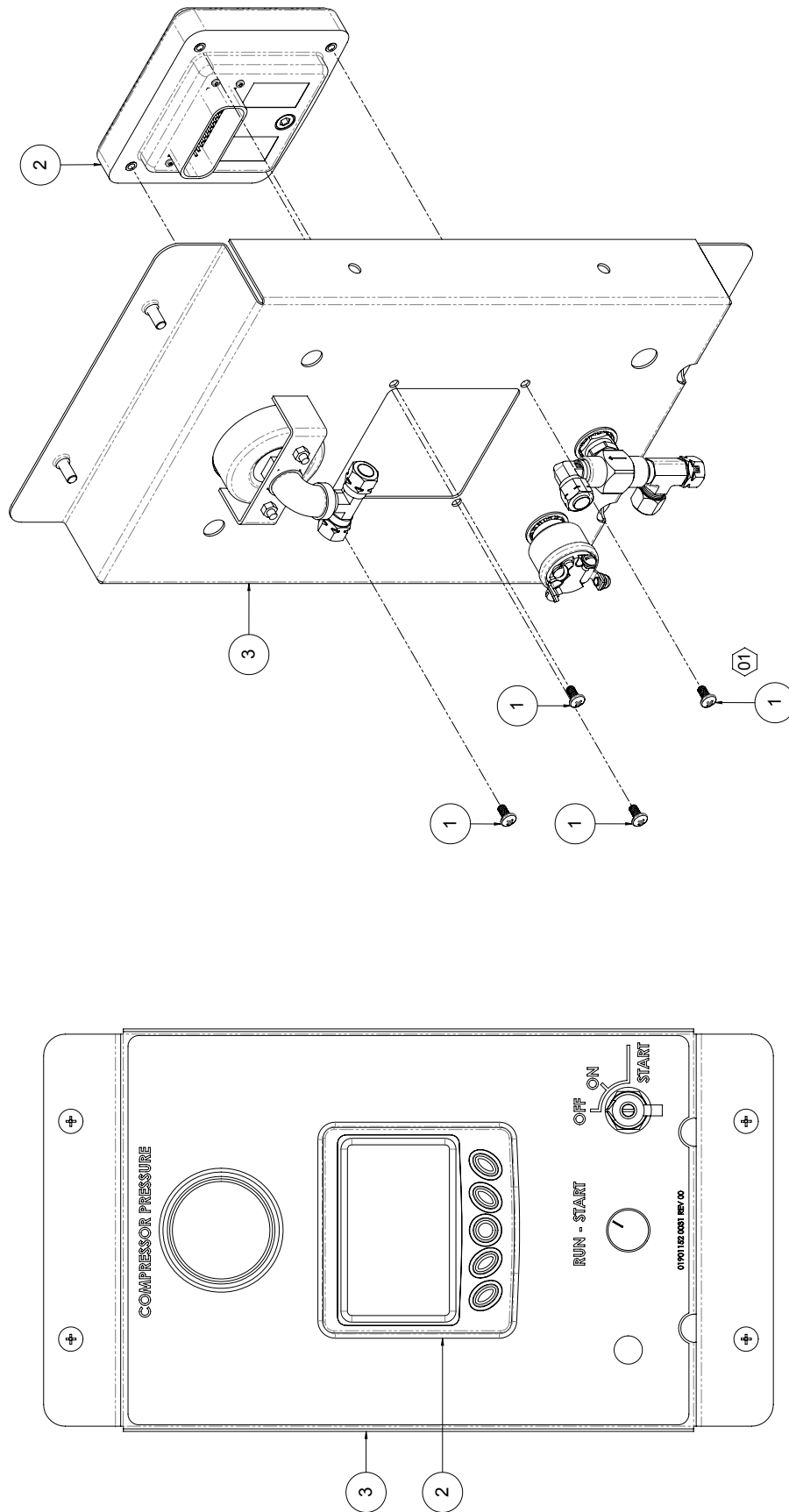
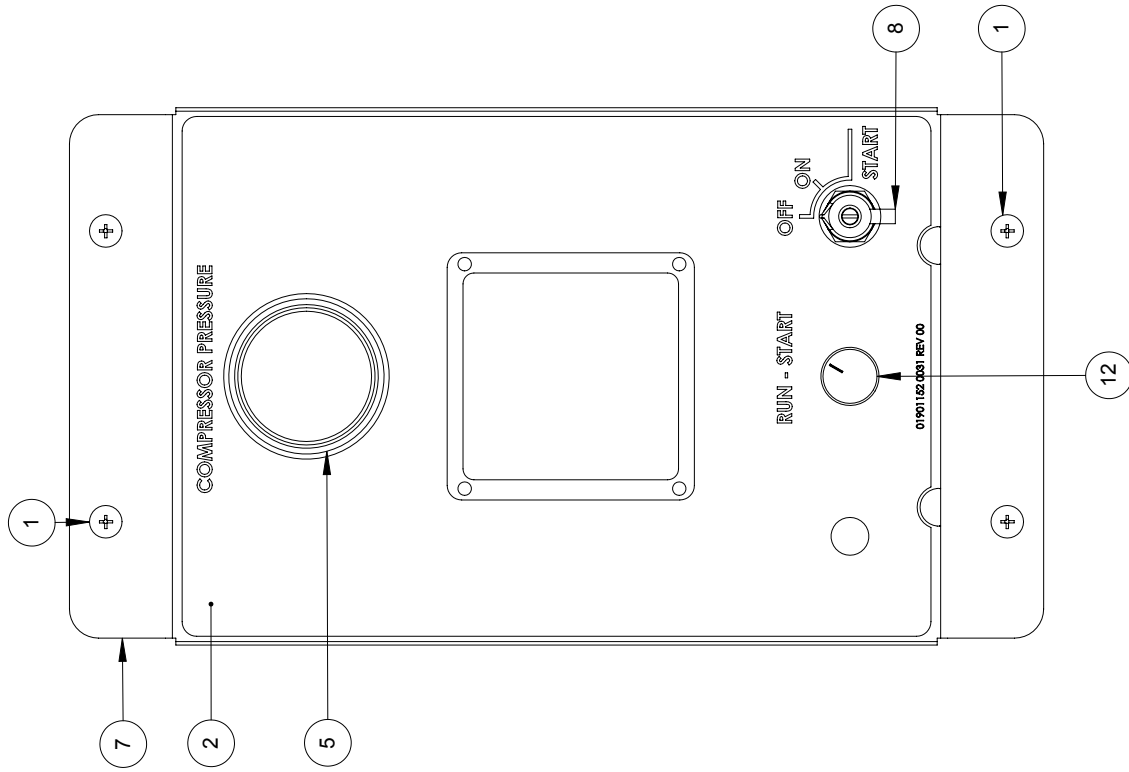


FIGURE 8-11. 00717680 0145 INST ASSY, DEUTZ PV480 SINGLE (REV 01)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00900335 0375	SCREW, 8-32 X 0.31 PHILLIPS PAN HEAD	4
2	05018366 0008	GAUGE, MURPHY PV480 DEUTZ D185-210	1
3	05018845 0148	PANEL, INST D185-375 SINGLE PSI	1

8.16.1 INSTRUMENT PANEL



APPLY THE FOLLOWING SEALANTS TO ALL BELOW LISTED PARTS/SURFACES

TO ALL BOLTS:

LOCTITE 242 OR EQUIVALENT

TO ALL GASKET SURFACES:

LOCTITE 'VIPER LUBE' CLEAR
HIGH PERFORMANCE SYNTHETIC
GREASE OR EQUIVALENT

TO ALL PIPE THREADS:

LOCTITE 567 THREAD SEALANT
OR EQUIVALENT

FIGURE 8-12. 05018845 0148 PANEL, INST D185-375 SINGLE PSI (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00900389 0027	BOLT, BUTTON HEAD PHILLIPS 1/4-20 X 3/4 SS	4
2	01901152 0031	DECAL, INSTRUMENT PANEL D185-375 LOW PRESSURE	1
3	00915557 0064	ELBOW, .375 TUBE X .250 MNPT BRASS	1
4	00901027 0002	ELBOW, PIPE .25 150# GALV	1
5	05018310 0019	GAUGE, PSI 2.50 DIA DRY FILL	1
6	01900930 0024	ORIFICE, .020 PUSH LOK CAP .375 TUBE	1
7	01901000 0912	PANEL, INSTRUMENT D375PDCU	1
8	00600701 0406	SWITCH, KEY IGNITION 3-WAY	1
9	00800125	TAPE, NEOPRENE 1/8" THICK X 1/2" WIDE (NOT SHOWN)	1.5 FT
10	00915534 0064	TEE, .375 TUBE X .250 MNPT MALE BRANCH BRASS	1
11	00915564 0064	TEE, MALE RUN 1/4" MNPT X 3/8" TUBE BRASS	1
12	05019820 0002	VALVE 2-WAY 1/4" FNPT BRASS	1
13	00900609 0011	WASHER, LOCK 5/8" INTERNALLY SERRATED ZINC	2

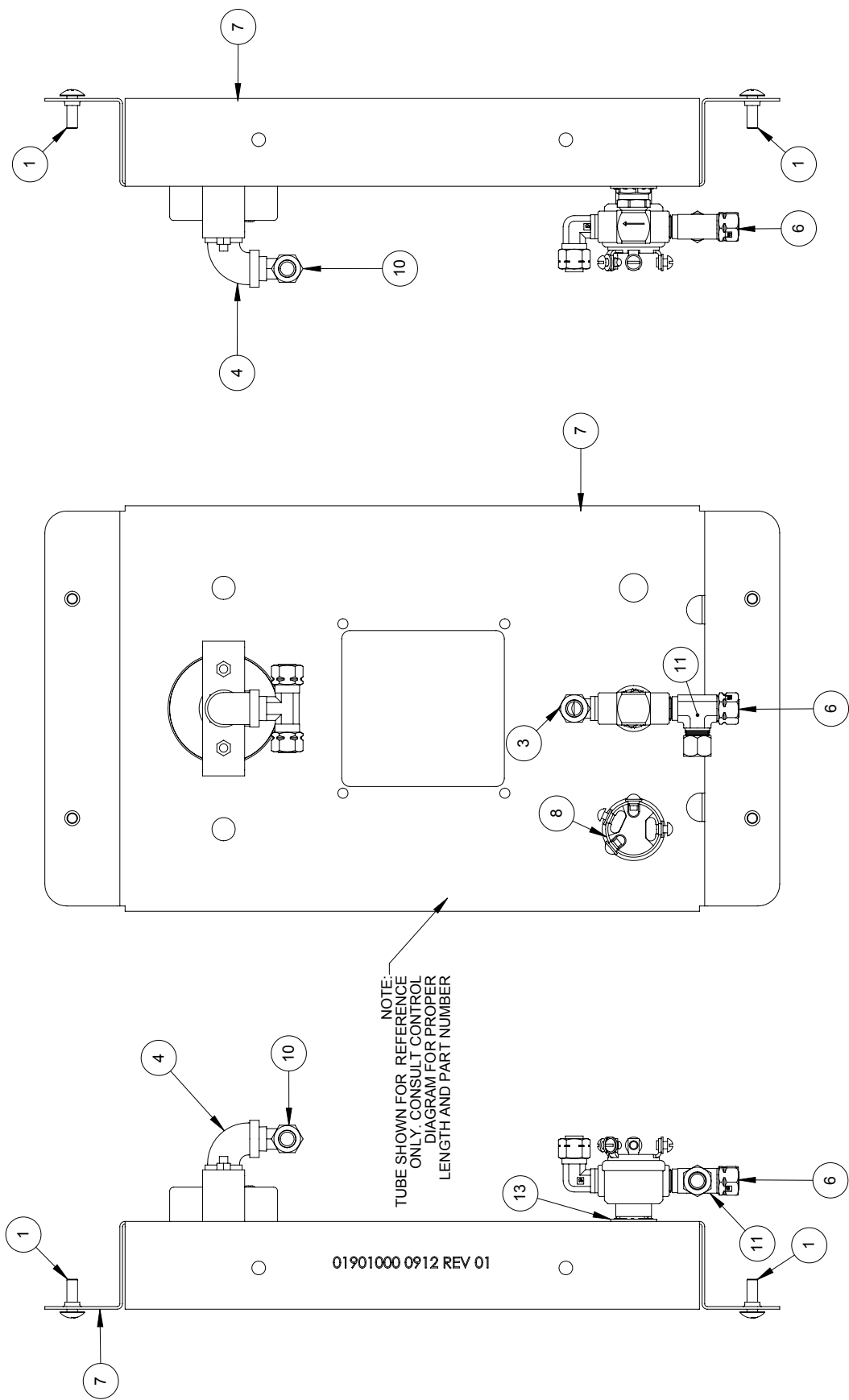


FIGURE 8-13. 05018845 0148 PANEL, INST D185-375 SINGLE PSI (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00900389 0027	BOLT, BUTTON HEAD PHILLIPS 1/4-20 X 3/4 SS	4
2	01901152 0031	DECAL, INSTRUMENT PANEL D185-375 LOW PRESSURE	1
3	00915557 0064	ELBOW, .375 TUBE X .250 MNPT BRASS	1
4	00901027 0002	ELBOW, PIPE .25 150# GALV	1
5	05018310 0019	GAUGE, PSI 2.50 DIA DRY FILL	1
6	01900930 0024	ORIFICE, .020 PUSH LOK CAP .375 TUBE	1
7	01901000 0912	PANEL, INSTRUMENT D375PDCU	1
8	00600701 0406	SWITCH, KEY IGNITION 3-WAY	1
9	00800125	TAPE, NEOPRENE 1/8" THICK X 1/2" WIDE (NOT SHOWN)	1.5 FT
10	00915534 0064	TEE, .375 TUBE X .250 MNPT MALE BRANCH BRASS	1
11	00915564 0064	TEE, MALE RUN 1/4" MNPT X 3/8" TUBE BRASS	1
12	05019820 0002	VALVE 2-WAY 1/4" FNPT BRASS	1
13	00900609 0011	WASHER, LOCK 5/8" INTERNALLY SERRATED ZINC	2

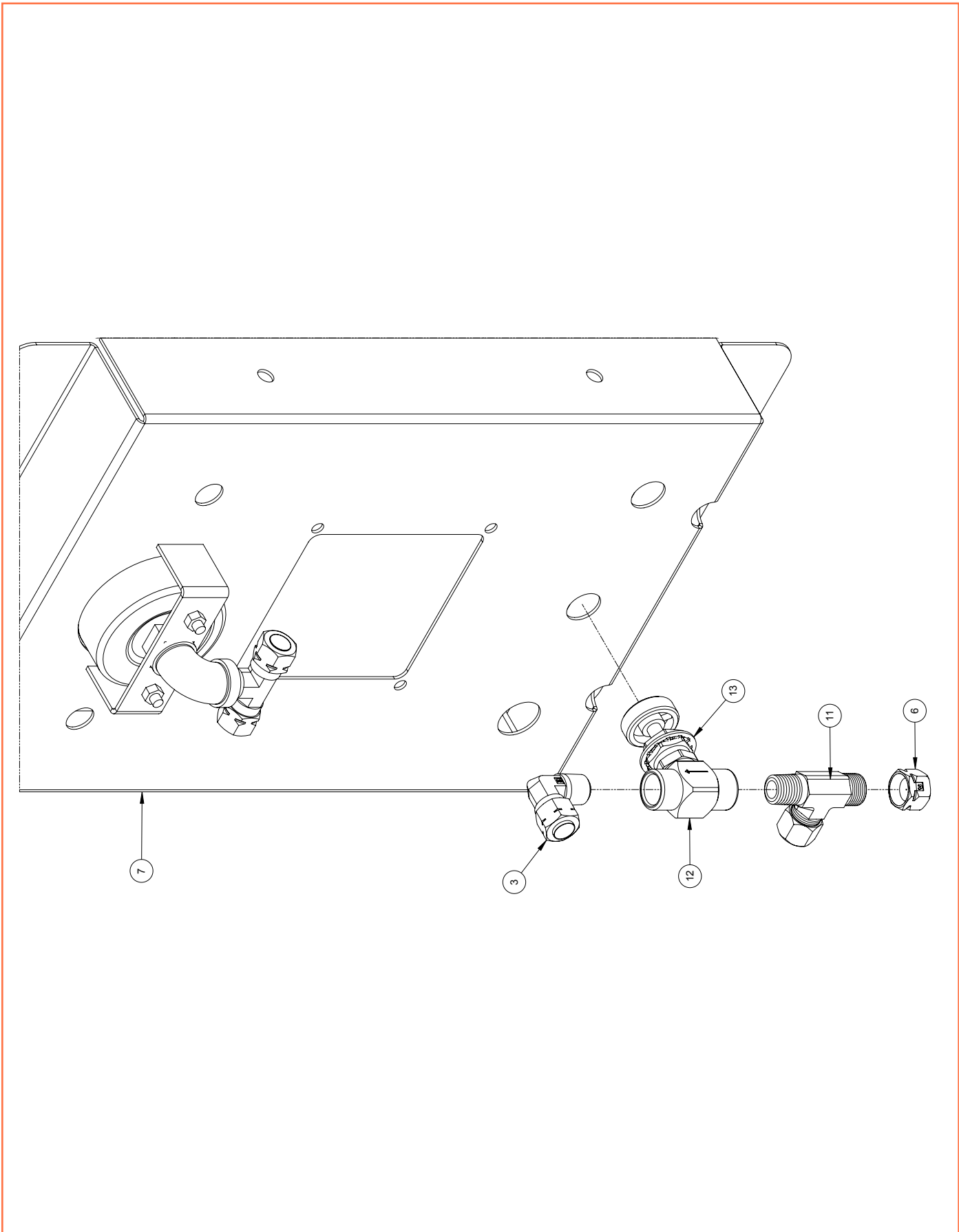


FIGURE 8-14. 05018845 0148 PANEL, INST D185-375 SINGLE PSI (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00900389 0027	BOLT, BUTTON HEAD PHILLIPS 1/4-20 X 3/4 SS	4
2	01901152 0031	DECAL, INSTRUMENT PANEL D185-375 LOW PRESSURE	1
3	00915557 0064	ELBOW, .375 TUBE X .250 MNPT BRASS	1
4	00901027 0002	ELBOW, PIPE .25 150# GALV	1
5	05018310 0019	GAUGE, PSI 2.50 DIA DRY FILL	1
6	01900930 0024	ORIFICE, .020 PUSH LOK CAP .375 TUBE	1
7	01901000 0912	PANEL, INSTRUMENT D375PDCU	1
8	00600701 0406	SWITCH, KEY IGNITION 3-WAY	1
9	00800125	TAPE, NEOPRENE 1/8" THICK X 1/2" WIDE (NOT SHOWN)	1.5 FT
10	00915534 0064	TEE, .375 TUBE X .250 MNPT MALE BRANCH BRASS	1
11	00915564 0064	TEE, MALE RUN 1/4" MNPT X 3/8" TUBE BRASS	1
12	05019820 0002	VALVE 2-WAY 1/4" FNPT BRASS	1
13	00900609 0011	WASHER, LOCK 5/8" INTERNALLY SERRATED ZINC	2

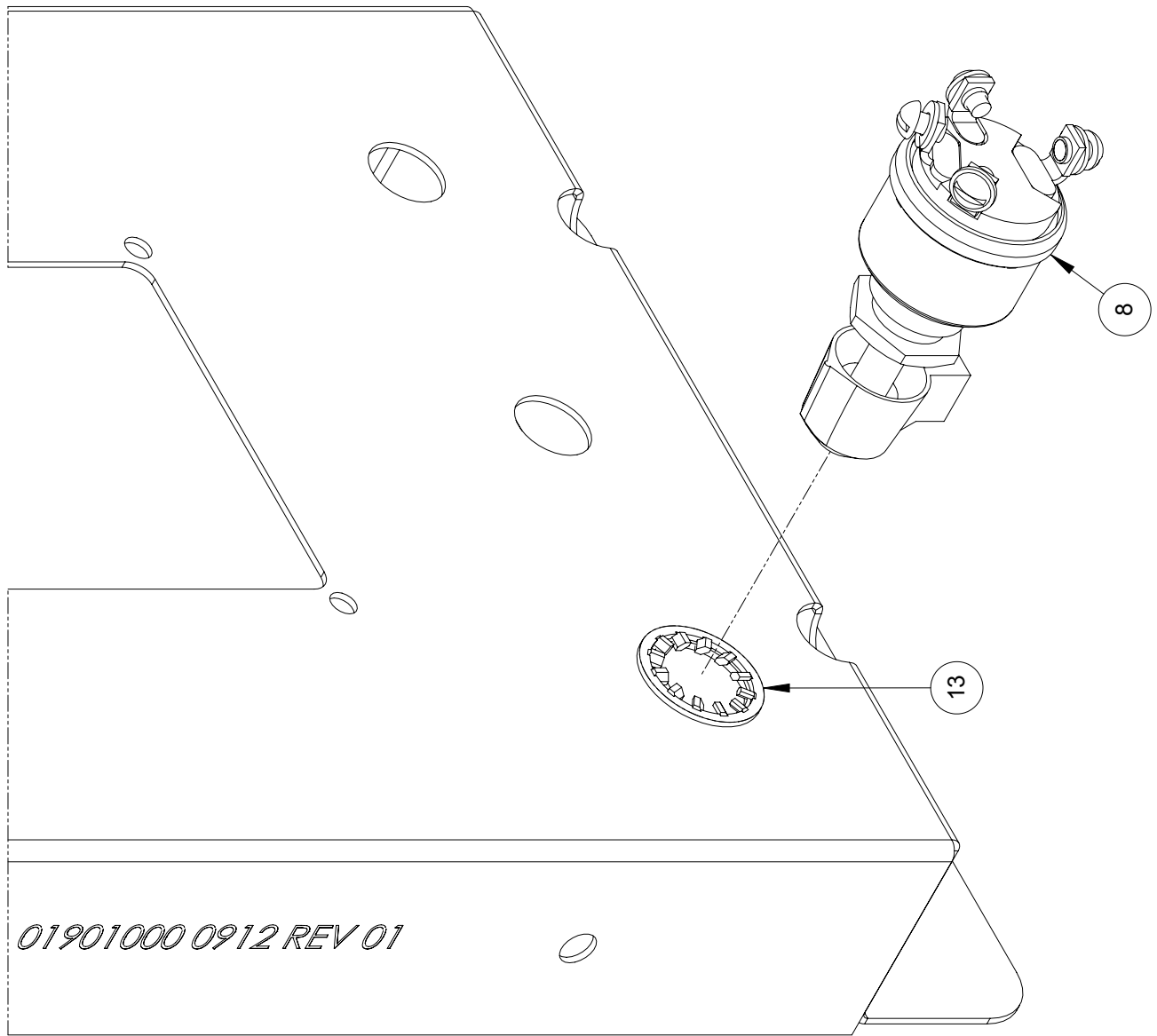


FIGURE 8-15. 05018845 0148 PANEL, INST D185-375 SINGLE PSI (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00900389 0027	BOLT, BUTTON HEAD PHILLIPS 1/4-20 X 3/4 SS	4
2	01901152 0031	DECAL, INSTRUMENT PANEL D185-375 LOW PRESSURE	1
3	00915557 0064	ELBOW, .375 TUBE X .250 MNPT BRASS	1
4	00901027 0002	ELBOW, PIPE .25 150# GALV	1
5	05018310 0019	GAUGE, PSI 2.50 DIA DRY FILL	1
6	01900930 0024	ORIFICE, .020 PUSH LOK CAP .375 TUBE	1
7	01901000 0912	PANEL, INSTRUMENT D375PDCU	1
8	00600701 0406	SWITCH, KEY IGNITION 3-WAY	1
9	00800125	TAPE, NEOPRENE 1/8" THICK X 1/2" WIDE (NOT SHOWN)	1.5 FT
10	00915534 0064	TEE, .375 TUBE X .250 MNPT MALE BRANCH BRASS	1
11	00915564 0064	TEE, MALE RUN 1/4" MNPT X 3/8" TUBE BRASS	1
12	05019820 0002	VALVE 2-WAY 1/4" FNPT BRASS	1
13	00900609 0011	WASHER, LOCK 5/8" INTERNALLY SERRATED ZINC	2

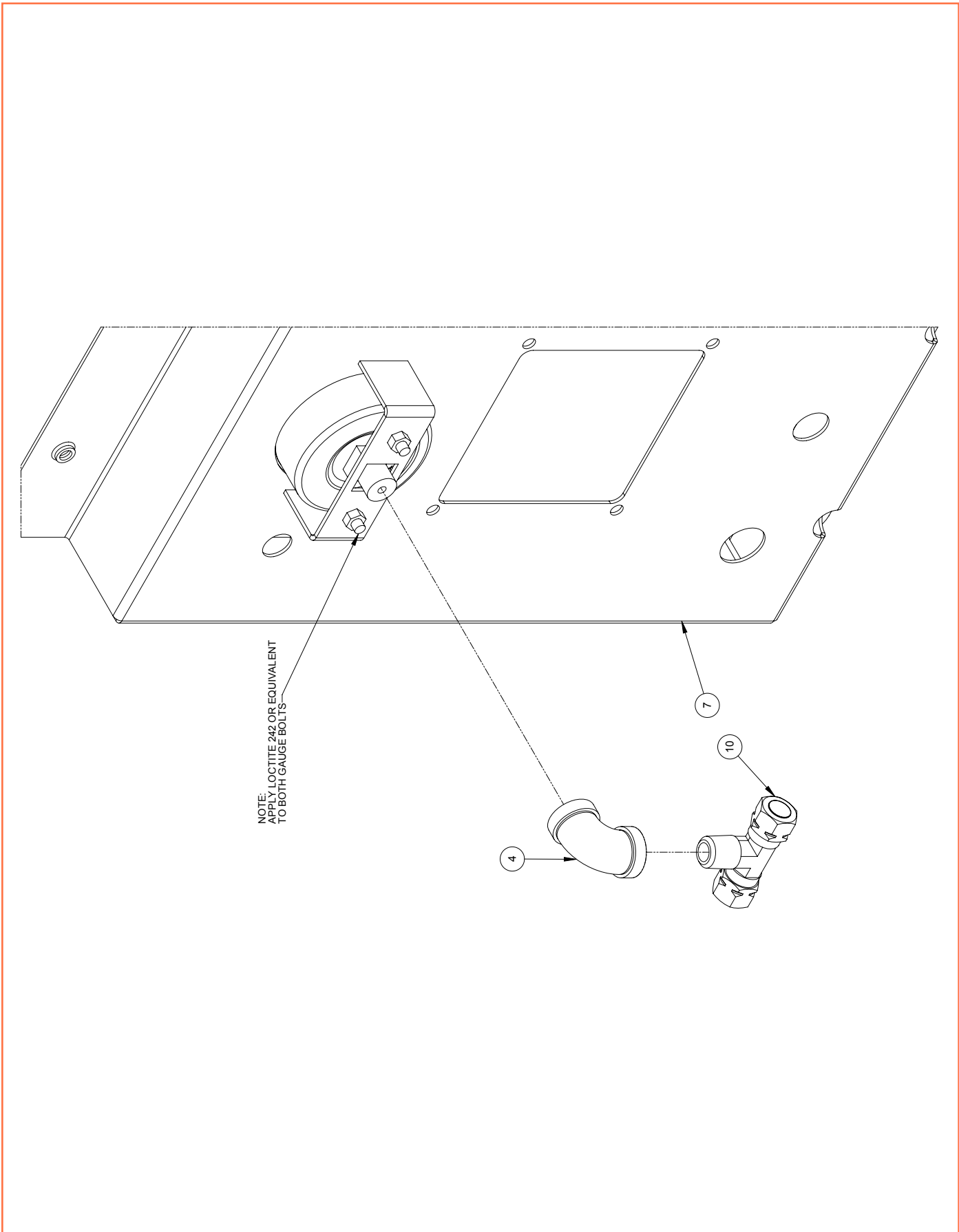


FIGURE 8-16. 05018845 0148 PANEL, INST D185-375 SINGLE PSI (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00900389 0027	BOLT, BUTTON HEAD PHILLIPS 1/4-20 X 3/4 SS	4
2	01901152 0031	DECAL, INSTRUMENT PANEL D185-375 LOW PRESSURE	1
3	00915557 0064	ELBOW, .375 TUBE X .250 MNPT BRASS	1
4	00901027 0002	ELBOW, PIPE .25 150# GALV	1
5	05018310 0019	GAUGE, PSI 2.50 DIA DRY FILL	1
6	01900930 0024	ORIFICE, .020 PUSH LOK CAP .375 TUBE	1
7	01901000 0912	PANEL, INSTRUMENT D375PDCU	1
8	00600701 0406	SWITCH, KEY IGNITION 3-WAY	1
9	00800125	TAPE, NEOPRENE 1/8" THICK X 1/2" WIDE (NOT SHOWN)	1.5 FT
10	00915534 0064	TEE, .375 TUBE X .250 MNPT MALE BRANCH BRASS	1
11	00915564 0064	TEE, MALE RUN 1/4" MNPT X 3/8" TUBE BRASS	1
12	05019820 0002	VALVE 2-WAY 1/4" FNPT BRASS	1
13	00900609 0011	WASHER, LOCK 5/8" INTERNALLY SERRATED ZINC	2

8.17 INSTRUMENT PANEL ASSEMBLY, ECU CONTROLS

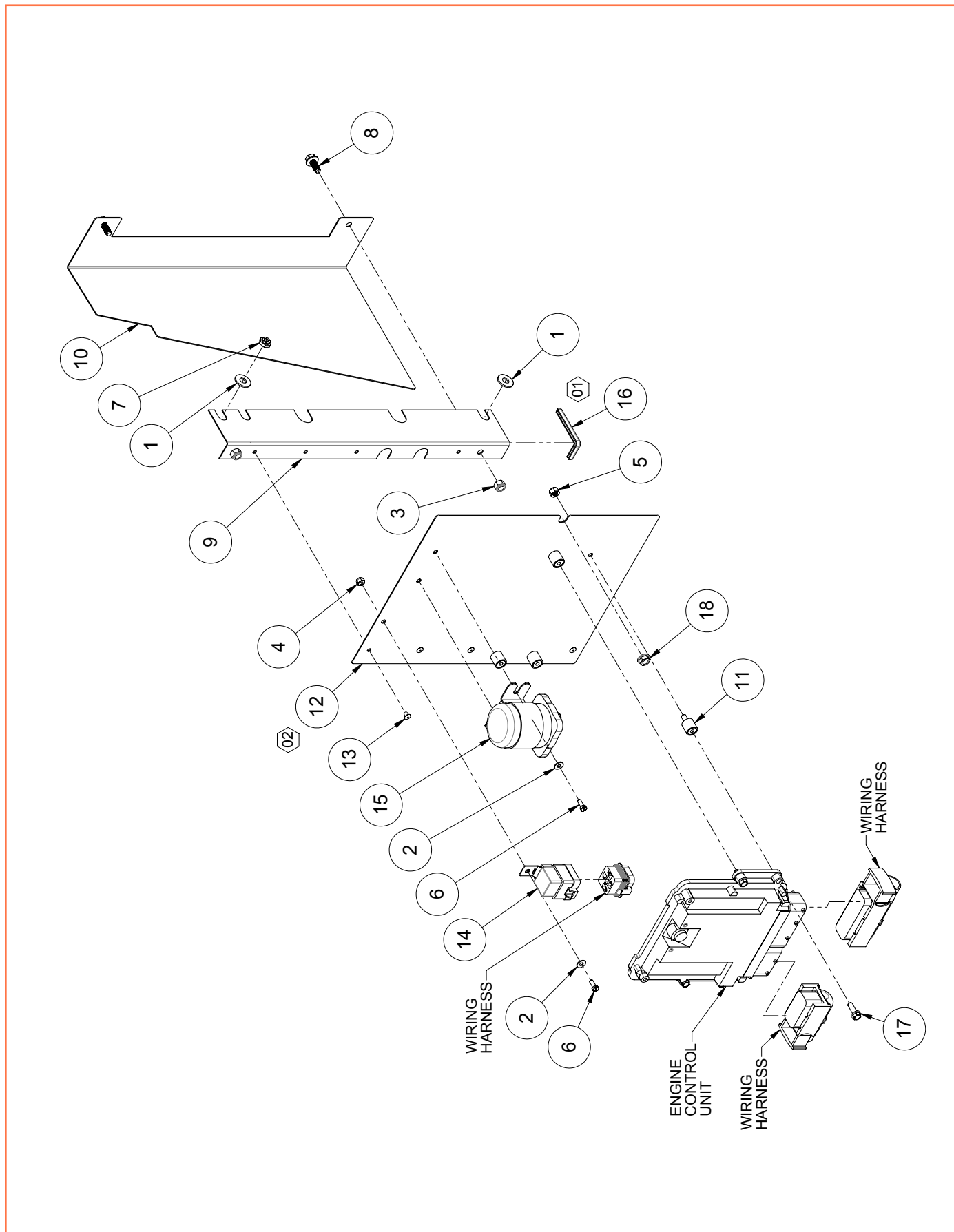


FIGURE 8-17. 00717680 0153 INST ASSY, ECU CONTROLS DEUTZ (REV 02)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00900321 0003	WASHER, FLAT 5/16 ZN PLT	2
2	00900321 0022	WASHER, FLAT #10 ZN PLT	3
3	00900490 0062	NUT, NYLOK 5/16-18 ZN PLT	2
4	00900490 0064	NUT, NYLOK 10-24 ZN PLT	3
5	00900490 0071	NUT, NYLOK 1/4-20 ZN PLT	4
6	00900804 0109	SCREW, #10-24 X 1/2" LG	3
7	00905376 0005	LOCKNUT, FLEX 5/16-18 ZN PLT	1
8	00913792 0055	SCREW, 5/16-18 X 3/4 THD FORM SS	2
9	01900104 0288	ANGLE, ECU DEUTZ	1
10	01900216 0610	BRACKET, ECU DEUTZ	1
11	01900854 0021	ISOLATOR, VIBRATION 0.63 OD X 0.63 THK	4
12	01901112 0568	PLATE, ECU DEUTZ	1
13	01901256 0004	RIVET, BLIND, 3/16 X 1/16 - 1/8 SS	4
14	05019085 0015	RELAY,12VDC,50A,NO & NC	1
15	05019280 0013	RELAY, CONTROL, 12VDC	1
16	08753-001	MOLDING, EDGE VINYL 4" LG	1
17	93115-001	BOLT, WHIZ .25IN-20 X .75IN	4
18	93165-003	NUT, WHIZ 0.31-18	1

8.18 ENCLOSURE ASSEMBLY

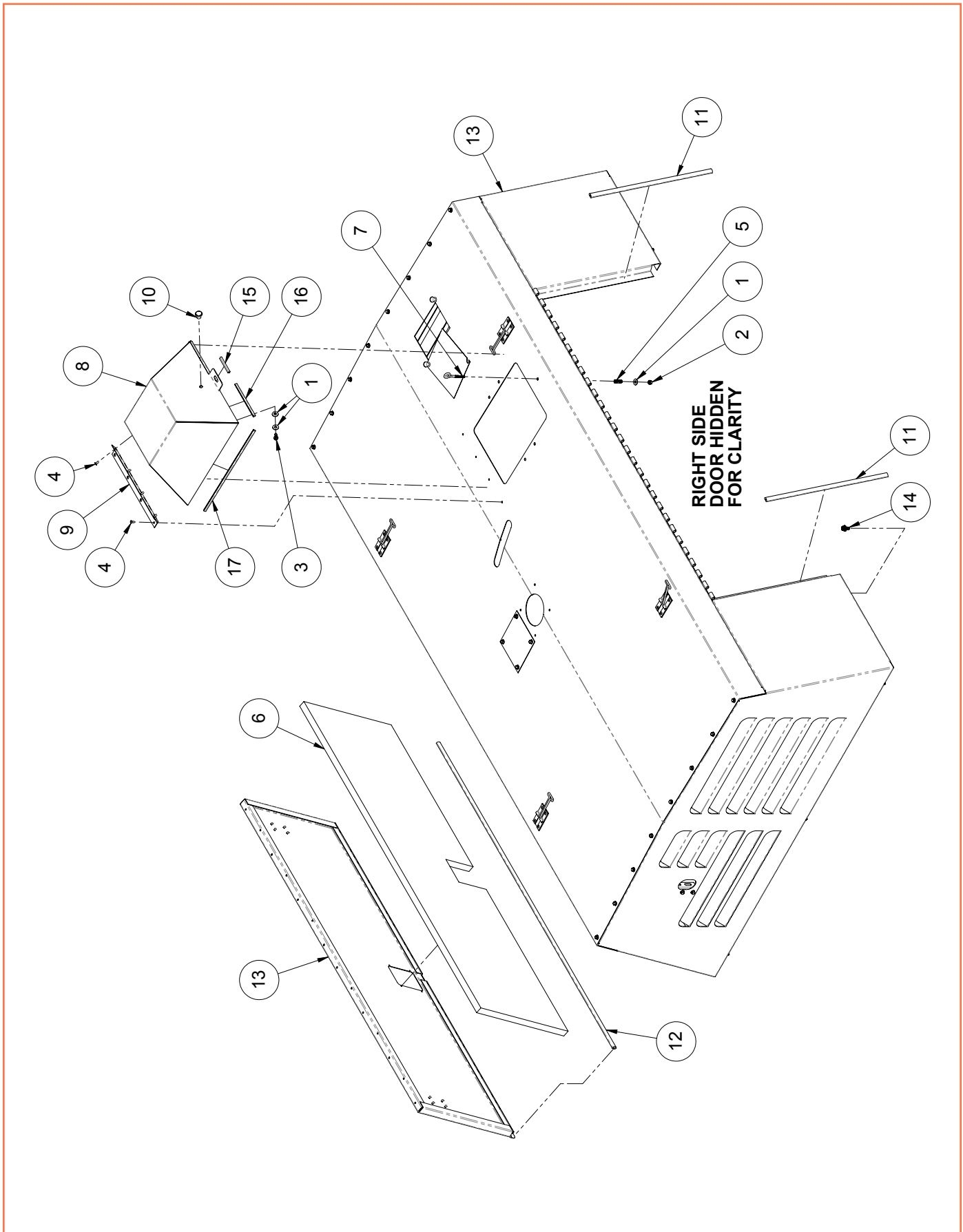


FIGURE 8-18. 00717598 0123 ENCLOSURE ASSY, D185PDZ (REV 01)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00900321 0002	WASHER, FLAT 1/4 ZN PLT	3
2	00900490 0071	NUT, NYLOK 1/4-20 ZN PLT	1
3	00913792 0038	BOLT, THRD FORM 1/4-20 X 1/2	1
4	00916867 0421	RIVET, .19 X .126 - .25 RANGE	8
5	01228269 0020	SPRING, INST PANEL EYE BOLT RETURN	1
6	01900007 0244	ACOUSTIC, SIDE DOOR,185	2
7	01900168 0005	BOLT, EYE 1/4-20 ZN	1
8	01900416 0156	COVER, COOLANT TANK D185PDZ	1
9	01900752 0104	HINGE, COOLANT TANK COVER	1
10	01900860 0010	KNOB, 0.25-20 THRD 0.88 OD	1
11	01901295 0003	SEAL, D-SHAPE EPDM 17" LG	4
12	01901295 0003	SEAL, D-SHAPE EPDM 54" LG	2
13	03903168 0122	ENCLOSURE, UPPER, D185PDZ	1
14	05017310 0015	CAP SCREW, FLANGE 5/16-18 X 5/8 LG	10
15	08753-001	MOLDING, EDGE VINYL 2.56" LG	1
16	08753-001	MOLDING, EDGE VINYL 5.63" LG	2
17	08753-001	MOLDING, EDGE VINYL 14.25" LG	2

8.18.1 ENCLOSURE

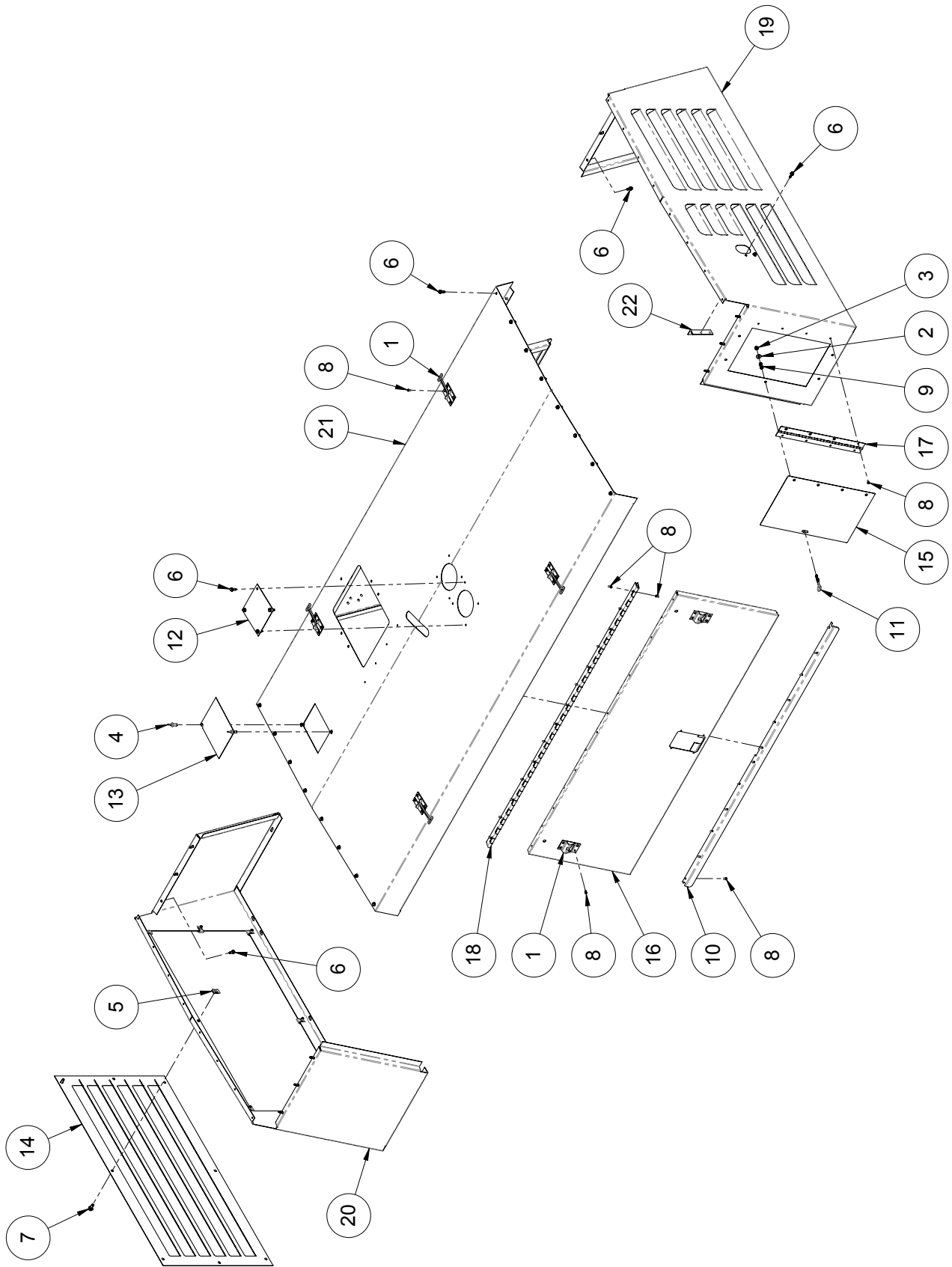


FIGURE 8-19. 03903168 0122 ENCLOSURE ASSY, D185PDZ (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	0 A222351	HOLDER, DOOR LATCH	4
2	00900321 0002	WASHER, FLAT 1/4 ZN PLT	1
3	00900490 0071	NUT, NYLOK 1/4-20 ZN PLT	1
4	00906771 0113	BOLT, THUMBSCREW 5/16-18 X 3/4 ZN PLT	2
5	00909088 0005	NUT, SPEED 5/16-18 U-TYPE	8
6	00913792 0038	BOLT, THRD FORM 1/4-20 X 1/2	34
7	00913792 0039	BOLT, THRD FORM 5/16-18 X 1/2" SS	8
8	00916867 0421	RIVET, .19 X .126 - .25 RANGE	120
9	01228269 0020	SPRING, INST PANEL EYE BOLT RETURN	1
10	01900104 0273	ANGLE, DOOR BOTTOM, GALVANNEAL	2
11	01900168 0005	BOLT, EYE 1/4-20 ZN	1
12	01900416 0095	COVER, EXHAUST PIPE HOLE	1
13	01900416 0122	COVER, RADIATOR FILL	1
14	01900480 0043	DOOR, REAR ACCESS D185-250	1
15	01900485 0030	DOOR, INSTRUMENT PANEL ACCESS	1
16	01900485 0032	DOOR, SIDE ACCESS D185-250	2
17	01900752 0034	HINGE, PANEL 2" CONT. ALUM	1
18	01900752 0055	HINGE, SIDE ACCESS DOOR	2
19	01901000 0710	PANEL, FRONT CANOPY D185-250	1
20	01901000 0711	PANEL, REAR CANOPY D185-250	1
21	01901000 0917	PANEL, ROOF D185-210PHDZ	1
22	01901520 0281	SUPPORT, SERVICE AIR	1

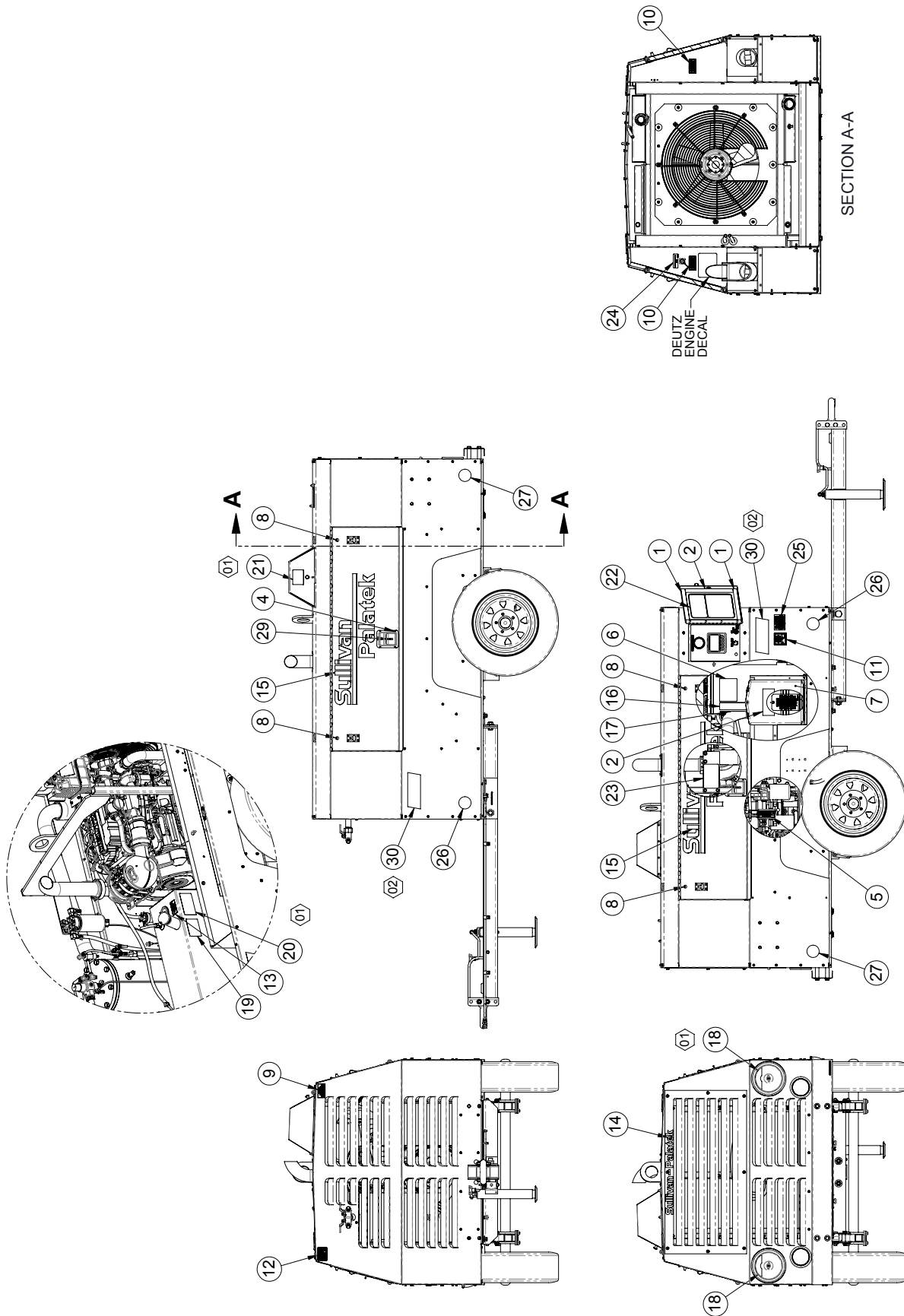


FIGURE 8-20. 00717752 0294 MACHINE DRESS, D185-250PDZ (REV 02)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00822001	TAPE, NEOPRENE 1/16 X 1.0 X 8.8 LG	2
2	00822001	TAPE, NEOPRENE 1/16 X 1.0 X 12.2 LG	1
3	00910270 0001	RIVET, 0.13 DIA X 0.23 LG SS	2
4	00916867 0430	RIVET, 5/32" X .126-.188 RANGE	8
5	01228378 0005	DECAL, WARNING- HOT OIL	1
6	01228378 0052	DECAL, WARNING ADHERE TO INSTR.	1
7	01900190 0010	BOX, MANUAL HOLDER 8.5X11.0	1
8	01900224 0005	BUMPER, DOOR	4
9	01900456 0059	DECAL, PROP 65 WARNING CALIF	1
10	01900464 0007	DECAL, ROTATING PARTS	2
11	01900464 0094	DECAL, QUALITY ACCEPTED	1
12	01900464 0104	DECAL, AMERICAN FLAG	1
13	01900464 0148	DECAL, FUEL WARNING	1
14	01900464 0314	DECAL, SULLIVAN PALATEK	1
15	01900464 0318	DECAL, SULLIVAN PALATEK	2
16	01900464 0338	DECAL, WEATHER-ALL COMPR. FLUID	1
17	01900464 0411	DECAL, OIL LEVEL FILL	1
18	01900464 0419	DECAL, AIR FILTER SVC PARTS D185-250	2
19	01900464 0425	DECAL, ULTRA LOW SULFUR DIESEL	1
20	01900464 0426	DECAL, EXPLOSION HAZARD ULSD	1
21	01900464 0428	DECAL, COOLANT COVER (OPEN)	1
22	01900464 0430	DECAL, OPERATING INSTR	1
23	01900464 0435	DECAL, FUEL-WATER DRAIN INSTR DEUTZ	1
24	01900464 0447	DECAL, ENGINE DIAGNOSTIC PORT	1
25	01901136 0003	PLATE, IDENTIFICATION	1
26	01901201 0004	REFLECTOR, 3" DIA. (AMBER)	2
27	01901201 0005	REFLECTOR, 3" DIA. (RED)	2
28	01901531 0001	TAG, SERVICE VALVE INSTALLATION	1
29	05018650 0024	LATCH, SLAM	2
30	-	DECAL, MODEL NUMBER	2

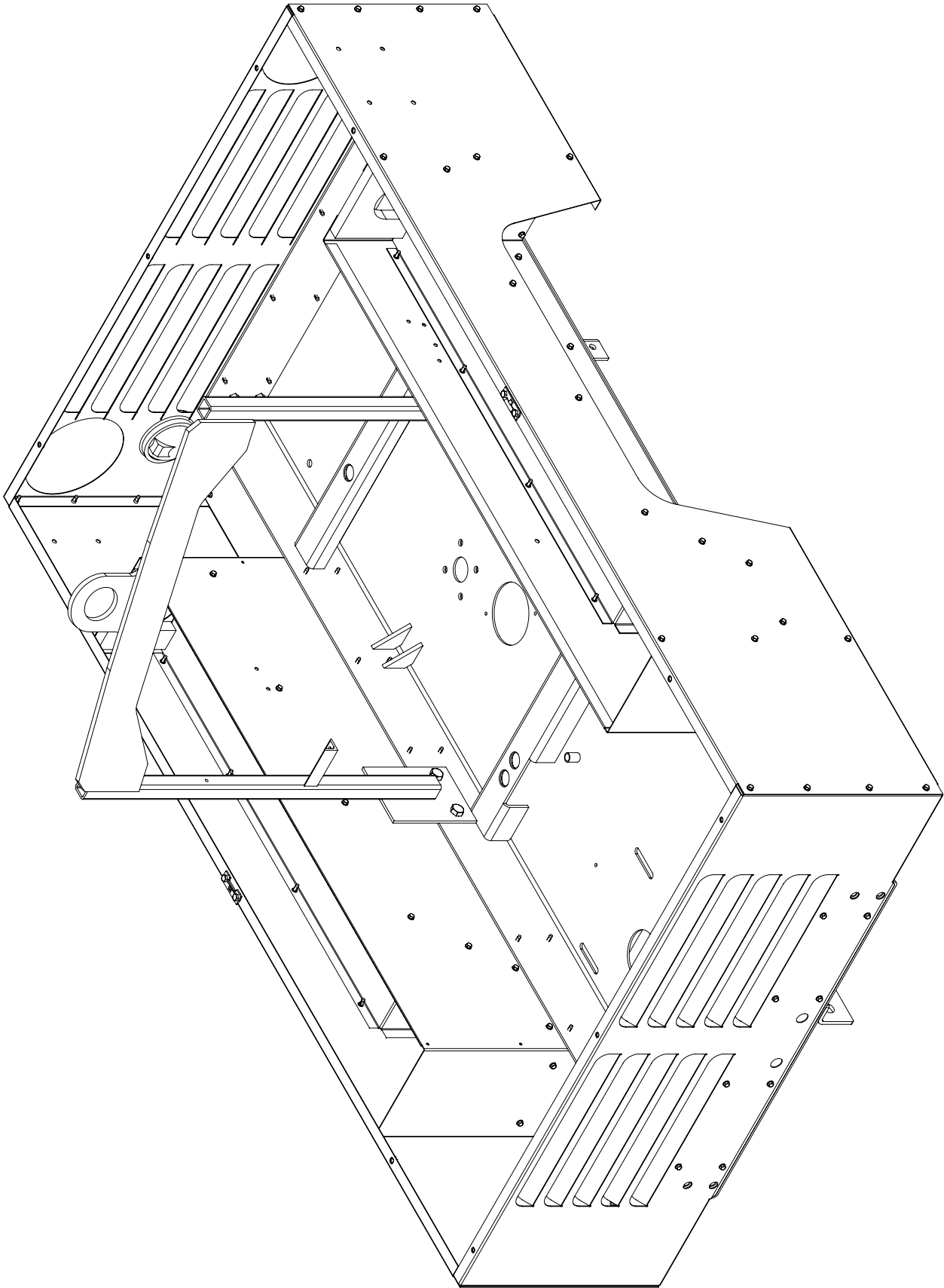


FIGURE 8-21. 00717464 0074 CHASSIS ASSY, D185-210 (REV 03)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	01900007 0301	ACOUSTIC, AIR PIPING D185-250	2
2	00900115 0001	BOLT, .2500-20 X .750 HEX HD GR 5	4
3	00900115 0025	BOLT, .6250-11 X 1.250 HEX HD GR 5	4
4	00913792 0038	BOLT, THRD FORM 1/4-20 X 1/2	111
5	00900016 0025	BOLT, HEX .625-11 X 1.250 GR8	2
6	01900416 0120	COVER, RAD AND OIL DRAIN D185-210	1
7	01900416 0121	COVER, TOOLBOX CORNER D185-210	4
8	03903168 0106	FRAME, D125-250	1
9	05018635 0059	LAMP, STOP, TAIL, TURN 4.50 DIA.	2
10	03903009 0063	LIFTING BAIL, D185-210	1
11	00900490 0071	NUT, NYLOC, .250-20 ZINC PLATED	4
12	00900490 0062	NUT, NYLOK 5/16-18 ZINC PLATED	4
13	01901000 0730B	PANEL, CURBSIDE D185-210	1
14	01901000 0706	PANEL, FENDER D185-210	2
15	01901000 0712B	PANEL, FRONT FRAME D185-210	1
16	01901000 0729B	PANEL, REAR D185-250	1
17	01901000 0731B	PANEL, STREETSIDE D185-210	1
18	01901000 0718	PANEL, TOOLBOX, STREETSIDE D185-210	1
19	01901000 0719	PANEL, TOOLBOX CURBSIDE D185-210	1
20	00913792 0055	SCREW, 5/16-18 X 3/4 THD FORM	2
21	01901485 0001	STRIKER PLATE	2
22	01901520 0288	SUPPORT, DRAWBAR D375	1
23	00900321 0003	WASHER, FLAT .3125 ZINC PLATED	4
24	00900321 0002	WASHER, FLAT 1/4 ZINC PLATED	4

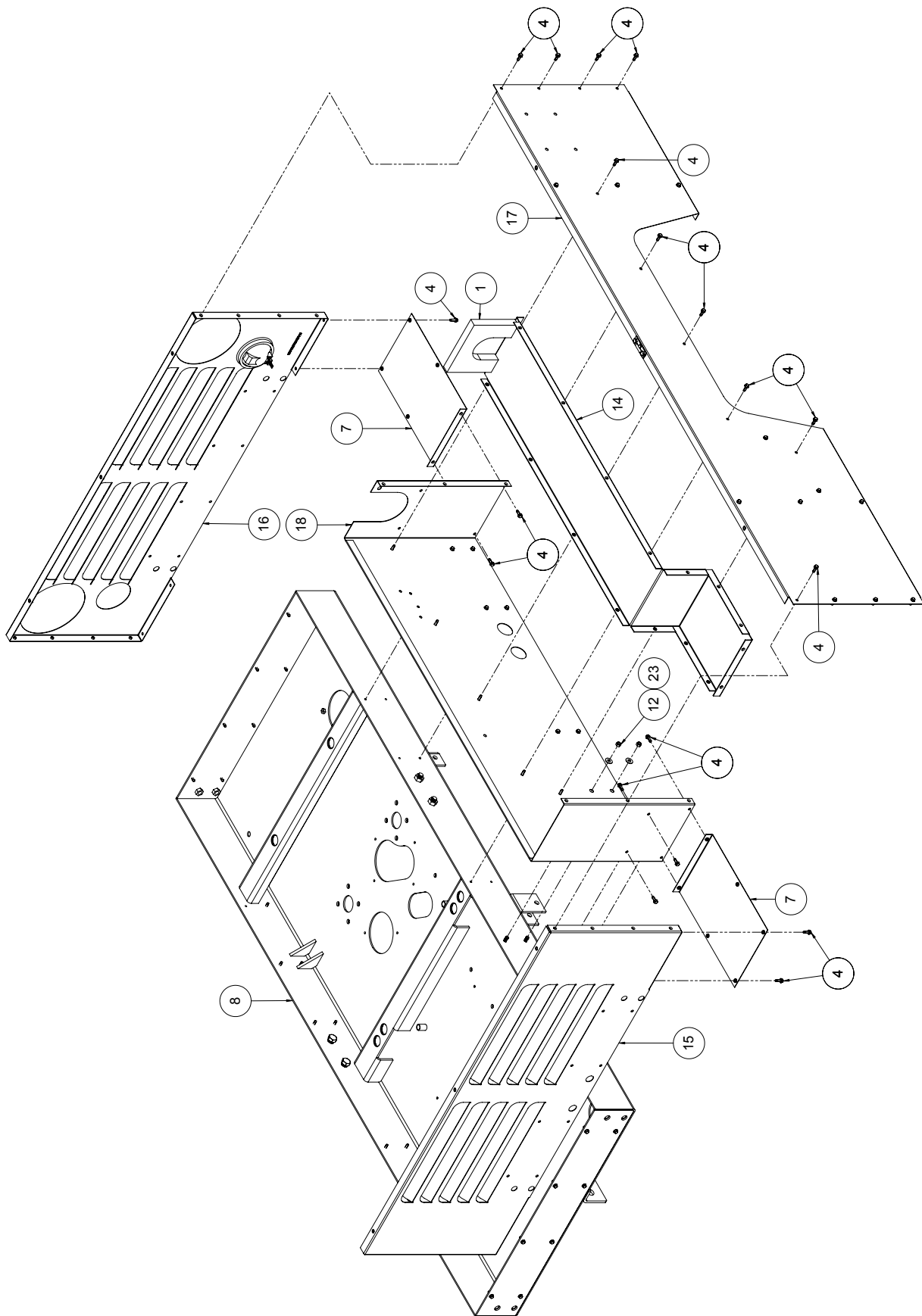


FIGURE 8-22. 00717464 0074 CHASSIS ASSY, D185-210 (REV 03)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	01900007 0301	ACOUSTIC, AIR PIPING D185-250	2
2	00900115 0001	BOLT, .2500-20 X .750 HEX HD GR 5	4
3	00900115 0025	BOLT, .6250-11 X 1.250 HEX HD GR 5	4
4	00913792 0038	BOLT, THRD FORM 1/4-20 X 1/2	111
5	00900016 0025	BOLT, HEX .625-11 X 1.250 GR8	2
6	01900416 0120	COVER, RAD AND OIL DRAIN D185-210	1
7	01900416 0121	COVER, TOOLBOX CORNER D185-210	4
8	03903168 0106	FRAME, D125-250	1
9	05018635 0059	LAMP, STOP, TAIL, TURN 4.50 DIA.	2
10	03903009 0063	LIFTING BAIL, D185-210	1
11	00900490 0071	NUT, NYLOC, .250-20 ZINC PLATED	4
12	00900490 0062	NUT, NYLOK 5/16-18 ZINC PLATED	4
13	01901000 0730B	PANEL, CUBSIDE D185-210	1
14	01901000 0706	PANEL, FENDER D185-210	2
15	01901000 0712B	PANEL, FRONT FRAME D185-210	1
16	01901000 0729B	PANEL, REAR D185-250	1
17	01901000 0731B	PANEL, STREETSIDE D185-210	1
18	01901000 0718	PANEL, TOOLBOX, STREETSIDE D185-210	1
19	01901000 0719	PANEL, TOOLBOX CURBSIDE D185-210	1
20	00913792 0055	SCREW, 5/16-18 X 3/4 THD FORM	2
21	01901485 0001	STRIKER PLATE	2
22	01901520 0288	SUPPORT, DRAWBAR D375	1
23	00900321 0003	WASHER, FLAT .3125 ZINC PLATED	4
24	00900321 0002	WASHER, FLAT 1/4 ZINC PLATED	4

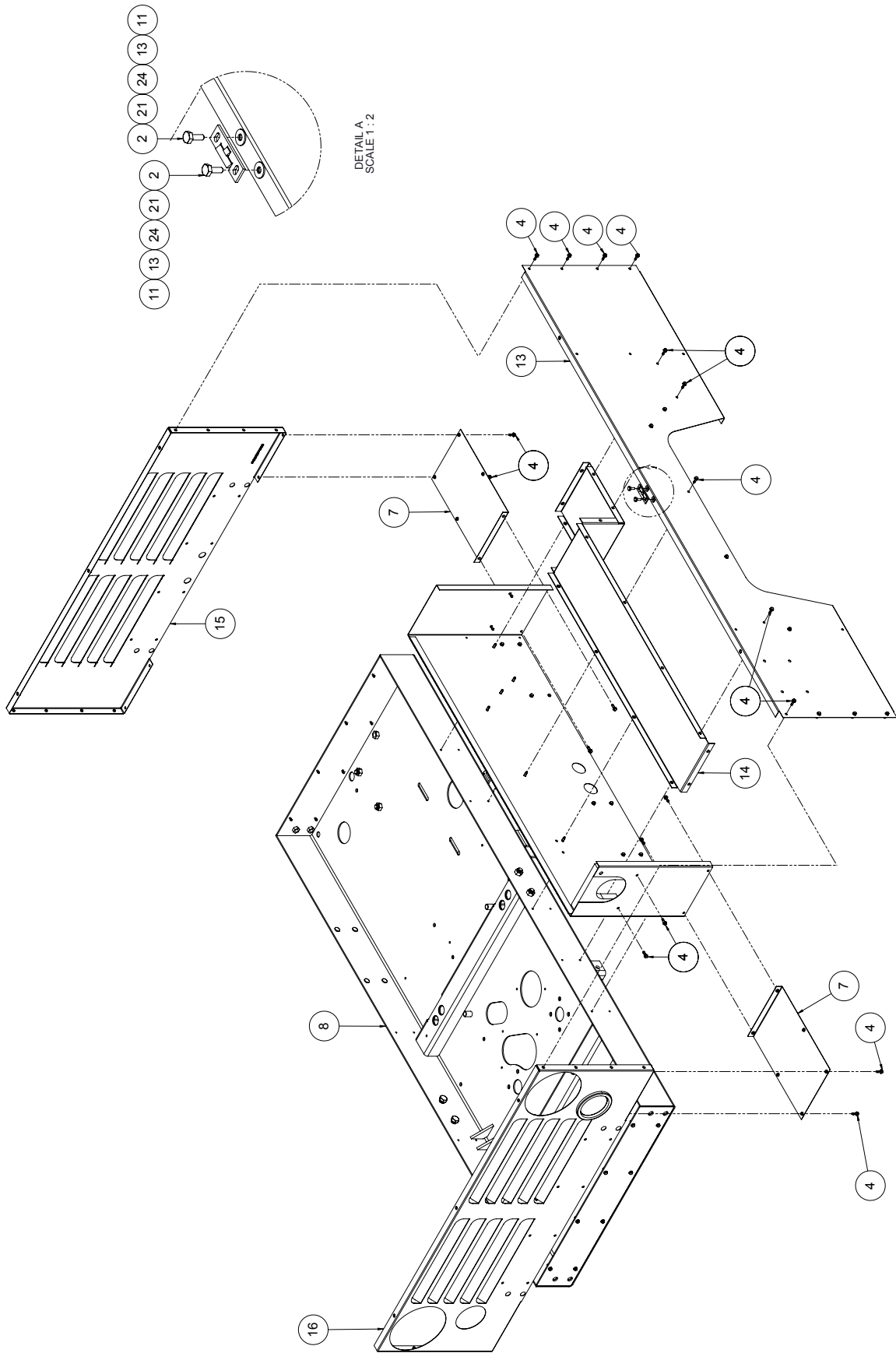


FIGURE 8-23. 00717464 0074 CHASSIS ASSY, D185-210 (REV 03)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	01900007 0301	ACOUSTIC, AIR PIPING D185-250	2
2	00900115 0001	BOLT, .2500-20 X .750 HEX HD GR 5	4
3	00900115 0025	BOLT, .6250-11 X 1.250 HEX HD GR 5	4
4	00913792 0038	BOLT, THRD FORM 1/4-20 X 1/2	111
5	00900016 0025	BOLT, HEX .625-11 X 1.250 GR8	2
6	01900416 0120	COVER, RAD AND OIL DRAIN D185-210	1
7	01900416 0121	COVER, TOOLBOX CORNER D185-210	4
8	03903168 0106	FRAME, D125-250	1
9	05018635 0059	LAMP, STOP, TAIL, TURN 4.50 DIA.	2
10	03903009 0063	LIFTING BAIL, D185-210	1
11	00900490 0071	NUT, NYLOC, .250-20 ZINC PLATED	4
12	00900490 0062	NUT, NYLOK 5/16-18 ZINC PLATED	4
13	01901000 0730B	PANEL, CURBSIDE D185-210	1
14	01901000 0706	PANEL, FENDER D185-210	2
15	01901000 0712B	PANEL, FRONT FRAME D185-210	1
16	01901000 0729B	PANEL, REAR D185-250	1
17	01901000 0731B	PANEL, STREETSIDE D185-210	1
18	01901000 0718	PANEL, TOOLBOX, STREETSIDE D185-210	1
19	01901000 0719	PANEL, TOOLBOX CURBSIDE D185-210	1
20	00913792 0055	SCREW, 5/16-18 X 3/4 THD FORM	2
21	01901485 0001	STRIKER PLATE	2
22	01901520 0288	SUPPORT, DRAWBAR D375	1
23	00900321 0003	WASHER, FLAT .3125 ZINC PLATED	4
24	00900321 0002	WASHER, FLAT 1/4 ZINC PLATED	4

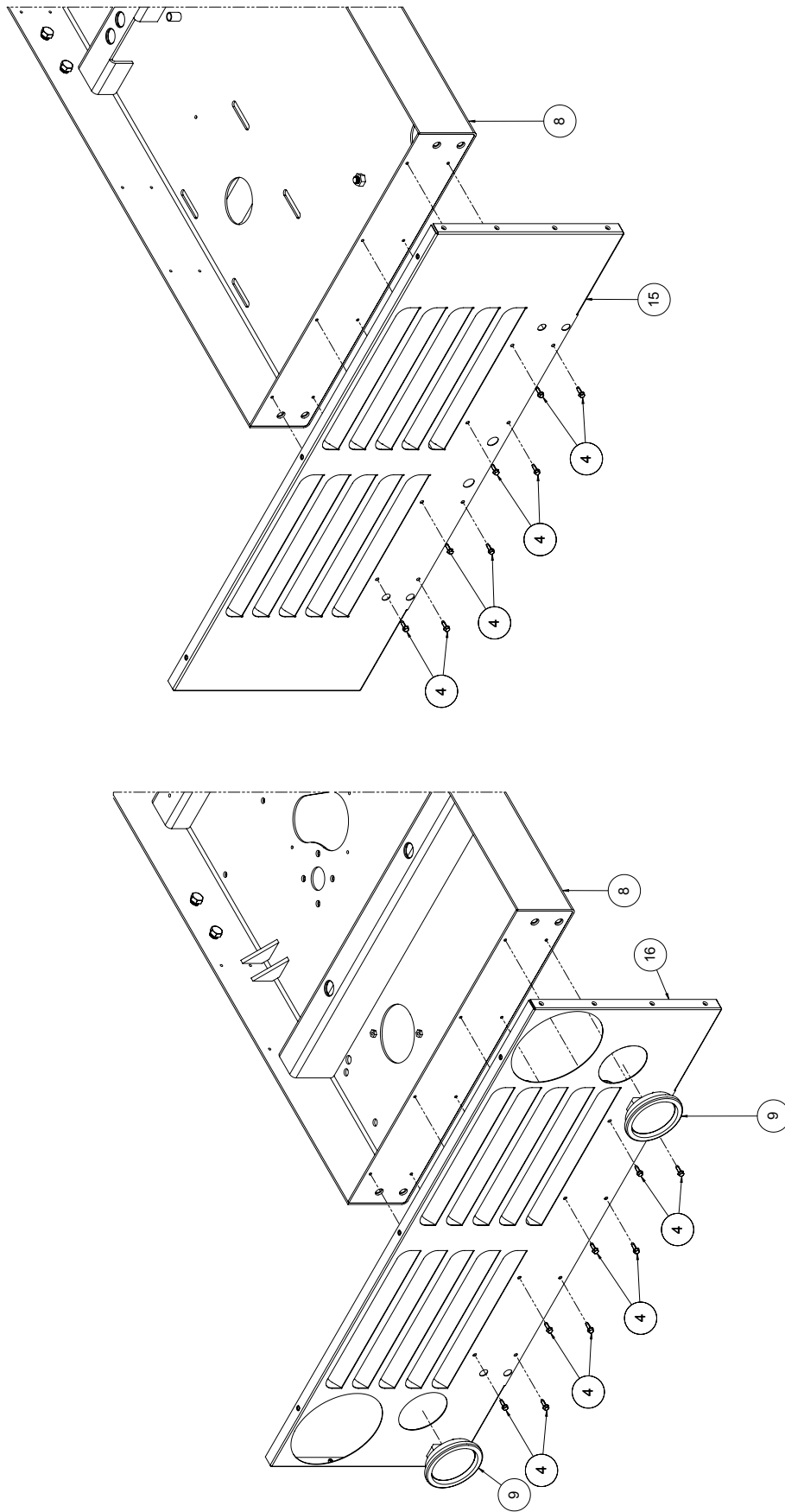


FIGURE 8-24. 00717464 0074 CHASSIS ASSY, D185-210 (REV 03)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	01900007 0301	ACOUSTIC, AIR PIPING D185-250	2
2	00900115 0001	BOLT, .2500-20 X .750 HEX HD GR 5	4
3	00900115 0025	BOLT, .6250-11 X 1.250 HEX HD GR 5	4
4	00913792 0038	BOLT, THRD FORM 1/4-20 X 1/2	111
5	00900016 0025	BOLT, HEX .625-11 X 1.250 GR8	2
6	01900416 0120	COVER, RAD AND OIL DRAIN D185-210	1
7	01900416 0121	COVER, TOOLBOX CORNER D185-210	4
8	03903168 0106	FRAME, D125-250	1
9	05018635 0059	LAMP, STOP, TAIL, TURN 4.50 DIA.	2
10	03903009 0063	LIFTING BAIL, D185-210	1
11	00900490 0071	NUT, NYLOC, .250-20 ZINC PLATED	4
12	00900490 0062	NUT, NYLOK 5/16-18 ZINC PLATED	4
13	01901000 0730B	PANEL, CURBSIDE D185-210	1
14	01901000 0706	PANEL, FENDER D185-210	2
15	01901000 0712B	PANEL, FRONT FRAME D185-210	1
16	01901000 0729B	PANEL, REAR D185-250	1
17	01901000 0731B	PANEL, STREETSIDE D185-210	1
18	01901000 0718	PANEL, TOOLBOX, STREETSIDE D185-210	1
19	01901000 0719	PANEL, TOOLBOX CURBSIDE D185-210	1
20	00913792 0055	SCREW, 5/16-18 X 3/4 THD FORM	2
21	01901485 0001	STRIKER PLATE	2
22	01901520 0288	SUPPORT, DRAWBAR D375	1
23	00900321 0003	WASHER, FLAT .3125 ZINC PLATED	4
24	00900321 0002	WASHER, FLAT 1/4 ZINC PLATED	4

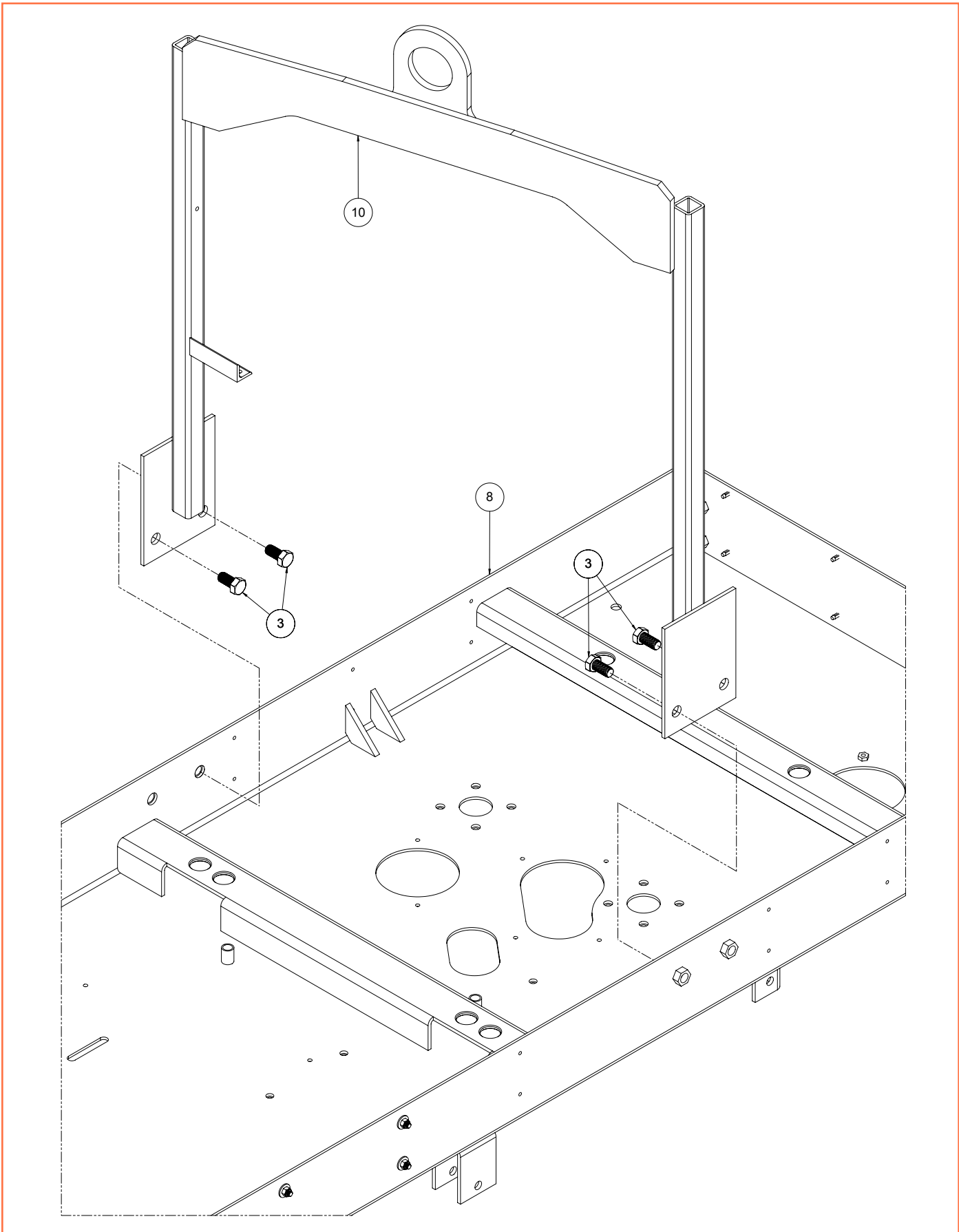


FIGURE 8-25. 00717464 0074 CHASSIS ASSY, D185-210 (REV 03)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	01900007 0301	ACOUSTIC, AIR PIPING D185-250	2
2	00900115 0001	BOLT, .2500-20 X .750 HEX HD GR 5	4
3	00900115 0025	BOLT, .6250-11 X 1.250 HEX HD GR 5	4
4	00913792 0038	BOLT, THRD FORM 1/4-20 X 1/2	111
5	00900016 0025	BOLT, HEX .625-11 X 1.250 GR8	2
6	01900416 0120	COVER, RAD AND OIL DRAIN D185-210	1
7	01900416 0121	COVER, TOOLBOX CORNER D185-210	4
8	03903168 0106	FRAME, D125-250	1
9	05018635 0059	LAMP, STOP, TAIL, TURN 4.50 DIA.	2
10	03903009 0063	LIFTING BAIL, D185-210	1
11	00900490 0071	NUT, NYLOC, .250-20 ZINC PLATED	4
12	00900490 0062	NUT, NYLOK 5/16-18 ZINC PLATED	4
13	01901000 0730B	PANEL, CUBSIDE D185-210	1
14	01901000 0706	PANEL, FENDER D185-210	2
15	01901000 0712B	PANEL, FRONT FRAME D185-210	1
16	01901000 0729B	PANEL, REAR D185-250	1
17	01901000 0731B	PANEL, STREETSIDE D185-210	1
18	01901000 0718	PANEL, TOOLBOX, STREETSIDE D185-210	1
19	01901000 0719	PANEL, TOOLBOX CURBSIDE D185-210	1
20	00913792 0055	SCREW, 5/16-18 X 3/4 THD FORM	2
21	01901485 0001	STRIKER PLATE	2
22	01901520 0288	SUPPORT, DRAWBAR D375	1
23	00900321 0003	WASHER, FLAT .3125 ZINC PLATED	4
24	00900321 0002	WASHER, FLAT 1/4 ZINC PLATED	4

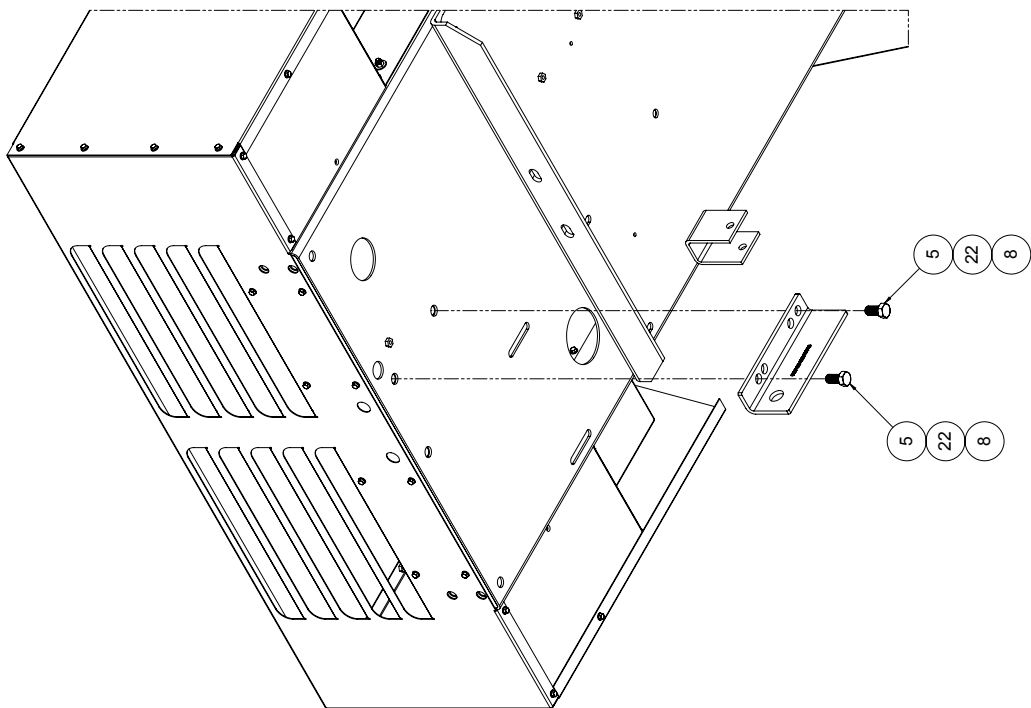
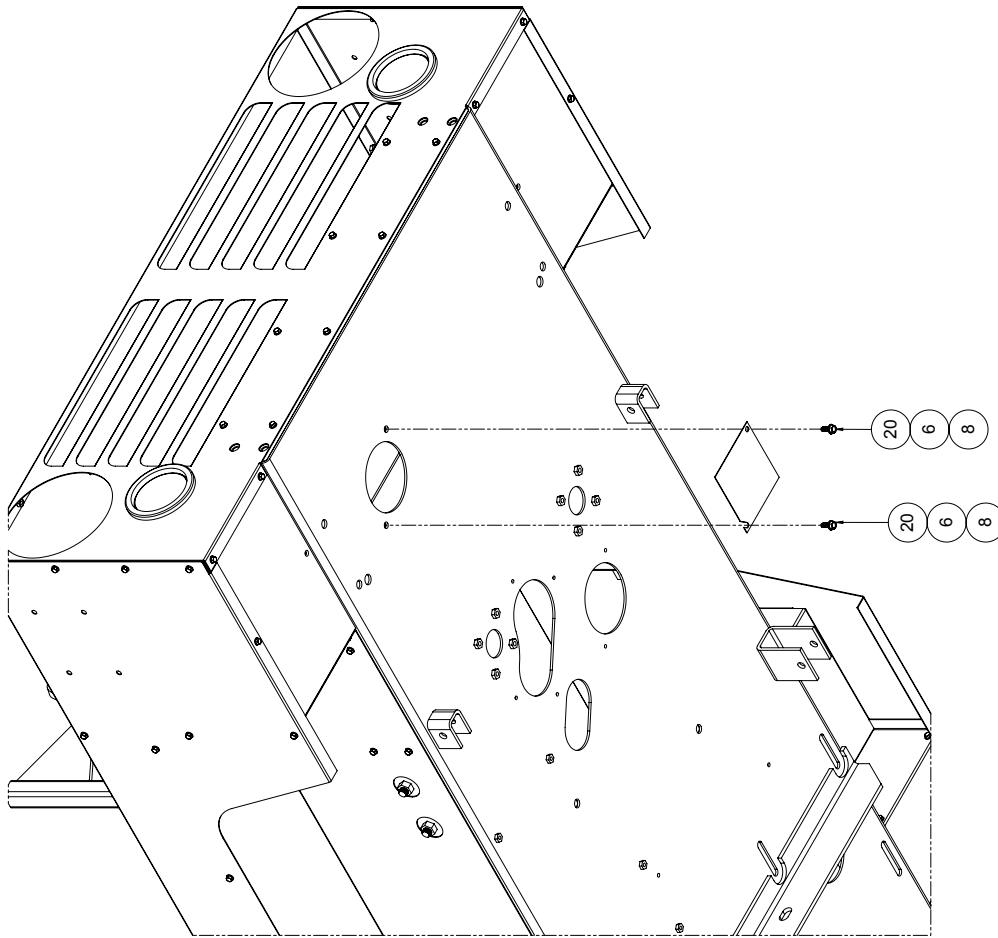
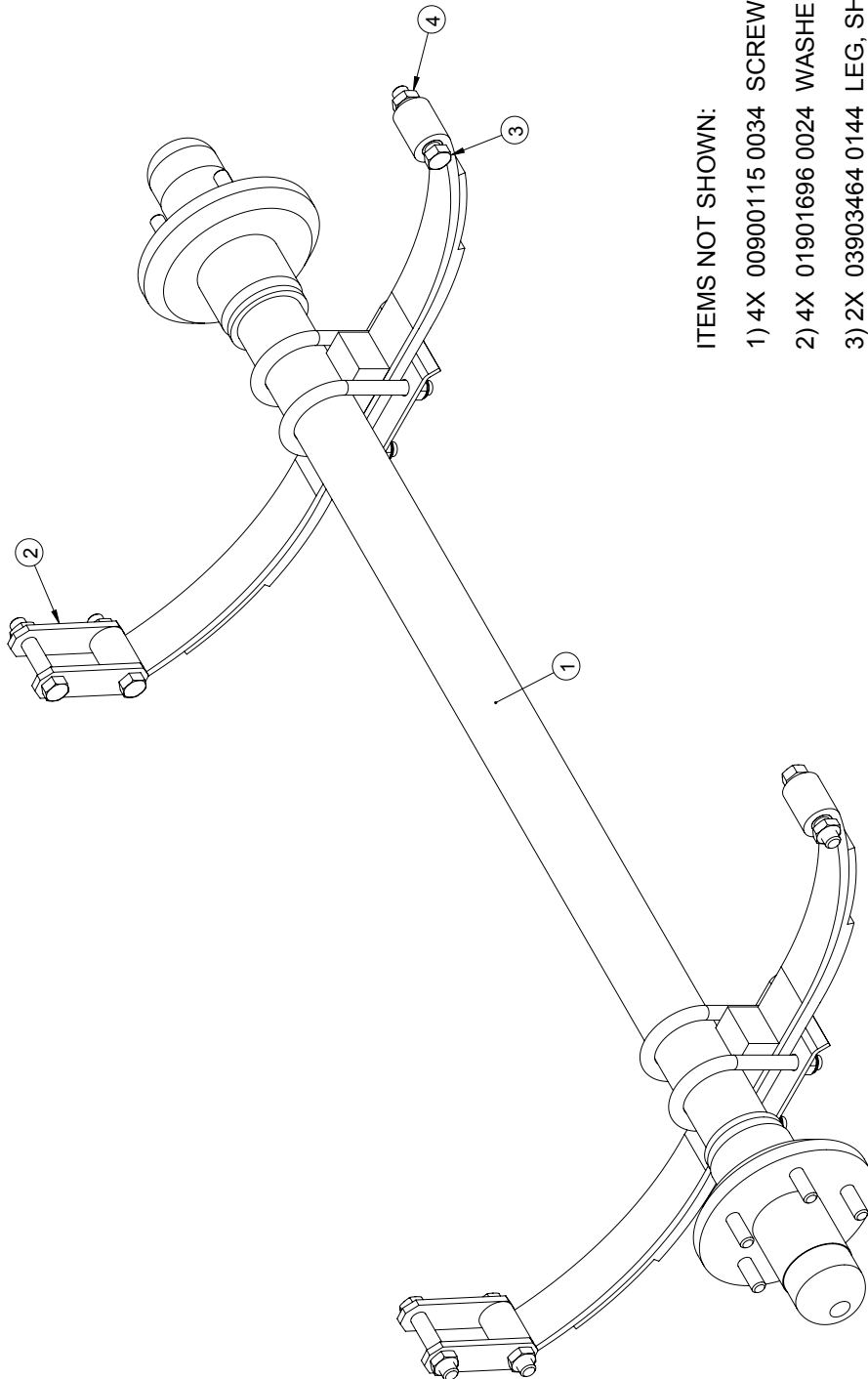


FIGURE 8-26. 00717464 0074 CHASSIS ASSY, D185-210 (REV 03)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	01900007 0301	ACOUSTIC, AIR PIPING D185-250	2
2	00900115 0001	BOLT, .2500-20 X .750 HEX HD GR 5	4
3	00900115 0025	BOLT, .6250-11 X 1.250 HEX HD GR 5	4
4	00913792 0038	BOLT, THRD FORM 1/4-20 X 1/2	111
5	00900016 0025	BOLT, HEX .625-11 X 1.250 GR8	2
6	01900416 0120	COVER, RAD AND OIL DRAIN D185-210	1
7	01900416 0121	COVER, TOOLBOX CORNER D185-210	4
8	03903168 0106	FRAME, D125-250	1
9	05018635 0059	LAMP, STOP, TAIL, TURN 4.50 DIA.	2
10	03903009 0063	LIFTING BAIL, D185-210	1
11	00900490 0071	NUT, NYLOC, .250-20 ZINC PLATED	4
12	00900490 0062	NUT, NYLOK 5/16-18 ZINC PLATED	4
13	01901000 0730B	PANEL, CURBSIDE D185-210	1
14	01901000 0706	PANEL, FENDER D185-210	2
15	01901000 0712B	PANEL, FRONT FRAME D185-210	1
16	01901000 0729B	PANEL, REAR D185-250	1
17	01901000 0731B	PANEL, STREETSIDE D185-210	1
18	01901000 0718	PANEL, TOOLBOX, STREETSIDE D185-210	1
19	01901000 0719	PANEL, TOOLBOX CURBSIDE D185-210	1
20	00913792 0055	SCREW, 5/16-18 X 3/4 THD FORM	2
21	01901485 0001	STRIKER PLATE	2
22	01901520 0288	SUPPORT, DRAWBAR D375	1
23	00900321 0003	WASHER, FLAT .3125 ZINC PLATED	4
24	00900321 0002	WASHER, FLAT 1/4 ZINC PLATED	4

8.21

AXLE ASSEMBLY



ITEMS NOT SHOWN:

- 1) 4X 00900115 0034 SCREW, 1/2-13 x 1-1/2" LG GD 5
- 2) 4X 01901696 0024 WASHER, RUBBER, 1/2" ID x 2-1/4
- 3) 2X 03903464 0144 LEG, SHIPPING

FIGURE 8-27. 00717401 0021 AXLE ASSEMBLY 185-375 (REV C)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	05017120 0369	AXLE ASSY, D185	1
2	01661580 0003	LINK, SHACKLE, SMALL - MED. LINE	4
3	01228333 0001	BOLT, SHACKLE, 9/16-18 x 3"	6
4	01228249 0003	LOCKNUT, SHACKLE BOLT, 9/16-18	6

8.21.1 AXLE

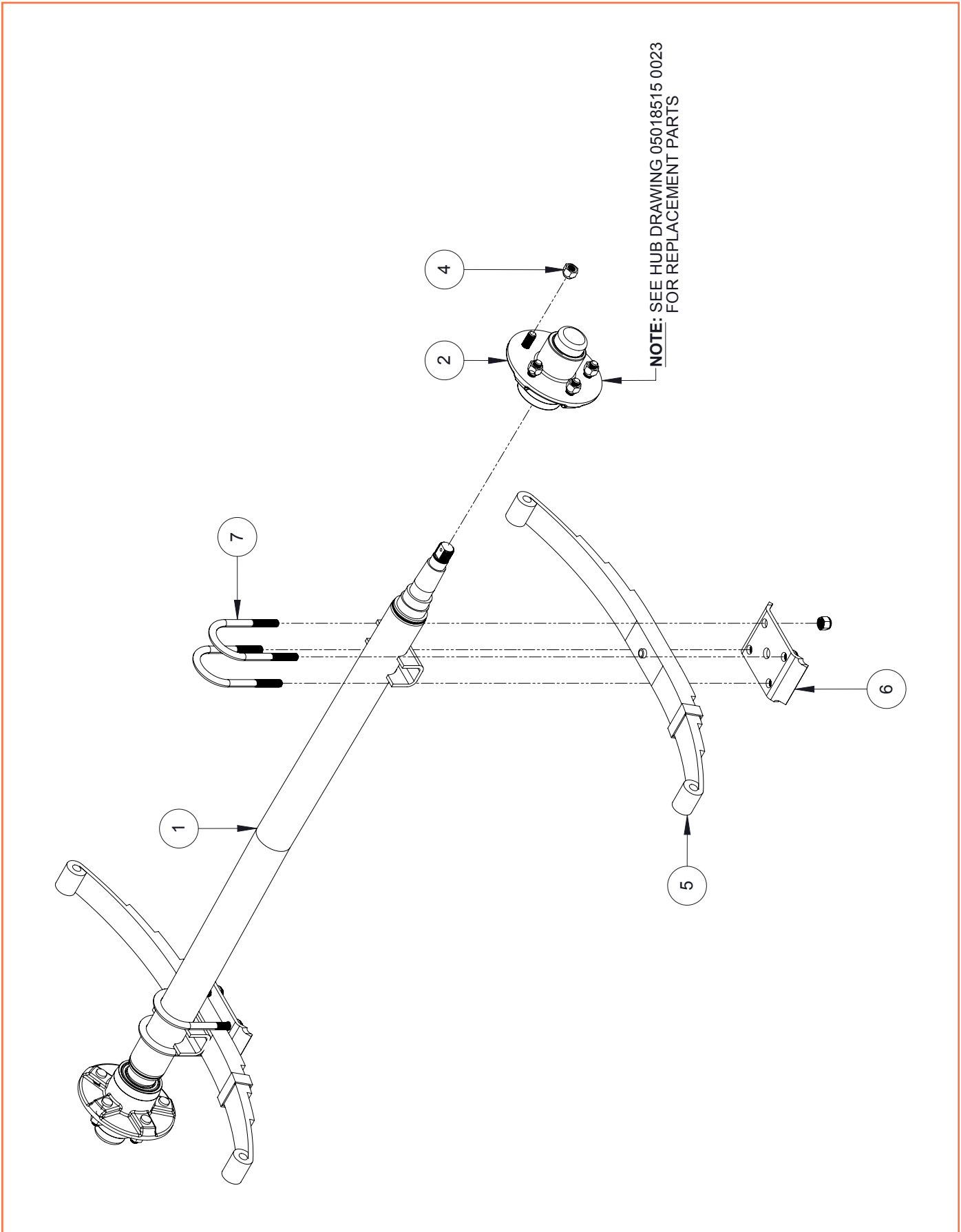


FIGURE 8-28. 05017120 0369 AXLE, ASSY 3500# (REV 03)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	01900146 0006	BEAM,AXLE 3500# 2-3/8 DIA.	1
2	05018515 0023	HUB ASSY. IDLER	2
3	01900920 0017	NUT, NYLOK U-BOLT, .500-12	8
4	01900920 0015	NUT, WHEEL LUG	10
5	01901433 0009	SPRING ASSY	2
6	01901112 0555	TIE PLATE, TYPE I, RD. AXLE	2
7	01900160 0007	U-BOLT,1/2-20 X 2-3/8 TUBE DIA	4

8.21.2 HUB ASSEMBLY

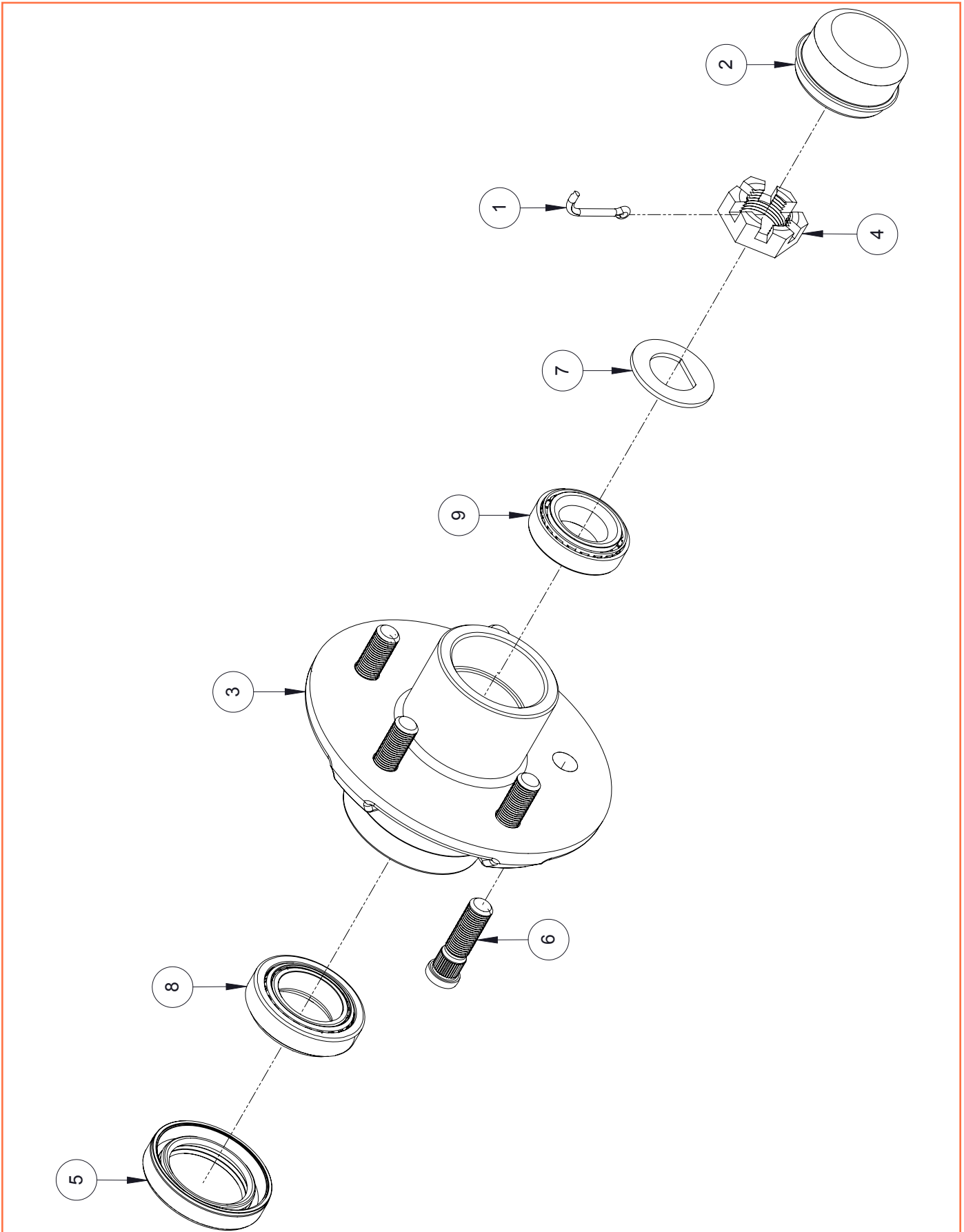


FIGURE 8-29. 05018515 0023 HUB ASSY. IDLER (REV-02)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00900620 0020	PIN,COTTER 1/8 X 1 3/4 LG	1
2	01900248 0014	CAP, GREASE HUB	1
3	01900848 0018	IDLER, WHEEL 5 X 4.5	1
4	01900920 0016	SPINDLE NUT	1
5	01901296 0003	SEAL, GREASE HUB	1
6	01901512 0011	STUD, IDLER HUB 1/2-20 X 1.81	5
7	01901696 0013	WASHER, SPINDLE	1
8	05017229 0007	BEARING, INNER	1
9	05017229 0008	BEARING, OUTER	1

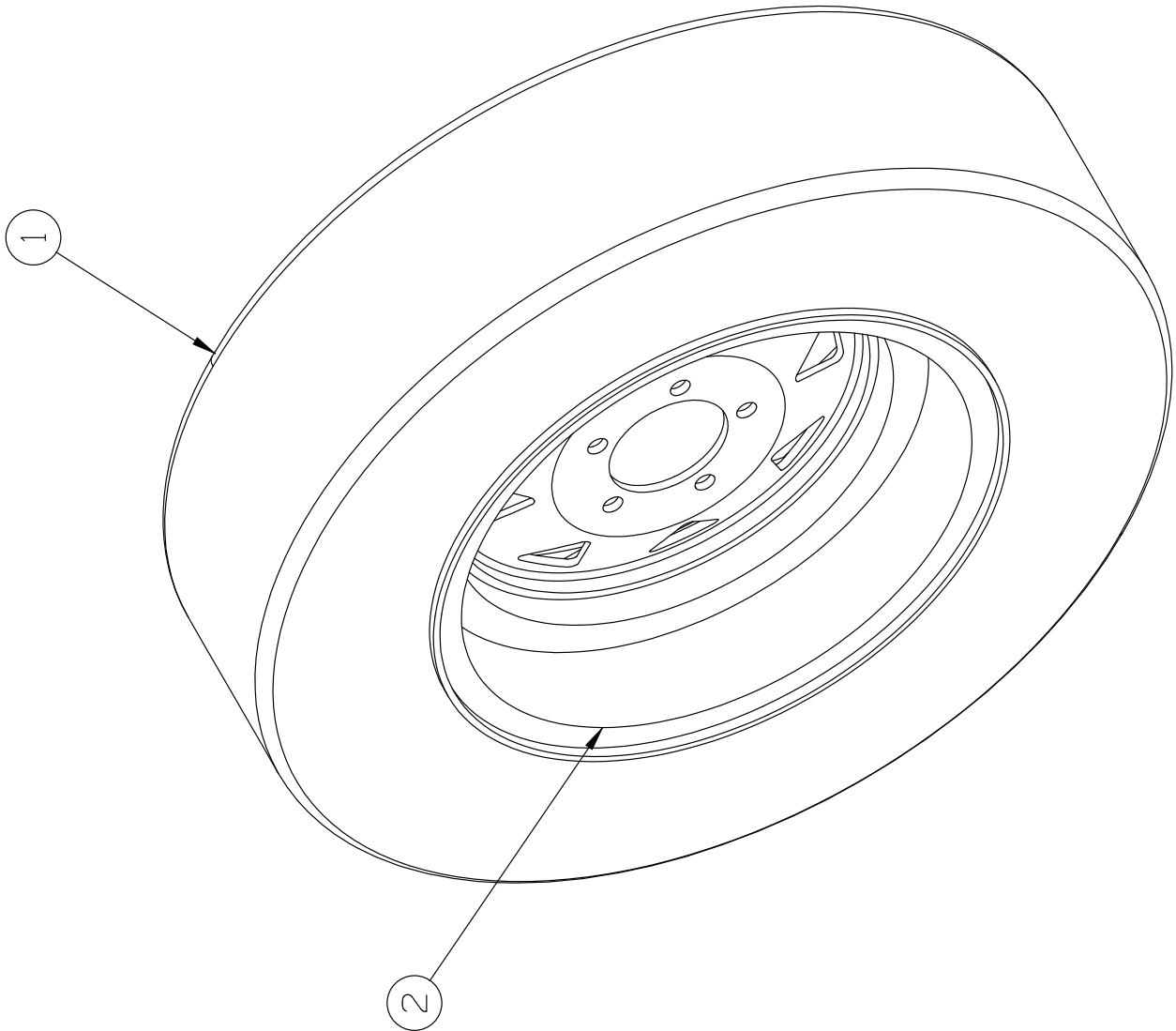


FIGURE 8-30. 05019880 0036 WHEEL ASSY, ST205-75D15

ITEM	PART NUMBER	DESCRIPTION	QTY
1	01901550 0029	TIRE, ST205/75D15	1
2	05019895 0003	WHEEL, WHITE SPOKED 15" X 6"	1

8.23

BUMPER ASSEMBLY

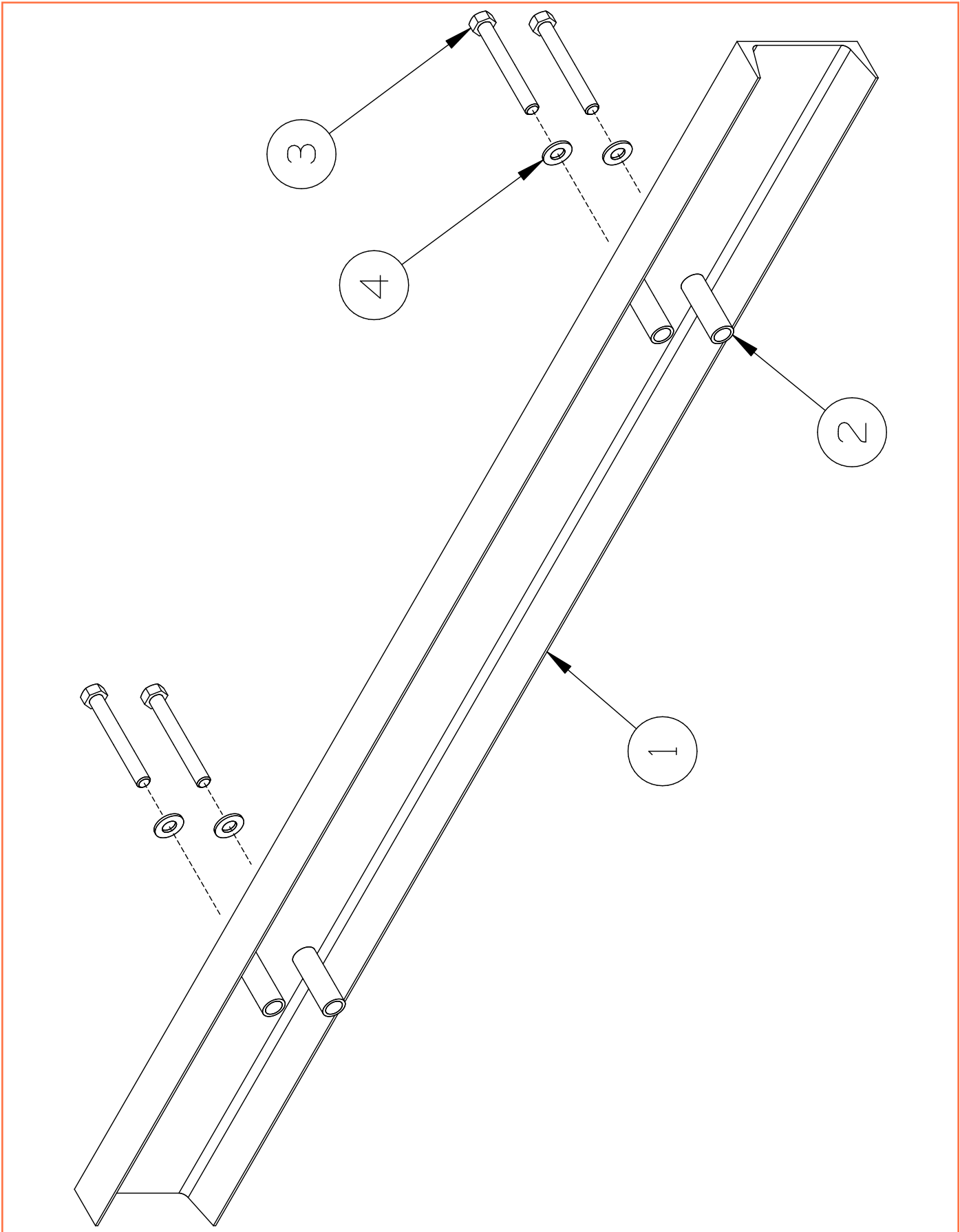
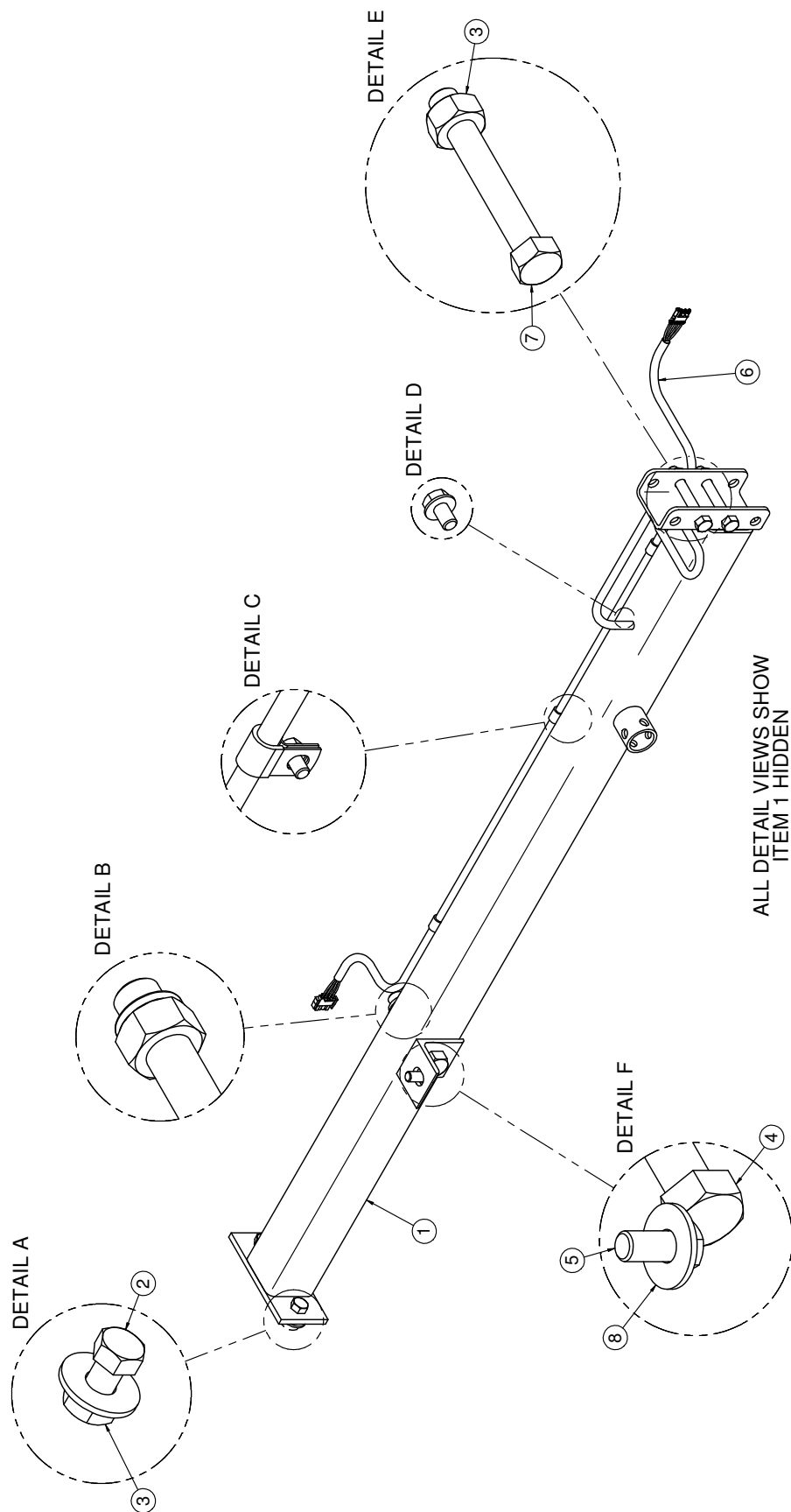


FIGURE 8-31. 00717703 0158

ITEM	PART NUMBER	DESCRIPTION	QTY
1	01900224 0018	BUMPER, REAR, 14 GA. GALVANIZED	1
2	01901416 0052	SPACER, 2.5" LG / 1/2" EMT TUBE	4
3	00900115 0134	SCREW, 1/2-13 X 4" LONG GD 5	4
4	00900321 0005	WASHER, FLAT 1/2" ZINC PLATED	4



NOTE:
 1. CHECK THAT ALL NUT THREADS ARE FREE OF PAINT OR DIRT.
 2. START ATTACHING BOLTS BY HAND TO PREVENT CROSS THREADING.
 3. SECURELY TIGHTEN ALL DRAWBAR MOUNTING BOLTS TO 140 LB-FT (DRY) MAX.

FIGURE 8-32. 00717554 0074 DRAWBAR ASSY 48.00 STRAIGHT D185-210 (REV 0)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	03903136 0158	DRAWBAR,48" STRAIGHT,STD HGT	1
2	00900016 0035	HHCS,5/8-11 X 1-1/2" LG GD 8	2
3	00909994 5811	NUT,CENTERLOCK,5/8-11	4
4	00900016 0198	HHCS,1"-8 X 5-1/2" LG GD 8	1
5	00900016 0025	HHCS,5/8-11 X 1-1/4" LG GD 8	1
6	05017420 0016	HARNES,DRAWBAR,STD	1
7	00900042 0155	HHCS 5/8-11 X 4.5 GR8	2
8	00900321 0006	WASHER,FLAT,5/8" ZINC PLATED	3
9	00902905 0001	CLAMP, SUPPORT, .50 ID	3
10	00913792 0039	SCREW, 5/16-18 X 1/2 THD FORM	4
11	00900490 0125	NUT, NYLOK 1-8 ZINC PLATED	1

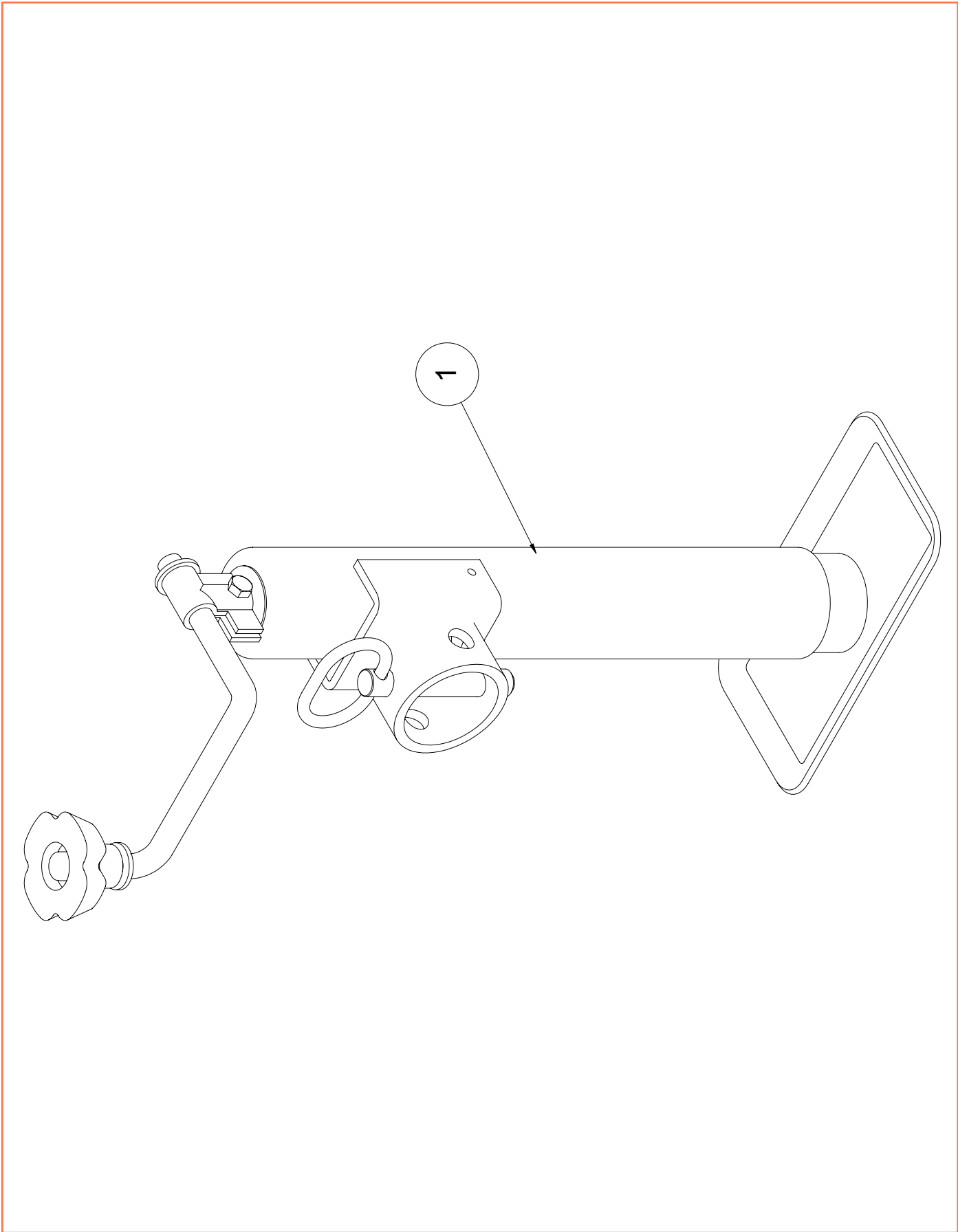


FIGURE 8-33. 05018590 0012 JACK, SWIVEL D185

ITEM	PART NUMBER	DESCRIPTION	QTY
1	05018590 0012	JACK, SWIVEL	1

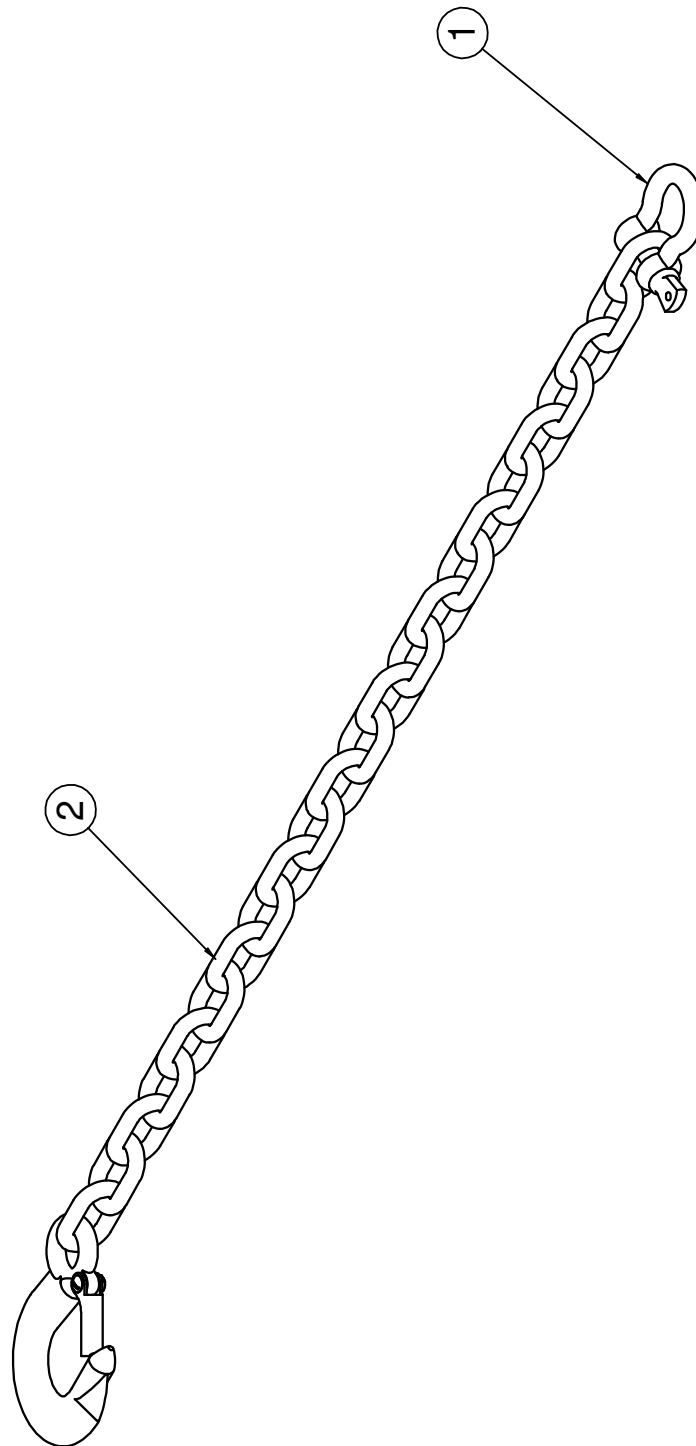


FIGURE 8-34. 05017495 0027 SAFETY CHAIN ASSY (REV B)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00902051 0004	SHACKLE, CHAIN 7/16" ROUND PIN	1
2	01900251 0009	SAFETY CHAIN, 3/8" x 35" LG.	1