

Sullivan

Palatek

AUGUST
2013

User Manual **Portable Air Compressors**

210 cfm
John Deere Diesel Engine
Wheel-Mounted

DC210PHJD
DE210PHJD
DF210PHJD

DOCUMENT INFORMATION:

© Sullivan-Palatek, Inc.

ALL RIGHTS RESERVED

Part Number: 05018730 0160

Revision: 01

CONTACT INFORMATION:

Sullivan-Palatek, Inc.

1201 West US Highway 20

Michigan City, IN 46360

Tel: 219-874-2497

Fax: 219-872-5043

Toll Free: 800-438-6203

Website: www.sullivanpalatek.com

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
00	2013-05-01	---	Released for publication
01	2013-13-08	8.4	Updated RECOMMENDED SPARE PARTS LIST
		8.10	Updated COMPRESSOR ASSEMBLY 00717488 0087 to (REV 05)
		8.11	Replaced INLET VALVE ASSEMBLY 00717985 0002 with 00717985 0045 (REV 00)
		8.13	Replaced RECEIVER ASSEMBLY 00717884 0150 with 00717884 0159 (REV 00)
		8.14	Added SERVICE VALVE OUT 00717885 0005 (REV 00)
		8.15	Added DISCHARGE HOSE 00717886 0003 (REV 00)
		8.16	Added CONTROL TUBING 00717887 0002 (REV 00)
		8.20	Replaced INSTRUMENT PANEL ASSEMBLY 00717680 0075 with 00717680 0132 (REV 00)
		8.21	Added 8.21.1 ENCLOSURE 03903168 0093 (REV C)

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.



CONTENTS

I	ABOUT THIS MANUAL	V
I.I	Safety Instructions	V
I.II	Manual Organization	V
I.III	Supplemental Documents	V
1	SAFETY	1
1.1	General Safety	2
1.2	Pressure Release	2
1.3	Fires and Explosion	2
1.4	Moving Parts	3
1.5	Hot Surfaces, Sharp Edges, Sharp Corners and Vacuum	3
1.6	Toxic and Irritating Substances	4
1.7	Electrical Shock	4
1.8	Entrapment	4
2	SPECIFICATIONS	5
2.1	Technical Data	6
2.2	Dimensional Drawing	7
2.3	Wiring Diagram	8
3	COMPONENT DESCRIPTION	9
3.1	Portable Compressor Package	10
3.2	Engine	10
3.3	Airend Assembly	10
3.4	Discharge System	10
3.5	Lubrication System	11
3.6	Capacity Control System	12
3.7	Noise Control Systems	13
3.8	Instrument Panel	13
3.9	Electrical and Protective Circuit System	14
3.10	Engine Shutdown Protection	14
4	TRANSPORTING AND LOCATING	17
4.1	Lifting	18
4.2	Drawbars and Brake Actuators	18
4.3	Preparing to Tow	18
4.4	Towing	19
4.5	Parking or Locating Compressor	20
5	OPERATION	21
5.1	Instrument Panel	22
5.2	Receiving	23
5.3	Pneumatic Tools Application	23
5.4	Preparing for Initial Start-Up	23
5.5	Normal Starting	24
5.6	Normal Stopping	24
5.7	Emergency Stop	24
5.8	Operating Under Extreme Conditions	24
5.9	Operating Suggestions	25
5.10	Jump Starting	25
6	MAINTENANCE	27
6.1	Maintenance Schedule	28
6.2	Bolt Torque Guidelines	29
6.3	Compressor Lubricant Specifications	29
6.4	Compressor Lubrication	30
6.5	Compressor Oil Filter	31
6.6	Engine Lubrication	31

6.7	Grease.	31
6.8	Control Linkage.	31
6.9	Air Intake Filter	31
6.10	Oil Return Line	31
6.11	Air/Oil Separator.	32
6.12	Thermal By-Pass Valve.	32
6.13	Oil Cooler.	32
6.14	Compressor Shaft Oil Seal.	33
6.15	Control Adjustments.	33
7	7 TROUBLESHOOTING	35
7.1	Introduction.	36
7.2	Unplanned Shutdown.	36
7.3	Discharge Pressure Is Too Low	37
7.4	Discharge Pressure is Too High or Relief Valve Blows.	37
7.5	Relief Valve Blows With Throttle Lever In Idle Position	37
7.6	Pressure Does Not Blow Down After Shutdown	37
7.7	Compressor Oil Level Is Decreasing Excessively	38
7.8	Oil In Service Line.	38
7.9	Engine Does Not Accelerate Or Will Not Maintain Full Load Speed	38
7.10	Separator Plugging.	38
7.11	Engine Speed Control Lever Does Not Move To Idle Position With Service Valves Closed	39
7.12	Engine Speed Control Lever Does Not Move To Full Speed With Air Demand	39
7.13	Full Load Speed Cannot Be Obtained	39
7.14	Idle Speed Difficult To Set After Full Load Speed Has Been Set.	39
7.15	Engine Stalls When Air Demand Is Low	40
7.16	Compressor Oil Leaking in Control Lines/Orifices	40
8	8 PARTS CATALOG	41
8.1	Ordering Parts.	42
8.2	Parts Drawings	42
8.3	Fasteners	42
8.4	Recommended Spare Parts.	43
8.5	Service Kits.	43
8.6	Engine Assembly, Flex & Canadian	44
8.7	Engine Assembly, Export	46
8.8	Battery Assembly	48
8.9	Exhaust Assembly.	50
8.10	Compressor Assembly	52
8.11	Inlet Valve Assembly.	54
8.12	Air Filter Assembly	56
8.13	Receiver Assembly	60
8.14	Receiver Air Out	74
8.15	Discharge Hose Assembly	76
8.16	Control Tubing.	78
8.17	Cooling Assembly	80
8.18	Oil Filter and Piping	82
8.19	Fuel Tank Assembly	84
8.20	Instrument Panel Assembly.	86
8.21	Enclosure Assembly	92
8.22	Machine Dress	100
8.23	Chassis Assembly.	102
8.24	Axle Assembly	104
8.25	Tire and Wheel Assembly.	110
8.26	Bumper Assembly.	112
8.27	Drawbar Assembly	114
8.28	Swivel Jack	116
8.29	Safety Chain	118

1

SAFETY

TOPICS IN THIS SECTION:

» 1.1	General Safety	2
» 1.2	Pressure Release	2
» 1.3	Fires and Explosion	2
» 1.4	Moving Parts	3
» 1.5	Hot Surfaces, Sharp Edges, Sharp Corners and Vacuum	3
» 1.6	Toxic and Irritating Substances	4
» 1.7	Electrical Shock	4
» 1.8	Entrapment	4

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

TOPICS IN THIS SECTION:

» 2.1	Technical Data.....	6
» 2.2	Dimensional Drawing.....	7
» 2.3	Wiring Diagram.....	8

2.1

TECHNICAL DATA

2.1.1 D210PHJD

COMPRESSOR		
Type	Single Stage, Oil Flooded Rotary Screw	
Rated Delivery	cfm (m ³ /min)	210 (5.9)
Rated Operating Pressure	psig (bar)	150 (10.3)
Rated Operating Pressure Range	psig (bar)	70-165 (4.9-11.4)
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	ST 205/75D15 Highway Tubeless	
Estimated Weight, Serviced	lbs (kg)	2385 (1082)

ENGINE		
Type	Diesel	
Engine Make	John Deere	
Engine Model	4045TF290 (Tier 4 Interim)	
Number of Cylinders	4	
Bore and Stroke	in (mm)	4.19 x 5.00 (106 x 127)
Displacement	in ³ (L)	276 (4.5)
Horsepower @ Rated RPM	hp (kW)	74 (55.2)
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	2500
Idle Speed	rpm	1650
Fuel Tank Capacity	gallons (L)	29 (109.8)

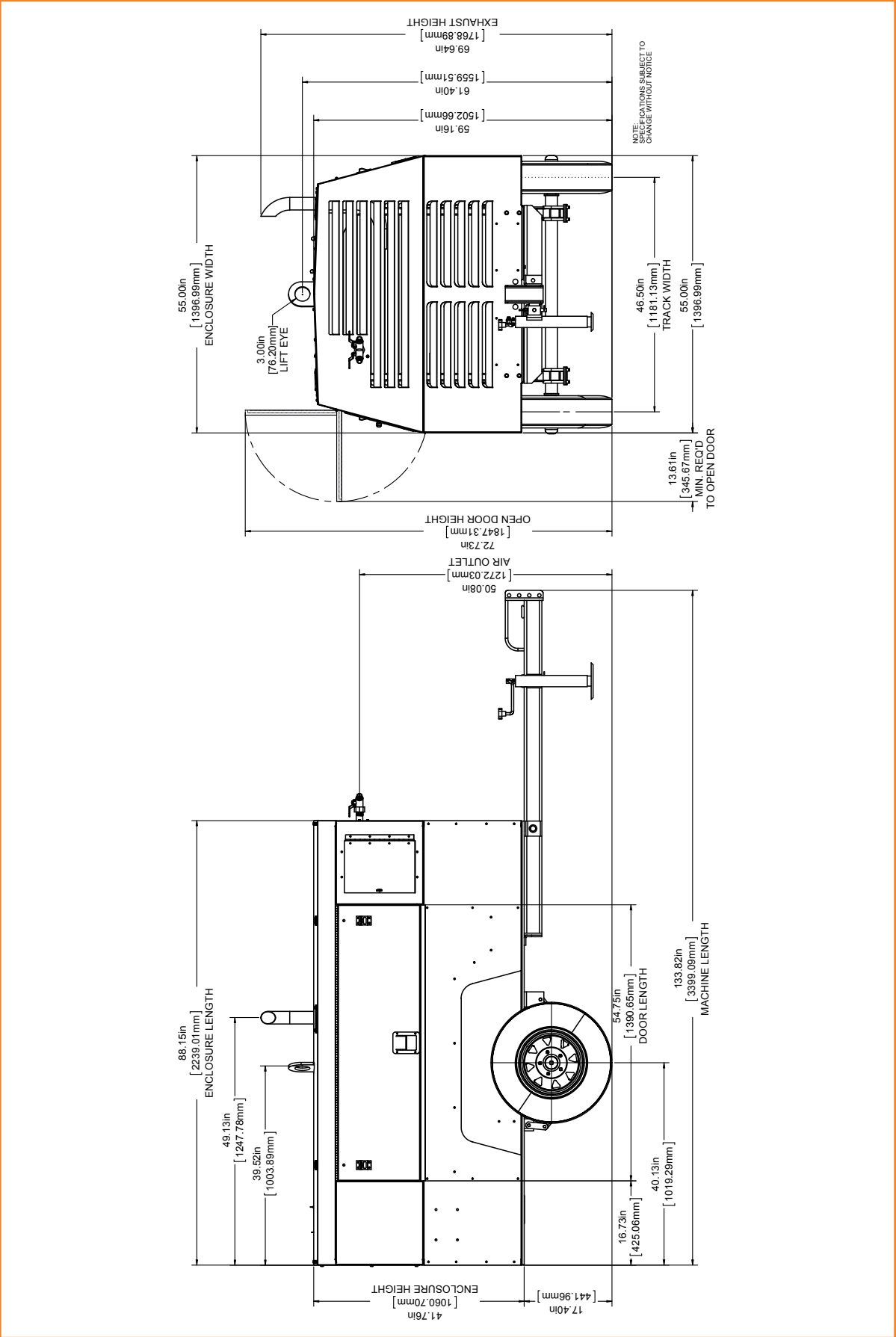
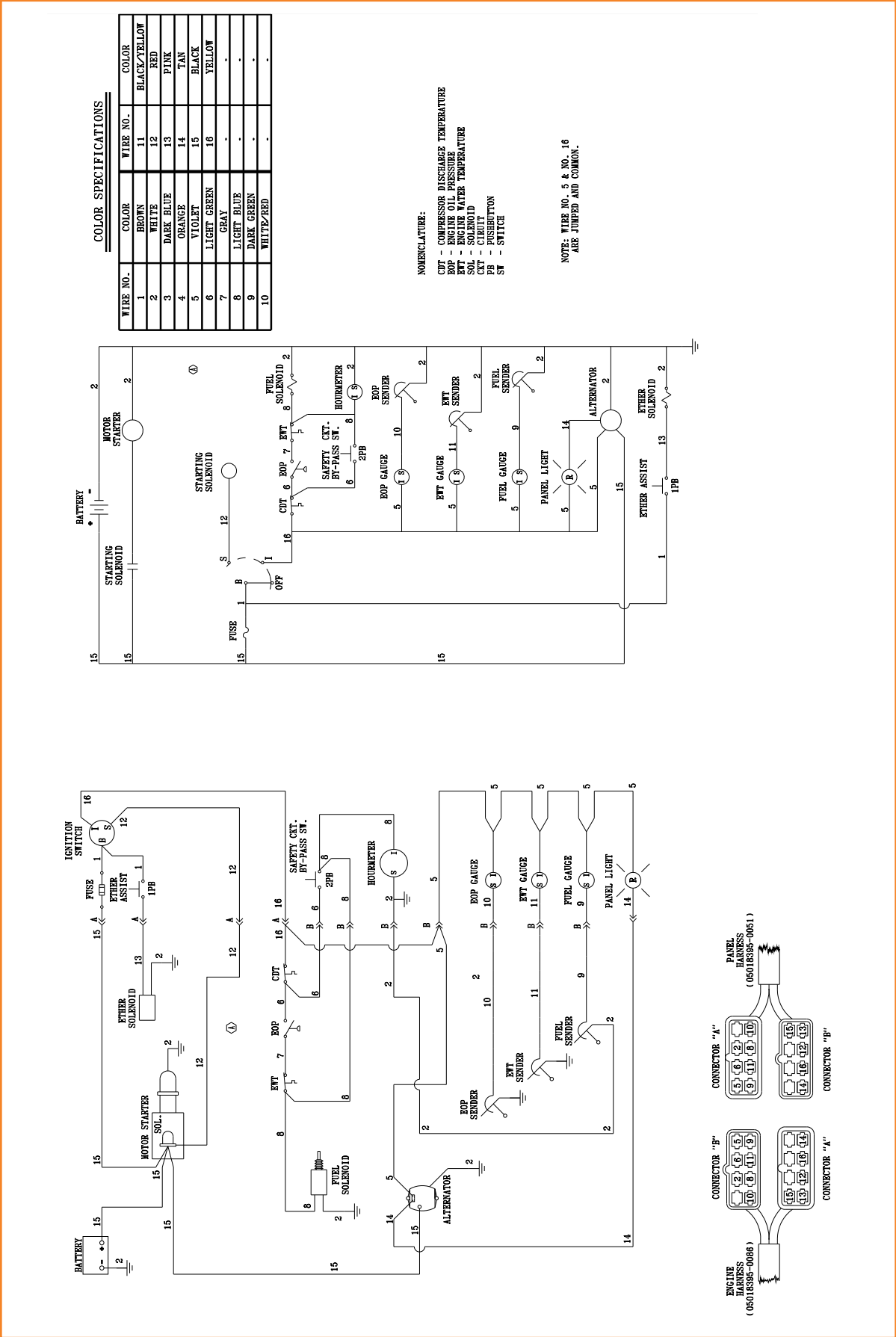


FIGURE 2-1. D185-250 GENERAL DIMENSIONS - S



3

COMPONENT DESCRIPTION

TOPICS IN THIS SECTION:

» 3.1	Portable Compressor Package.....	10
» 3.2	Engine	10
» 3.3	Airend Assembly	10
» 3.4	Discharge System	10
» 3.5	Lubrication System	11
» 3.6	Capacity Control System.....	12
» 3.7	Noise Control Systems	13
» 3.8	Instrument Panel.....	13
» 3.9	Electrical and Protective Circuit System	14
» 3.10	Engine Shutdown Protection	14

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

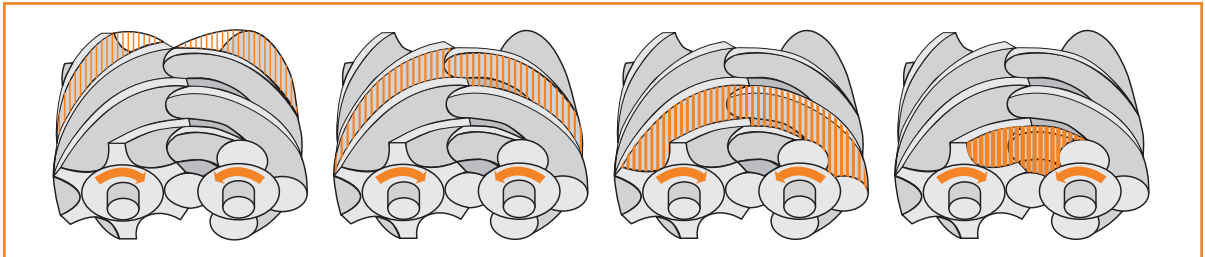


FIGURE 3-1. DIAGRAM, COMPRESSION CYCLE

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.

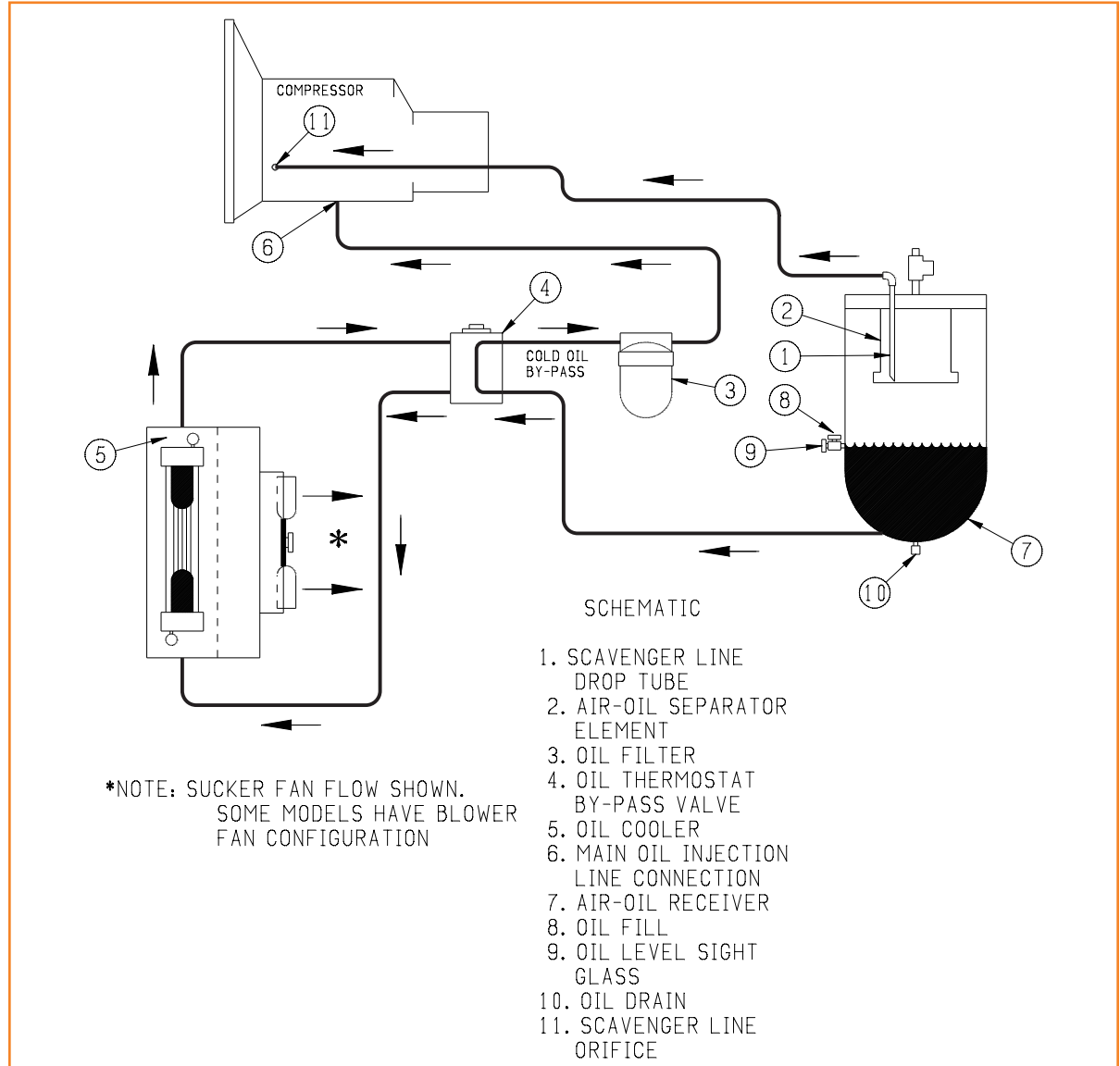


FIGURE 3-2. DIAGRAM, OIL PIPING 185-375 (REV 00)

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.

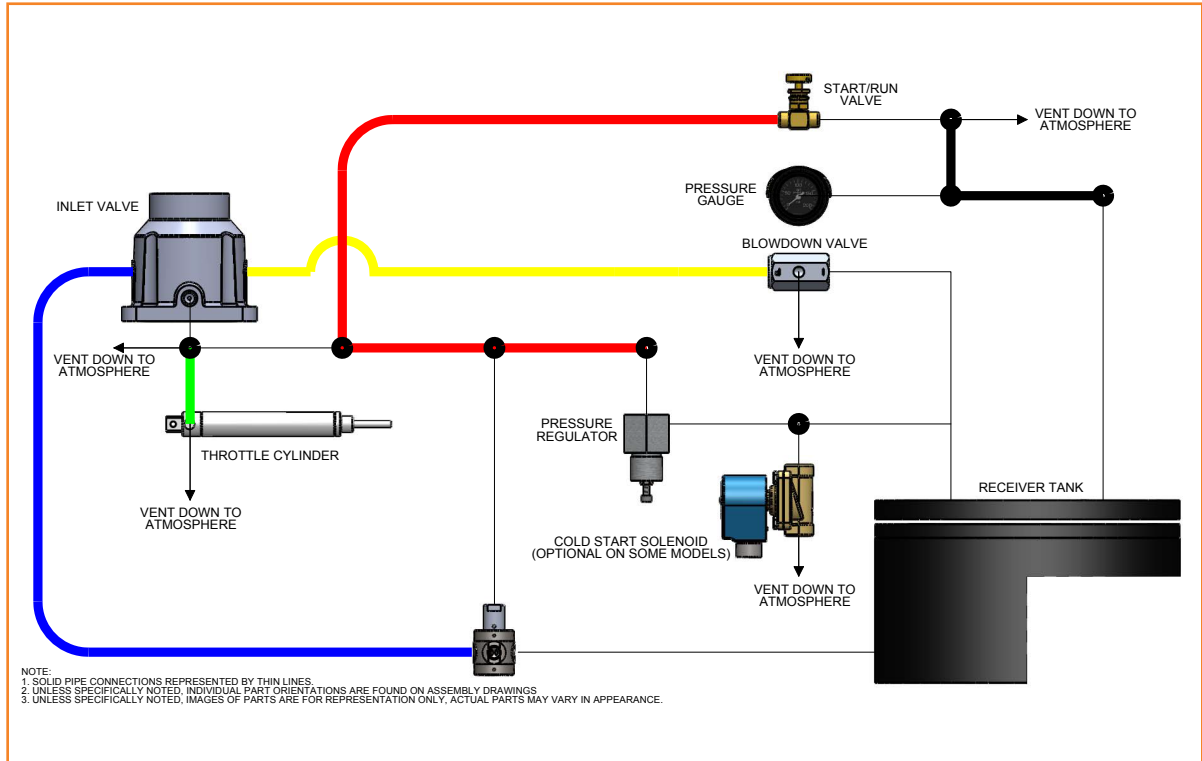


FIGURE 3-4. CD 00006 DIAGRAM, CONTROL D185-250 LOW PRESSURE PNEUMATIC CONTROL (REV 00)

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 separate throttle air cylinder controls engine speed. The air cylinder is spring loaded in the full speed position when there is no air signal from the pressure regulator valve. Whenever less than full capacity is required, receiver pressure increases, thereby opening the pressure regulator, which allows a pressure signal to enter the throttle air cylinder and 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. A separate air cylinder regulates engine speed. 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 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.

3.8.2 VOLTMETER (OPTIONAL)

The voltmeter indicates the condition of the battery prior to start-up. When running, it tells whether the alternator and voltage regulator are operating properly. The normal reading should be 13 to 15 volts during operation in a 12-volt system and 25 to 27 volts in a 24-volt system.

3.8.3 HOURMETER

The hourmeter records the total number of operating hours. It serves as a guide for following the recommended inspection and maintenance schedule as outlined in the Lubrication and Maintenance section of this manual.

3.8.4 ENGINE OIL PRESSURE GAUGE

The engine oil pressure gauge shows the engine oil pressure. Do not operate the engine if oil pressure is not indicated immediately after starting. For details, refer to Engine Operator and Maintenance Manual.

3.8.5 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.

3.8.6 ENGINE WATER TEMPERATURE GAUGE

The engine water temperature gauge shows the temperature of the engine coolant.

3.8.7 FUEL GAUGE

The fuel gauge indicates the fuel level of the engine fuel tank. To prevent air from entering the fuel system, the tank should not be allowed to run empty. It should be kept filled, even when not in operation, in order to minimize condensation. Add fuel conditioner if the compressor will be idle for an extended period. An optional low-fuel shutdown system is available to prevent accidental fuel exhaustion.

3.8.8 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 (116 °C).
2. Low engine oil pressure (EOP) of approximately 15 psi (100 kpa).
3. High water temperature (EWT) approximately 215 °F (101 °C).

3.10 ENGINE SHUTDOWN PROTECTION

Sullivan-Palatek uses electronically controlled engines in the 375-1800 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 amber warning light and red engine shutdown/diagnostic light on the compressor instrument panel.

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 warning and shutdown lights will be lit on the control panel 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 lights will be lit on the control panel 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 Inc. 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:

» 4.1	Lifting	18
» 4.2	Drawbars and Brake Actuators	18
» 4.3	Preparing to Tow	18
» 4.4	Towing	19
» 4.5	Parking or Locating Compressor	20

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

WARNING!

TOWING

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

TOPICS IN THIS SECTION:

» 5.1	Instrument Panel.....	22
» 5.2	Receiving.....	23
» 5.3	Pneumatic Tools Application.....	23
» 5.4	Preparing for Initial Start-Up.....	23
» 5.5	Normal Starting.....	24
» 5.6	Normal Stopping.....	24
» 5.7	Emergency Stop.....	24
» 5.8	Operating Under Extreme Conditions.....	24
» 5.9	Operating Suggestions.....	25
» 5.10	Jump Starting.....	25

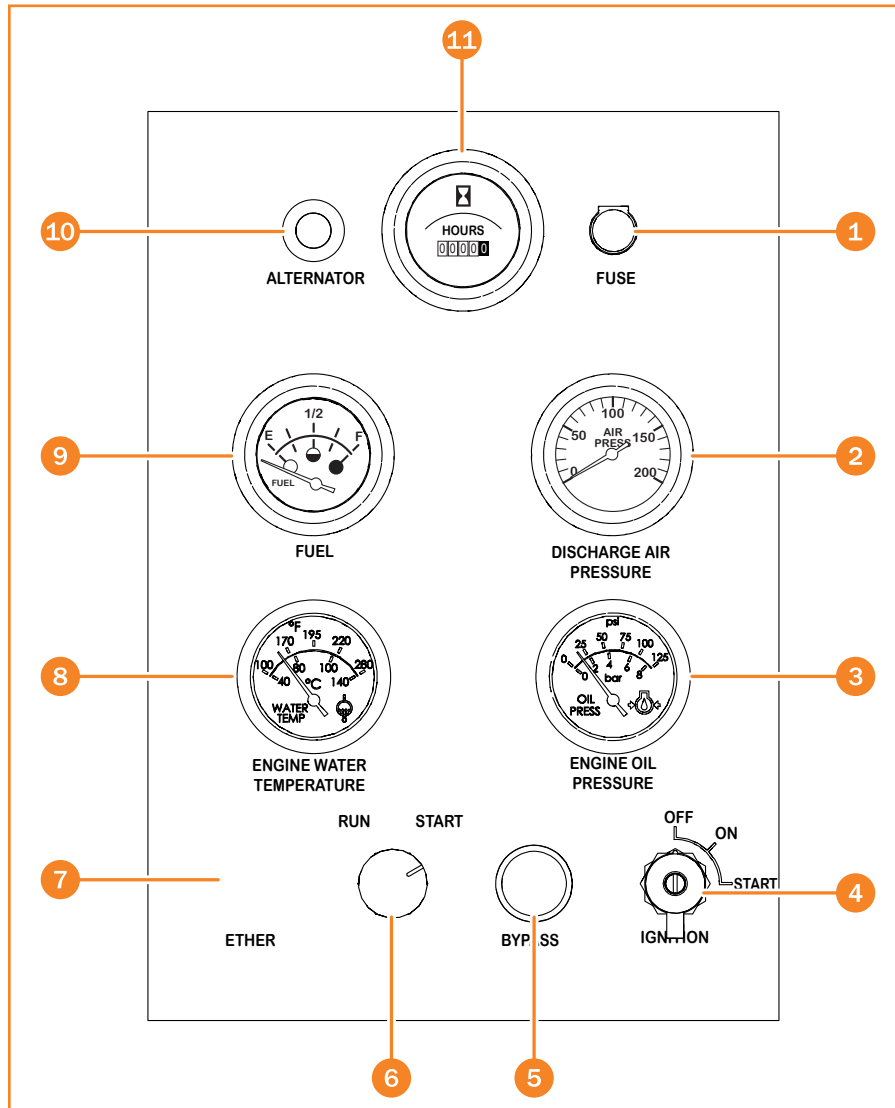


FIGURE 5-2. INSTRUMENT PANEL D210

ITEM	NAME	DESCRIPTION
1	Fuse	Fuse to protect the engine during start-up. Turn and pull to remove.
2	Discharge Air Pressure	Gauge displays discharge air pressure of compressor.
3	Engine Oil Pressure	Gauge displays oil pressure of the engine.
4	Ignition Switch	START position electrically energizes engine starter motor solenoid.
5	By-Pass Button	Pressing button overrides the normally open low engine oil pressure switch to allow start-up.
6	Start-Run Switch	START allows compressor to be started. RUN allows full-load operation.
7	Ether (Option)	Optional Ether starting-aid for cold weather starting.
8	Engine Water Temp.	Gauge displays engine coolant temperature.
9	Fuel Gauge	Gauge displays compressor fuel level.
10	Alternator Light	RPM sensitive diagnostic light for troubleshooting problems with the alternator.
11	Hourmeter	Hourmeter records total number of compressor operating hours.

NOTE!

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

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 water, oil fuel, and battery fluid levels. Check compressor receiver oil level.
3. Close service valves. Set start-run valve to **START** position.
4. Turn ignition circuit breaker switch to **ON** 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 **START** position and hold until engine starts.
7. Let engine warm up. Turn 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 (load-unload) valve to **START (UNLOAD)** and close all service valves, allowing compressor to unload.
2. Operate compressor in unloaded condition two to five minutes to allow machine to cool down.
3. Open and close the service valve to reduce pressure to approximately 70 psi.
4. Turn ignition switch to **OFF**.

5.7 EMERGENCY STOP

Turn ignition switch to **OFF**.

5.8 OPERATING UNDER EXTREME CONDITIONS

5.8.1 COLD WEATHER OPERATION

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

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

TOPICS IN THIS SECTION:

» 6.1	Maintenance Schedule	28
» 6.2	Bolt Torque Guidelines	29
» 6.3	Compressor Lubricant Specifications	29
» 6.4	Compressor Lubrication	30
» 6.5	Compressor Oil Filter	31
» 6.6	Engine Lubrication	31
» 6.7	Grease	31
» 6.8	Control Linkage	31
» 6.9	Air Intake Filter	31
» 6.10	Oil Return Line	31
» 6.11	Air/Oil Separator	32
» 6.12	Thermal By-Pass Valve	32
» 6.13	Oil Cooler	32
» 6.14	Compressor Shaft Oil Seal	33
» 6.15	Control Adjustments	33

COMPRESSOR MAINTENANCE SCHEDULE								
PROCEDURE	FREQUENCY (HOURS)						SEE NOTE	REF.
	DAILY	50	250	1000	2000	AS REQUIRED		
Check oil level (before starting)	x						1	6.4
Check radiator coolant level	x						1	
Check fuel supply (after starting)	x						1	
Check air filter elements	x						1,7	6.9
Check for fuel, oil air and water leaks	x						1	
Check for throttle control linkage		x					2	
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	6.9
Lubricate control linkage with light machine oil				x			4	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	6.14
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	6.11
Check all door gaskets, hinges and latches					x		5	
Drain engine radiator coolant					x		5	
Clean and flush cooling system					x		5	6.13
Check protective circuits and verify proper function					x		5	
Check sump pressure relief valve					x		5	
Inspect and clean oil system thermostat						x	6	6.12
Check control adjustment						x	6	6.15
Re-pack wheel bearings						x	6	

NOTES

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

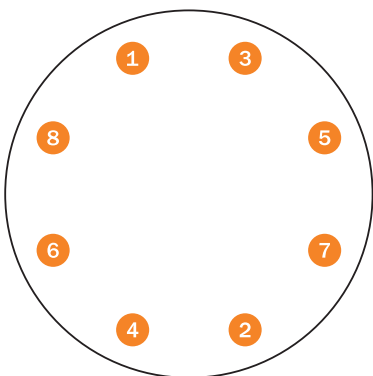
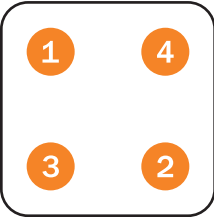
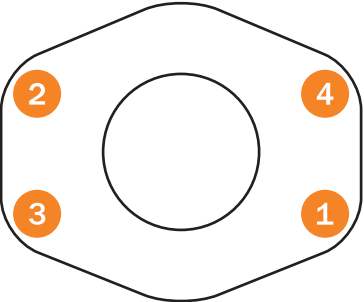
6.2

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 5W-20 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 (180), as well as, low pour point (-40°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 5W-20 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.
3. Remove oil filter element by unscrewing it from the filter head (turn counterclockwise) and discard. The use of a strap-type wrench may be necessary.

6.5.3 INSTALLATION

1. Install a new oil filter by applying a thin film of oil to the seal. Screw the oil filter on by hand, turning it clockwise until the gasket seats. Then turn an additional 1/2 to 3/4 turn by hand.
2. Check for leaks in operation.

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 CONTROL LINKAGE

Control linkage should be cleaned and lightly oiled at all joints every 1,000 hours or 6 months.

6.9 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.

6.9.1 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.

6.9.2 REMOVAL

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

6.9.3 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.

6.10 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.

6.10.1 INSPECTION

Inspect oil return line for clogging.

6.10.2 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.

6.11 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.

6.11.1 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.

6.11.2 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.

6.12 THERMAL BY-PASS VALVE

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

6.12.1 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.

6.13 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.

6.13.1 INSPECTION

Inspect compressor oil system for signs of varnish.

6.13.2 REMOVAL

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

6.13.3 CLEANING

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

6.13.4 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.

6.14

COMPRESSOR SHAFT OIL SEAL

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

6.14.1 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.

6.15

CONTROL ADJUSTMENTS

The engine speed governor and interconnecting linkage are preset at the factory and normally require no servicing other than keeping the linkage joints clean and lubricated. However, if it becomes necessary to make adjustments, use the following procedures.

6.15.1 DISCHARGE PRESSURE ADJUSTMENT

To increase pressure, loosen locknut on pressure regulator adjustment screw and turn screw clockwise. Lower the operating pressure by turning screw counterclockwise. Reset locknut after adjustment is completed. Check engine speed adjustments whenever pressure settings have been changed. Only the unloaded pressure can be selected with the pressure-regulating valve. Full and part load pressures are a function of air usage.

6.15.2 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 125 psig. If necessary, make pressure discharge adjustment as described above. Make engine speed adjustments as follows.

6.15.3 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.

6.15.4 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

TOPICS IN THIS SECTION:

» 7.1	Introduction	36
» 7.2	Unplanned Shutdown	36
» 7.3	Discharge Pressure Is Too Low	37
» 7.4	Discharge Pressure is Too High or Relief Valve Blows	37
» 7.5	Relief Valve Blows With Throttle Lever In Idle Position	37
» 7.6	Pressure Does Not Blow Down After Shutdown	37
» 7.7	Compressor Oil Level Is Decreasing Excessively	38
» 7.8	Oil In Service Line	38
» 7.9	Engine Does Not Accelerate Or Will Not Maintain Full Load Speed	38
» 7.10	Separator Plugging	38
» 7.11	Engine Speed Control Lever Does Not Move To Idle Position With Service Valves Closed	39
» 7.12	Engine Speed Control Lever Does Not Move To Full Speed With Air Demand	39
» 7.13	Full Load Speed Cannot Be Obtained	39
» 7.14	Idle Speed Difficult To Set After Full Load Speed Has Been Set	39
» 7.15	Engine Stalls When Air Demand Is Low	40
» 7.16	Compressor Oil Leaking in Control Lines/Orifices	40

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 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.
Water temperature switch open	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.
Compressor discharge temperature switch open	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.
Engine oil pressure switch open	Check engine oil. Add as needed. Verify the engine oil pressure exceeds 12 psi 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 gauges. 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 LEVER DOES NOT MOVE TO IDLE POSITION WITH SERVICE VALVES CLOSED**

POSSIBLE CAUSE	ACTION
Insufficient pressure in control line to operate throttle cylinder (185-375 CFM Compressors)	Check the t-handle adjustment in the control line.
Pressure in control line to operate throttle cylinder is present (750-1800 CFM Compressors)	Inspect the control lines for blockage, dirt, or debris.
Control system is blocked between the sump and inlet valve	Clean the control lines and retest.
Control system leaks between sump and inlet valve	Repair any leaks found and retest
Engine governor speed control lever binding or throttle cylinder faulty	Inspect the control lever, lubricate or replace as needed.
Discharge pressure regulator faulty	Properly adjust the regulator. Replace the regulator if necessary
Inlet valve faulty	Inspect the inlet and rebuild/replace as needed. Broken or worn rings in modulation valve.

7.12**ENGINE SPEED CONTROL LEVER DOES NOT MOVE 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.
Engine governor speed control lever binding or throttle cylinder faulty.	Inspect the control lever, lubricate or replace as needed.
Modulating spring broken.	Inspect inlet valve, rebuild/replace as necessary.
Control rod disconnected between the engine governor and cylinder.	Reconnect the control rod and retest
Discharge pressure regulator faulty or improperly set.	Properly adjust the regulator. Replace the regulator if necessary
Insufficient pressure in control line to operate throttle cylinder. (750–1800 cfm compressors)	Inspect the control lines for leaks, repair as needed.

7.13**FULL LOAD SPEED CANNOT BE OBTAINED**

POSSIBLE CAUSE	ACTION
Throttle cylinder rod to engine governor is incorrectly set or binding	Inspect cylinder rod to engine and adjust, lubricate, or replace as necessary.
Inlet valve faulty	Inspect the inlet and rebuild/replace as needed. Broken or worn rings in modulating piston.
Engine governor incorrectly set	Adjust the engine rpms to the Sullivan-Palatek the proper specifications.
operating above maximum altitude rating of engine	Refer to engine manufacturer's recommendation on maximum altitude.

7.14**IDLE SPEED DIFFICULT TO SET AFTER FULL LOAD SPEED HAS BEEN SET**

POSSIBLE CAUSE	ACTION
Engine governor linkage binding or incorrectly set	Inspect governor linkage and adjust, lubricate, or replace as necessary.
Engine governor idle speed control lever too long	Adjust the idle speed to the Sullivan-Palatek recommended rpm.

7.15

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.

7.16

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

TOPICS IN THIS SECTION:

» 8.1	Ordering Parts	42
» 8.2	Parts Drawings	42
» 8.3	Fasteners	42
» 8.4	Recommended Spare Parts	43
» 8.5	Service Kits	43
» 8.6	Engine Assembly, Flex & Canadian	44
» 8.7	Engine Assembly, Export	46
» 8.8	Battery Assembly	48
» 8.9	Exhaust Assembly	50
» 8.10	Compressor Assembly	52
» 8.11	Inlet Valve Assembly	54
» 8.12	Air Filter Assembly	56
» 8.13	Receiver Assembly	60
» 8.14	Receiver Air Out	74
» 8.15	Discharge Hose Assembly	76
» 8.16	Control Tubing	78
» 8.17	Cooling Assembly	80
» 8.18	Oil Filter and Piping	82
» 8.19	Fuel Tank Assembly	84
» 8.20	Instrument Panel Assembly	86
» 8.21	Enclosure Assembly	92
» 8.22	Machine Dress	100
» 8.23	Chassis Assembly	102
» 8.24	Axle Assembly	104
» 8.25	Tire and Wheel Assembly	110
» 8.26	Bumper Assembly	112
» 8.27	Drawbar Assembly	114
» 8.28	Swivel Jack	116
» 8.29	Safety Chain	118

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

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	01900520 0030
ELEMENT, FUEL FILTER (PRIMARY)	1	05018155 0013
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
SWITCH, COMPRESSOR DISCHARGE TEMP.	1	05019415 0029
SWITCH, IGNITION	1	00600701 0406
SWITCH, ENGINE OIL PRESSURE	1	00519344
VALVE, SAFETY	1	03100-008
VALVE, 2-WAY 1/4 NPT (START-RUN)	1	05019820 0001
VALVE, PRESSURE REGULATOR	1	09661-002
BELT, FAN	1	R123432

NOTE!

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

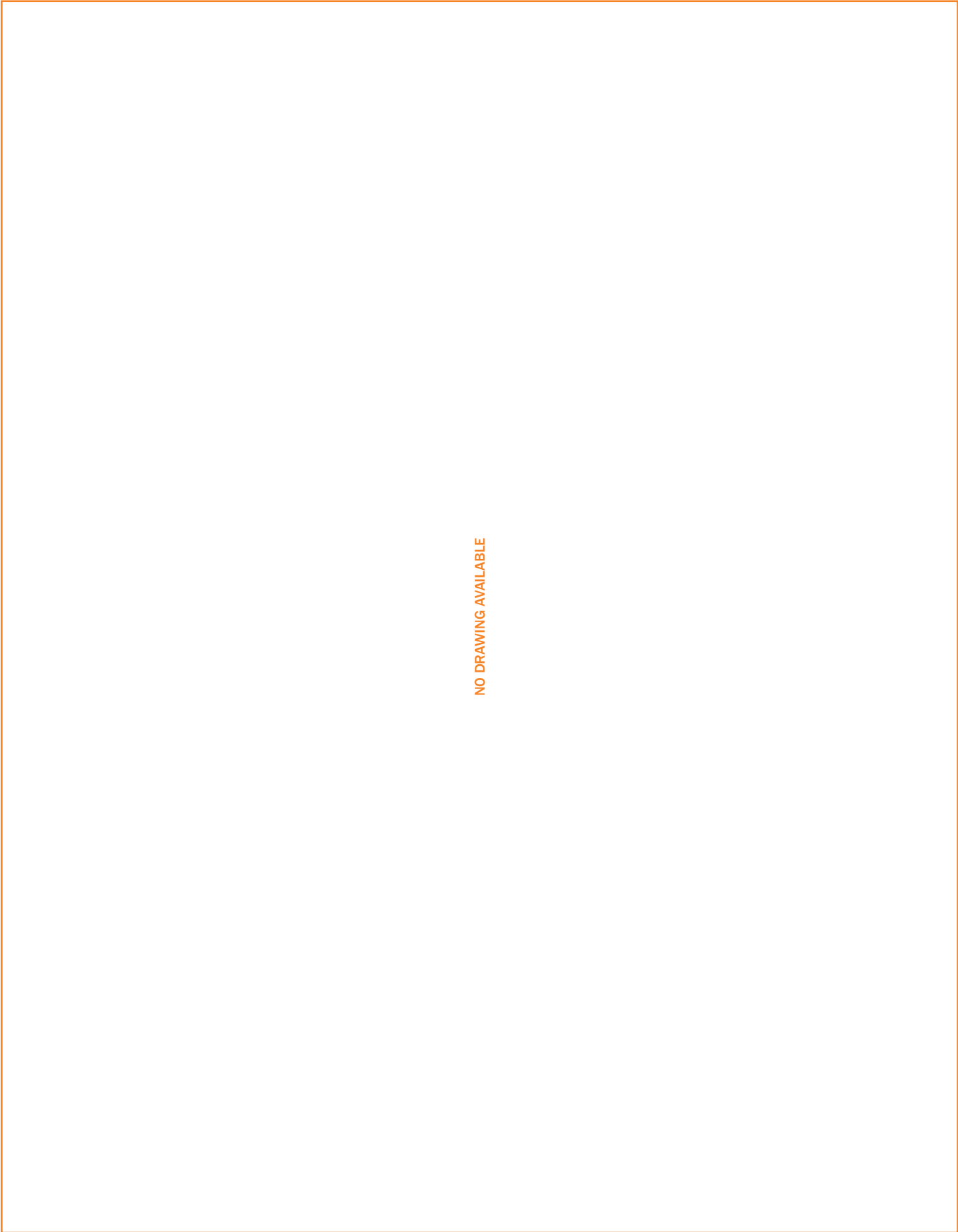
8.5

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)	00717701 0057
	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)	00717701 0058
	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)	00717701 0067
	1	ELEMENT, OIL FILTER (COMPRESSOR)	
	1	ELEMENT, OIL FILTER (ENGINE)	
	1	ELEMENT, FUEL FILTER	
	1	FLUID, COMPRESSOR WEATHER-ALL (5 GALLON)	

8.6 ENGINE ASSEMBLY, FLEX & CANADIAN



NO DRAWING AVAILABLE

FIGURE 8-1. 00717585 0229 ENGINE ASSY,DF210PHJD IT4 FLEX (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	03903000 0033	ADAPTER, METRIC M14-1.5 X .375	1
2	00900115 0021	BOLT, HEX 1/4-20 X 1 1/4 GR5	1
3	00900115 0001	BOLT, HEX 1/4-20 X 3/4 GR5	1
4	00900115 0075	BOLT, HEX 5/8-11 X 2 1/2 GR5	6
5	00925025 0933	BOLT, M8-1.25 X 100MM GR 10.9	4
6	01901520 0201	BRACKET, THROTTLE CYLINDER	1
7	05017420 0062	CABLE, BATTERY GROUND	1
8	05017420 0055	CABLE, BATTERY, POSITIVE	1
9	05017720 0041	COUPLING, DRIVE 185-210/108MM	1
10	05017820 0016	CYLINDER, AIR 3/4" X 2" STROKE	1
11	01139209 0210	DEFLECTOR, HEATSHIELD PAD	1
12	01900520 0030	ELEMENT, OIL FILTER, JD4045	1
13	05017990 0176	ENGINE, JD4045TF290 74 HP FLEX	1
14	05018080 0024	FAN, 20 DIA. 7 BLADE	1
15	01900592 0020	FITTING, ELBOW, ORIFICE, .0469	1
16	05018395 0086	HARNESS, WIRING W/DOT LIGHTS	1
17	00906814 0006	HOSE, 3/8" ID, 250 PSI	0.5 FT
18	00910335 0007	ISOLATOR, VIBRATION 450#	4
19	00904806 0005	JOINT, 1/4-28 BALL & SOCKET	1
20	01900858 0001	KEY, 3/8 X 3/8 X 1-7/8 RD END	1
21	00901176 2000	NIPPLE, PIPE 1/8" CLOSE	1
22	00900214 0002	NUT, HEX JAM 1/4-28 GR2	1
23	00903540 0007	NUT, NYLOCK 1/4-28 THIN HEIGHT	1
24	00900490 0071	NUT, NYLOK 1/4-20	3
25	00900490 0128	NUT, NYLOK 5/8-11	6
26	00925012 1117	SCREW, M12 - 1.75 X 25MM LG	8
27	00925012 1321	SCREW, M16-2 X 35 MM LG	2
28	00900389 0002	SCREW, 1/4-20 X 3/4" LG BUTTON	2
29	00913792 0039	SCREW, 5/16-18 X 1/2" THD FORM	1
30	00925012 0917	SCREW, M8-1.25 X 25MM LG HEXHD	1
31	01901295 0016	SEAL, BOND 14MM	1
32	05019205 0001	SENDER, OIL PRESSURE, 1/8 NPT	1
33	05019191 0006	SENDER, TEMPERATURE, 3/8"-18	1
34	00902224 0071	SHCS, 3/8-16 X 1" LG	8
35	05019280 0006	SOLENOID, RELAY 12V	1
36	01901416 0092	SPACER, FAN	1
37	01660689	STRAP, GROUND	1
38	01901520 0278	SUPPORT, ENGINE, L.H. FRONT	1
39	01901520 0279	SUPPORT, ENGINE, R.H. FRONT	1
40	01901520 0098	SUPPORT, CYLINDER	1
41	01901520 0256	SUPPORT, ENGINE, REAR	2
42	00519344	SWITCH, OIL PRESSURE 12 PSI	1
43	05019415 0010	SWITCH, TEMPERATURE 230 DEG F	1

ITEM	PART NUMBER	DESCRIPTION	QTY
44	00901090 0001	TEE 1/8 X 1/8 X 1/8 NPT	1
45	05019550 0085	TUBE, ASY FUEL RETURN	1
46	00900321 0002	WASHER, FLAT 1/4	1
47	00900321 0006	WASHER, FLAT 5/8	4
48	00900305 0001	WASHER, LOCK 1/4	1
49	05018680 0020	WIRE, LEAD 12 GA. X 20" LONG	1
50	05018680 0017	WIRE, LEAD 12 GA. X 18" LONG	1

8.7 ENGINE ASSEMBLY, EXPORT

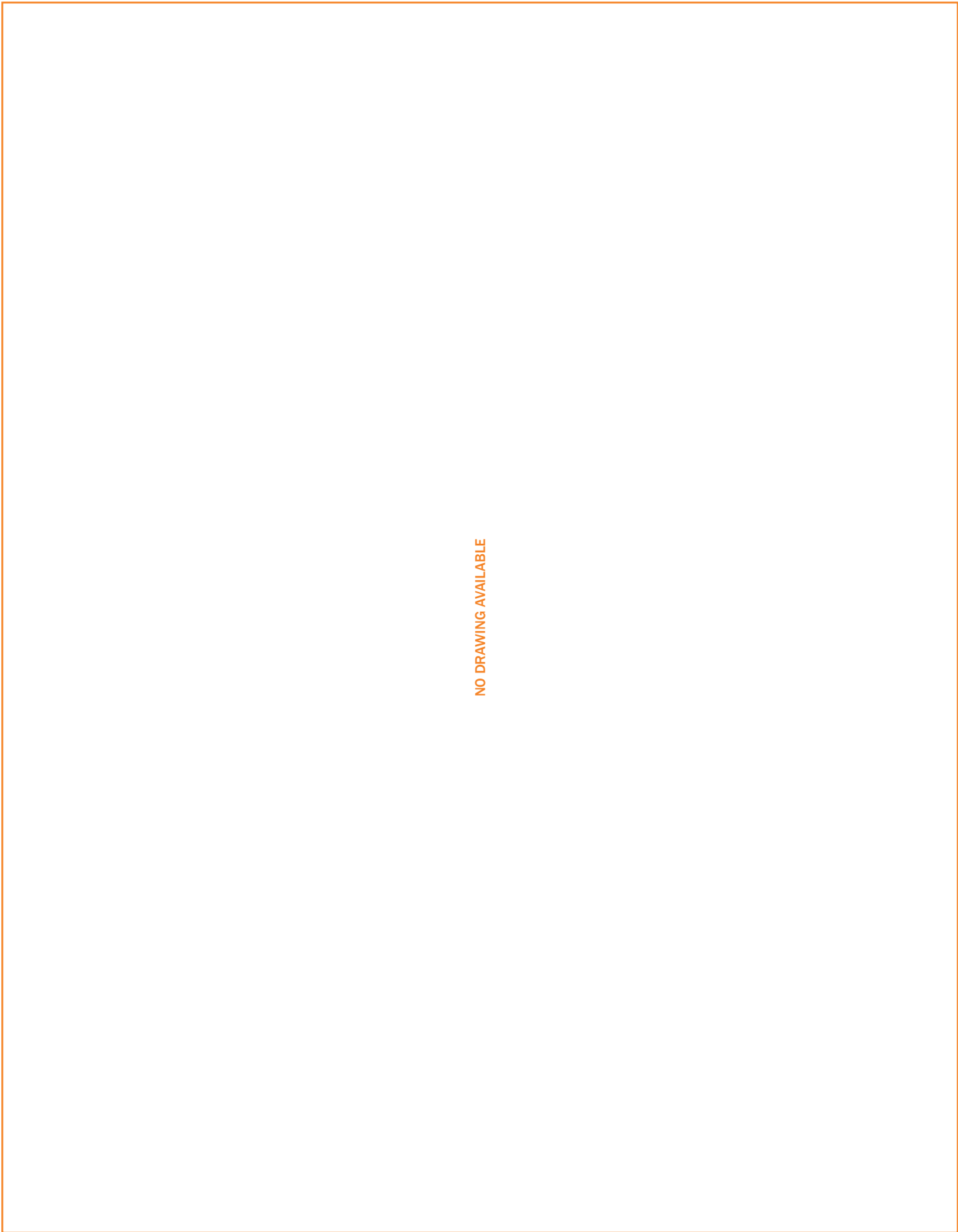


FIGURE 8-2. 00717585 0230 ENGINE ASSY,DE210PHJD IT4 EXP (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	03903000 0033	ADAPTER, METRIC M14-1.5 X .375	1
2	00900115 0021	BOLT, HEX 1/4-20 X 1 1/4 GR5	1
3	00900115 0001	BOLT, HEX 1/4-20 X 3/4 GR5	1
4	00900115 0075	BOLT, HEX 5/8-11 X 2 1/2 GR5	6
5	00925025 0933	BOLT, M8-1.25 X 100MM GR 10.9	4
6	01901520 0201	BRACKET, THROTTLE CYLINDER	1
7	05017420 0062	CABLE, BATTERY GROUND	1
8	05017420 0055	CABLE, BATTERY, POSITIVE	1
9	05017720 0041	COUPLING, DRIVE 185-210/108MM	1
10	05017820 0016	CYLINDER, AIR 3/4" X 2" STROKE	1
11	01139209 0210	DEFLECTOR, HEATSHIELD PAD	1
12	01900520 0030	ELEMENT, OIL FILTER, JD4045	1
13	05017990 0177	ENGINE, JD4045TF290 74 HP EXP	1
14	05018080 0024	FAN, 20 DIA. 7 BLADE	1
15	01900592 0020	FITTING, ELBOW, ORIFICE, .0469	1
16	05018395 0086	HARNESS, WIRING W/DOT LIGHTS	1
17	00906814 0006	HOSE, 3/8" ID, 250 PSI	0.5 FT
18	00910335 0007	ISOLATOR, VIBRATION 450#	4
19	00904806 0005	JOINT, 1/4-28 BALL & SOCKET	1
20	01900858 0001	KEY, 3/8 X 3/8 X 1-7/8 RD END	1
21	00901176 2000	NIPPLE, PIPE 1/8" CLOSE	1
22	00900214 0002	NUT, HEX JAM 1/4-28 GR2	1
23	00903540 0007	NUT, NYLOCK 1/4-28 THIN HEIGHT	1
24	00900490 0071	NUT, NYLOK 1/4-20	3
25	00900490 0128	NUT, NYLOK 5/8-11	6
26	00925012 1117	SCREW, M12 - 1.75 X 25MM LG	8
27	00925012 1321	SCREW, M16-2 X 35 MM LG	2
28	00900389 0002	SCREW, 1/4-20 X 3/4" LG BUTTON	2
29	00913792 0039	SCREW, 5/16-18 X 1/2" THD FORM	1
30	00925012 0917	SCREW, M8-1.25 X 25MM LG HEXHD	1
31	01901295 0016	SEAL, BOND 14MM	1
32	05019205 0001	SENDER, OIL PRESSURE, 1/8 NPT	1
33	05019191 0006	SENDER, TEMPERATURE, 3/8"-18	1
34	00902224 0071	SHCS, 3/8-16 X 1" LG	8
35	05019280 0006	SOLENOID, RELAY 12V	1
36	01901416 0092	SPACER, FAN	1
37	01660689	STRAP, GROUND	1
38	01901520 0278	SUPPORT, ENGINE, L.H. FRONT	1
39	01901520 0279	SUPPORT, ENGINE, R.H. FRONT	1
40	01901520 0098	SUPPORT, CYLINDER	1
41	01901520 0256	SUPPORT, ENGINE, REAR	2
42	00519344	SWITCH, OIL PRESSURE 12 PSI	1
43	05019415 0010	SWITCH, TEMPERATURE 230 DEG F	1

ITEM	PART NUMBER	DESCRIPTION	QTY
44	00901090 0001	TEE 1/8 X 1/8 X 1/8 NPT	1
45	05019550 0085	TUBE, ASY FUEL RETURN	1
46	00900321 0002	WASHER, FLAT 1/4	1
47	00900321 0006	WASHER, FLAT 5/8	4
48	00900305 0001	WASHER, LOCK 1/4	1
49	05018680 0020	WIRE, LEAD 12 GA. X 20" LONG	1
50	05018680 0017	WIRE, LEAD 12 GA. X 18" LONG	1

8.8 BATTERY ASSEMBLY

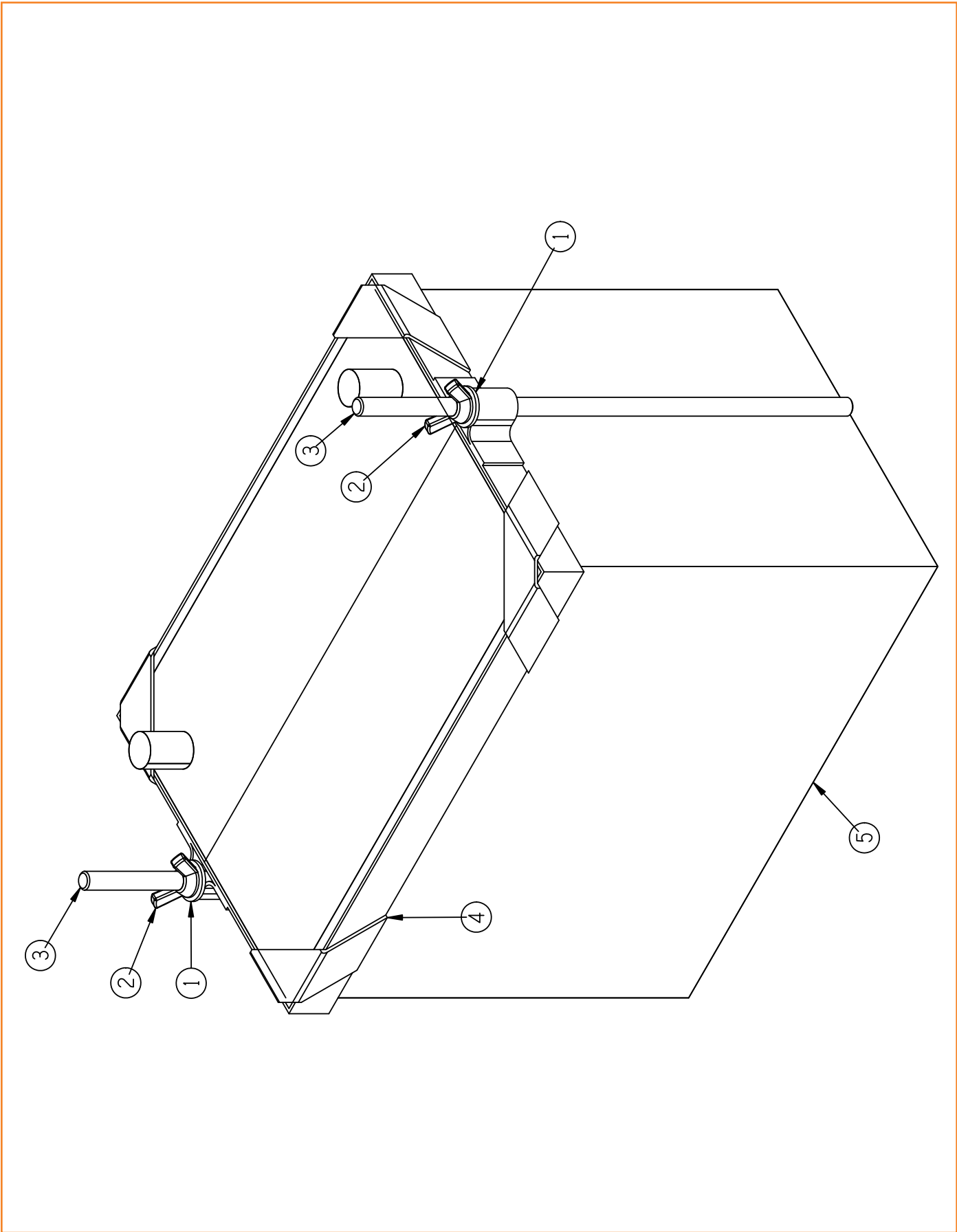


FIGURE 8-3. 00717820 0050 BATTERY GROUP STANDARD (REV 0)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00900321 0003	WASHER, FLAT 5/16"	2
2	00903192 0003	NUT, WING 5/16-18"	2
3	00910106 0230	ROD, THREADED 5/16" X 10" LONG	2
4	01026-002	BRKT, BATT HOLD DOWN	1
5	05017195 0004	BATTERY, STANDARD 12V	1

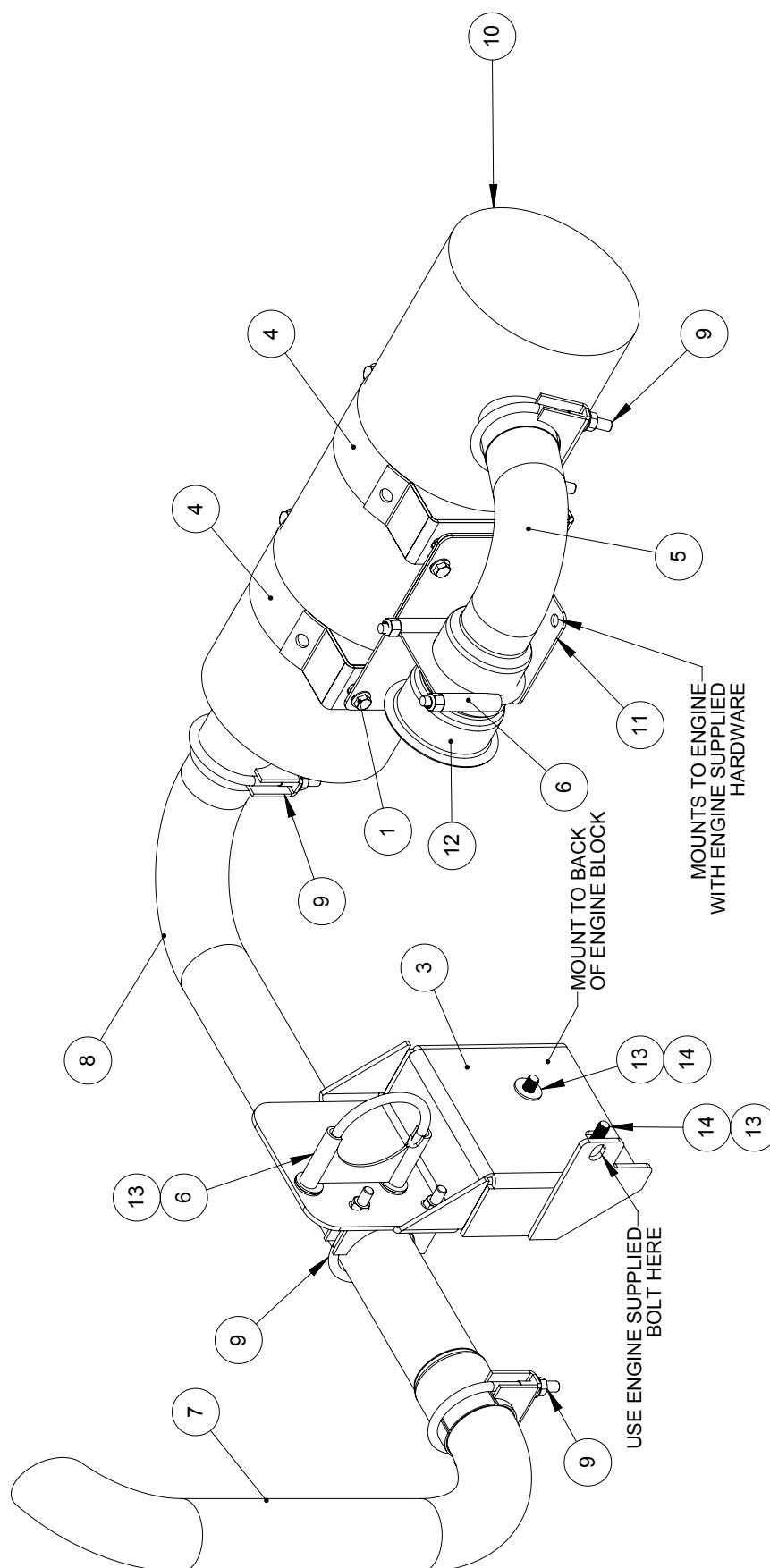


FIGURE 8-4. 00717796 0136 EXHAUST SYSTEM D210PHJD (REV 04)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	93115-002	BOLT, WHIZ LOCK 5/16-18 X 3/4 ZINC PLATED	4
2	93165-003	NUT, WHIZ HEX 5/16-18	4
3	01901520 0360	SUPPORT, EXHAUST AND INTAKE PIPES D210	1
4	05018755 0017	MOUNTING BAND	2
5	01901564 0109	TUBE, 2-1/2" ELBOW, SHORT	1
6	00519470 0003	CLAMP, GUILLOTINE, 3"	2
7	01901564 0079	ELBOW, EXHAUST, D185Q11JD	1
8	01901564 0108	TUBE, 2-1/2" ELBOW, LONG	1
9	00519470 0001	CLAMP, MUFFLER 2-1/2"	4
10	05018785 0025	MUFFLER, D185, D210	1
11	01901520 0361	SUPPORT, MUFFLER	1
12	01901568 0009	TUBE, TURBO, 3.5 X 3.0	1
13	00900321 0003	WASHER, FLAT 5/16" ZINC PLATED	8
14	00925025 1017	BOLT, HEX HEAD M10-1.5 X 25MM	2

8.10 COMPRESSOR ASSEMBLY

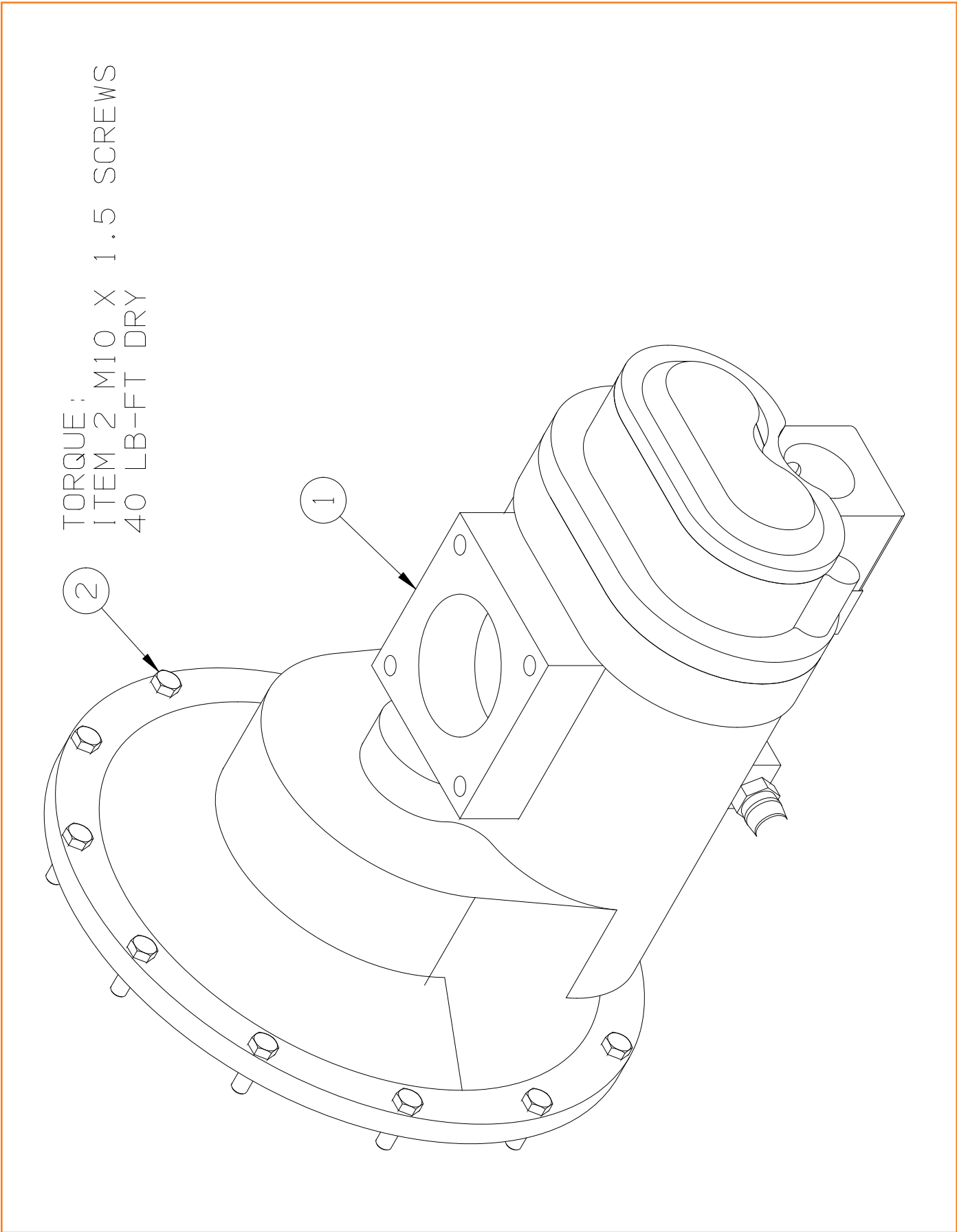
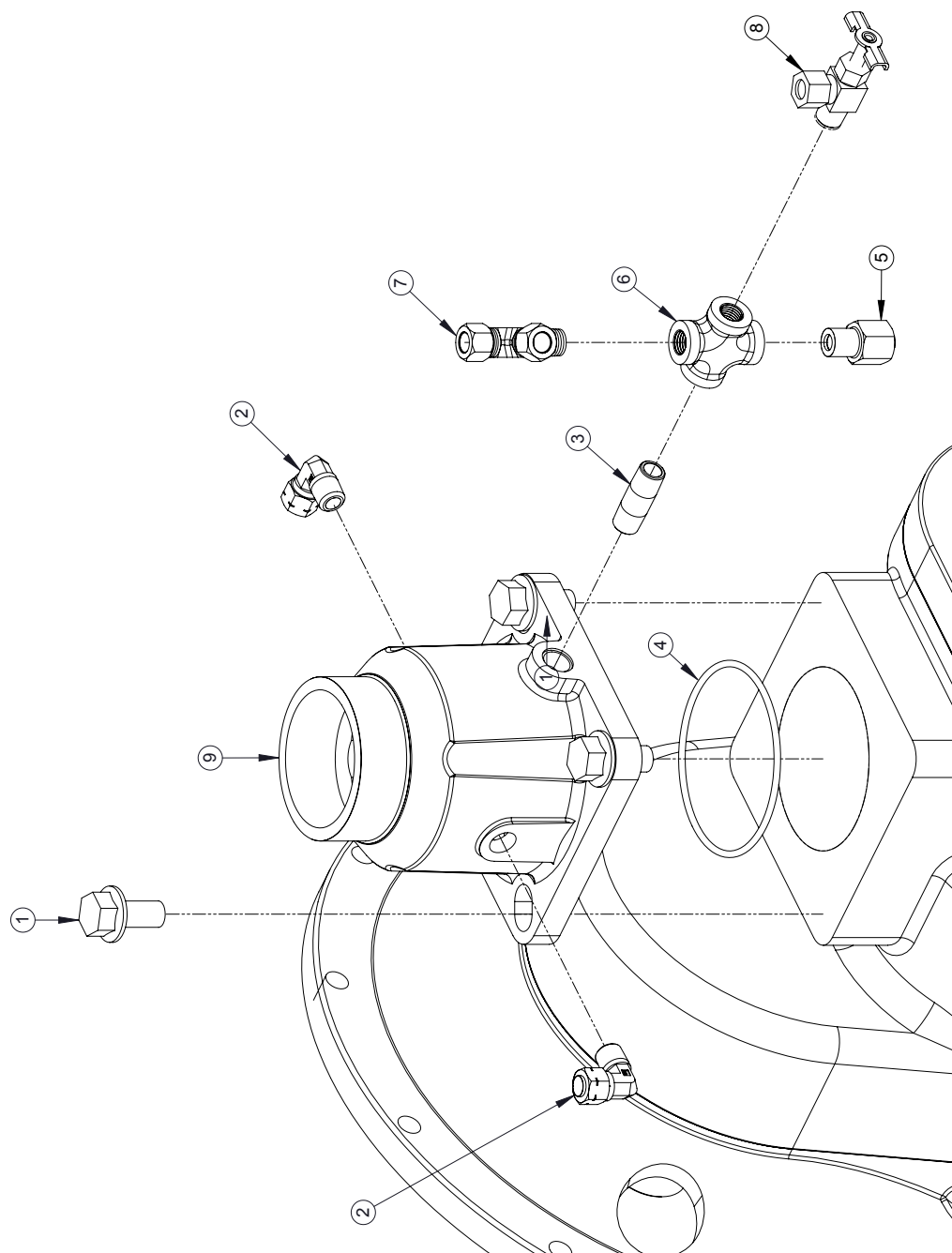


FIGURE 8-5. 00717488 0087 COMPRESSOR AND MTG PARTS (REV 05)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00501170 1243	AIR END ASSEMBLY, 108MM	1
2	00925012 1021	SCREW, M10 X 1.5 X 35MM LG	10



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 8-6. 00717985 0045 INLET VALVE ASSY, D185-210 (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	93115-014	BOLT, WHIZ LOCK .50-13 X 1.000 ZINC PLATED	4
2	00915557 0064	ELBOW, .375 TUBE X .250 MNPT BRASS	2
3	00901179 0047	NIPPLE, PIPE .250 X 1.50 SCH80	1
4	00907864 0238	O-RING, 3.5 ID X 3.75 OD	1
5	00910239 0005	ORIFICE, .063 X 1/4" MNPT X FNPT BRASS	1
6	00901108 0002	PIPE, CROSS 1/4" 150# GALV	1
7	00915564 0064	TEE, MALE RUN 1/4" MNPT X 3/8" TUBE BRASS	1
8	00903872 0375	VALVE, THANDLE .25MNPT X .375T	1
9	00501174 1202	VALVE,ASY INLET 2.5" 108MM	1

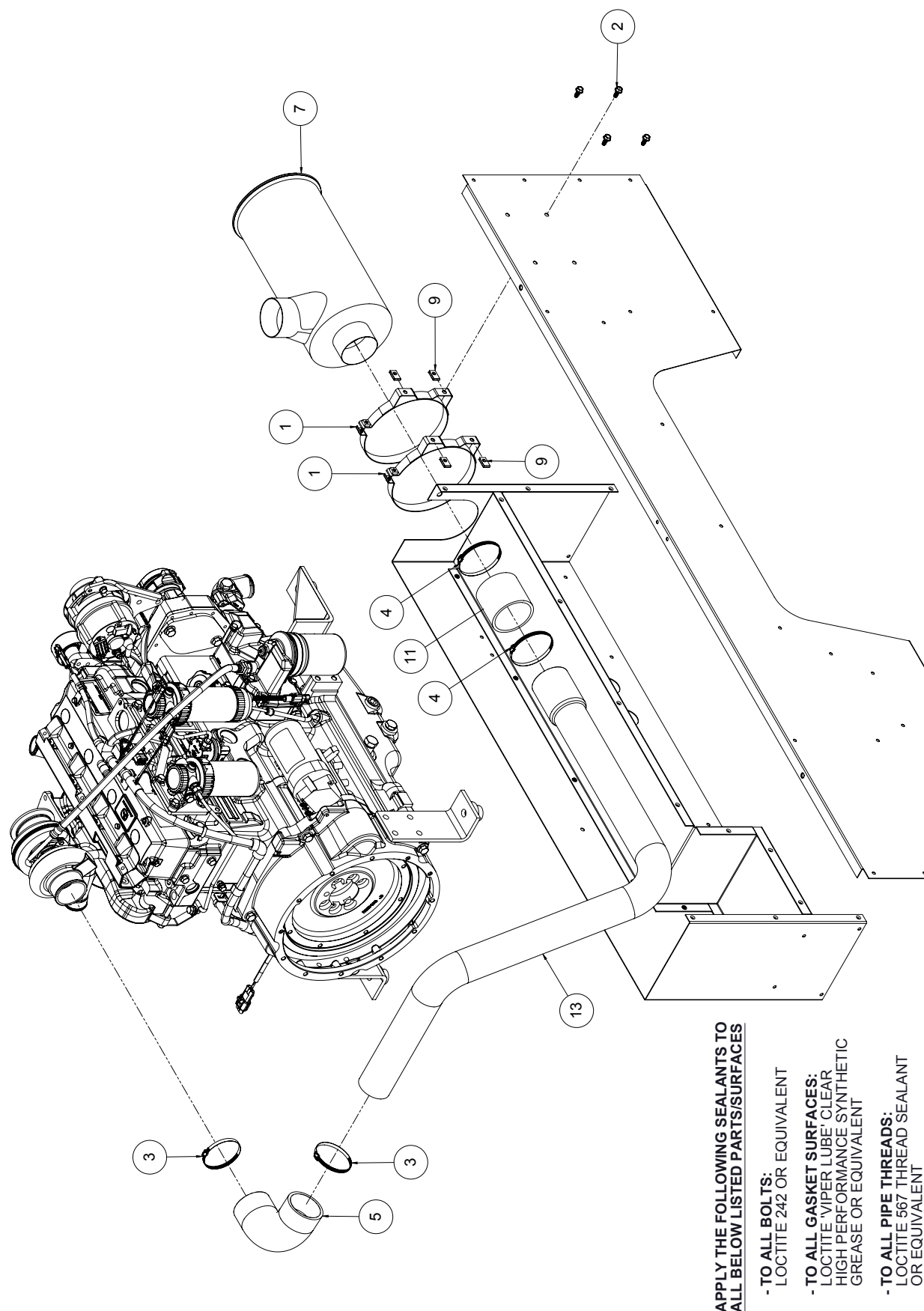
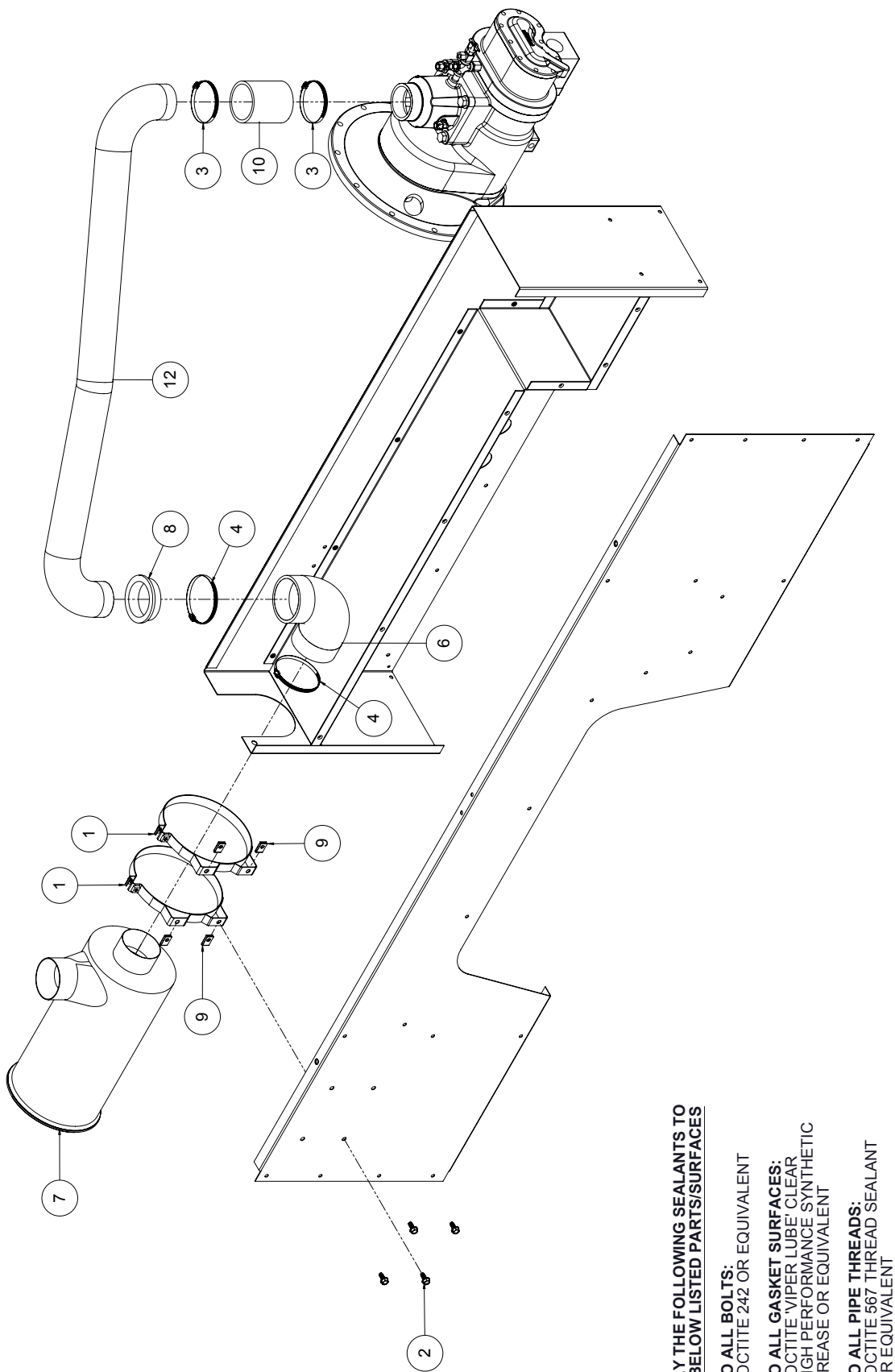


FIGURE 8-7. 00717642 0144 AIR FILTER ASSY, D210PJD (REV 01)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	05017180	BAND, 8.00 AIR CLEANER	4
2	00913792 0055	BOLT, THREAD FORMING .3128-18 X .750 STAINLESS	8
3	00902319 0014	CLAMP, HOSE 2.9875 TO 3.750	4
4	00902319 0017	CLAMP, HOSE 3.9875 TO 4.500	4
5	00910411 0004	ELBOW, RUBBER, 90 DEG 3.0" X 3.0"	1
6	91411-035	ELBOW, RUBBER 3.5"X3.5" 90DEG	1
7	05017585	FILTER, AIR 8.00 2 STAGE	2
8	01901192 0010	INSERT, 3.00 X 3.50	1
9	00909088 0005	NUT,SPEED .3125-18 U-TYPE	8
10	01901492 0012	SLEEVE, 3.00 ID X 3.50 OD X 4.00 LONG	1
11	01901492 0025	SLEEVE, 3.50 X 3.50 LONG	1
12	01901567 0088	TUBE, COMPRESSOR INTAKE 3.00 D185-210	1
13	01901567 0145	TUBE, ENGINE INTAKE 3.00 JD4045	1

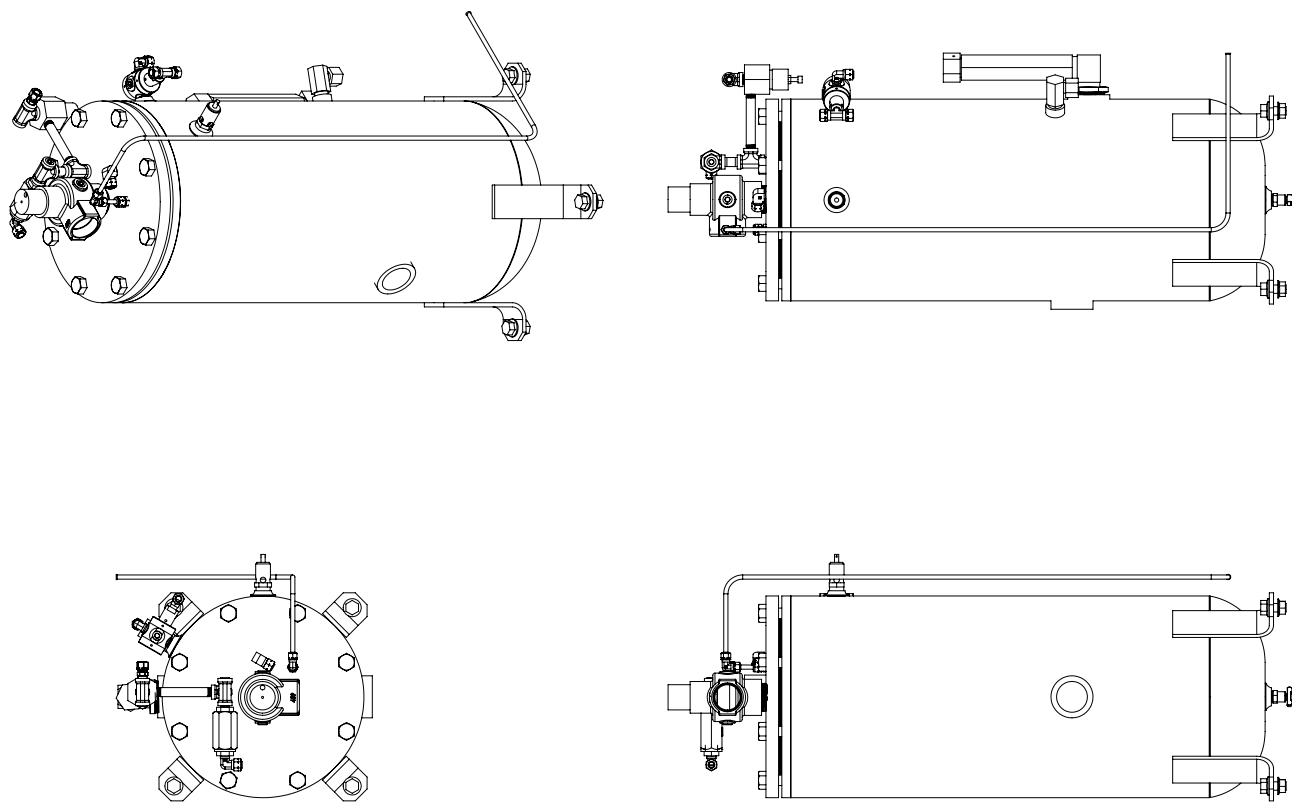


**APPLY THE FOLLOWING SEALANTS TO
ALL BELOW LISTED PARTS/SURFACES**

- **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 8-8. 00717642 0144 AIR FILTER ASSY, D210PJD (REV 01)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	05017180	BAND, 8.00 AIR CLEANER	4
2	00913792 0055	BOLT, THREAD FORMING .3128-18 X .750 STAINLESS	8
3	00902319 0014	CLAMP, HOSE 2.9875 TO 3.750	4
4	00902319 0017	CLAMP, HOSE 3.9875 TO 4.500	4
5	00910411 0004	ELBOW, RUBBER, 90 DEG 3.0" X 3.0"	1
6	91411-035	ELBOW, RUBBER 3.5"X3.5" 90DEG	1
7	05017585	FILTER, AIR 8.00 2 STAGE	2
8	01901192 0010	INSERT, 3.00 X 3.50	1
9	00909088 0005	NUT,SPEED .3125-18 U-TYPE	8
10	01901492 0012	SLEEVE, 3.00 ID X 3.50 OD X 4.00 LONG	1
11	01901492 0025	SLEEVE, 3.50 X 3.50 LONG	1
12	01901567 0088	TUBE, COMPRESSOR INTAKE 3.00 D185-210	1
13	01901567 0145	TUBE, ENGINE INTAKE 3.00 JD4045	1



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 8-9. 00717884 0159 RECEIVER ASSY, D185-210 SINGLE PRESSURE (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	93115-014	BOLT, WHIZ LOCK .50-13 X 1.000 ZINC PLATED	4
2	00901161 0020	BUSHING, PIPE 1.500 X 1.000 150# GALV	1
3	07255-016	CAP, 1.00 FIJC VENTED	1
4	00903873 0003	COCK, DRAIN .375 MNPT BRASS	1
5	00915543 0064	CONNECTOR .375 TUBE X .250 MNPT	1
6	00543286 0002	CONNECTOR, .250 MNPT X .125 TUBE VIBRA LOK BRASS	1
7	00915557 0064	ELBOW, .375 TUBE X .250 MNPT BRASS	2
8	00915557 0062	ELBOW, 3/8 TUBE X 1/8 NPT	1
9	96390-004	ELBOW, UNION .2500 TUBE STEEL CMS	1
10	03903311 0001	NECK, OIL FILL 1.00 MJIC X 1.00 FIJC	1
11	00902469 0128	NIPPLE, PIPE .250 X 4.000 GALV SCH 40	1
12	00901179 2016	NIPPLE, PIPE 1.25 CLOSE SEAMLESS GALV	1
13	00901177 0002	NIPPLE, PIPE 1/4 CLOSE SCH80 GALV	4
14	00901179 0047	NIPPLE, PIPE .250 X 1.50 SCH80	1
15	93165-006	NUT, WHIZ HEX .50-13	4
16	05018805 0007	ORIFICE, .078 ID X .250 MNPT HEX HEAD PLUG	1
17	00901921 0002	PLUG, PIPE 1/4" HEX SOC HD	4
18	03903448 0015	RECEIVER, TANK D185-250	1
19	09661-002	REGULATOR, 1/4" FNPT	1
20	00543117 0026	SEPARATOR, ELEMENT D185-D210	1
21	17254-016	SIGHT GLASS, 1.00 MNPT	1
22	00915534 0062	TEE, .375 TUBE X .125 MNPT MALE BRANCH BRASS	1
23	00901091 0002	TEE, PIPE .250 #150 GALV	3
24	05019550 0069	TUBE, OIL RETURN D185-250	1
25	01901551 0073	TUBE, SCAVENGER D185-210	1
26	00903686 0006	UNION, ELBOW 90 DEG .500 MNPT	1
27	05019660 0012	VALVE, BLOWDOWN	1
28	05019610 0005	VALVE, MINIMUM PRESSURE 1.250 FNPT	1
29	00519456 0013	VALVE, RECIRCULATING	1
30	03100-008	VALVE, SAFETY RELIEF .50 MNPT - 200PSIG	1

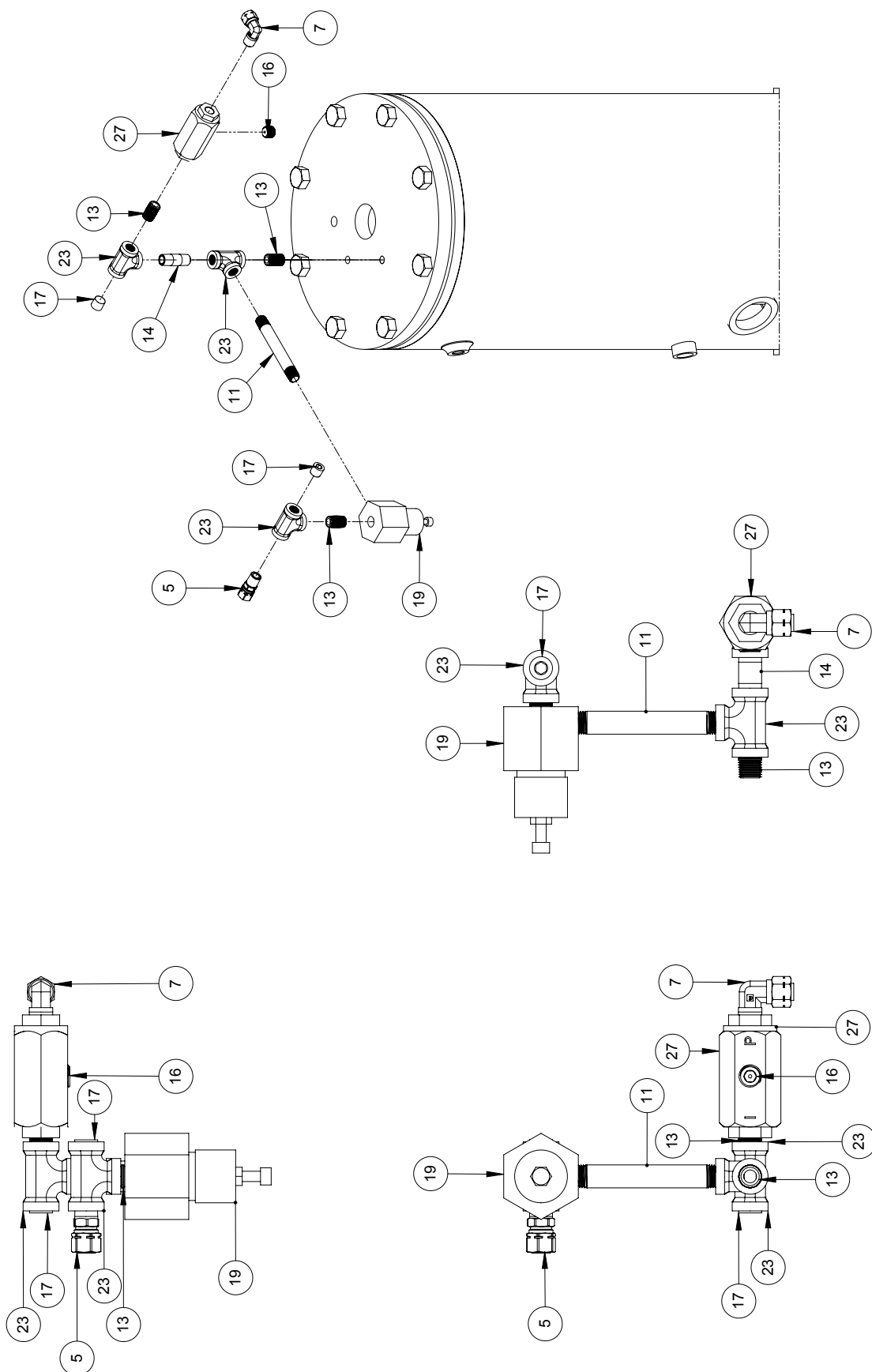


FIGURE 8-10. 00717884 0159 RECEIVER ASSY, D185-210 SINGLE PRESSURE (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	93115-014	BOLT, WHIZ LOCK .50-13 X 1.000 ZINC PLATED	4
2	00901161 0020	BUSHING, PIPE 1.500 X 1.000 150# GALV	1
3	07255-016	CAP, 1.00 FIJC VENTED	1
4	00903873 0003	COCK, DRAIN .375 MNPT BRASS	1
5	00915543 0064	CONNECTOR .375 TUBE X .250 MNPT	1
6	00543286 0002	CONNECTOR, .250 MNPT X .125 TUBE VIBRA LOK BRASS	1
7	00915557 0064	ELBOW, .375 TUBE X .250 MNPT BRASS	2
8	00915557 0062	ELBOW, 3/8 TUBE X 1/8 NPT	1
9	96390-004	ELBOW, UNION .2500 TUBE STEEL CMS	1
10	03903311 0001	NECK, OIL FILL 1.00 MJIC X 1.00 FIJC	1
11	00902469 0128	NIPPLE, PIPE .250 X 4.000 GALV SCH 40	1
12	00901179 2016	NIPPLE, PIPE 1.25 CLOSE SEAMLESS GALV	1
13	00901177 0002	NIPPLE, PIPE 1/4 CLOSE SCH80 GALV	4
14	00901179 0047	NIPPLE, PIPE .250 X 1.50 SCH80	1
15	93165-006	NUT, WHIZ HEX .50-13	4
16	05018805 0007	ORIFICE, .078 ID X .250 MNPT HEX HEAD PLUG	1
17	00901921 0002	PLUG, PIPE 1/4" HEX SOC HD	4
18	03903448 0015	RECEIVER, TANK D185-250	1
19	09661-002	REGULATOR, 1/4" FNPT	1
20	00543117 0026	SEPARATOR, ELEMENT D185-D210	1
21	17254-016	SIGHT GLASS, 1.00 MNPT	1
22	00915534 0062	TEE, .375 TUBE X .125 MNPT MALE BRANCH BRASS	1
23	00901091 0002	TEE, PIPE .250 #150 GALV	3
24	05019550 0069	TUBE, OIL RETURN D185-250	1
25	01901551 0073	TUBE, SCAVENGER D185-210	1
26	00903686 0006	UNION, ELBOW 90 DEG .500 MNPT	1
27	05019660 0012	VALVE, BLOWDOWN	1
28	05019610 0005	VALVE, MINIMUM PRESSURE 1.250 FNPT	1
29	00519456 0013	VALVE, RECIRCULATING	1
30	03100-008	VALVE, SAFETY RELIEF .50 MNPT - 200PSIG	1

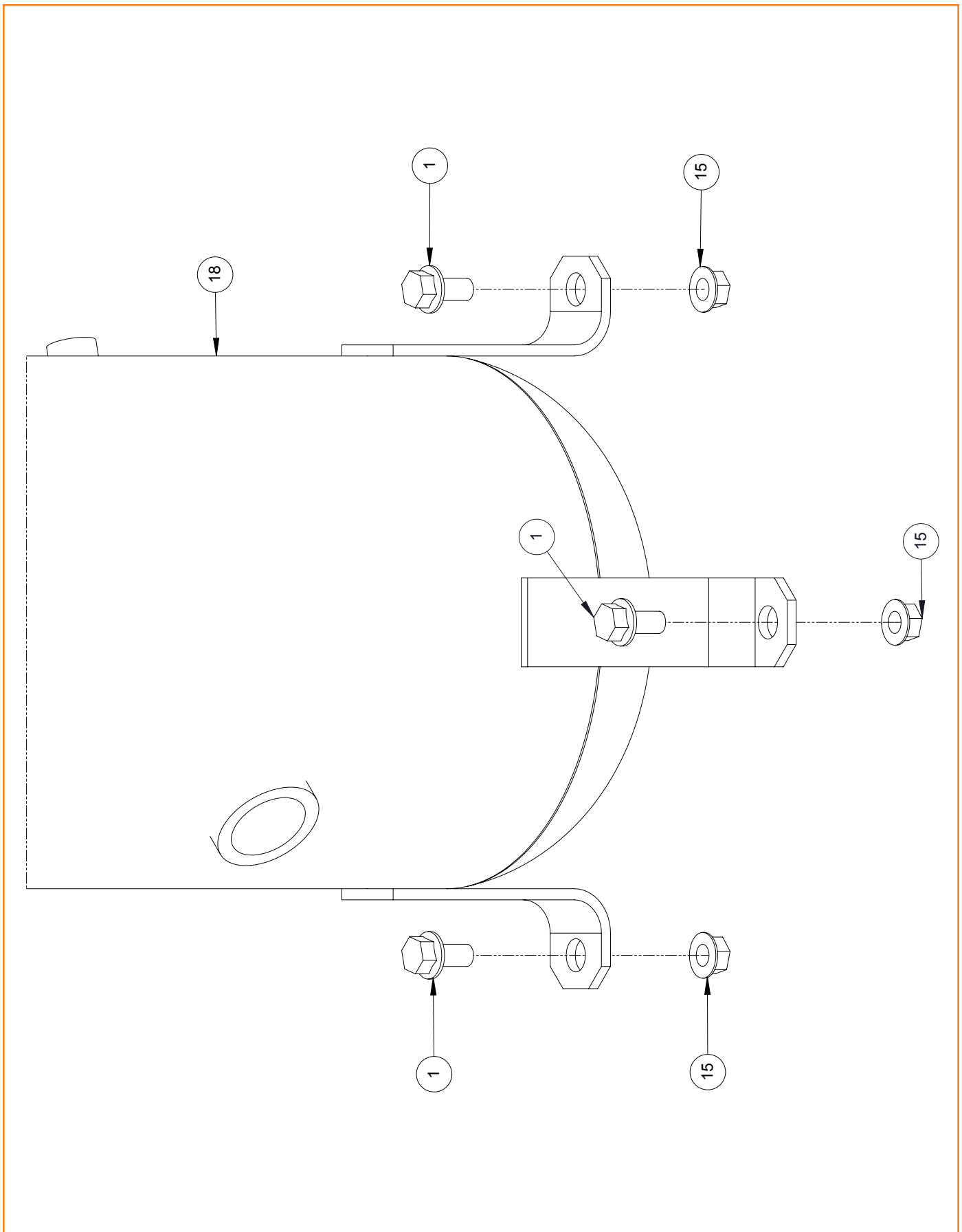


FIGURE 8-11. 00717884 0159 RECEIVER ASSY, D185-210 SINGLE PRESSURE (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	93115-014	BOLT, WHIZ LOCK .50-13 X 1.000 ZINC PLATED	4
2	00901161 0020	BUSHING, PIPE 1.500 X 1.000 150# GALV	1
3	07255-016	CAP, 1.00 FIJC VENTED	1
4	00903873 0003	COCK, DRAIN .375 MNPT BRASS	1
5	00915543 0064	CONNECTOR .375 TUBE X .250 MNPT	1
6	00543286 0002	CONNECTOR, .250 MNPT X .125 TUBE VIBRA LOK BRASS	1
7	00915557 0064	ELBOW, .375 TUBE X .250 MNPT BRASS	2
8	00915557 0062	ELBOW, 3/8 TUBE X 1/8 NPT	1
9	96390-004	ELBOW, UNION .2500 TUBE STEEL CMS	1
10	03903311 0001	NECK, OIL FILL 1.00 MJIC X 1.00 FIJC	1
11	00902469 0128	NIPPLE, PIPE .250 X 4.000 GALV SCH 40	1
12	00901179 2016	NIPPLE, PIPE 1.25 CLOSE SEAMLESS GALV	1
13	00901177 0002	NIPPLE, PIPE 1/4 CLOSE SCH80 GALV	4
14	00901179 0047	NIPPLE, PIPE .250 X 1.50 SCH80	1
15	93165-006	NUT, WHIZ HEX .50-13	4
16	05018805 0007	ORIFICE, .078 ID X .250 MNPT HEX HEAD PLUG	1
17	00901921 0002	PLUG, PIPE 1/4" HEX SOC HD	4
18	03903448 0015	RECEIVER, TANK D185-250	1
19	09661-002	REGULATOR, 1/4" FNPT	1
20	00543117 0026	SEPARATOR, ELEMENT D185-D210	1
21	17254-016	SIGHT GLASS, 1.00 MNPT	1
22	00915534 0062	TEE, .375 TUBE X .125 MNPT MALE BRANCH BRASS	1
23	00901091 0002	TEE, PIPE .250 #150 GALV	3
24	05019550 0069	TUBE, OIL RETURN D185-250	1
25	01901551 0073	TUBE, SCAVENGER D185-210	1
26	00903686 0006	UNION, ELBOW 90 DEG .500 MNPT	1
27	05019660 0012	VALVE, BLOWDOWN	1
28	05019610 0005	VALVE, MINIMUM PRESSURE 1.250 FNPT	1
29	00519456 0013	VALVE, RECIRCULATING	1
30	03100-008	VALVE, SAFETY RELIEF .50 MNPT - 200PSIG	1

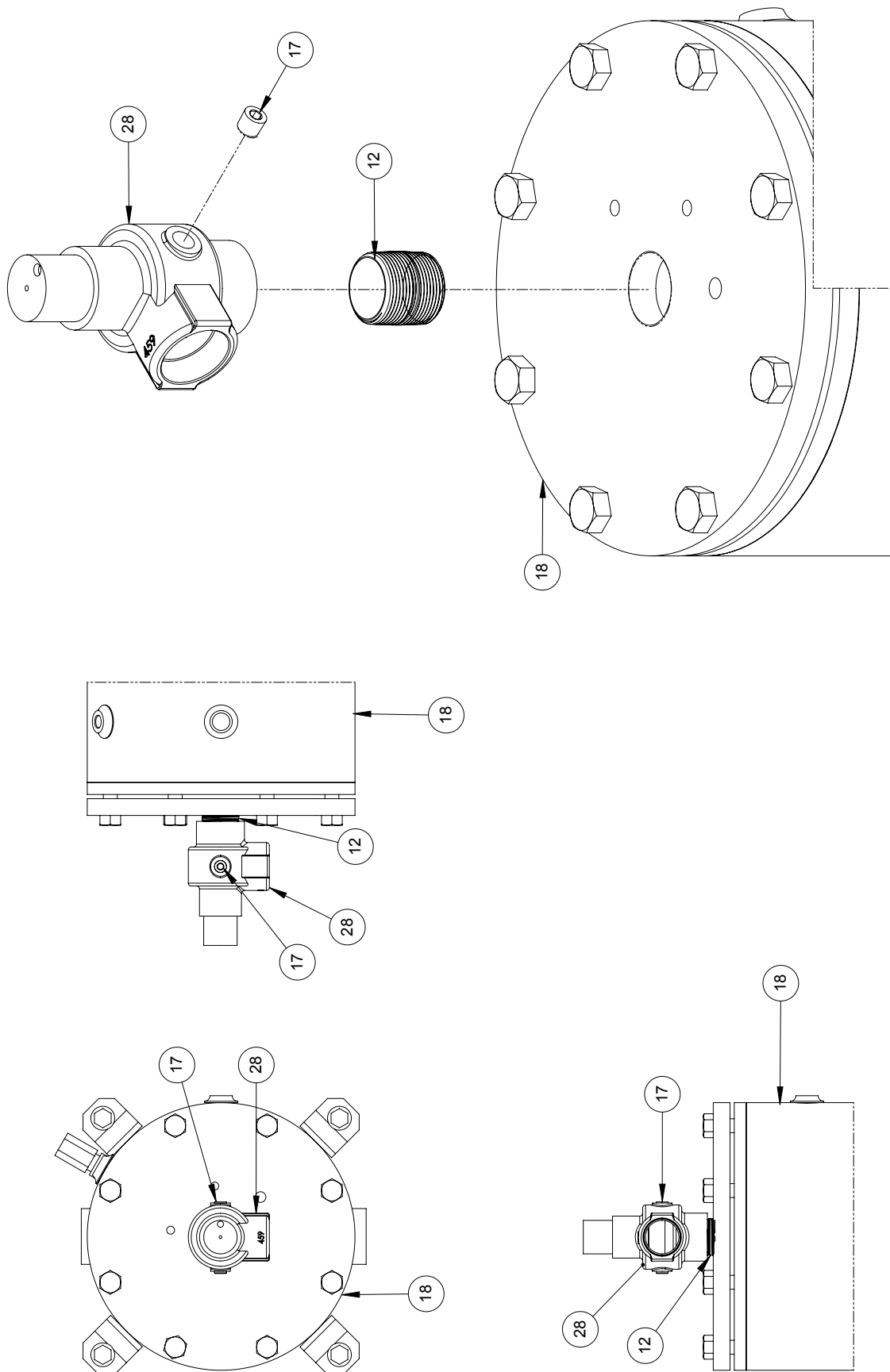


FIGURE 8-12. 00717884 0159 RECEIVER ASSY, D185-210 SINGLE PRESSURE (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	93115-014	BOLT, WHIZ LOCK .50-13 X 1.000 ZINC PLATED	4
2	00901161 0020	BUSHING, PIPE 1.500 X 1.000 150# GALV	1
3	07255-016	CAP, 1.00 FIJC VENTED	1
4	00903873 0003	COCK, DRAIN .375 MNPT BRASS	1
5	00915543 0064	CONNECTOR .375 TUBE X .250 MNPT	1
6	00543286 0002	CONNECTOR, .250 MNPT X .125 TUBE VIBRA LOK BRASS	1
7	00915557 0064	ELBOW, .375 TUBE X .250 MNPT BRASS	2
8	00915557 0062	ELBOW, 3/8 TUBE X 1/8 NPT	1
9	96390-004	ELBOW, UNION .2500 TUBE STEEL CMS	1
10	03903311 0001	NECK, OIL FILL 1.00 MJIC X 1.00 FIJC	1
11	00902469 0128	NIPPLE, PIPE .250 X 4.000 GALV SCH 40	1
12	00901179 2016	NIPPLE, PIPE 1.25 CLOSE SEAMLESS GALV	1
13	00901177 0002	NIPPLE, PIPE 1/4 CLOSE SCH80 GALV	4
14	00901179 0047	NIPPLE, PIPE .250 X 1.50 SCH80	1
15	93165-006	NUT, WHIZ HEX .50-13	4
16	05018805 0007	ORIFICE, .078 ID X .250 MNPT HEX HEAD PLUG	1
17	00901921 0002	PLUG, PIPE 1/4" HEX SOC HD	4
18	03903448 0015	RECEIVER, TANK D185-250	1
19	09661-002	REGULATOR, 1/4" FNPT	1
20	00543117 0026	SEPARATOR, ELEMENT D185-D210	1
21	17254-016	SIGHT GLASS, 1.00 MNPT	1
22	00915534 0062	TEE, .375 TUBE X .125 MNPT MALE BRANCH BRASS	1
23	00901091 0002	TEE, PIPE .250 #150 GALV	3
24	05019550 0069	TUBE, OIL RETURN D185-250	1
25	01901551 0073	TUBE, SCAVENGER D185-210	1
26	00903686 0006	UNION, ELBOW 90 DEG .500 MNPT	1
27	05019660 0012	VALVE, BLOWDOWN	1
28	05019610 0005	VALVE, MINIMUM PRESSURE 1.250 FNPT	1
29	00519456 0013	VALVE, RECIRCULATING	1
30	03100-008	VALVE, SAFETY RELIEF .50 MNPT - 200PSIG	1

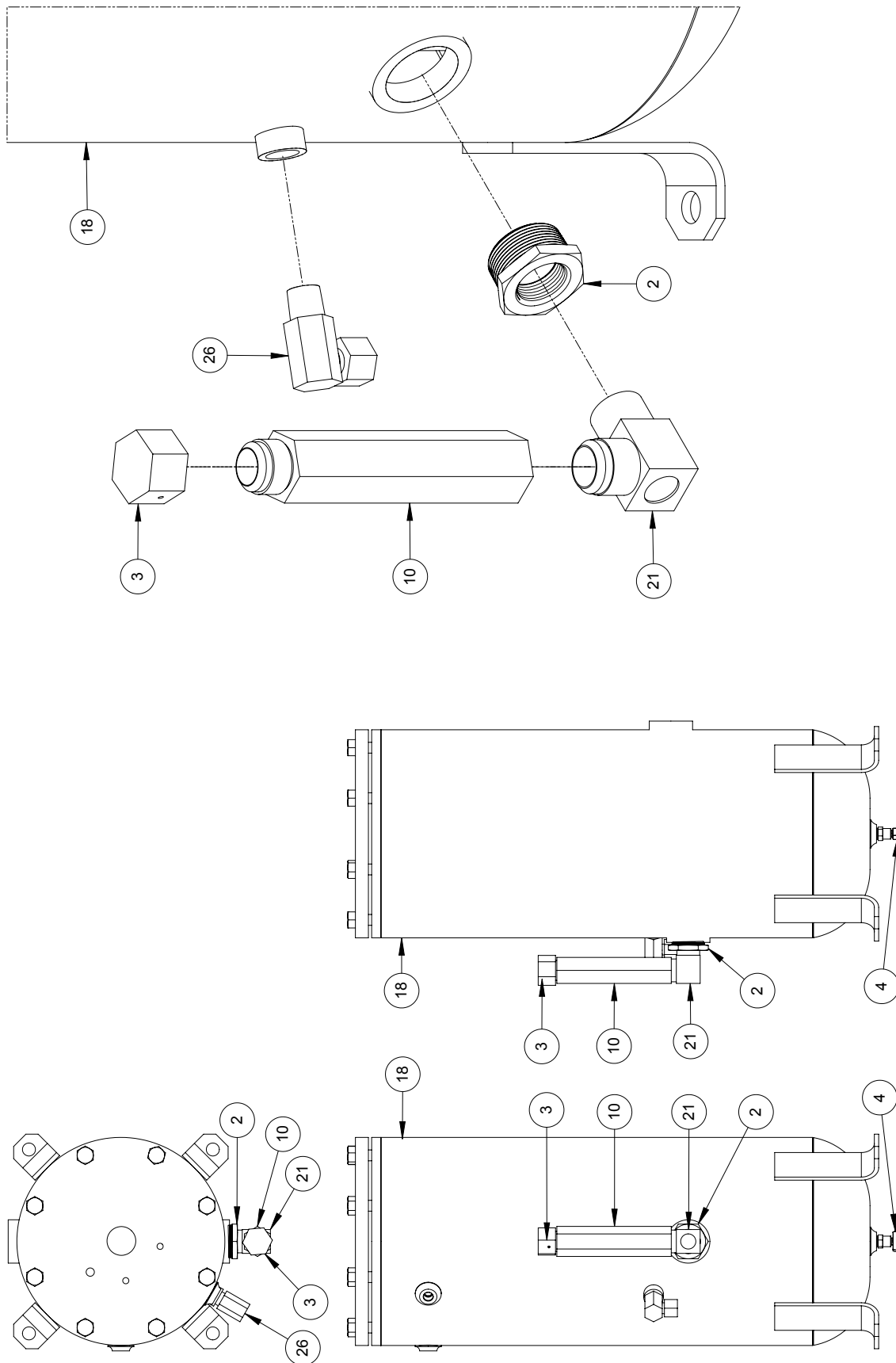


FIGURE 8-13. 00717884 0159 RECEIVER ASSY, D185-210 SINGLE PRESSURE (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	93115-014	BOLT, WHIZ LOCK .50-13 X 1.000 ZINC PLATED	4
2	00901161 0020	BUSHING, PIPE 1.500 X 1.000 150# GALV	1
3	07255-016	CAP, 1.00 FIJC VENTED	1
4	00903873 0003	COCK, DRAIN .375 MNPT BRASS	1
5	00915543 0064	CONNECTOR .375 TUBE X .250 MNPT	1
6	00543286 0002	CONNECTOR, .250 MNPT X .125 TUBE VIBRA LOK BRASS	1
7	00915557 0064	ELBOW, .375 TUBE X .250 MNPT BRASS	2
8	00915557 0062	ELBOW, 3/8 TUBE X 1/8 NPT	1
9	96390-004	ELBOW, UNION .2500 TUBE STEEL CMS	1
10	03903311 0001	NECK, OIL FILL 1.00 MJIC X 1.00 FIJC	1
11	00902469 0128	NIPPLE, PIPE .250 X 4.000 GALV SCH 40	1
12	00901179 2016	NIPPLE, PIPE 1.25 CLOSE SEAMLESS GALV	1
13	00901177 0002	NIPPLE, PIPE 1/4 CLOSE SCH80 GALV	4
14	00901179 0047	NIPPLE, PIPE .250 X 1.50 SCH80	1
15	93165-006	NUT, WHIZ HEX .50-13	4
16	05018805 0007	ORIFICE, .078 ID X .250 MNPT HEX HEAD PLUG	1
17	00901921 0002	PLUG, PIPE 1/4" HEX SOC HD	4
18	03903448 0015	RECEIVER, TANK D185-250	1
19	09661-002	REGULATOR, 1/4" FNPT	1
20	00543117 0026	SEPARATOR, ELEMENT D185-D210	1
21	17254-016	SIGHT GLASS, 1.00 MNPT	1
22	00915534 0062	TEE, .375 TUBE X .125 MNPT MALE BRANCH BRASS	1
23	00901091 0002	TEE, PIPE .250 #150 GALV	3
24	05019550 0069	TUBE, OIL RETURN D185-250	1
25	01901551 0073	TUBE, SCAVENGER D185-210	1
26	00903686 0006	UNION, ELBOW 90 DEG .500 MNPT	1
27	05019660 0012	VALVE, BLOWDOWN	1
28	05019610 0005	VALVE, MINIMUM PRESSURE 1.250 FNPT	1
29	00519456 0013	VALVE, RECIRCULATING	1
30	03100-008	VALVE, SAFETY RELIEF .50 MNPT - 200PSIG	1

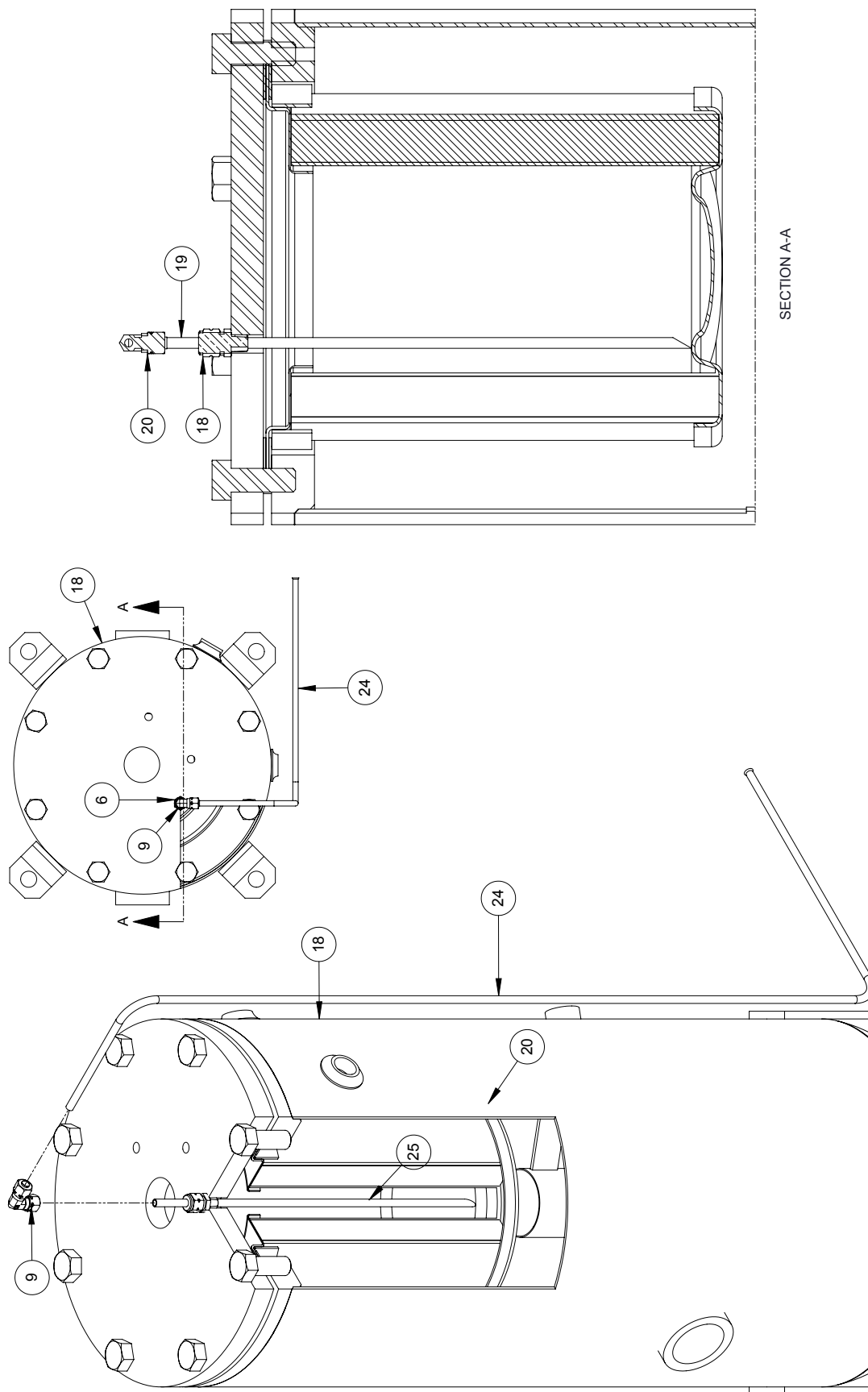


FIGURE 8-14. 00717884 0159 RECEIVER ASSY, D185-210 SINGLE PRESSURE (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	93115-014	BOLT, WHIZ LOCK .50-13 X 1.000 ZINC PLATED	4
2	00901161 0020	BUSHING, PIPE 1.500 X 1.000 150# GALV	1
3	07255-016	CAP, 1.00 FIJC VENTED	1
4	00903873 0003	COCK, DRAIN .375 MNPT BRASS	1
5	00915543 0064	CONNECTOR .375 TUBE X .250 MNPT	1
6	00543286 0002	CONNECTOR, .250 MNPT X .125 TUBE VIBRA LOK BRASS	1
7	00915557 0064	ELBOW, .375 TUBE X .250 MNPT BRASS	2
8	00915557 0062	ELBOW, 3/8 TUBE X 1/8 NPT	1
9	96390-004	ELBOW, UNION .2500 TUBE STEEL CMS	1
10	03903311 0001	NECK, OIL FILL 1.00 MJIC X 1.00 FIJC	1
11	00902469 0128	NIPPLE, PIPE .250 X 4.000 GALV SCH 40	1
12	00901179 2016	NIPPLE, PIPE 1.25 CLOSE SEAMLESS GALV	1
13	00901177 0002	NIPPLE, PIPE 1/4 CLOSE SCH80 GALV	4
14	00901179 0047	NIPPLE, PIPE .250 X 1.50 SCH80	1
15	93165-006	NUT, WHIZ HEX .50-13	4
16	05018805 0007	ORIFICE, .078 ID X .250 MNPT HEX HEAD PLUG	1
17	00901921 0002	PLUG, PIPE 1/4" HEX SOC HD	4
18	03903448 0015	RECEIVER, TANK D185-250	1
19	09661-002	REGULATOR, 1/4" FNPT	1
20	00543117 0026	SEPARATOR, ELEMENT D185-D210	1
21	17254-016	SIGHT GLASS, 1.00 MNPT	1
22	00915534 0062	TEE, .375 TUBE X .125 MNPT MALE BRANCH BRASS	1
23	00901091 0002	TEE, PIPE .250 #150 GALV	3
24	05019550 0069	TUBE, OIL RETURN D185-250	1
25	01901551 0073	TUBE, SCAVENGER D185-210	1
26	00903686 0006	UNION, ELBOW 90 DEG .500 MNPT	1
27	05019660 0012	VALVE, BLOWDOWN	1
28	05019610 0005	VALVE, MINIMUM PRESSURE 1.250 FNPT	1
29	00519456 0013	VALVE, RECIRCULATING	1
30	03100-008	VALVE, SAFETY RELIEF .50 MNPT - 200PSIG	1

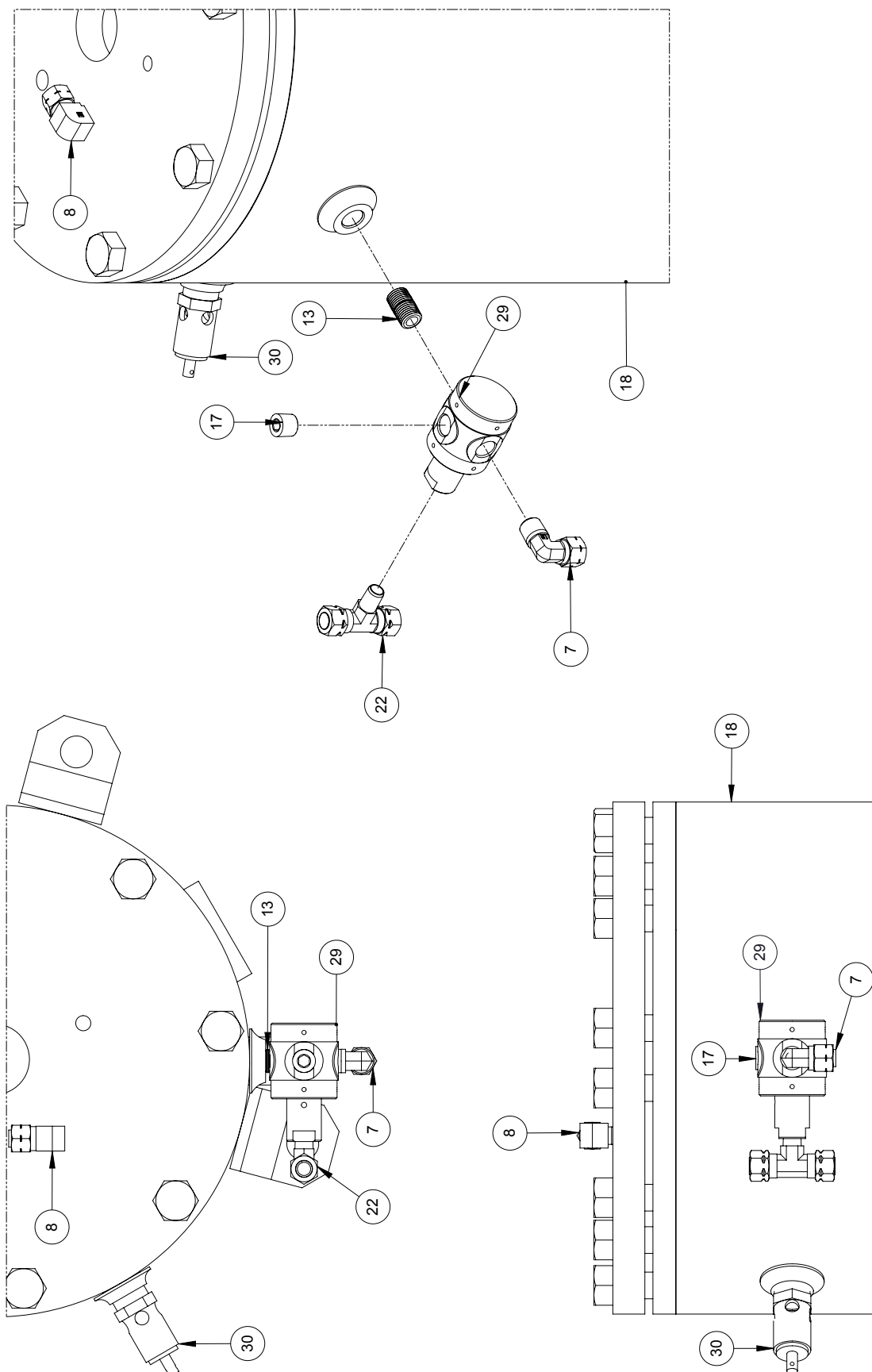


FIGURE 8-15. 00717884 0159 RECEIVER ASSY, D185-210 SINGLE PRESSURE (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	93115-014	BOLT, WHIZ LOCK .50-13 X 1.000 ZINC PLATED	4
2	00901161 0020	BUSHING, PIPE 1.500 X 1.000 150# GALV	1
3	07255-016	CAP, 1.00 FIJC VENTED	1
4	00903873 0003	COCK, DRAIN .375 MNPT BRASS	1
5	00915543 0064	CONNECTOR .375 TUBE X .250 MNPT	1
6	00543286 0002	CONNECTOR, .250 MNPT X .125 TUBE VIBRA LOK BRASS	1
7	00915557 0064	ELBOW, .375 TUBE X .250 MNPT BRASS	2
8	00915557 0062	ELBOW, 3/8 TUBE X 1/8 NPT	1
9	96390-004	ELBOW, UNION .2500 TUBE STEEL CMS	1
10	03903311 0001	NECK, OIL FILL 1.00 MJIC X 1.00 FIJC	1
11	00902469 0128	NIPPLE, PIPE .250 X 4.000 GALV SCH 40	1
12	00901179 2016	NIPPLE, PIPE 1.25 CLOSE SEAMLESS GALV	1
13	00901177 0002	NIPPLE, PIPE 1/4 CLOSE SCH80 GALV	4
14	00901179 0047	NIPPLE, PIPE .250 X 1.50 SCH80	1
15	93165-006	NUT, WHIZ HEX .50-13	4
16	05018805 0007	ORIFICE, .078 ID X .250 MNPT HEX HEAD PLUG	1
17	00901921 0002	PLUG, PIPE 1/4" HEX SOC HD	4
18	03903448 0015	RECEIVER, TANK D185-250	1
19	09661-002	REGULATOR, 1/4" FNPT	1
20	00543117 0026	SEPARATOR, ELEMENT D185-D210	1
21	17254-016	SIGHT GLASS, 1.00 MNPT	1
22	00915534 0062	TEE, .375 TUBE X .125 MNPT MALE BRANCH BRASS	1
23	00901091 0002	TEE, PIPE .250 #150 GALV	3
24	05019550 0069	TUBE, OIL RETURN D185-250	1
25	01901551 0073	TUBE, SCAVENGER D185-210	1
26	00903686 0006	UNION, ELBOW 90 DEG .500 MNPT	1
27	05019660 0012	VALVE, BLOWDOWN	1
28	05019610 0005	VALVE, MINIMUM PRESSURE 1.250 FNPT	1
29	00519456 0013	VALVE, RECIRCULATING	1
30	03100-008	VALVE, SAFETY RELIEF .50 MNPT - 200PSIG	1

8.14 RECEIVER AIR OUT

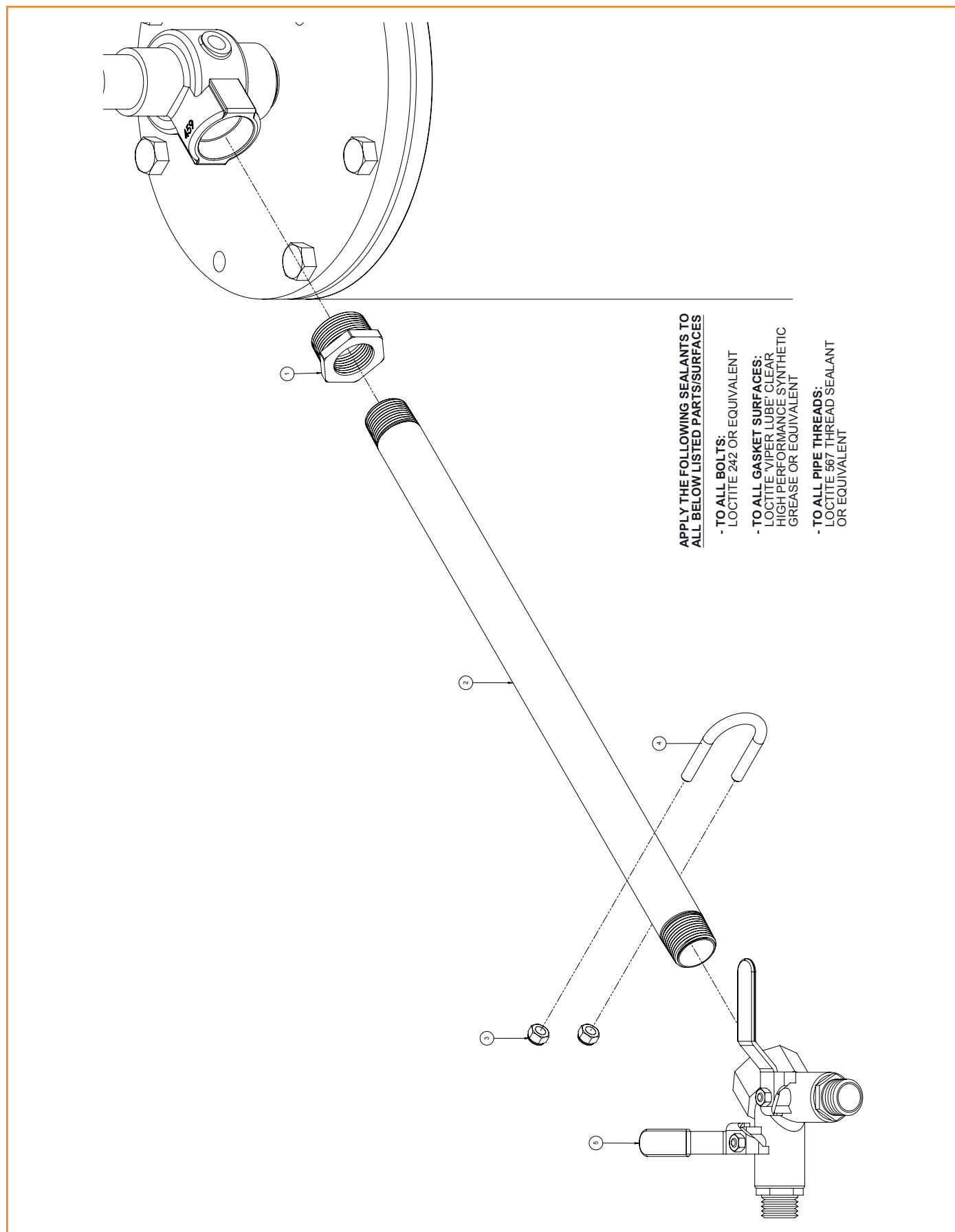


FIGURE 8-16. 00717885 0005 RECEIVER, AIR OUT D185-210 STD (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00901161 0017	BUSHING, PIPE 1.25 X 1.00 150# GALV	1
2	00901177 0474	NIPPLE, PIPE 1.00 X 21.00 SCH 80 GALV	1
3	00900490 0062	NUT, NYLOK 5/16-18 ZINC PLATED	2
4	00909003 0013	U-BOLT .3125-18 X 1.375 DIA	1
5	05019835 0037	VALVE, SERVICE .750 FNPT INLET X 2 .750 OUTLETS	1

8.15 DISCHARGE HOSE ASSEMBLY

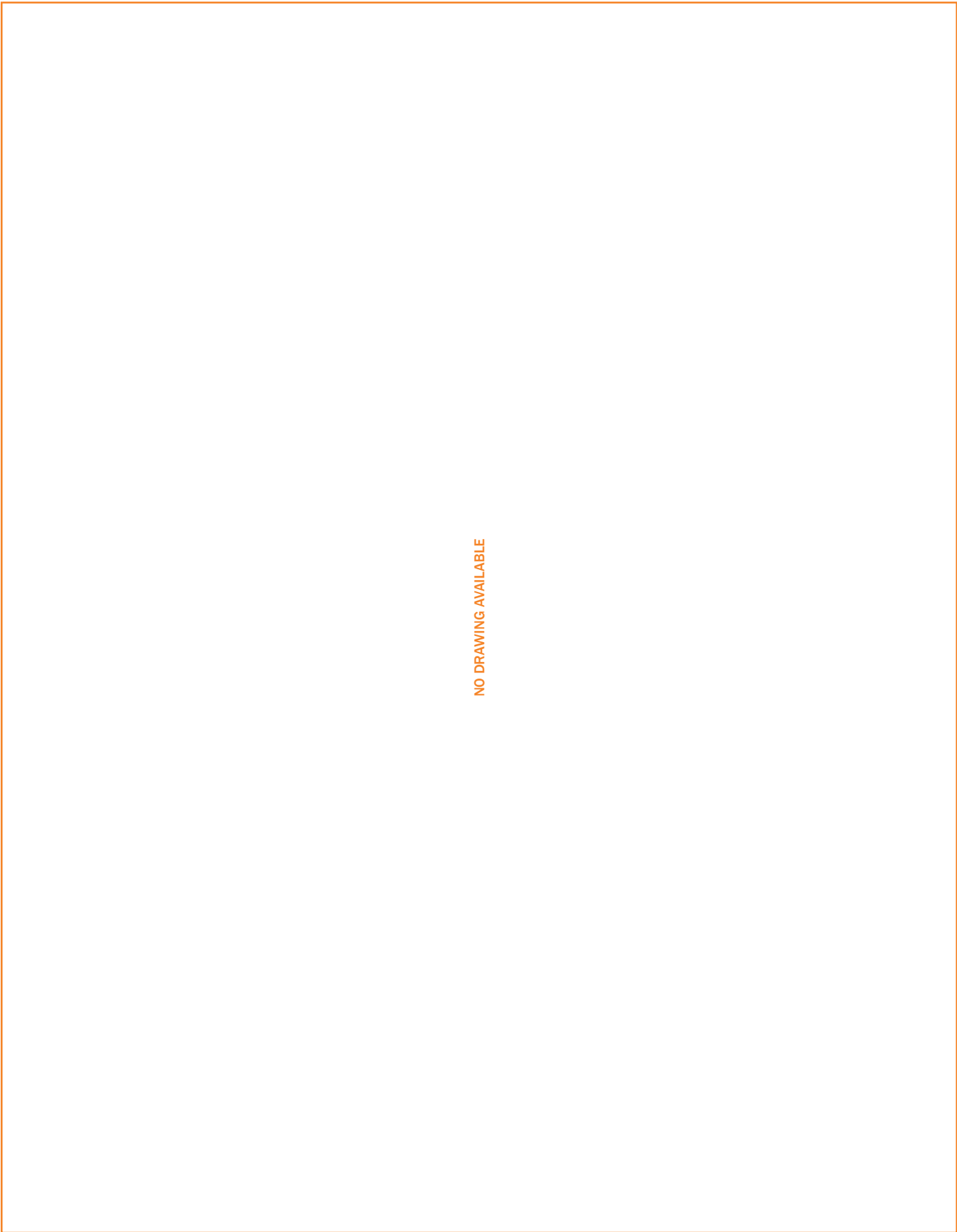


FIGURE 8-17. 00717886 0003 DISCHARGE, HOSE D185-210 (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00901179 2025	NIPPLE, PIPE 1.50 CLOSE SCH80	1
2	00905330 0065	TEE, 1.5 X 1.5 X .5 GALV 150#	1
3	05018485 0406	HOSE, ASSY DISCHARGE D185-210	1
4	05019415 0029	SWITCH, TEMPERATURE 265 DEG	1
5	94035-024	CONNECTOR, MALE 1 1/2"	2

8.16 CONTROL TUBING

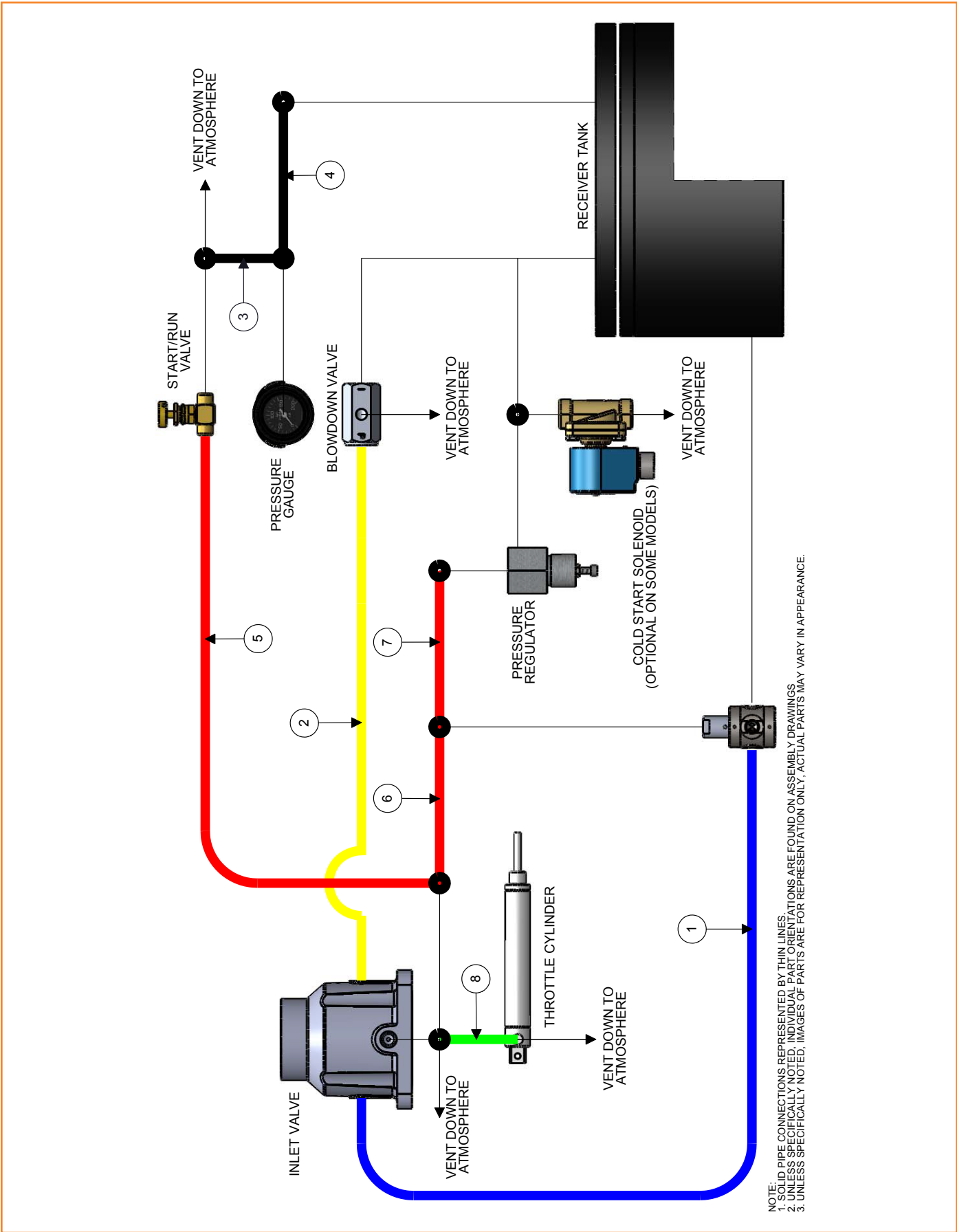


FIGURE 8-18. CD 00006 DIAGRAM, CONTROL D185-250 LOW PRESSURE PNEUMATIC CONTROL (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00910084 0002	TUBING,NYLON 3/8" BLUE	12.5"
2	00910084 0005	TUBING,NYLON 3/8" YELLOW	10"
3	00910084	TUBING,NYLON 3/8" BLACK	15.5"
4	00910084	TUBING,NYLON 3/8" BLACK	32"
5	00910084 0004	TUBING,NYLON 3/8" RED	32"
6	00910084 0004	TUBING,NYLON 3/8" RED	12.5"
7	00910084 0004	TUBING,NYLON 3/8" RED	9"
8	00910084 0003	TUBING,NYLON 3/8" GREEN	42"

8.17 COOLING ASSEMBLY

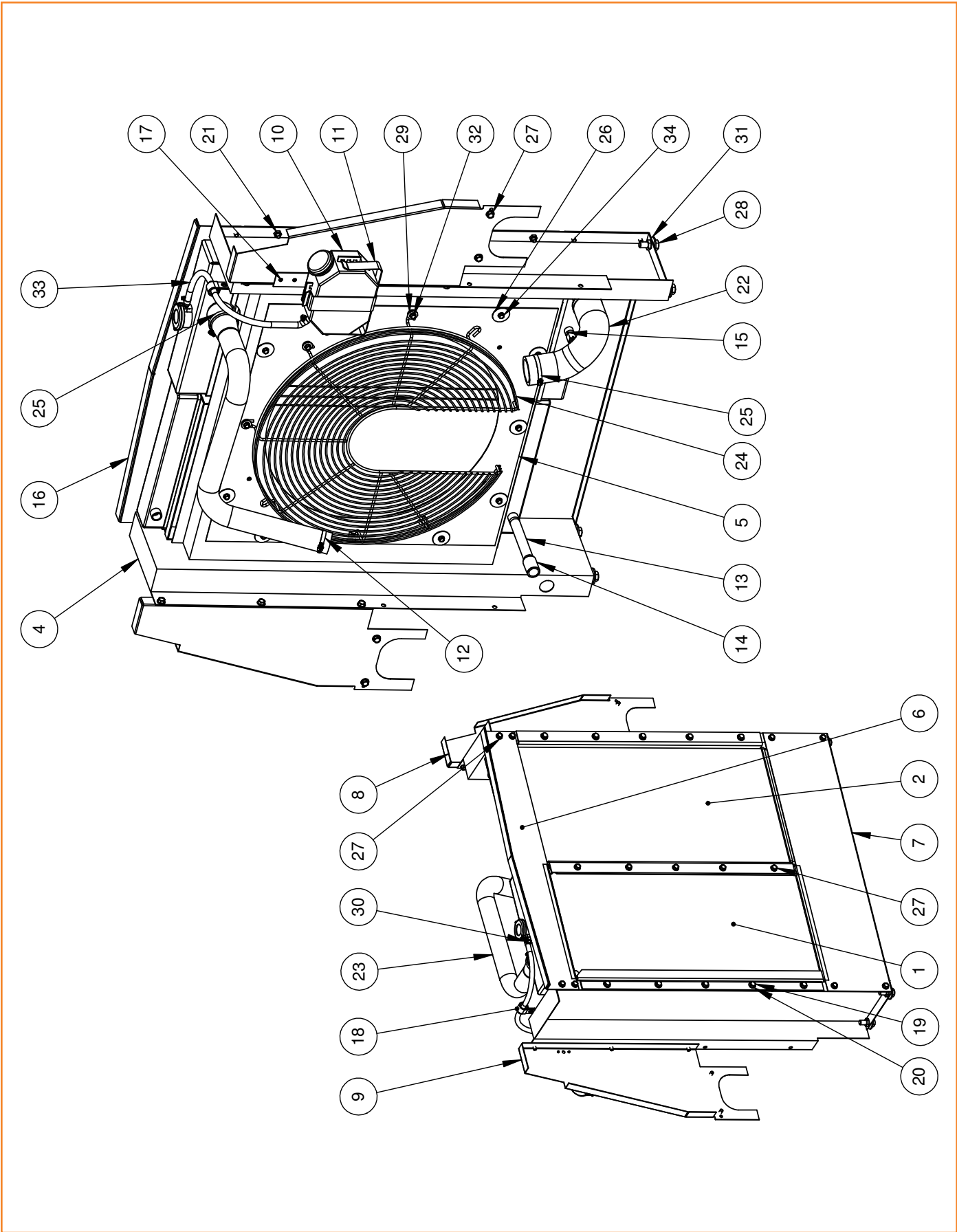


FIGURE 8-19. 00717532 0119 COOLING ASSY, D210PHJD & D3125JD (REV 0)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	05019010 0036	RADIATOR, D210PH	1
2	05017705 0005HA	COOLER,OIL,D125-D250	1
4	03903400 0043	SHROUD ASSY/D185Q6-D210Q6	1
5	01901378 0018	ORIFACE, FAN 185/210	1
6	01900416 0059	COVER,UPPER BAFFLE	1
7	01900416 0058	COVER,LOWER BAFFLE	1
8	01901000 0552	PANEL,BAFFLE,CURBSIDE	1
9	01901000 0553	PANEL,BAFFLE,STREETSIDE	1
10	05019492	TANK,RADIATOR RECOVERY	1
11	01900216 0470	BRACKET,OVERFLOW BOTTLE	1
12	00902319 0008	CLAMP,HOSE,1-5/16 X 2-1/4	1
13	00901176 0202	NIPPLE,PIPE,1/2" X 6" LG	1
14	00901286 0004	COUPLING, PIPE, 1/2 NPT	1
15	01224805	COCK,DRAIN,90 DEG,1/4 NPT	1
16	00816666	TAPE, FOAM 1" X 1" WIDE	19 FT
17	01901256 0004	RIVET,BLIND,3/16" X .063-.125 SS	2
18	00902905 0004	CLAMP, SUPPORT .75 ID	1
19	00900115 0002	SCREW,5/16-18 X 3/4" LG GD 5	10
20	00900321 0002	WASHER, FLAT, 1/4" ZINC PLATED	10
21	00905376 0005	L'NUT,FLEX TYPE,5/16-18,PLATED	10
22	01900800 0022	HOSE, RADIATOR, LOWER, 2" ID	1
23	01900800 0023	HOSE, RADIATOR, UPPER	1
24	05018385 0013	GUARD,FAN, 20" DIA	1
25	00902319 0009	CLAMP, HOSE, 1-9/16 X 2-1/2	3
26	00917850 0006	WASHER,BODY 1/4" X 1-1/2" OD	9
27	00913792 0039	SCREW, 5/16-18 X 1/2 THD FORM	23
28	00900115 0024	SCREW, 1/2-13 X 1-1/4" LG GD 5	4
29	00900321 0003	WASHER, FLAT 5/16" ZINC PLATED	4
30	00902319 0001	CLAMP, HOSE 7/32 X 5/8	2
31	00900321 0005	WASHER, FLAT 1/2" ZINC PLATED	4
32	00913792 0070	SCREW, 1/4-20 X 1" LG THD FORM	4
33	01900800 0030	HOSE,OVERFLOW	1
34	00913792 0054	SCREW, 1/4-20 X 3/4 THD FORM	9

8.18 OIL FILTER AND PIPING

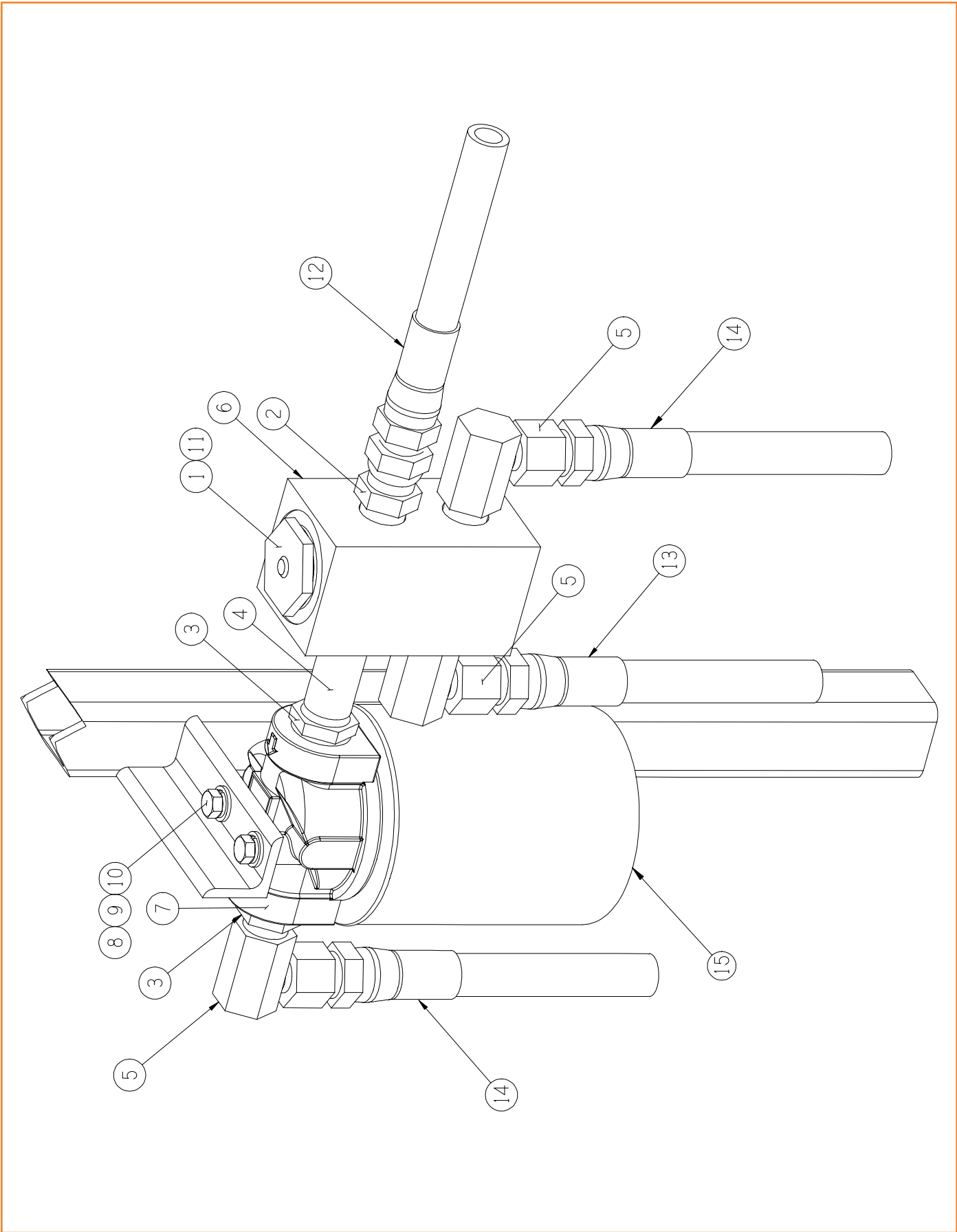


FIGURE 8-20. 00717620 0020 OIL FILTER ASSY, D185-210 (REV A)

ITEM	PART NUMBER	DESCRIPTION	QTY
	05018215 0011	OIL FILTER ASSEMBLY AND MOUNTING PARTS	
1	00543352 0001	THERMOSTAT, OIL, 140 ° F	1
1	05019505 0008	THERMOSTAT, OIL, 180 ° F (OPTIONAL)	1
2	00900716 0013	UNION, MALE 1/2" NPT X 1/2" NPT	1
3	00901167 0009	BUSHING, REDUCING 3/4" TO 1/2" STEEL	2
4	00902466 0094	BLACK STEEL NIPPLE, 1/2" X 3"	1
5	00903686 0006	UNION, MALE ELBOW 1/2"	3
6	01228270 0006	HOUSING, THERMOSTAT	1
7	05018185 0003	FILTER, ASSEMBLY, OIL	1
8	00900115 0001	SCREW, 1/4 - 20 X 3/4" LG GD 5	2
9	00900305 0001	LOCKWASHER, SPRING 1/4" PLATED	2
10	00900321 0002	WASHER, FLAT 1/4" ZINC PLATED	2
11	01228207 0003	GASKET, THERMOSTAT	1
12	05018485 0158	HOSE ASSEMBLY, 42.5" LONG	1
13	05018485 0155	HOSE ASSEMBLY 34" LONG	1
14	05018485 0156	HOSE ASSEMBLY 27" LONG	2
15	01900520 0012	FILTER, OIL ELEMENT	1

8.19 FUEL TANK ASSEMBLY

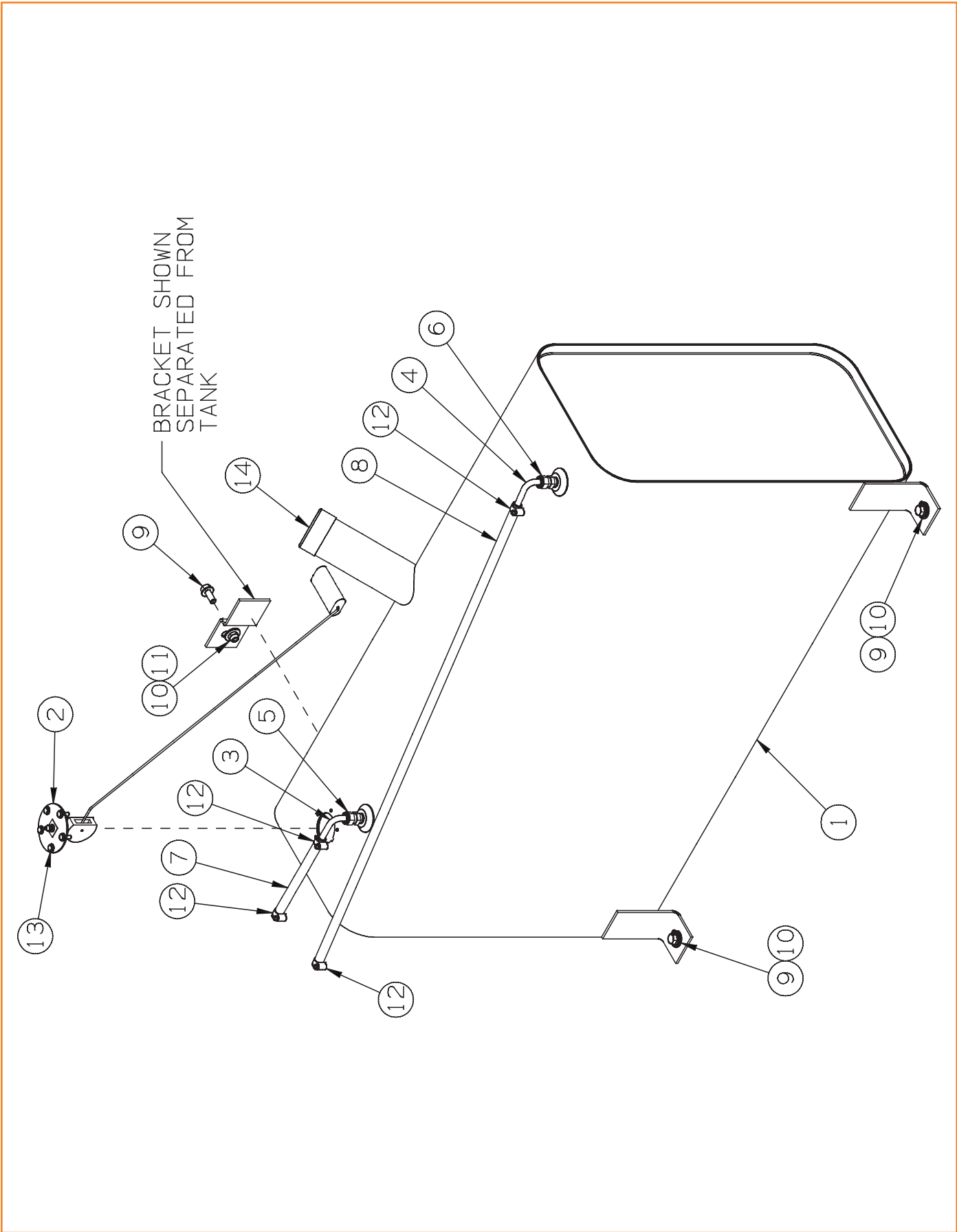
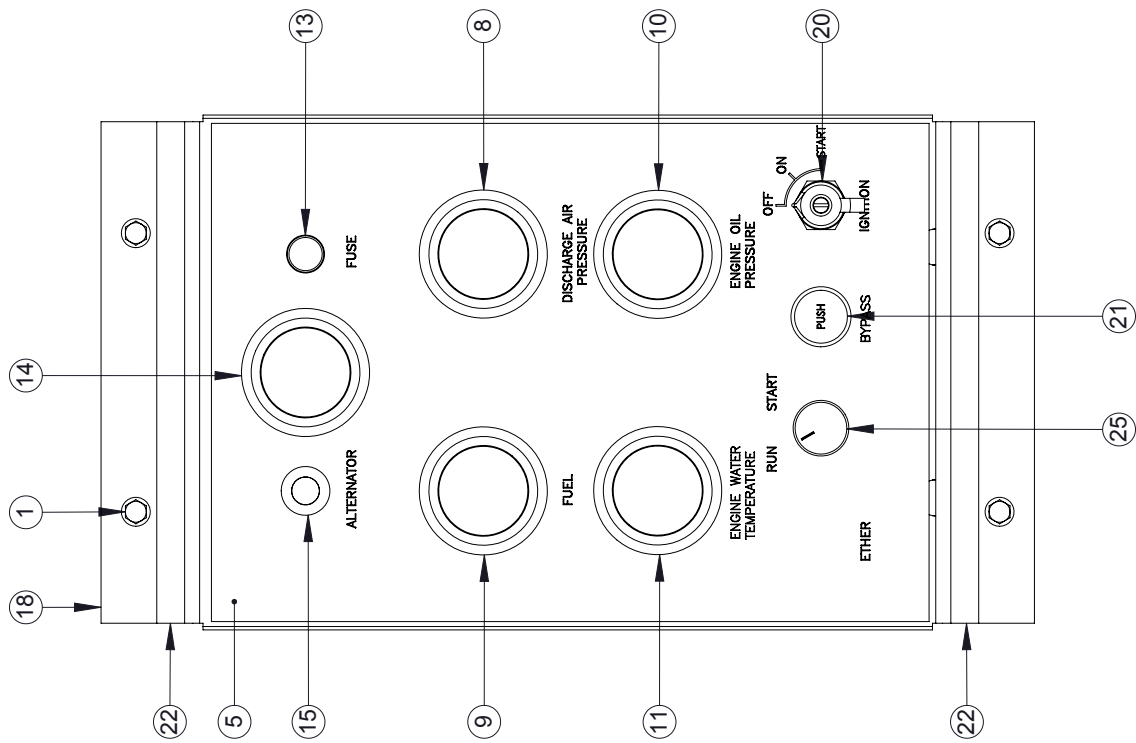


FIGURE 8-21. 00717972 0078 FUEL TANK AND MTG PARTS (REV F)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	05019475 0047	TANK, FUEL 30 GALLON	1
2	05019190 0025	FUEL SENDER	1
3	01901551 0066	TUBE, FUEL FEED 5/16"	1
4	01901551 0069	TUBE, FUEL RETURN 1/4"	1
5	01900592 0022	FITTING, TANK, 5/16" TUBE X 1/4" NPT	1
6	01900592 0023	FITTING, TANK, 1/4" TUBE X 1/4" NPT	1
7	00906814 0005	HOSE, 5/16" I.D. 250 PSI	3 FT
8	00906814 0004	HOSE, 1/4" I.D. 250 PSI	5 FT
9	00913792 0055	SCREW, 5/16-18 X 3/4" LG THREAD FORM	3
10	00900321 0003	WASHER, FLAT 5/16" ZINC PLATED	3
11	00900490 0062	NUT, NYLOK 5/16-18 ZINC PLATED	1
12	00902319 0001	CLAMP, HOSE 7/32" X 5/8"	4
13	00900804 0109	SCREW, #10-24 X 1/2" LG (REF)	5
14	05017457 0015	CAP, FUEL TANK (REF)	1
NI	0 222487 0000	TIE, PLASTIC	2



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 8-22. 05018845 0136 INST PANEL, D210 SINGLE PRESSURE (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00913792 0038	BOLT, THREAD FORMING 1/4-20 X 1/2"	4
2	05017465 0004	CAP, ROUND VINYL,.234 DIA.	1
3	05017465 0005	CAP, ROUND VINYL,.281 DIA.	1
4	00905520 0001	COUPLING, PIPE 1/8" FNPT HEX BRASS	1
5	01901152 0004	DECAL,STD INSTRUMENT PANEL	1
6	00915557 0064	ELBOW, .375 TUBE X .250 MNPT BRASS	1
7	00600751 0086	FUSE,CERAMIC BODY 20A	1
8	05018310 0017	GAUGE, AIR PRESSURE 0 - 200 PSI 2.05 O.D.	1
9	05018320 0004	GAUGE, FUEL 12VDC	1
10	05018275 0001	GAUGE, OIL PRESSURE 0-125 PSI	1
11	05018245 0004	GAUGE, WATER TEMP 100-280 DEG F	1
12	05018395 0051	HARNESS,STD INSTRUMENT PANEL	1
13	00602801 0007	HOLDER,FUSE PANEL MOUNTED	1
14	05018732 0002	HOURLMETER, 2" DIA. 12VDC	1
15	05018635 0044	LAMP, RED 12V	1
16	00900402 0014	NUT, HEX #10-24 GR2 ZINC PLAT	1
17	01900930 0024	ORIFICE, .020 PUSH LOK CAP .375 TUBE	1
18	01901000 0726	PANEL, INSTRUMENT STANDARD	1
19	00600704 0353	SPLICE, BUTT 16-14 AWG BLUE NYLON INSULATED	2
20	00600701 0406	SWITCH, KEY IGNITION 3-WAY	1
21	00519255	SWITCH, MOMENTARY PUSH BUTTON	1
22	00800125	TAPE,NEOPRENE 1/8" THK X 1/2"	2 FT
23	00915534 0062	TEE, .375 TUBE X .125 MNPT MALE BRANCH BRASS	1
24	00915564 0064	TEE, MALE RUN 1/4" MNPT X 3/8" TUBE BRASS	1
25	05019820 0002	VALVE 2-WAY 1/4" FNPT BRASS	1
26	00900609 0011	WASHER, LOCK 5/8" INTERNALLY SERRATED ZINC	2
NS	WD-15056	WIRING DIAGRAM, STANDARD	1

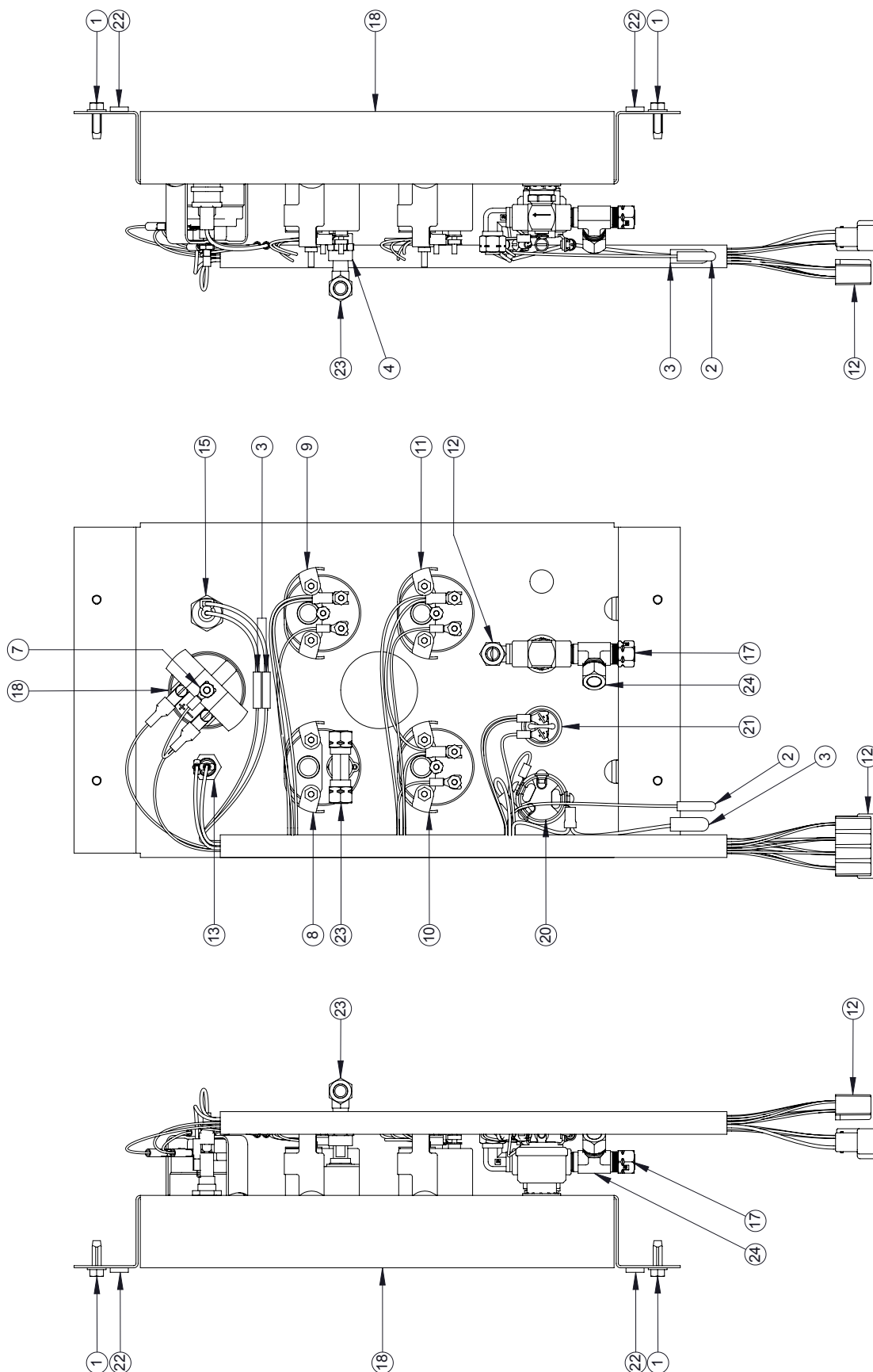


FIGURE 8-23. 05018845 0136 INST PANEL, D210 SINGLE PRESSURE (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00913792 0038	BOLT, THREAD FORMING 1/4-20 X 1/2"	4
2	05017465 0004	CAP, ROUND VINYL,.234 DIA.	1
3	05017465 0005	CAP, ROUND VINYL,.281 DIA.	1
4	00905520 0001	COUPLING, PIPE 1/8" FNPT HEX BRASS	1
5	01901152 0004	DECAL,STD INSTRUMENT PANEL	1
6	00915557 0064	ELBOW, .375 TUBE X .250 MNPT BRASS	1
7	00600751 0086	FUSE,CERAMIC BODY 20A	1
8	05018310 0017	GAUGE, AIR PRESSURE 0 - 200 PSI 2.05 O.D.	1
9	05018320 0004	GAUGE, FUEL 12VDC	1
10	05018275 0001	GAUGE, OIL PRESSURE 0-125 PSI	1
11	05018245 0004	GAUGE, WATER TEMP 100-280 DEG F	1
12	05018395 0051	HARNESS,STD INSTRUMENT PANEL	1
13	00602801 0007	HOLDER,FUSE PANEL MOUNTED	1
14	05018732 0002	HOURMETER, 2" DIA. 12VDC	1
15	05018635 0044	LAMP, RED 12V	1
16	00900402 0014	NUT, HEX #10-24 GR2 ZINC PLAT	1
17	01900930 0024	ORIFICE, .020 PUSH LOK CAP .375 TUBE	1
18	01901000 0726	PANEL, INSTRUMENT STANDARD	1
19	00600704 0353	SPLICE, BUTT 16-14 AWG BLUE NYLON INSULATED	2
20	00600701 0406	SWITCH, KEY IGNITION 3-WAY	1
21	00519255	SWITCH, MOMENTARY PUSH BUTTON	1
22	00800125	TAPE,NEOPRENE 1/8" THK X 1/2"	2 FT
23	00915534 0062	TEE, .375 TUBE X .125 MNPT MALE BRANCH BRASS	1
24	00915564 0064	TEE, MALE RUN 1/4" MNPT X 3/8" TUBE BRASS	1
25	05019820 0002	VALVE 2-WAY 1/4" FNPT BRASS	1
26	00900609 0011	WASHER, LOCK 5/8" INTERNALLY SERRATED ZINC	2
NS	WD-15056	WIRING DIAGRAM, STANDARD	1

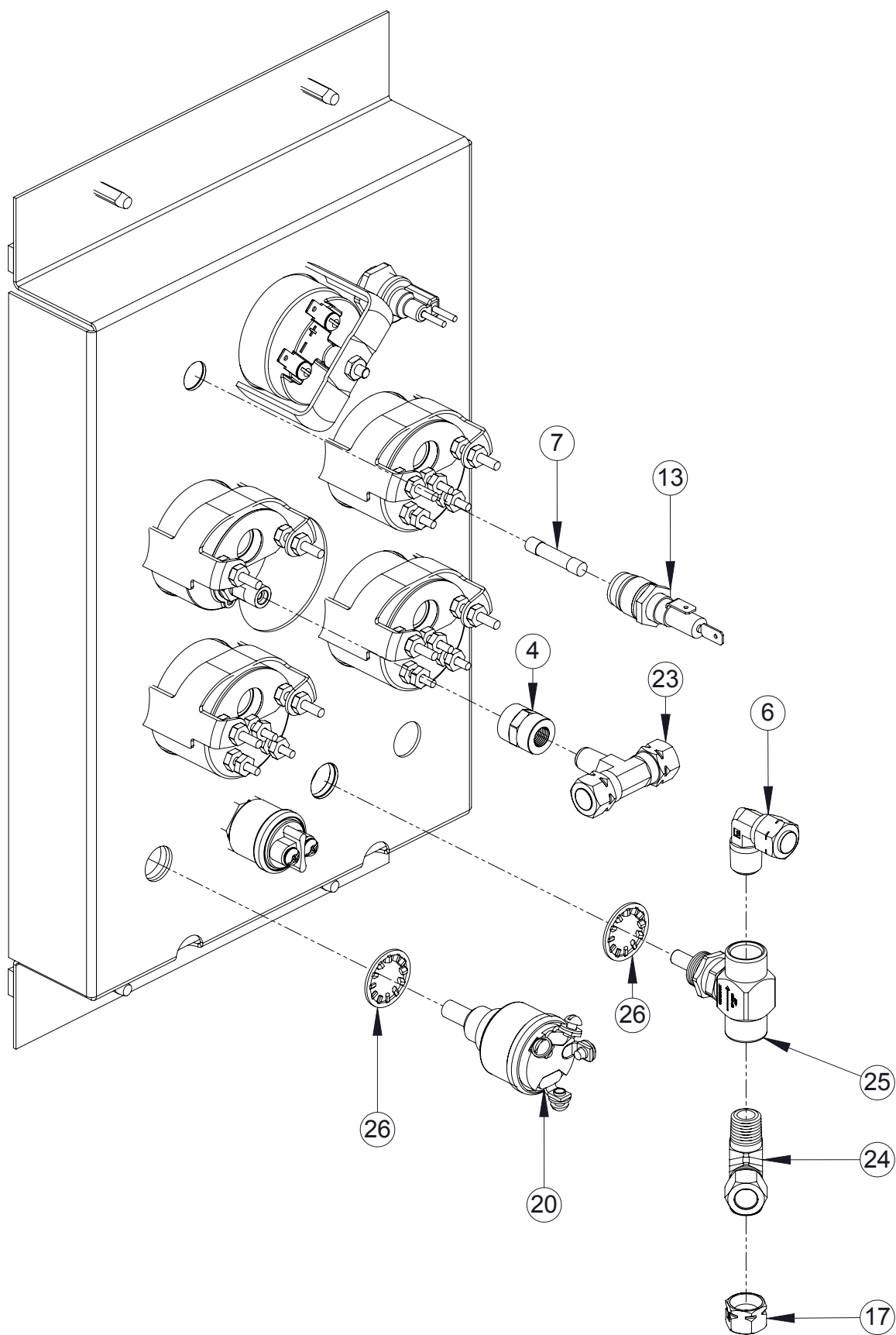


FIGURE 8-24. 05018845 0136 INST PANEL, D210 SINGLE PRESSURE (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	00913792 0038	BOLT, THREAD FORMING 1/4-20 X 1/2"	4
2	05017465 0004	CAP, ROUND VINYL,.234 DIA.	1
3	05017465 0005	CAP, ROUND VINYL,.281 DIA.	1
4	00905520 0001	COUPLING, PIPE 1/8" FNPT HEX BRASS	1
5	01901152 0004	DECAL,STD INSTRUMENT PANEL	1
6	00915557 0064	ELBOW, .375 TUBE X .250 MNPT BRASS	1
7	00600751 0086	FUSE,CERAMIC BODY 20A	1
8	05018310 0017	GAUGE, AIR PRESSURE 0 - 200 PSI 2.05 O.D.	1
9	05018320 0004	GAUGE, FUEL 12VDC	1
10	05018275 0001	GAUGE, OIL PRESSURE 0-125 PSI	1
11	05018245 0004	GAUGE, WATER TEMP 100-280 DEG F	1
12	05018395 0051	HARNESS,STD INSTRUMENT PANEL	1
13	00602801 0007	HOLDER,FUSE PANEL MOUNTED	1
14	05018732 0002	HOURMETER, 2" DIA. 12VDC	1
15	05018635 0044	LAMP, RED 12V	1
16	00900402 0014	NUT, HEX #10-24 GR2 ZINC PLAT	1
17	01900930 0024	ORIFICE, .020 PUSH LOK CAP .375 TUBE	1
18	01901000 0726	PANEL, INSTRUMENT STANDARD	1
19	00600704 0353	SPLICE, BUTT 16-14 AWG BLUE NYLON INSULATED	2
20	00600701 0406	SWITCH, KEY IGNITION 3-WAY	1
21	00519255	SWITCH, MOMENTARY PUSH BUTTON	1
22	00800125	TAPE,NEOPRENE 1/8" THK X 1/2"	2 FT
23	00915534 0062	TEE, .375 TUBE X .125 MNPT MALE BRANCH BRASS	1
24	00915564 0064	TEE, MALE RUN 1/4" MNPT X 3/8" TUBE BRASS	1
25	05019820 0002	VALVE 2-WAY 1/4" FNPT BRASS	1
26	00900609 0011	WASHER, LOCK 5/8" INTERNALLY SERRATED ZINC	2
NS	WD-15056	WIRING DIAGRAM, STANDARD	1

8.21 ENCLOSURE ASSEMBLY

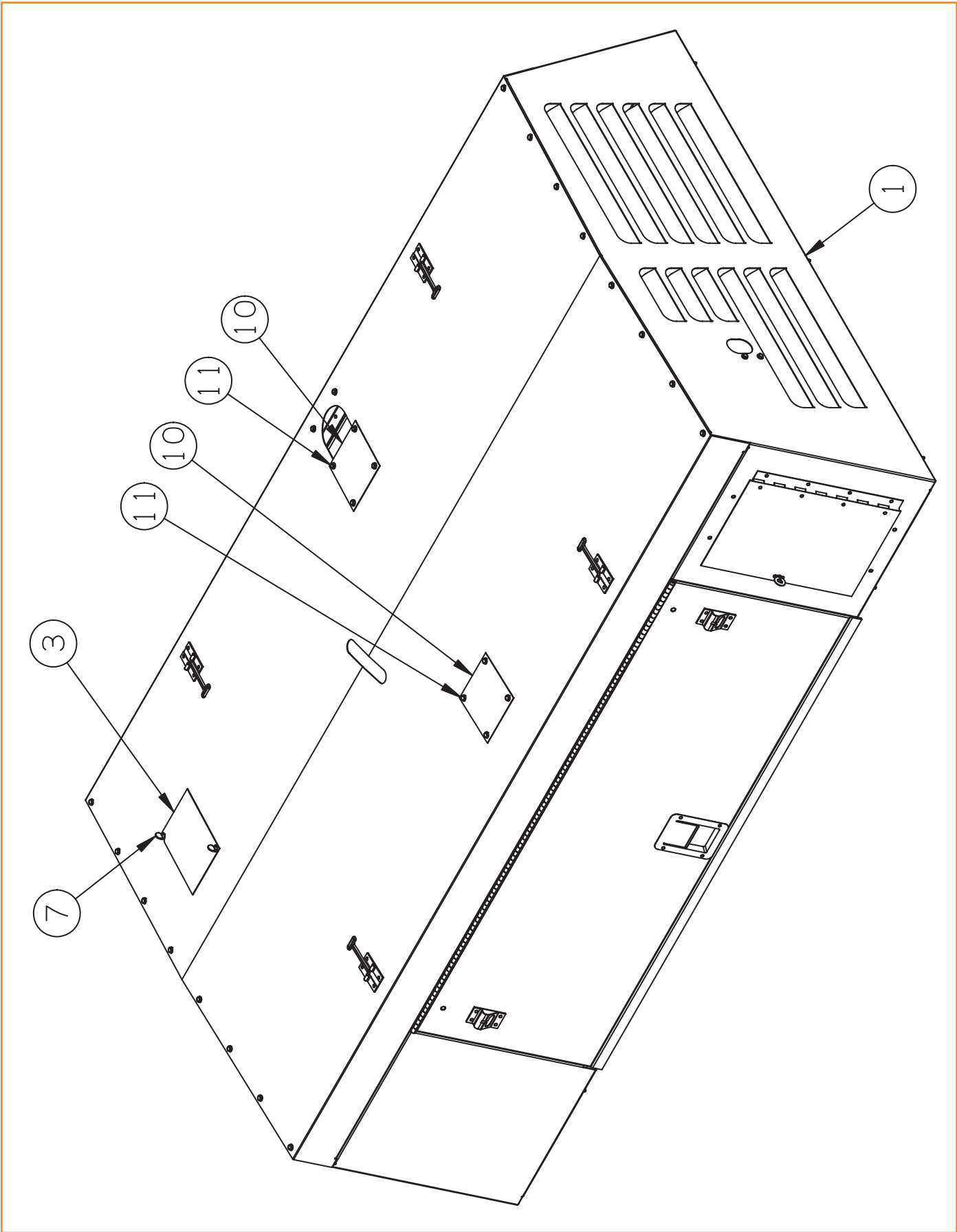


FIGURE 8-25. 00717598 0095B UPPER ENCLOSURE PAGE 1 OF 2

ITEM	PART NUMBER	DESCRIPTION	QTY
1	03903168 0093	UPPER ENCLOSURE ASSEMBLY	1
2	01901520 0281	SUPPORT, SERVICE AIR PIPE	1
3	01900416 0122	COVER, RADIATOR FILL	1
4	05017310 0015	FLANGE BOLT 5/16-18 X 5/8" LONG	10
5	01900007 0244	ACOUSTIC, SIDE DOOR, 1" THK	2
6	00913792 0039	SCREW, 5/16-18 X 1/2" THD FORM	8
7	00906771 0113	SCREW, THUMB 5/16-18 X 3/4" LONG ZINC	2
8	00900321 0002	WASHER, FLAT 1/4" ZINC PLATED	4
9	006001001	TAPE, GASKET 1/8 THK X 1/2 WIDE	17.5 FT
10	01900416 0095	COVER, EXHAUST PIPE HOLE	2
11	00913792 0038	SCREW, 1/4-20 X 1/2" LG THD FORM	8

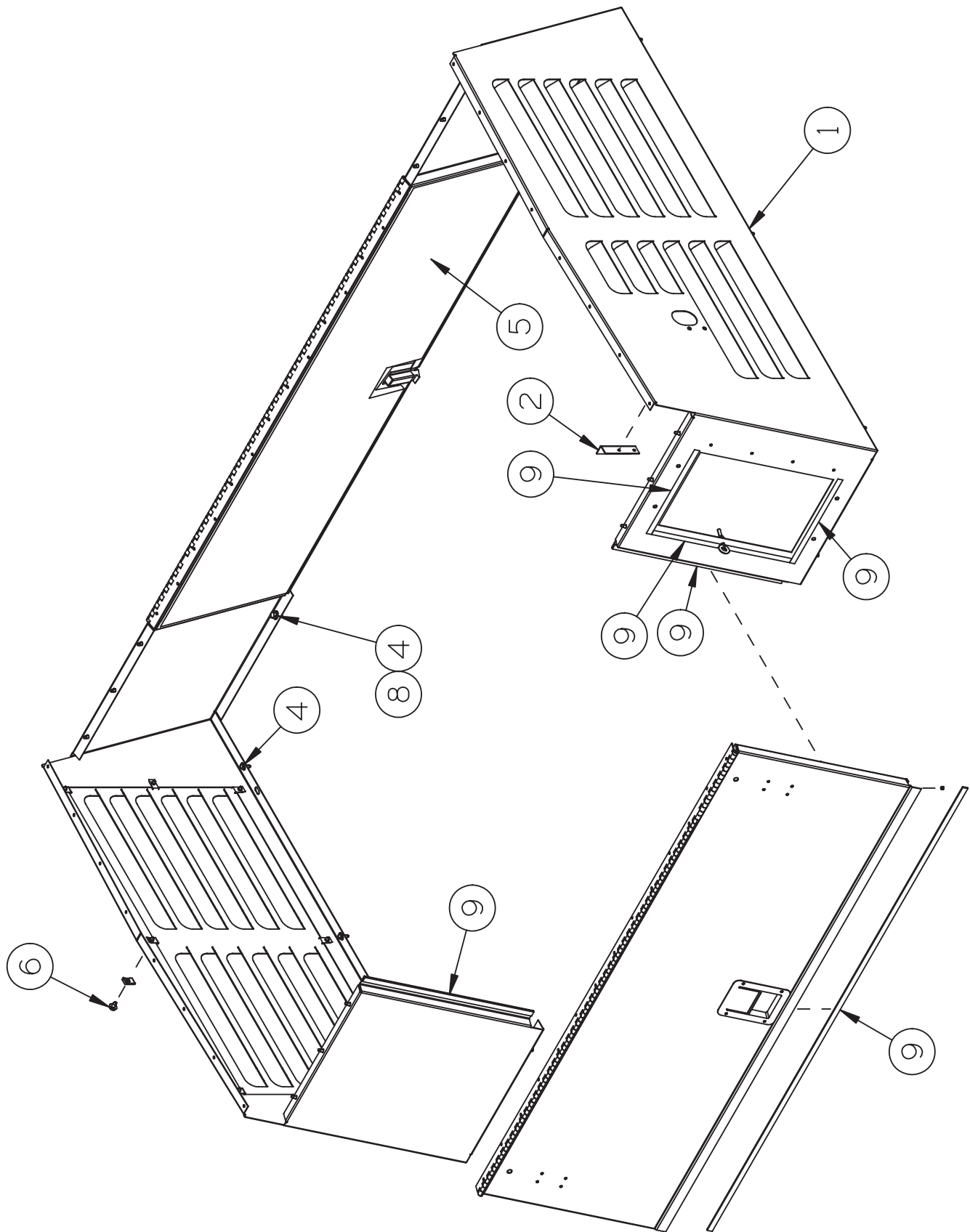


FIGURE 8-26. 00717598 0095B UPPER ENCLOSURE PAGE 2 OF 2

ITEM	PART NUMBER	DESCRIPTION	QTY
1	03903168 0093	UPPER ENCLOSURE ASSEMBLY	1
2	01901520 0281	SUPPORT, SERVICE AIR PIPE	1
3	01900416 0122	COVER, RADIATOR FILL	1
4	05017310 0015	FLANGE BOLT 5/16-18 X 5/8" LONG	10
5	01900007 0244	ACOUSTIC, SIDE DOOR, 1" THK	2
6	00913792 0039	SCREW, 5/16-18 X 1/2" THD FORM	8
7	00906771 0113	SCREW, THUMB 5/16-18 X 3/4" LONG ZINC	2
8	00900321 0002	WASHER, FLAT 1/4" ZINC PLATED	4
9	006001001	TAPE, GASKET 1/8 THK X 1/2 WIDE	17.5 FT
10	01900416 0095	COVER, EXHAUST PIPE HOLE	2
11	00913792 0038	SCREW, 1/4-20 X 1/2" LG THD FORM	8

8.21.1 ENCLOSURE

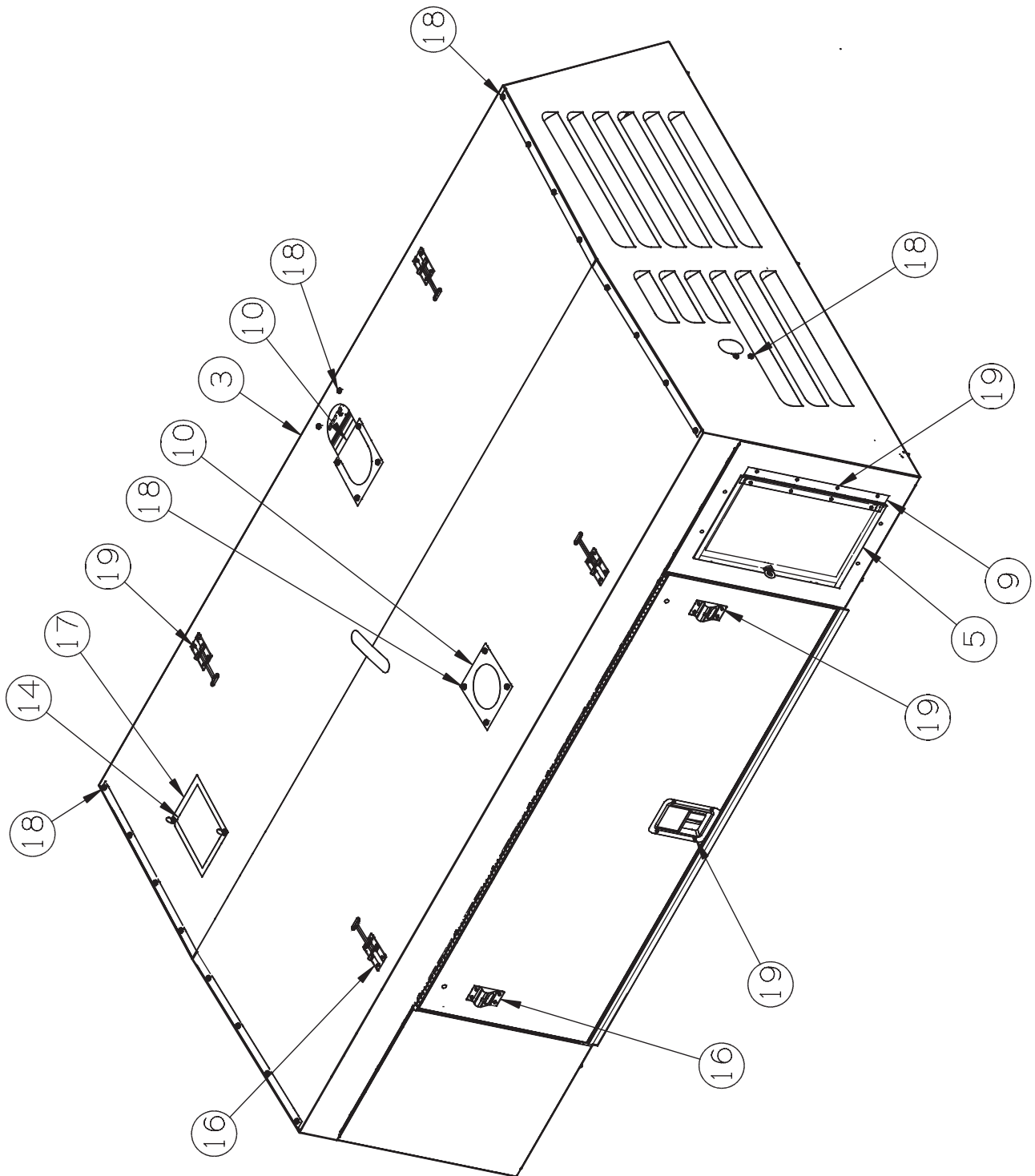


FIGURE 8-27. 03903168 0093 ENCLOSURE, UPPER ASSY D185-250 (REV C)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	01901000 0710	PANEL, FRONT CANOPY D185-250	1
2	01901000 0711	PANEL, REAR D185-250	1
3	01901000 0709	PANEL, ROOF	1
4	01900485 0032	DOOR, SIDE ACCESS D185-250	2
5	01900485 0030	DOOR, INSTRUMENT PANEL ACCESS	1
6	01900480 0043	DOOR, REAR ACCESS PANEL	1
7	00900490 0071	NUT,NYLOK 1/4-20	1
8	01900752 0055	HINGE, SIDE ACCESS DOOR	2
9	01900752 0034	HINGE,PANEL 2" CONT. ALUMINIUM	1
10	01900416 0095	COVER, EXHAUST PIPE HOLE	2
11	01900104 0273	ANGLE,DOOR BOTTOM,GALVANNEAL	2
12	01228269 0020	SPRING	1
13	01900168 0005	BOLT,EYE 1/4-20 ZINC	1
14	00909088 0005	NUT,SPEED 5/16-18 U-TYPE	10
15	01901520 0281	SUPPORT, SERVICE AIR PIPE	1
16	0 A222351	HOLDER,DOOR LATCH	4
17	01900416 0122	COVER, RADIATOR FILL	1
18	00913792 0038	SCREW,1/4-20 X 1/2" THD FORM	40
19	00916867 0421	RIVET,3/16" X .126 -.250 RANGE	132
20	00913792 0039	SCREW,5/16-18 X 1/2" THD FORM	8
21	00900321 0002	WASHER,FLAT 1/4	1
NI	00913792 0055	SCREW,5/16-18 X 3/4 THD FORM	8
NI	05018650 0024	LATCH,SLAM,W/ MOUNT. HOLES	2

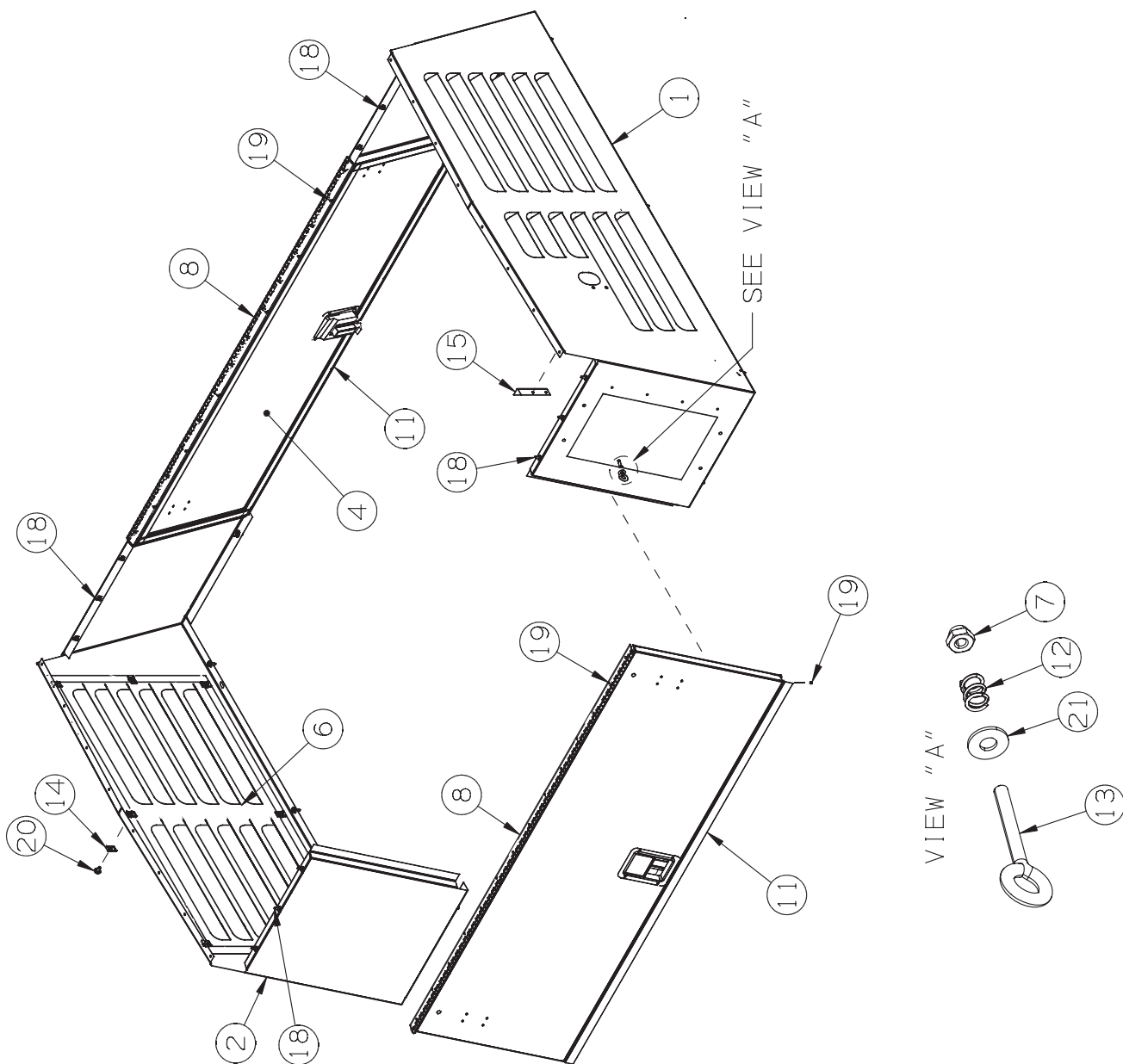


FIGURE 8-28. 03903168 0093 ENCLOSURE, UPPER ASSY D185-250 (REV C)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	01901000 0710	PANEL, FRONT CANOPY D185-250	1
2	01901000 0711	PANEL, REAR D185-250	1
3	01901000 0709	PANEL, ROOF	1
4	01900485 0032	DOOR, SIDE ACCESS D185-250	2
5	01900485 0030	DOOR, INSTRUMENT PANEL ACCESS	1
6	01900480 0043	DOOR, REAR ACCESS PANEL	1
7	00900490 0071	NUT,NYLOK 1/4-20	1
8	01900752 0055	HINGE, SIDE ACCESS DOOR	2
9	01900752 0034	HINGE,PANEL 2" CONT. ALUMINIUM	1
10	01900416 0095	COVER, EXHAUST PIPE HOLE	2
11	01900104 0273	ANGLE,DOOR BOTTOM,GALVANNEAL	2
12	01228269 0020	SPRING	1
13	01900168 0005	BOLT,EYE 1/4-20 ZINC	1
14	00909088 0005	NUT,SPEED 5/16-18 U-TYPE	10
15	01901520 0281	SUPPORT, SERVICE AIR PIPE	1
16	0 A222351	HOLDER,DOOR LATCH	4
17	01900416 0122	COVER, RADIATOR FILL	1
18	00913792 0038	SCREW,1/4-20 X 1/2" THD FORM	40
19	00916867 0421	RIVET,3/16" X .126 -.250 RANGE	132
20	00913792 0039	SCREW,5/16-18 X 1/2" THD FORM	8
21	00900321 0002	WASHER,FLAT 1/4	1
NI	00913792 0055	SCREW,5/16-18 X 3/4 THD FORM	8
NI	05018650 0024	LATCH,SLAM,W/ MOUNT. HOLES	2

8.22 MACHINE DRESS

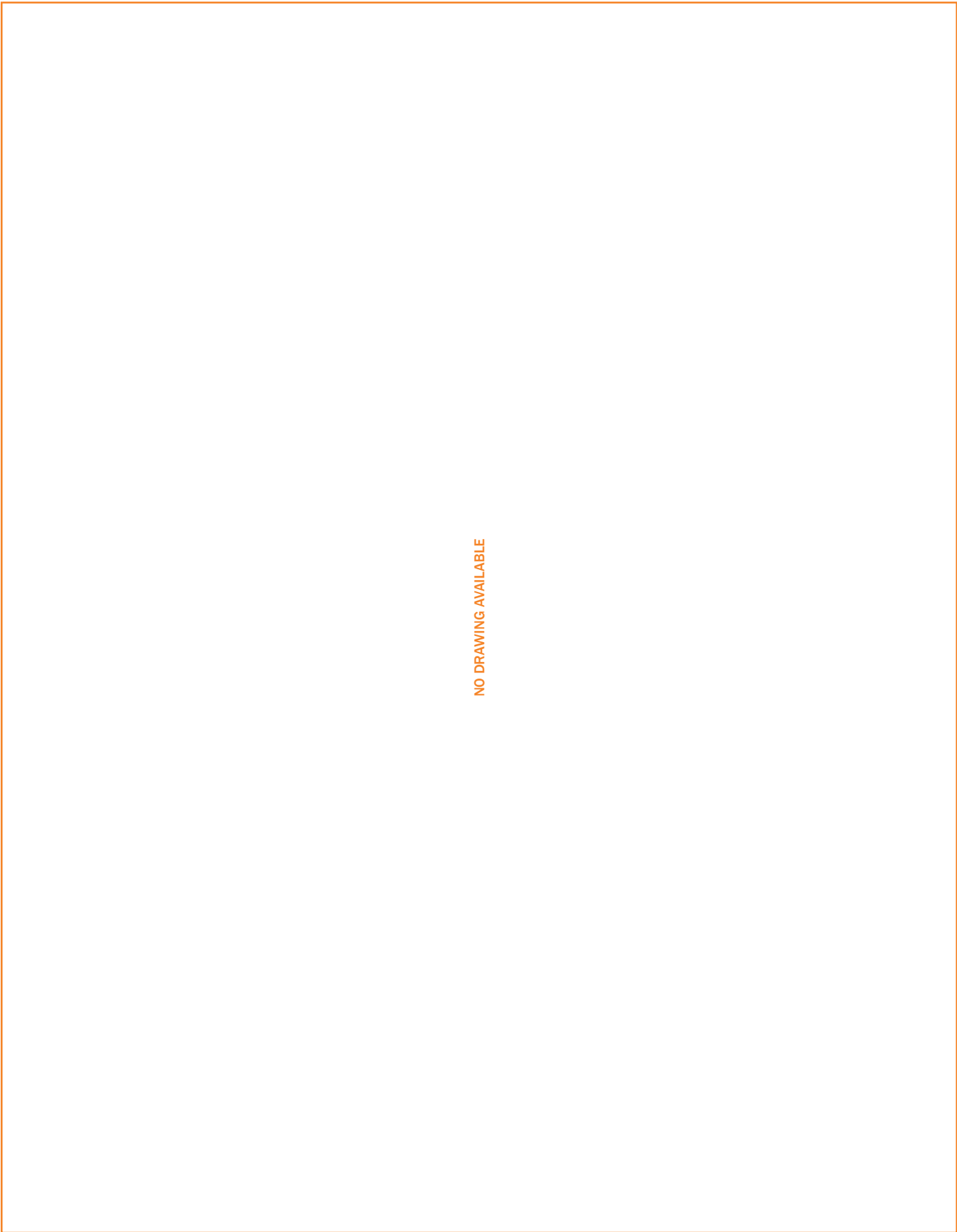


FIGURE 8-29. 00717752 0177 MACHINE DRESS, D210PHJD (REV G)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	0 222487	TIE,PLASTIC 8 1/2" LG.	3
2	00809022	ANTI-FREEZE PERMANENT	3.75 G
3	00816708	DIESEL FUEL-GRADE #2	5 G
4	00823062	OIL,WEATHER-ALL, BULK PER GAL	6.5 G
5	00910270 0001	RIVET,.125 DIA. X .232 LG SS	2
6	00916867 0430	RIVET,5/32" X 1/8-3/16 GRIP	8
7	01228378 0005	DECAL,DANGER - HOT OIL	2
8	01900190 0010	BOX, MANUAL HOLDER 8.5"X11"	1
9	01900224 0005	BUMPER,DOOR	4
10	01900456 0059	DECAL, PROP 65 WARNING CALIFOR	1
11	01900464 0007	DECAL,ROTATING PARTS	2
12	01900464 0094	DECAL, QUALITY ACCEPTED	1
13	01900464 0104	DECAL,AMERICAN FLAG	1
14	01900464 0148	DECAL,FUEL WARNING	1
15	01900464 0304	DECAL, OPERATING INSTRUCTIONS	1
16	01900464 0314	DECAL, "SULLIVAN-PALATEK", BLK	1
17	01900464 0318	DECAL"SULLIVAN PALATEK"	2
18	01900464 0323	LABEL, LOW SULFER FUEL	1
19	01900464 0338	DECAL, WEATHER-ALL COMPR FLUID	1
20	01901136 0003	PLATE,IDENTIFICATION	1
21	01901201 0004	REFLECTOR, 3" DIA. (AMBER)	2
22	01901201 0005	REFLECTOR, 3" DIA. (RED)	2
23	05018650 0024	LATCH,SLAM,W/ MOUNT. HOLES	2
24	05018730 0023	PARTS CAT.,JD4045,PT.NO.PC2521	1
25	05018730 0097	MANUAL, 4045TF280, OMRG37708	1

8.23 CHASSIS ASSEMBLY

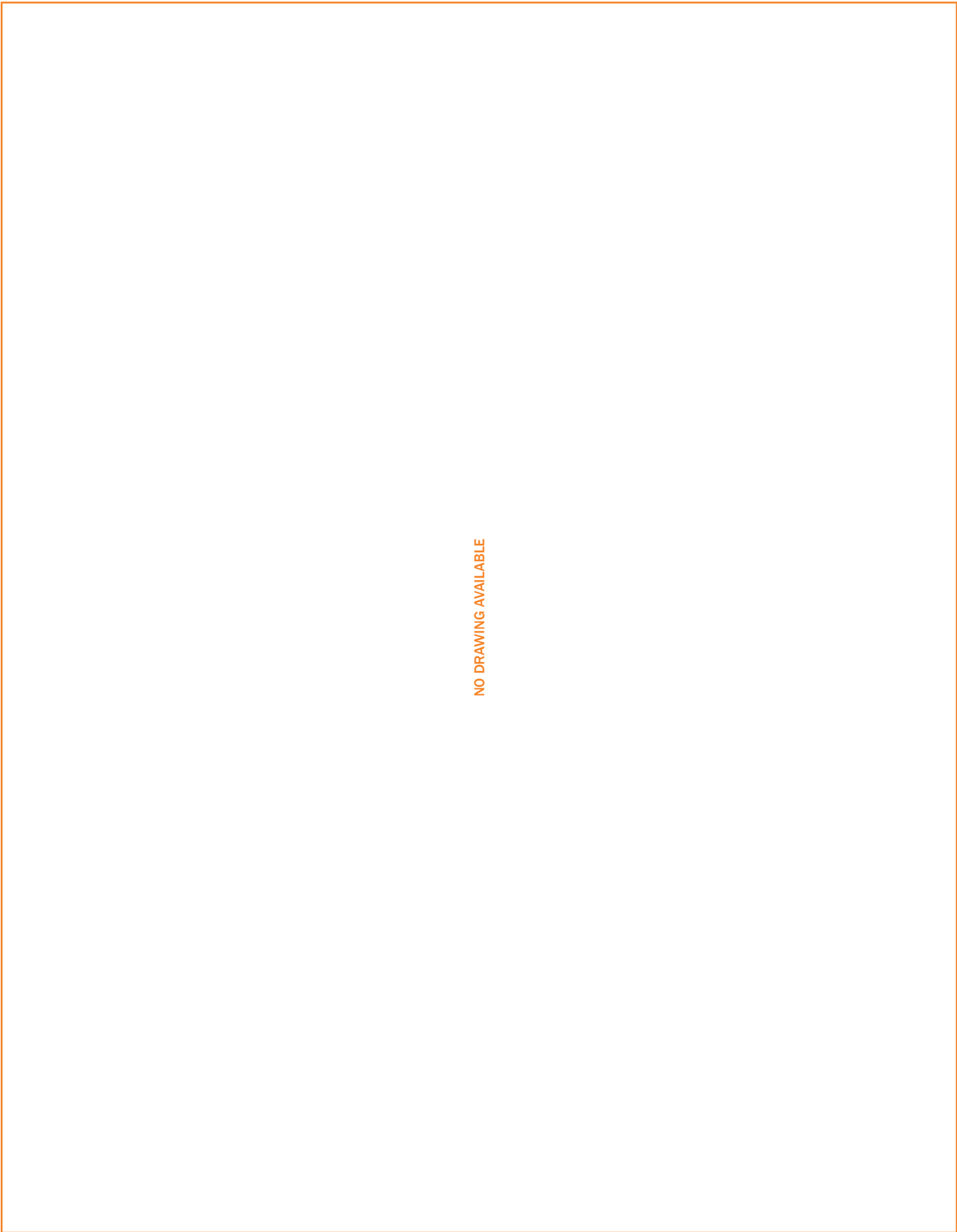
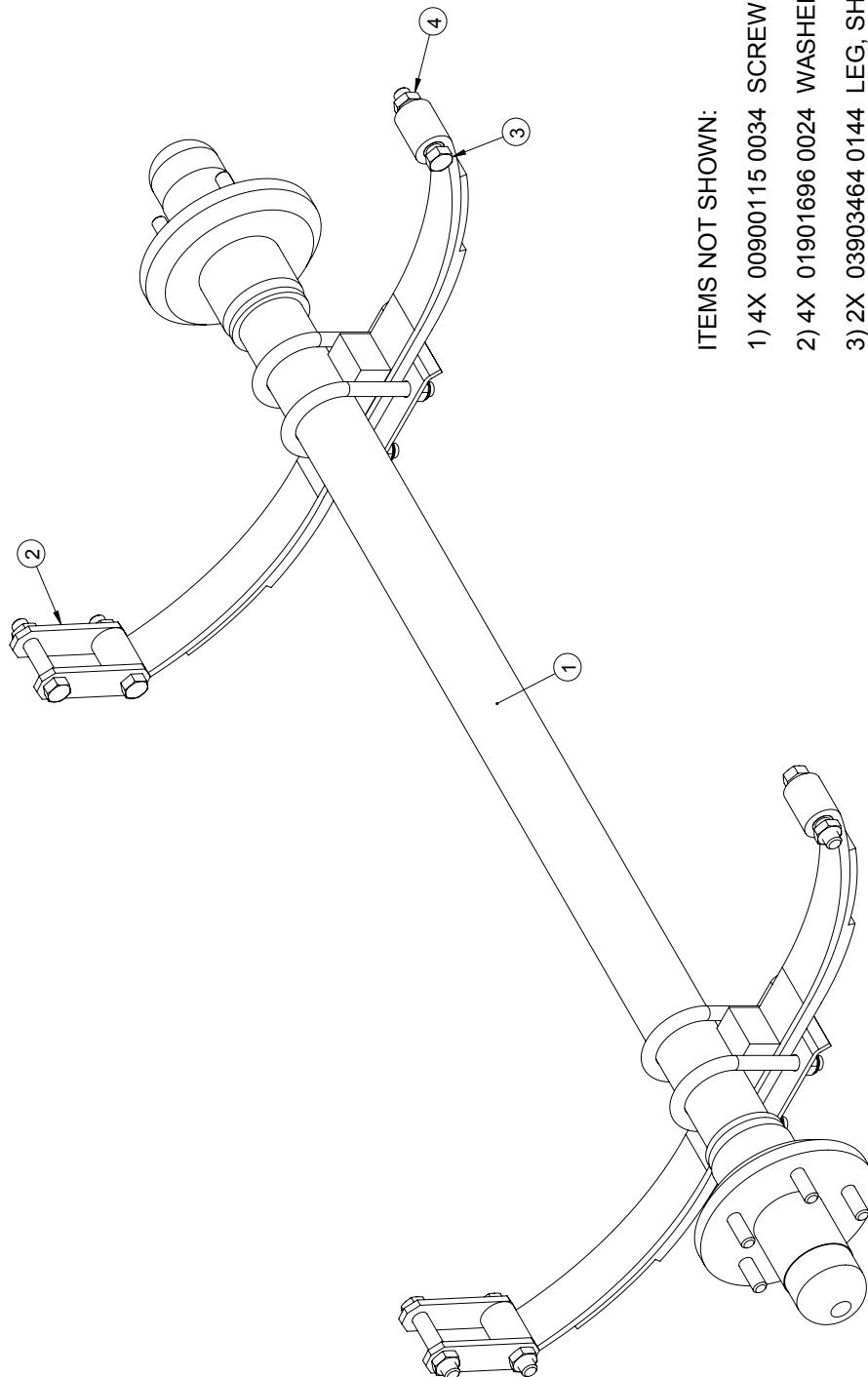


FIGURE 8-30. 00717464 0095 CHASSIS ASSEMBLY,D210-250 (REV 00)

ITEM	PART NUMBER	DESCRIPTION	QTY
1	01900007 0301	ACOUSTIC, AIR PIPING 185-210	2
2	00900115 0001	BOLT, HEX 1/4-20 X 3/4 GR5	4
3	00900115 0025	BOLT, HEX 5/8-11 X 1 1/4 GR5	4
4	00900016 0025	BOLT, HEX 5/8-11 X 1 1/4 GR8	2
5	01900416 0121	COVER, CORNER, GALVANIZED	2
6	01900416 0120	COVER, RAD. & OIL DRAIN, GALVAN.	1
7	03903168 0106	FRAME, D125-250	1
8	05018635 0059	LAMP, STOP/TAIL/TURN W/REFLECT.	2
9	03903009 0063	LIFTING BAIL, 4045 TIII	1
10	00900490 0071	NUT, NYLOK 1/4-20	4
11	00900490 0062	NUT, NYLOK 5/16-18	4
12	01901000 0730B	PANEL, CURBSIDE BLACK	1
13	01901000 0712B	PANEL, FRONT BLACK	1
14	01901000 0729B	PANEL, REAR BLACK	1
15	01901000 0731B	PANEL, STREETSIDE BLACK	1
16	01901000 0719	PANEL, TOOL BOX (CURB)	1
17	01901000 0718	PANEL, TOOL BOX (STREET)	1
18	01901000 0706	PANEL, FENDER, GALVANIZED	2
19	00913792 0038	SCREW, 1/4-20 X 1/2" THD FORM	160
20	00913792 0039	SCREW, 5/16-18 X 1/2" THD FORM	2
21	01901485 0001	STRIKER PLATE	2
22	01901520 0288	SUPPORT, DRAWBAR	1
23	00800120	TAPE, NEOPRENE 1/4" TK X 1"	1 FT
24	00900321 0003	WASHER, FLAT 5/16	4



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 8-31. 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

8.24.1 AXLE

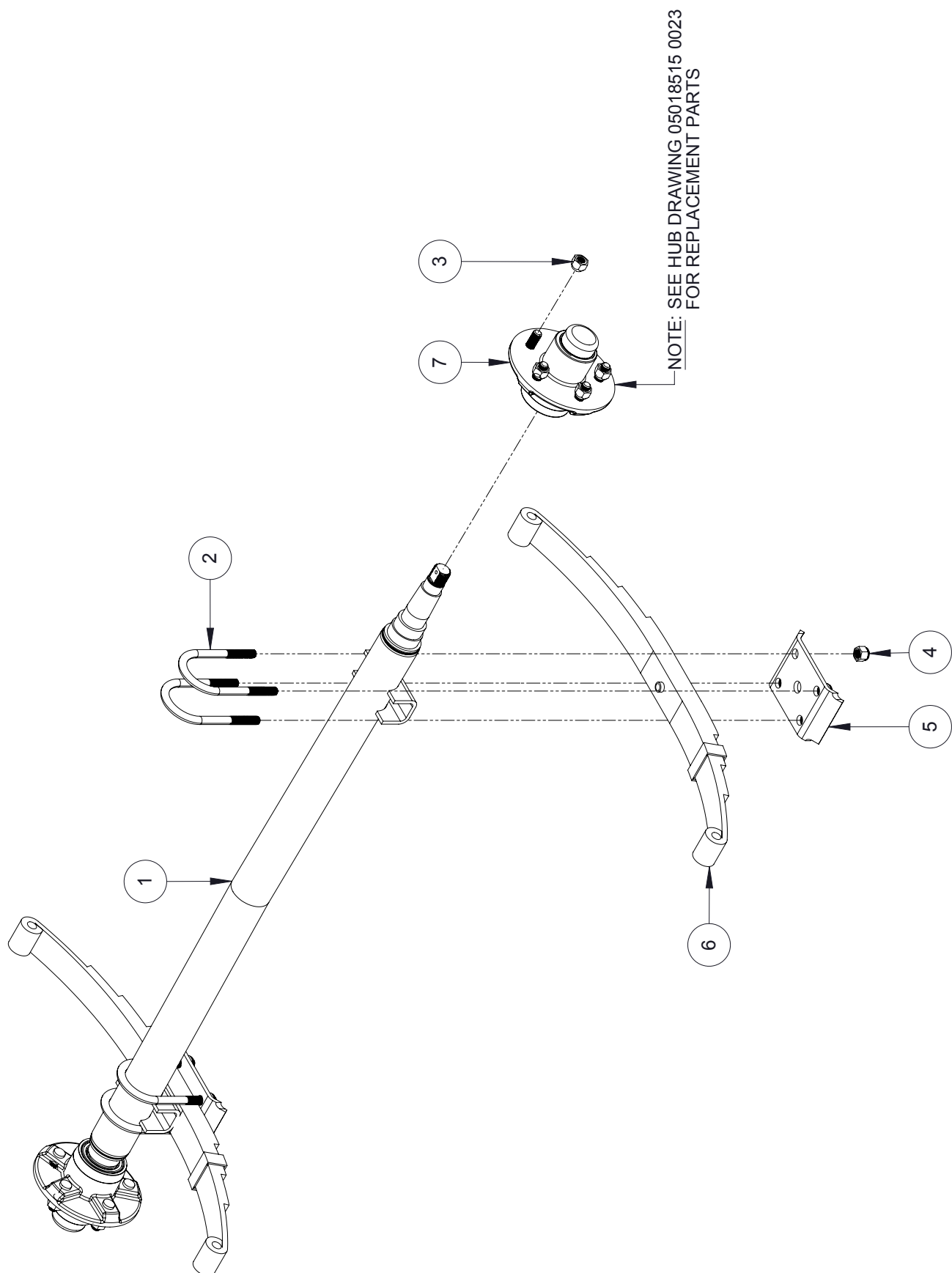


FIGURE 8-32. 05017120 0369 AXLE, ASSY 3500# (REV-03)

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

8.24.2 HUB ASSEMBLY

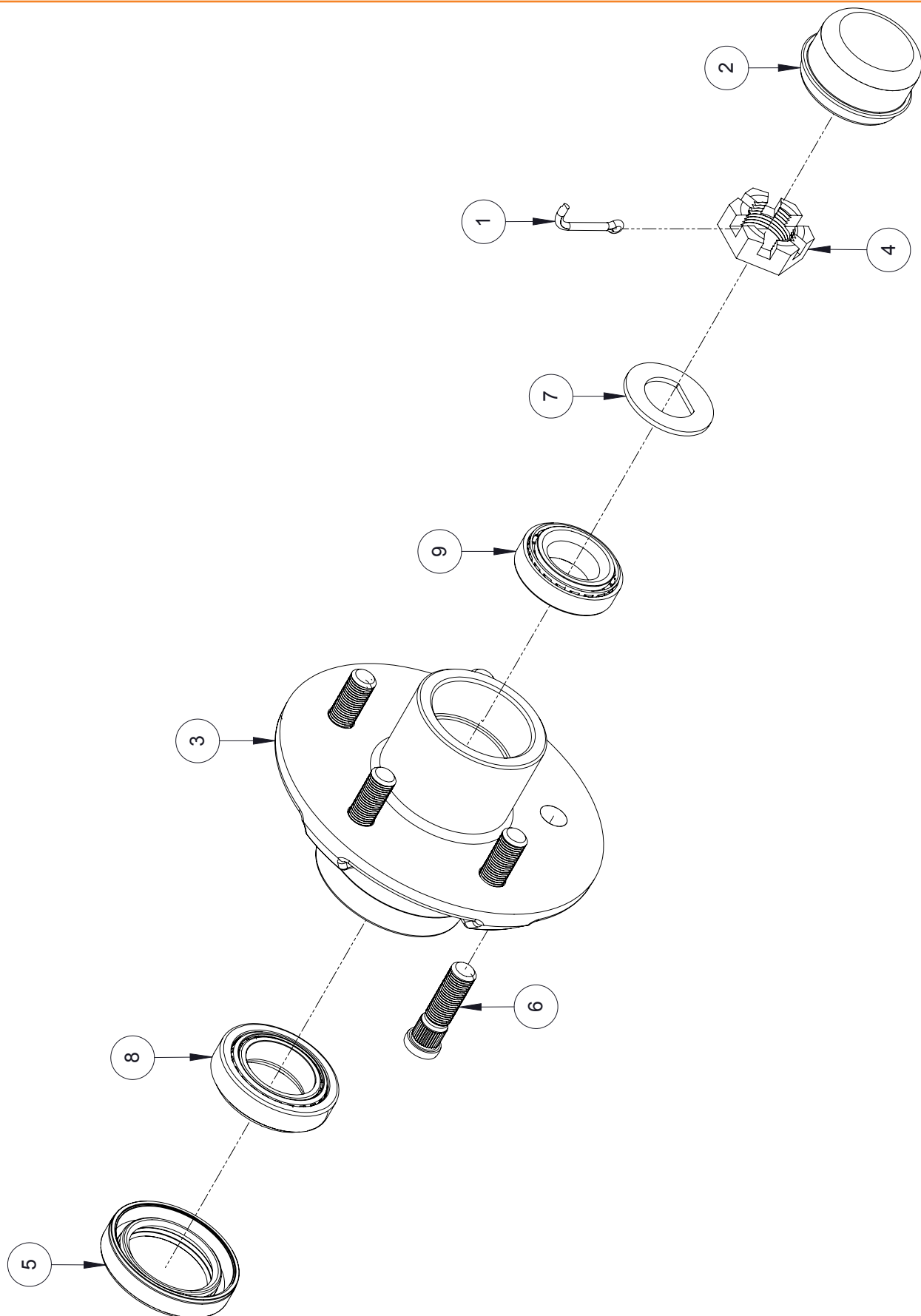


FIGURE 8-33. 05018515 0023 HUB ASSY. IDLER (REV-02)

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

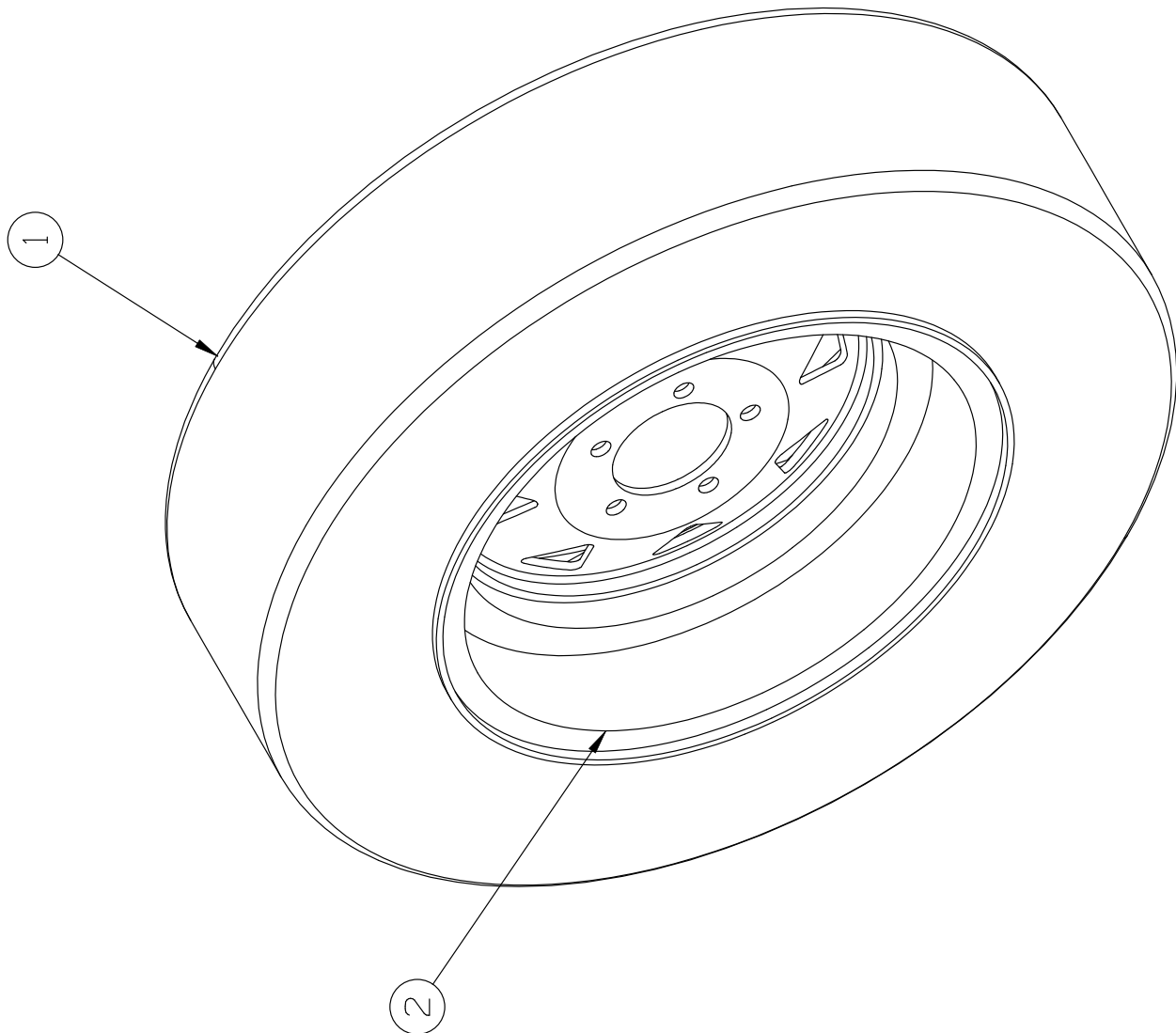


FIGURE 8-34. 05019880 0036 WHEEL ASSY, ST205-75D15

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

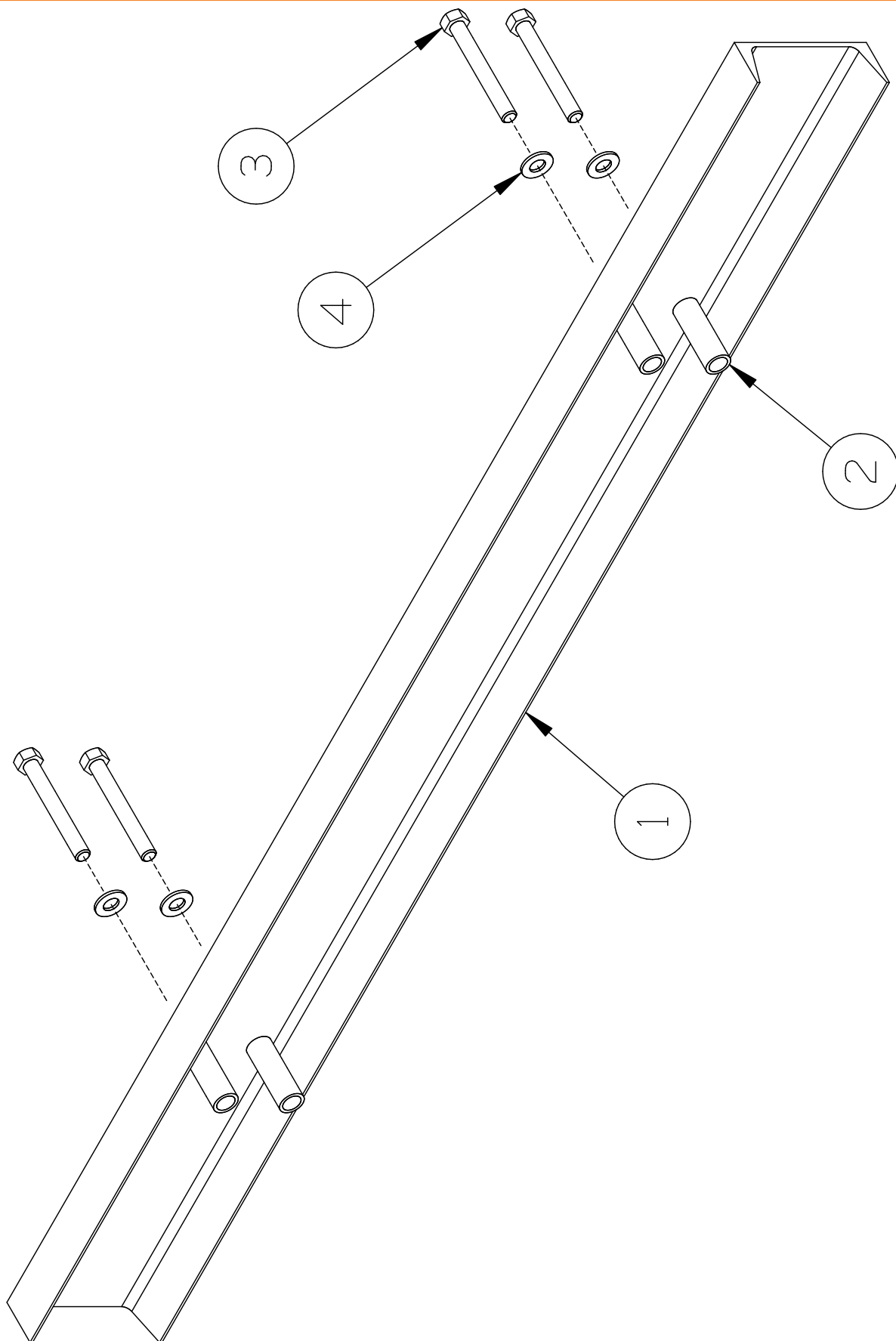
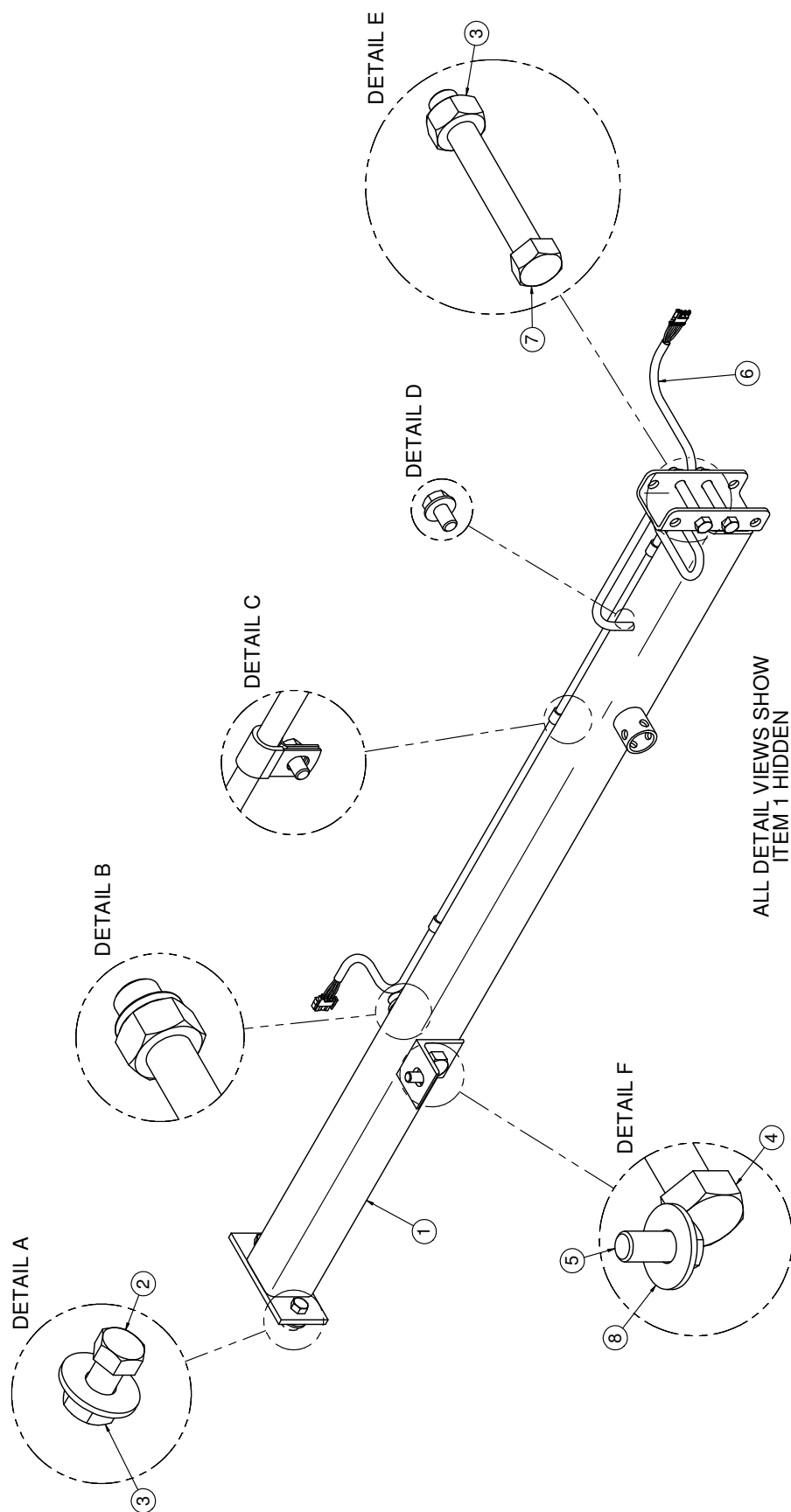


FIGURE 8-35. 00717703 0158

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 8-36. 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

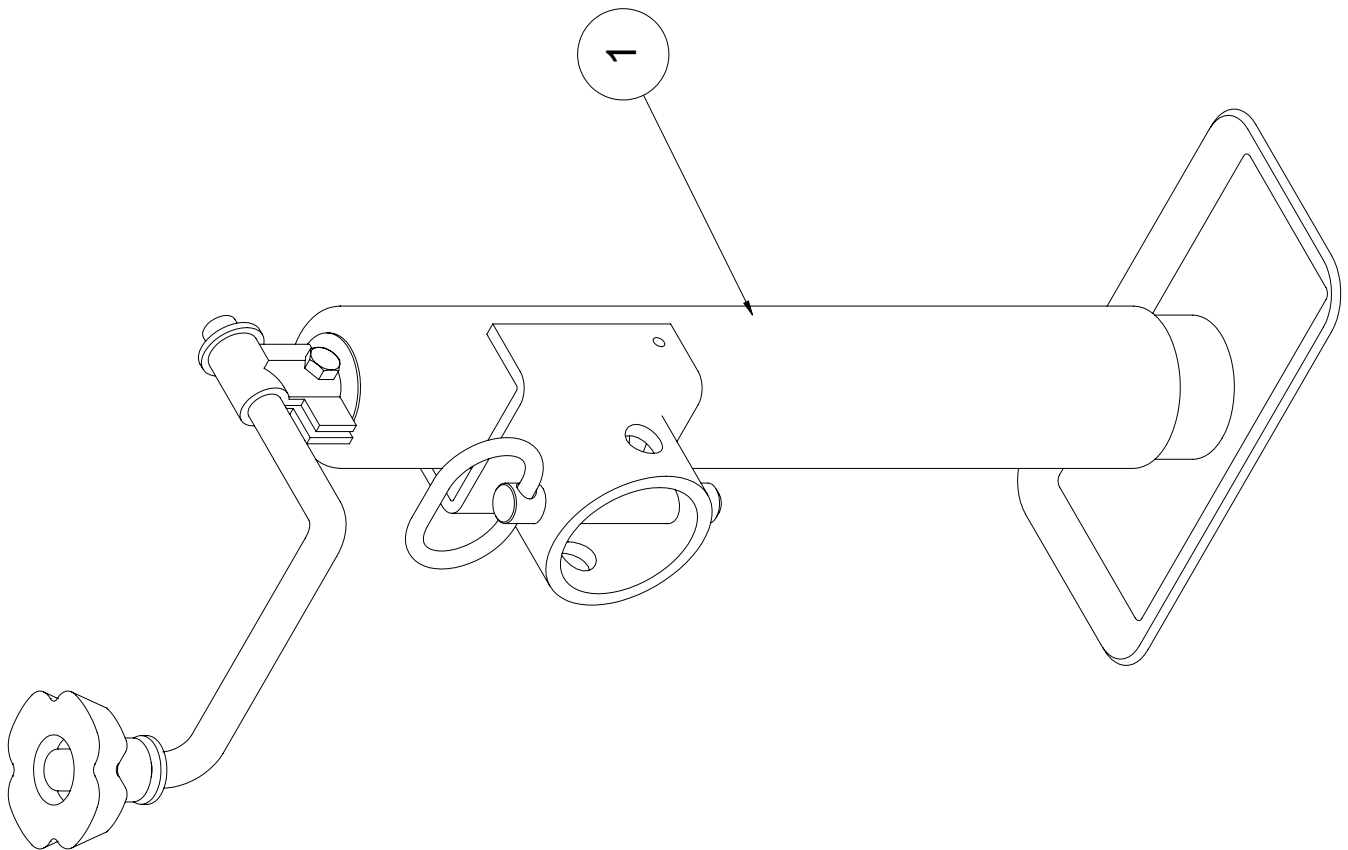


FIGURE 8-37. 05018590 0012 JACK, SWIVEL D185

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

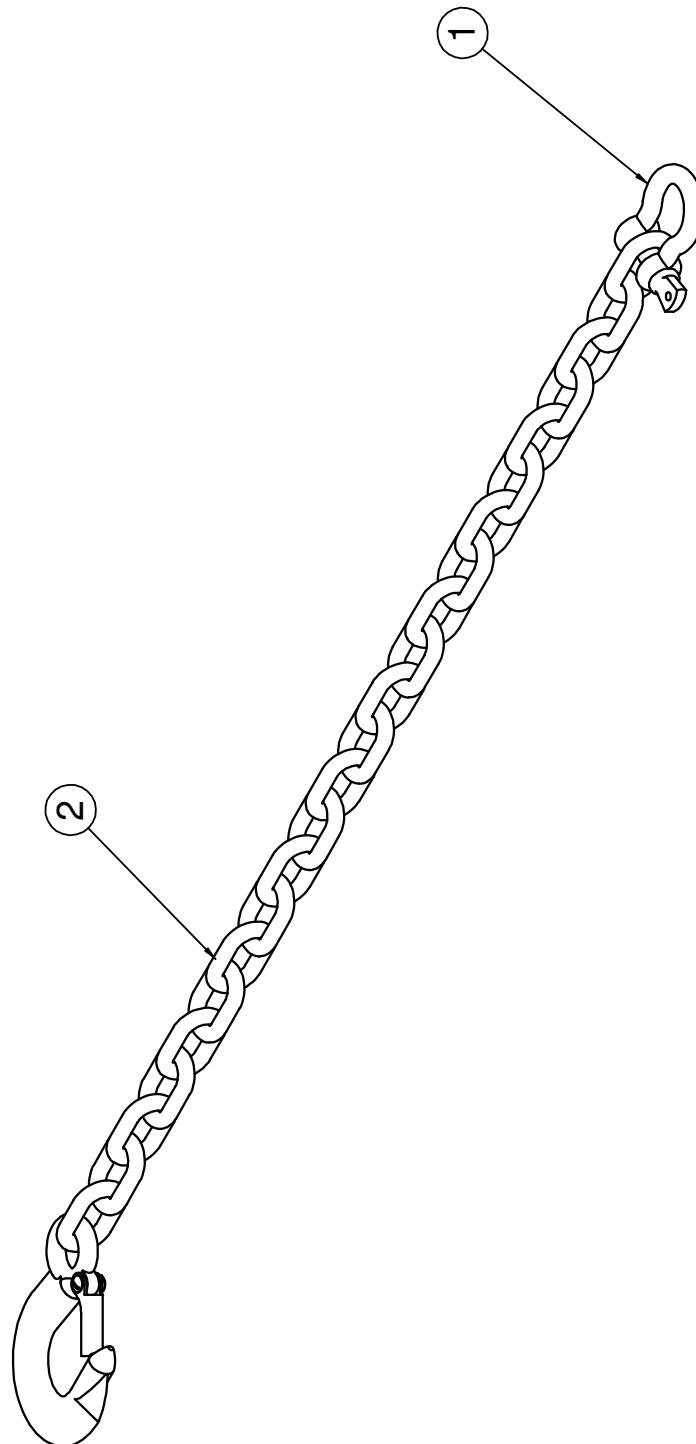


FIGURE 8-38. 05017495 0027 SAFETY CHAIN ASSY (REV B)

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