

StraightLine Directional Drilling System

Model 2515 D
PARTS CATALOG



1450 South Spencer Road • P.O. Box 388 • Newton, Kansas 67114
Phone: (316) 283-5511 • (800) 654-3484 • Fax: (316) 283-5513

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STRAIGHTLINE PARTS ORDERING INFORMATION

Quality

StraightLine Manufacturing, Inc. is dedicated to providing quality products and services to satisfy our customers' needs. Quality is the responsibility of every StraightLine employee. Our focus is on continuously improving and innovating quality products.

How To Order

Contact your local StraightLine Dealer or call:

StraightLine Manufacturing, Inc
1450 South Spencer Road,
P.O. Box 388
Newton, Kansas 67114 / USA

1-888-367-8564 (parts dept. only, Toll Free)
1-316-283-6666 (parts department Fax)
1-800-654-3484 (StraightLine - Toll Free)
1-316-283-5511 (StraightLine switchboard)

Please have the drill's and/or mud skid's serial number and use StraightLine part numbers when ordering. All customer orders will be invoiced through the respective StraightLine Dealer when applicable. Credit card orders are welcome.

Conditions of Sale -- Terms and Delivery

With approved credit, 30 day terms will be granted. A 2% discount is available for payments postmarked by the 10th day of invoice date. No discounts are allowed on freight.

Claims and Returns

In all cases, risk of loss and damage to goods in transit shall fall upon the purchaser. It is the purchasers' responsibility to file any loss or damage with the carrier. Inspect all shipments for damage upon receipt. If any damage is noticed with packaging or carton, do not sign for or accept it without the driver making a notation on the freight bill or receipt. After receiving the shipment, remove the goods and thoroughly inspect immediately. If any concealed damage is discovered, notify the delivering carrier immediately in writing. Do not move damaged merchandise until further inspection has been made. Save the carton and packing material for inspection. Do not attempt to return any goods to our factory without making prior arrangements with StraightLine Manufacturing, Inc. Claims for shortages or inaccurate filling of orders must be made within 15 days after receipt of goods.

All returns must have a returned goods authorization number (RGA number) regardless of the reason for

return. Please contact the StraightLine parts department for an RGA number. This number must appear on the outside of the box as well as on a tag attached to the individual part. There will be a restocking charge applied on any items returned for credit or exchange when the error is not ours. Goods must be in new and original condition.

Packaging

Returned goods must be properly and securely packed to avoid damage in shipment. Goods damaged in shipment due to poor or improper packaging will not be warranted. Proper storage and shipment of warranty parts is a customer responsibility. If any components are damaged by rain, mud, rust, poor packaging, etc., the purchaser will be charged for the part.

Inspection Charge

Goods returned for warranty consideration, inspection, and/or testing, and found to be in acceptable working condition, or if the cause of failure is determined not to be a valid warranty issue, will be subject to a minimum \$25.00 inspection and handling charge for each item.

Replacement Part Warranty

Warranty allowance on service parts is based on 90 days from the purchase date to the original purchaser. There is no warranty on ground engaging tools. Warranty credit will be based on invoice price.

Genuine StraightLine parts that are replaced under this warranty and installed by an authorized StraightLine Dealer, StraightLine Service Center, or StraightLine Service Representative will be repaired or replaced, with a new or remanufactured part as StraightLine elects, if a defect in materials or workmanship appears during the period of coverage. No allowance will be made for labor to remove or install the part during the 90 day warranty period.

SPECIFIC POLICIES AND PROCEDURES FOR THE OPERATION OF THIS WARRANTY ARE SET FORTH IN STRAIGHTLINE'S NEW EQUIPMENT "WARRANTY POLICY" AND IN STRAIGHTLINE'S DEALER WARRANTY SERVICE - "POLICIES & PROCEDURES MANUAL".

STRAIGHTLINE WARRANTY INFORMATION SUMMARY

New Equipment Warranty

StraightLine Manufacturing, Inc. (Herein referred to as "StraightLine") warrants to the original owner each item of new equipment of its own manufacture against defective workmanship and material, under normal use and service, but not against damage of any kind resulting from misuse, neglect, abuse, improper use or maintenance. Units which have been used for demonstration purposes for less than 100 hours are "new" for this purpose.

Warranty Period

The warranty period to the original retail purchaser is twelve (12) months or 1,000 hours after date of delivery, whichever expires first. Ninety days on Service Parts (See the StraightLine Policies and Procedures Manual and the StraightLine New Equipment Warranty Policy for complete warranty information). This warranty is made to the original owner of new StraightLine equipment and is not transferable.

ALERT: StraightLine warranties are activated by receipt of the New Product Warranty Registration form which is sent with each new product. Registration forms on all new equipment must be completed and on file at StraightLine Manufacturing within fifteen (15) days of the date of delivery to the first purchaser. Failure to file will result in no warranty reimbursements.

Coverage

All parts which are defective in material or workmanship except component parts separately warranted by the original manufacturer will be repaired or replaced, at StraightLine's option. StraightLine will pay the cost of labor deemed reasonably necessary by StraightLine, to install any repaired or replaced part provided under this warranty, when labor is performed by authorized StraightLine personnel. The remedies set forth in this paragraph are exclusive and correction by StraightLine of product non-conformities in the manner provided above shall constitute fulfillment of all liabilities and obligations of StraightLine to those entitled to the benefit of this warranty. Warranty will not apply if failure is due to normal wear, exposure, accident, neglect, or improper protection, improper maintenance, improper winterizing and storage, or improper use.

Exclusions

This warranty shall not apply to general maintenance services or expendable replacement items. In addition, this warranty shall not apply to equipment not manufactured by StraightLine which is covered only by the warranty, if any, of its manufacturer. StraightLine reserves the right to discontinue models or options at any time or to change specifications, materials, or designs without notice and without incurring obligation.

Owner Responsibility

The owner is responsible for proper maintenance of the product. Any improper use, including failure to provide proper maintenance, operation after discovery of defective or worn parts, or operation beyond rated capacity shall void this warranty. This warranty shall not apply to any equipment which has been tampered with or altered after leaving our control, including but not limited to: foreign materials in the fluid system, pressure and speed in excess of published and recommended maximum, and damages resulting from repair by anyone except authorized StraightLine personnel. Charges for pick up, delivery, mileage, hauling, overtime, and service calls are not covered by this warranty.

Remedies Exclusive

The only remedies purchaser has in connection with the breach or performance of any warranty on StraightLine equipment are the remedies set forth above. StraightLine will not be responsible for any duty, taxes or other changes or liable for incidental or consequential damages, including, but not limited to, loss of profits, rental of substitute equipment, delay or other commercial loss. StraightLine's liability in all events is limited to the value of the product involved.

No Modification of Warranty

No StraightLine employee, representative or dealer is authorized to modify or change this warranty in any way or grant any other warranty unless the modification or change is made in writing and signed by an officer of StraightLine.

Drilling Fluid Circuit

All components of the drilling fluid circuit such as, but not limited to: The drilling fluid swivel, drilling fluid mixing/circulating pump, drilling fluid pressure pump, and related couplers, valves, seats, packings, seals, relief valves, bearings, shafts, housings, jets, etc., come in contact with an abrasive media when using Bentonite. These components are unquestionably wear items and are not covered under warranty.

Expendable Wear Items

Repair or replacement of expendable and normal wear items such as, but not limited to: Drill stem, ground engaging tools, bits, stakes, augers, saver subs, wrench jaws, cogs, and bodies, loose electrical wires, electrical umbilical cords and connectors, couplers, engine oil and filters, fuel filters, drill fluid strainers or filters, hydraulic oil and filters, drill fluid hoses and couplers, O-rings, roller chains and connector or repair links, sprockets, etc. will not be covered under this warranty. Warranty will not apply if failure is due to normal wear, exposure, accident, neglect, abuse, or improper protection, improper maintenance, improper winterization and storage, or improper use.

Limitations of Warranties and Applicable Law

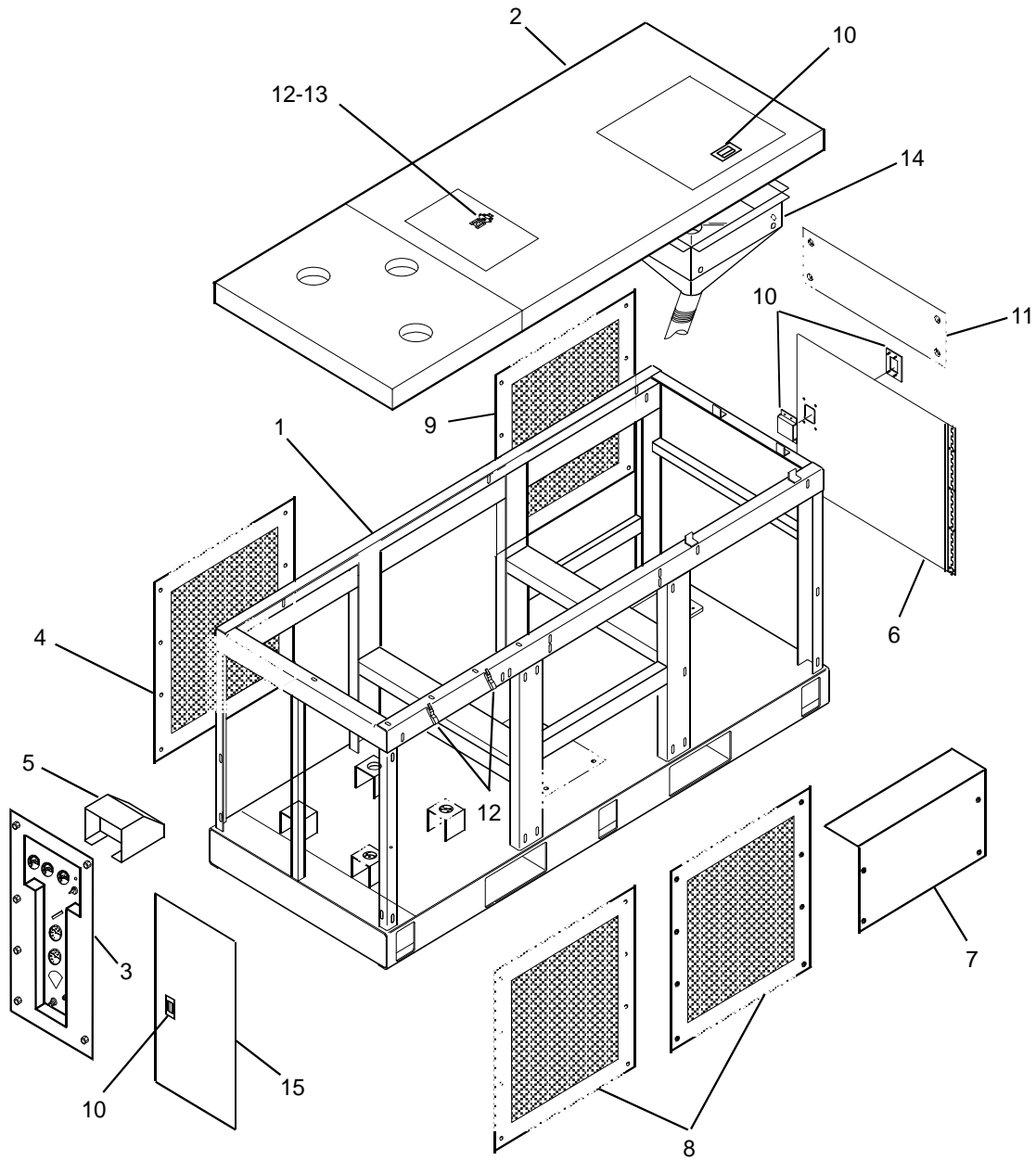
Where permitted by law, StraightLine's warranty is expressly limited to the conditions as stated in this warranty. There are no warranties which extend beyond the description on the face of this warranty and/or StraightLine's New Equipment Warranty Policy. This warranty is issued by StraightLine at Newton Kansas and shall be governed by and interpreted in accordance with the laws of the state of Kansas.

FOR COMPLETE AND SPECIFIC WARRANTY INFORMATION REGARDING NEW STRAIGHTLINE EQUIPMENT, SEE THE "NEW EQUIPMENT WARRANTY POLICY" THAT IS FURNISHED WITH EACH PIECE OF NEW STRAIGHTLINE EQUIPMENT WHEN IT IS DELIVERED TO THE ORIGINAL PURCHASER. THIS PAGE IS BASICALLY A SUMMARY OF THAT POLICY.

SPECIFIC POLICIES AND PROCEDURES FOR THE OPERATION OF THIS WARRANTY ARE SET FORTH IN STRAIGHTLINE'S DEALER WARRANTY SERVICE "POLICIES AND PROCEDURES MANUAL".

IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS ARE EXPRESSLY EXCLUDED BY STRAIGHTLINE.

Frame and Shrouding (Serial #'s Before # 29)

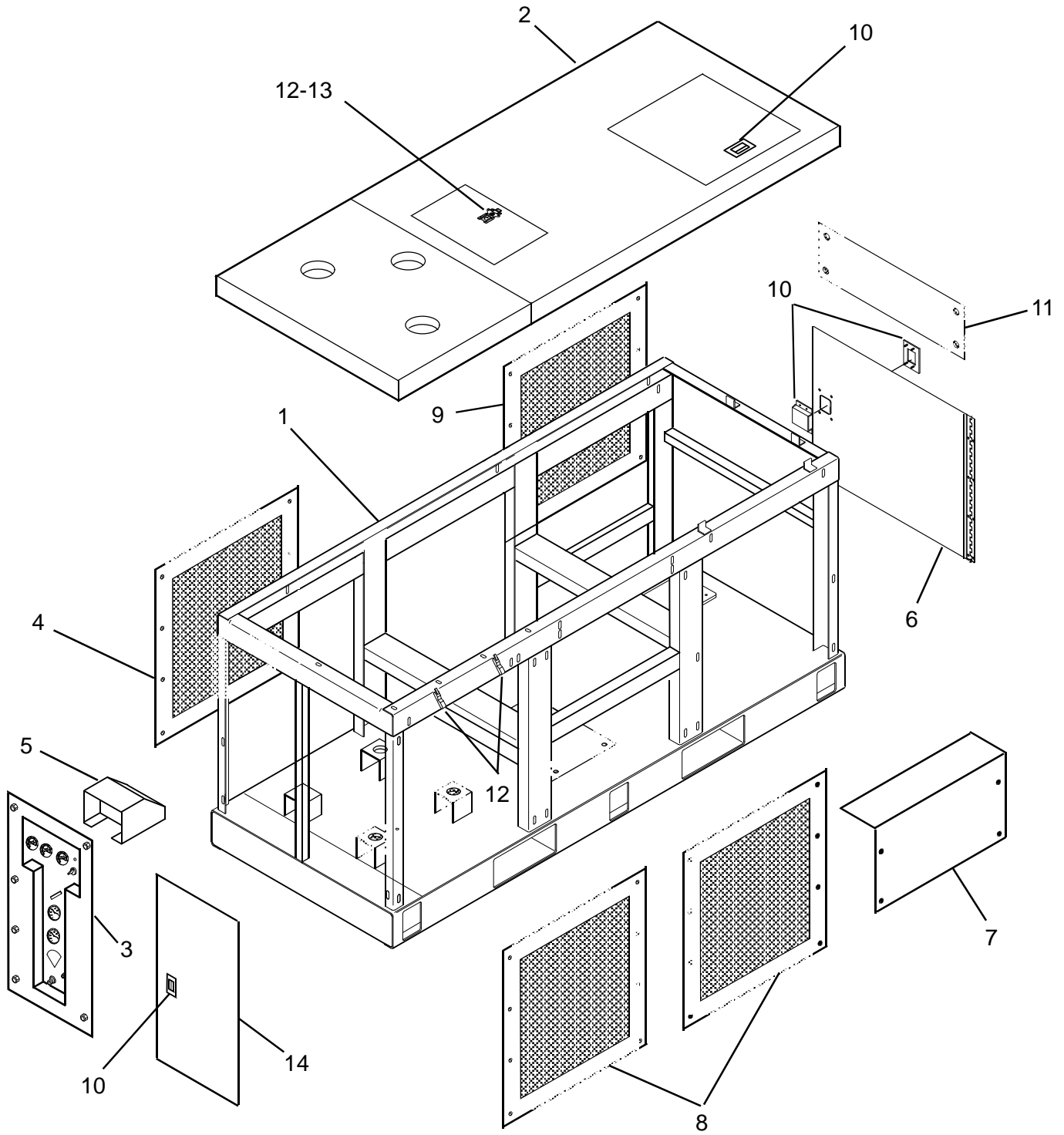


Frame and Shrouding Parts list

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1.....	470398.....	Frame Weldment.....	1
2.....	470414.....	Top Cover Weldment.....	1
3.....	270403.....	Gauge Panel Weldment.....	1
4.....	270408.....	Side Panel Weldment.....	1
5.....	270404.....	Instrument Cluster Bracket.....	1
6.....	270411.....	Banjo Pump Door Weldment	1
7.....	261967.....	Mount Side- Valve Panel.....	1
8.....	270407.....	Side Panel Weldment.....	1
9.....	270422.....	Side Panel Weldment.....	1
10.....	120103.....	Flush - Sliding Latch.....	1
11.....	261966.....	End Panel.....	1
12.....	236-8706-02.....	Rod - Style Latch.....	1
13.....	236-8707-02.....	Rod - Style Keeper.....	1
14.....	370412.....	Hopper Weldment.....	1
15.....	270410.....	Engine-Door Weldment.....	1

NOTE: Serial #'s before # 29

Frame and Shrouding (Start on Serial # 29)

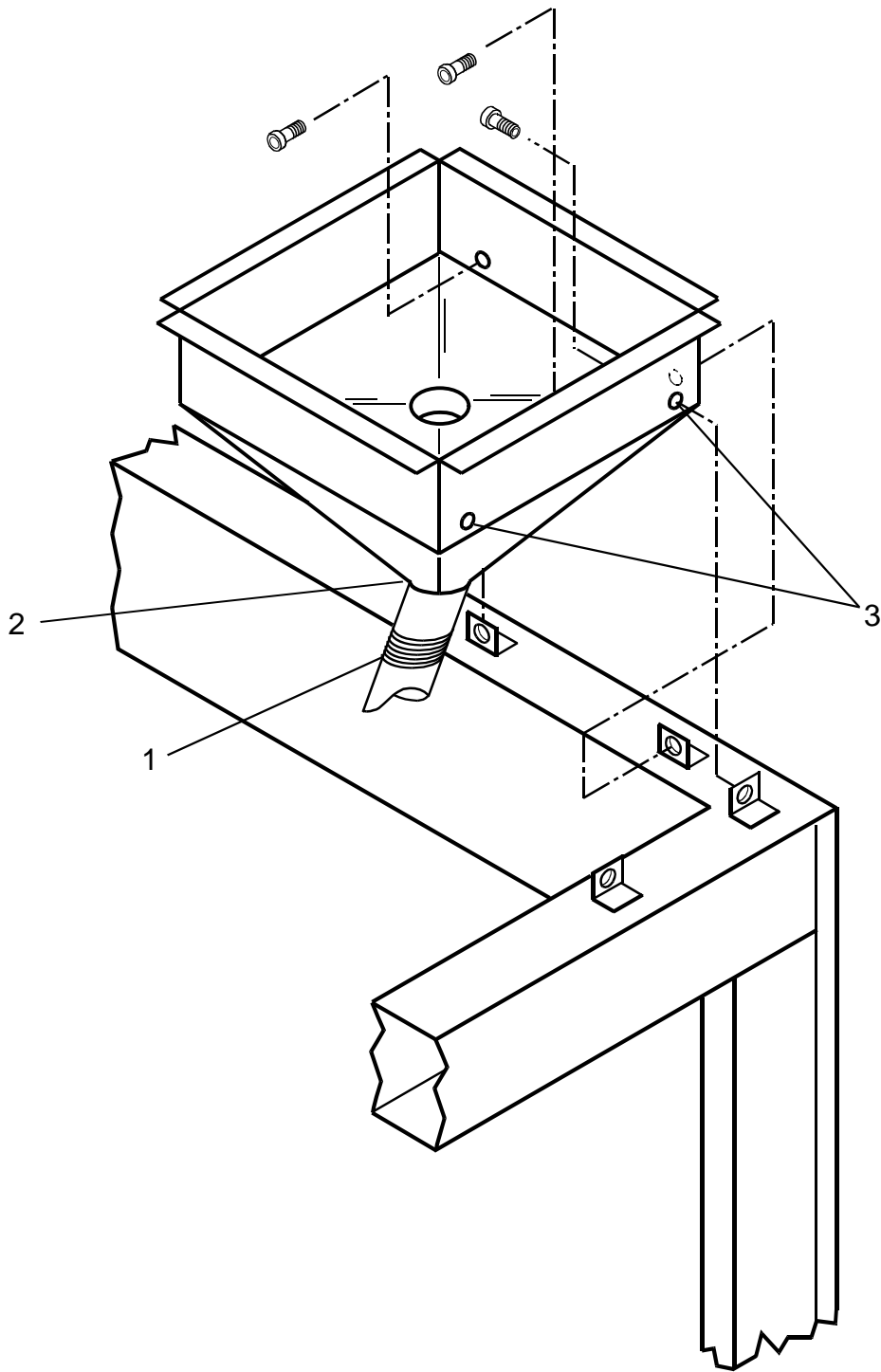


Frame and Shrouding Parts list

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1.....	470398.....	Frame Weldment.....	1
2.....	470414.....	Top Cover Weldment.....	1
3.....	270403.....	Gauge Panel Weldment.....	1
4.....	270408.....	Side Panel Weldment.....	1
5.....	270404.....	Instrument Cluster Bracket.....	1
6.....	270411.....	Banjo Pump Door Weldment	1
7.....	261967.....	Mount Side- Valve Panel.....	1
8.....	270407.....	Side Panel Weldment.....	1
9.....	270422.....	Side Panel Weldment.....	1
10.....	120103.....	Flush - Sliding Latch.....	1
11.....	261966.....	End Panel.....	1
12.....	236-8706-02.....	Rod - Style Latch.....	1
13.....	236-8707-02.....	Rod - Style Keeper.....	1
14.....	270410.....	Engine-Door Weldment.....	1

NOTE: Start on Serial # 29

Hopper Weldment (Serial #'s before # 29)

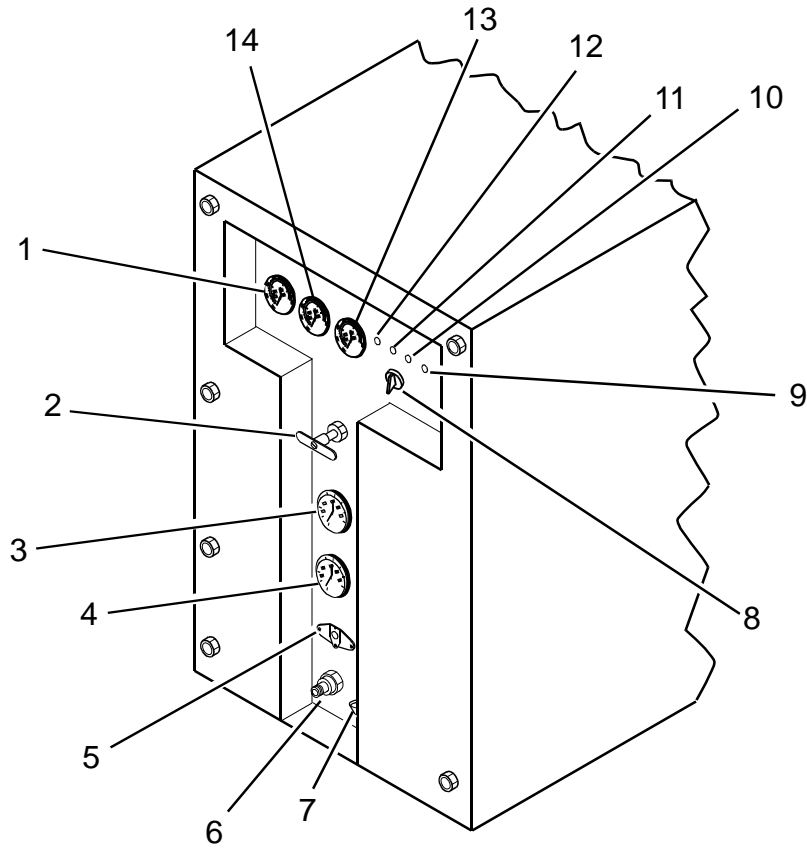


Hopper Weldment Parts list

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1.....	161985.....	Outlet Pipe.....	1
2.....	161984.....	Outlet Plate.....	1
3.....	261981.....	Hopper Side W/Holes.....	1

NOTE: Serial #'s before # 29

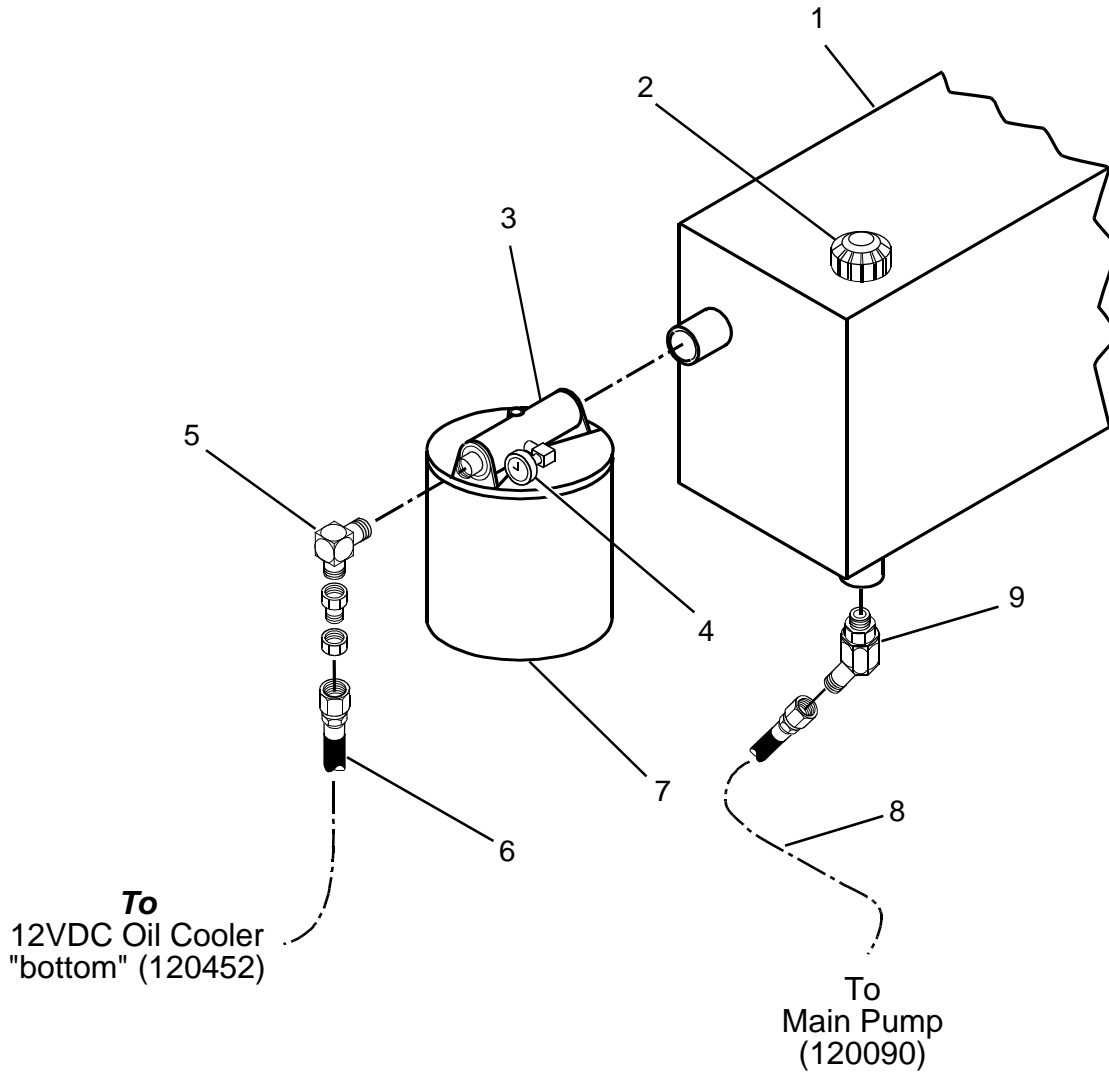
Control Console



Control Console Parts list

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1.....	120909.....	Tachometer.....	1
2.....	120663.....	Engine Throttle Control.....	1
3.....	236-9056-02.....	Hyd. Pump Mud - Pressure Gauge....	1
4.....	236-9056-02.....	Hyd. Mud Mixer - Pressure Gauge....	1
5.....	203-199-02.....	Electrical Umbilical Receptical.....	1
6.....	236-9091-02.....	Drilling Fluid Receptical.....	1
7.....	101-111-02.....	Ground Lug.....	1
8.....	120912.....	Ignition.....	1
9.....	120911.....	Engine Coolant "Overheat" Indicator..	1
10.....	120911.....	Low Engine Oil Pressure Indicator.....	1
11.....	120911.....	Alternator Low Charge Indicator.....	1
12.....	120910.....	Preheat Indicator.....	1
13.....	120908.....	Engine Oil Pressure Gauge.....	1
14.....	120907.....	Engine Coolant Temperature Gauge...	1

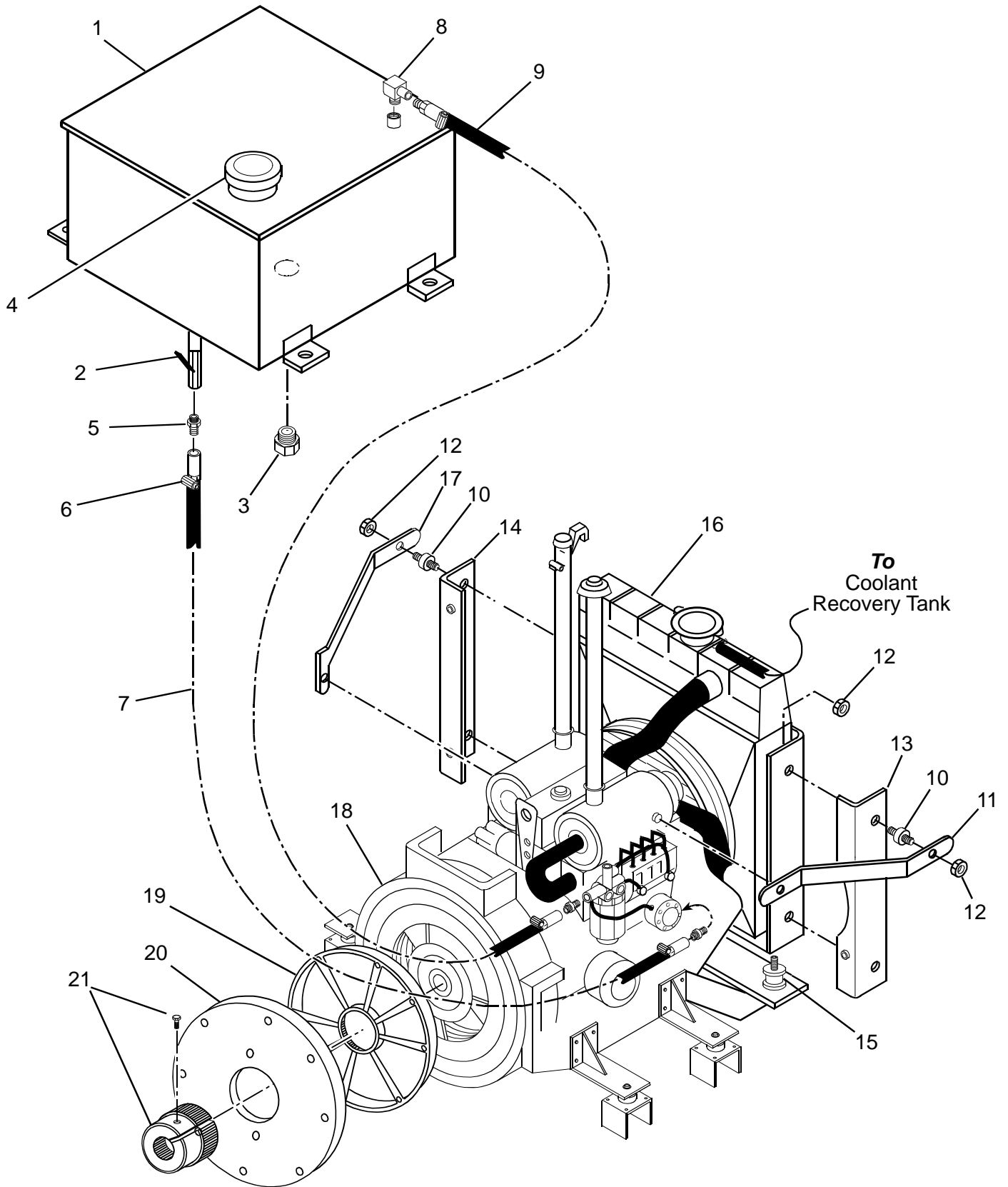
Hydraulic Tank Assembly



Hydraulic Tank Assembly Parts list

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1.....	480208.....	Hydraulic Tank.....	1
2.....	120127.....	Filler Breather.....	1
3.....	120034.....	Filter Head.....	1
4.....	236-8417-02.....	Filter Gauge.....	1
5.....	202-253-02.....	90 Elbow -20MP-16MJ.....	1
6.....	236-9528-04.....	16-16FJX x 51 Hose.....	1
7.....	120018.....	Filter Element.....	1
8.....	236-9596-04.....	20-20FJX x 22 Hose.....	1
9.....	120293.....	45 Elbow -20MJ - 20MP 45.....	1

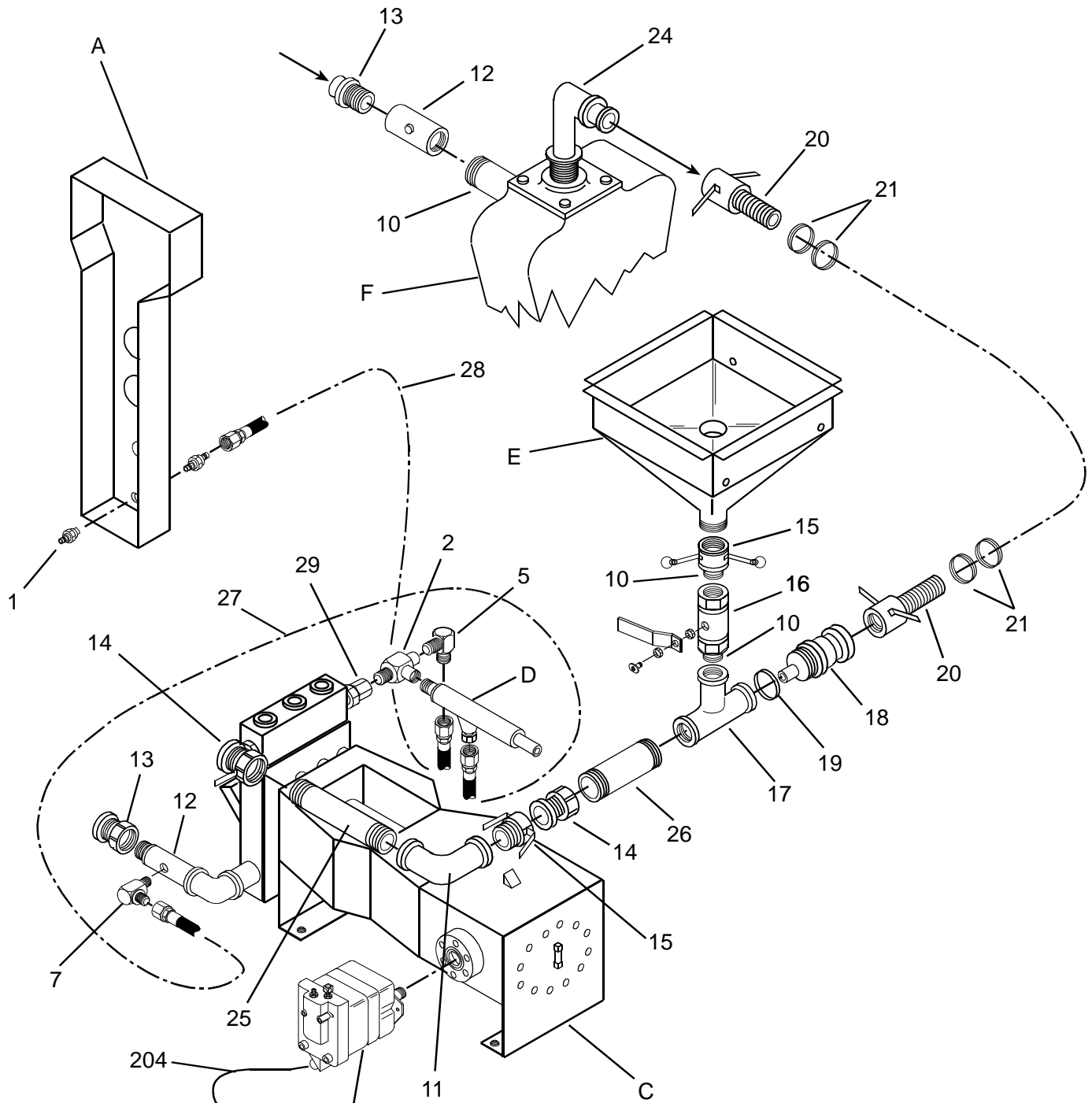
Fuel Tank / Engine Assembly



Fuel Tank / Engine Assembly Parts list

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1.....	470418.....	Tank Weldment.....	1
2.....	236-3074-02.....	Fuel Valve.....	1
3.....	236-4931-02.....	Magnetic Plug - 3/4NPT.....	1
4.....	120099.....	Fuel Cap.....	1
5.....	202-294-02.....	Fitting - 1/4MP.....	2
6.....	701-404-02.....	Hose Clamp #4.....	4
7.....	706-102-02.....	Fuel Hose - 5/6".....	55"
8.....	202-231-02.....	90 Elbow - 4MP -4FP90.....	1
9.....	706-102-02.....	Fuel Hose -5/6" (-5).....	67"
10.....	121101.....	Side Mount, Rubber.....	2
11.....	121102.....	Right Side Engine Bracket.....	1
12.....	3816WHN.....	3/8" Zip Nut.....	2
13.....	121103.....	Right Side Radiator Bracket.....	1
14.....	121104.....	Left Side Radiator Bracket.....	1
15.....	121105.....	Radiator Mount.....	2
16.....	121106.....	Radiator.....	1
17.....	121107.....	Left Side Engine Bracket.....	1
18.....	120517.....	Power Unit Diesel 29.4 HP.....	1
	120541.....	Power Unit Diesel 32 HP.....	1
	120990.....	Power Unit Diesel 33 HP(John Deere	1
19.....	236-1184-02.....	Drive Plate - Nylon.....	1
20.....	120210.....	Mounting Plate - Hydraulic Pump.....	1
21.....	236-1183-02.....	Drive Hub - SEA A 9 Tooth.....	1

Piping - Mud Assembly (Serial #'s before # 29)



FROM
Hyd. Flow Control
Valve Priority
Ref (120094)

Piping - Mud Assembly Parts list

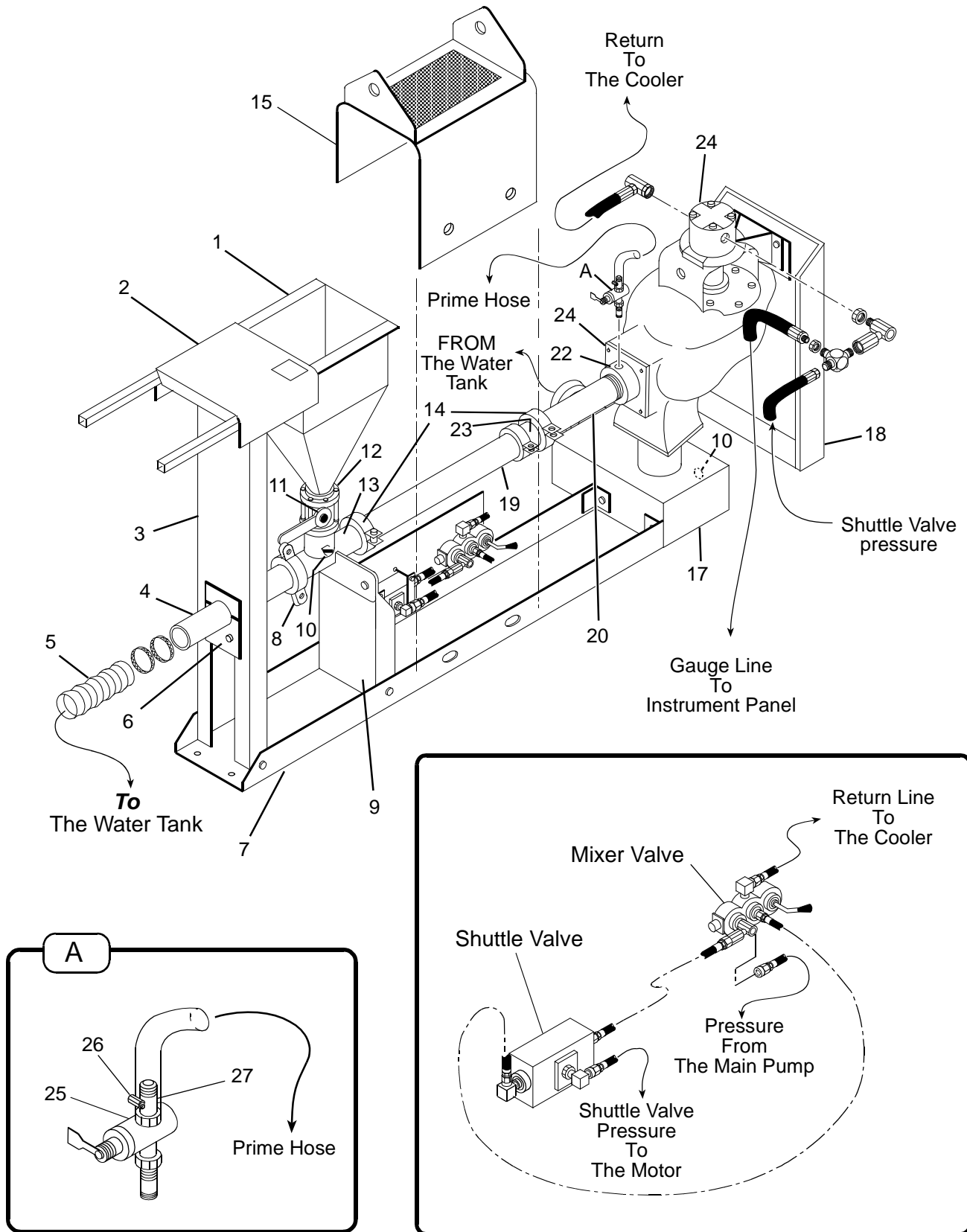
Components

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
A.....	270404.....	Instrument Panel.....	1
B.....	120660.....	Charlynn Hyd. Motor.....	1
C.....	120561.....	FMC Pump.....	1
	FMC3267089.....	Packing-LO618 Mud Pump.....	3
	FMC1101176.....	O'ring 5/8 OD x 1/16-LO618 Mud Pump.....	3
	FMC3265960.....	O'ring 2 13/16 OD 3/32-LO618 Mud Pump.....	3
	FMC3267564.....	Suction Valve Assembly-LO618 Mud Pump.....	6
	FMC3267563.....	Discharge Valve Assembly-LO618 Mud Pump.....	3
D.....	120584.....	Water Relief Valve (Taylor).....	1
	120668.....	Disc & Seat (Taylor).....	1
	203-110-02.....	Relief Valve Mud (Baird).....	1
	203-111-02.....	Sheralloy Ball & Seat (Baird).....	1
	236-4092-02.....	Carbide Ball & Seat (Baird).....	1
E.....	370412.....	Hopper Weldment.....	1
F.....	236-8378-02.....	Banjo Pump.....	1
	236-6249-04.....	Banjo Pump Repair Kit.....	1
	236-6246-02.....	Drive Sleeve - 3/4".....	1
	236-6247-02.....	Impeller.....	1
	236-6248-02.....	Gasket Adapter.....	1
	236-5843-02.....	Seal Assembly.....	1

Fittings

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1.....	236-991-02.....	Valveless Quick Connect.....	1
2.....	202-244-02.....	Tee 16MP-16FPT.....	1
5.....	120304.....	Elbow 90 -12MJ-16MP90.....	1
7.....	202-246-02.....	Elbow 90-8MP-8MJ90.....	1
10.....	236-3755-02.....	Nipple-2" close.....	2
11.....	236-8112-02.....	Pipe Elbow -2"90.....	1
12.....	236-5938-04.....	Drilled Coupling 2".....	2
13.....	236-3757-02.....	Coupler 2" m- Male NPY THD.....	2
14.....	236-6035-02.....	Coupler 2" m- Female NPT THD.....	2
15.....	236-7788-02.....	Coupler 2" fm- Male NPT THD.....	2
16.....	236-7978-02.....	Ball Valve- 2" Brass.....	1
17.....	120052.....	"Y" Branch- 2" NPT.....	1
18.....	261128.....	Flow Nozzle- Mud Mix.....	1
19.....	120319.....	Square O'ring.....	1
20.....	236-3760-06.....	Coupler Female 2" x 2" HB.....	2
21.....	701-436-02.....	Hose Clamp #36.....	4
24.....	236-8619-02.....	Pipe Elbow- 2" 90.....	1
25.....	236-8618-02.....	Pipe nipple- 2" tbe 24".....	1
26.....	120659.....	Pipe nipple-2" x 6" TBE.....	1
27.....	236-8743-04.....	Hose- 8FJX -8FJX x 27".....	1
28.....	236-7766-04.....	Hose- 12FJX-12FJX x 48".....	1
29.....	120661.....	Coupler 2" M x FM NPT/ aluminum.....	1

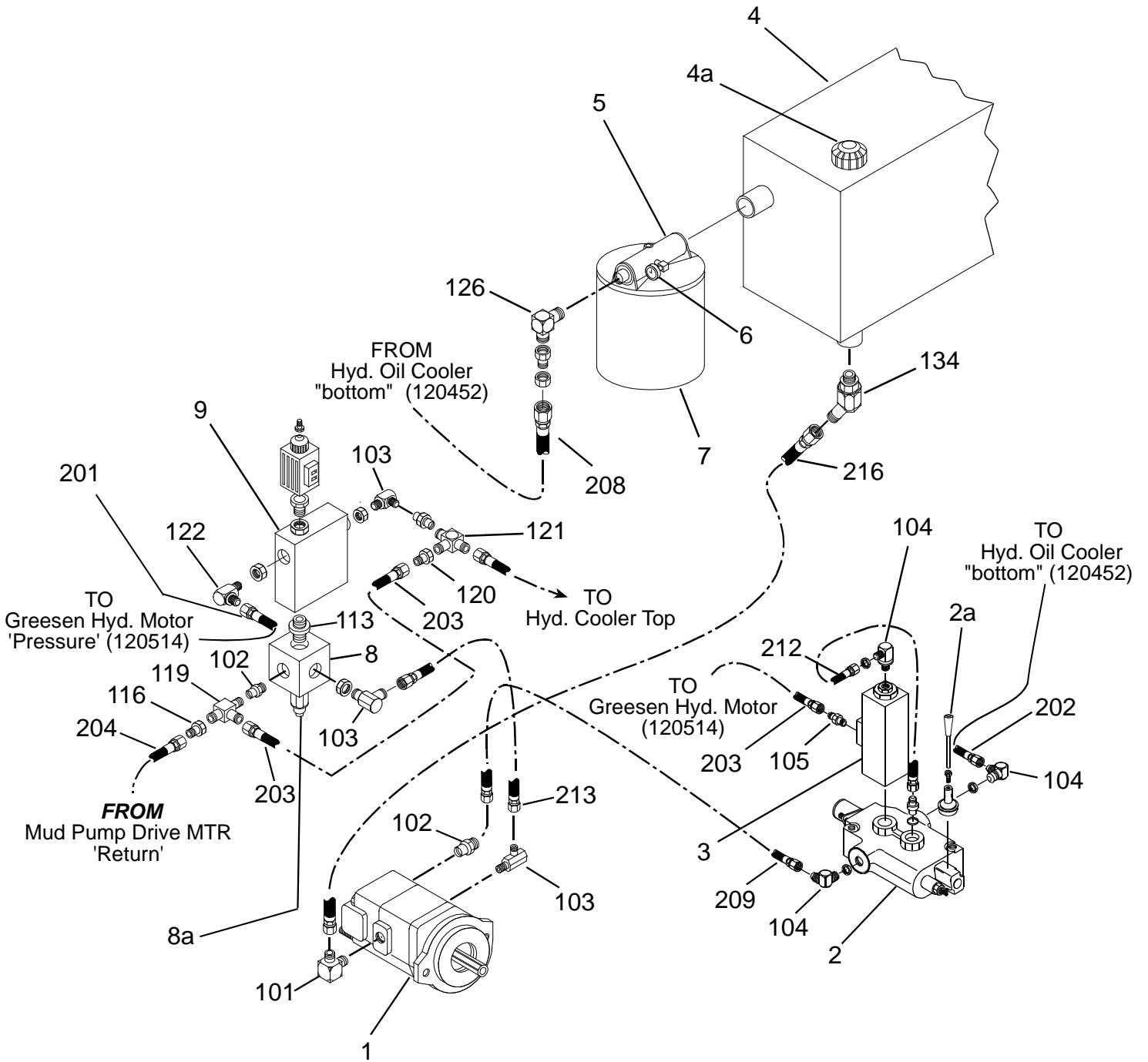
Mud Mixer Assembly (Start on Serial #29)



Mud Mixer Assembly Parts list

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1.....	470492.....	Hopper - Mixer Weldment.....	1
2.....	270493.....	Cover - Mixer Hopper Weldment.....	1
3.....	262373.....	Hopper - Mixxeer Support.....	1
4.....	270494.....	Venturi - 1.50 ID Weldment.....	1
5.....	120964.....	Suction Hose 3" Clear Poly (2.5ft.).....	1
6.....	162382.....	Venturi - Adjustable Support.....	1
7.....	362417.....	Frame - Mixer Bottom Channel.....	1
8.....	120958.....	Steel Coupling 3".....	2
9.....	362416.....	Chamber - Vacuum Support.....	1
10.....	121008.....	Pipe Plug - 1" npt Poly.....	1
11.....	236-5608-02.....	Full Part Valve 3".....	1
12.....	270509.....	Adapter Weldment 3" npt x hopper.....	1
13.....	370499.....	Chamber Weldment - Vacuum.....	1
14.....	120957.....	Steel Coupling 2".....	2
15.....	270508.....	Step Mixer Weldment.....	1
16.....	236-3313-02.....	Anti-Slip Tape 22".....	1
17.....	370497.....	Body - centrifugal Weldment (Intake Manifa).....	1
18.....	270510.....	Mount Weldment Pump.....	1
19.....	270498.....	Jet - Mud Weldment 1.250 Ø.....	1
20.....	162367.....	Tube Conditionar Flow w/3" gruvlock.....	1
21.....	120954.....	Centrifugal -MP Pump Flomax 15 w/motor.....	1
22.....	210047.....	Flange - Out Put Alteration.....	1
23.....	120991.....	Reducer Fitting 2 x 3 grouvlock.....	1
24.....	121000.....	Flange Gasket Outlet MP Pump Flomax 15.....	1
25.....	121007.....	Ball Valve -1/4" fp x 1/4" fp Brass.....	1
26.....	701-404-02.....	Hose Clamp #4.....	1
27.....	121010.....	Hose Barb 3/8" x 1/4 mp Brass.....	1

Hydraulic Assembly - 1



Hydraulic Assembly - 1 Parts list

Components

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1.....	120090.....	Main Pump.....	1
2.....	236-7877-02.....	Control Valve.....	1
2a.....	202-527-02.....	Handle.....	1
3.....	236-8378-02.....	Shuttle Valve.....	1
4.....	480208.....	Hydraulic Tank.....	1
4a.....	120127.....	Filler Breather.....	1
5.....	120034.....	Filter Head.....	1
6.....	236-8417-02.....	Filter Gauge.....	1
7.....	120098.....	Filter Element.....	1
8.....	236-3104-02.....	Relief Valve.....	1
8a.....	236-5866-02.....	Relief Valve Cartridge.....	1
9.....	120094.....	Flow Control Valve.....	1

Hoses

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
201.....	236-8745-04.....	8-8FJX x 61 Hose.....	1
202.....	236-8744-04.....	8-8FJX x 52 Hose.....	1
203.....	236-3322-02.....	8-8FJX x 22 Hose.....	2
204.....	236-6021-04.....	4-4FJX x 90% x 53 Hose.....	1
208.....	236-9528-04.....	16-16FJX x 51 Hose.....	1
209.....	236-1806-04.....	8-8FJX X 90 Hose.....	1
212.....	236-6220-04.....	8-8FJX x 90% x 35 Hose.....	1
213.....	236-9595-04.....	12-12FJX x 72 Hose.....	1
216.....	236-9596-04.....	20-20FJX x 22 Hose.....	1

Fittings

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
101.....	120293.....	90 Elbow 24MB-20MJ90.....	1
102.....	202-217-02.....	Straight Adapter- 12MB-8MJ.....	2
103.....	202-219-02.....	90 Elbow-12MB-12MJ90.....	3
104.....	202-953-02.....	90 Elbow-8MB-8MJ90.....	3
105.....	202-946-02.....	Straight Adapter - 8MB-8MJ.....	1
107.....	236-1784-02.....	Straight Adapter- 6MB-8MJ.....	1
113.....	236-4110-02.....	Staight Adapter 12MB-12MB.....	3
115.....	202-209-02.....	Tee Run 8FJX x 8MJ x 8MJ.....	1
116.....	236-1043-02.....	Straight Adapter-4MJ-8FJ.....	2
120.....	202-937-02.....	Straight Adapter-8MJ-12FJ.....	3
121.....	202-950-02.....	Tee-12MJ-12FJX-12MJT.....	2
122.....	202-218-02.....	Straight Adapter-12MB-8MJ90.....	1
126.....	202-253-02.....	90 Elbow - 20MP-16MJ.....	1
134.....	120293.....	45 Elbow -20MJ-20MP45.....	1

Hydraulic Assembly - 2 Parts list

Components

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1.....	236-8378-02.....	Banjo Hydraulic Pump.....	1
2.....	120514.....	Greesen Hydraulic Motor.....	1
3.....	120094.....	Flow Control Valve.....	1
4.....	236-3104-02.....	Relief Valve.....	1
5.....	120660.....	Charlynn Hydraulic Motor.....	1
6.....	120453.....	12VDC Oil Cooler.....	1
7.....	236-7877-02.....	Control Valve.....	1
8.....	236-8378-02.....	Shuttle Valve.....	1
9.....	121096.....	Cartridge.....	1
10.....	121097.....	Coil.....	1

Hoses

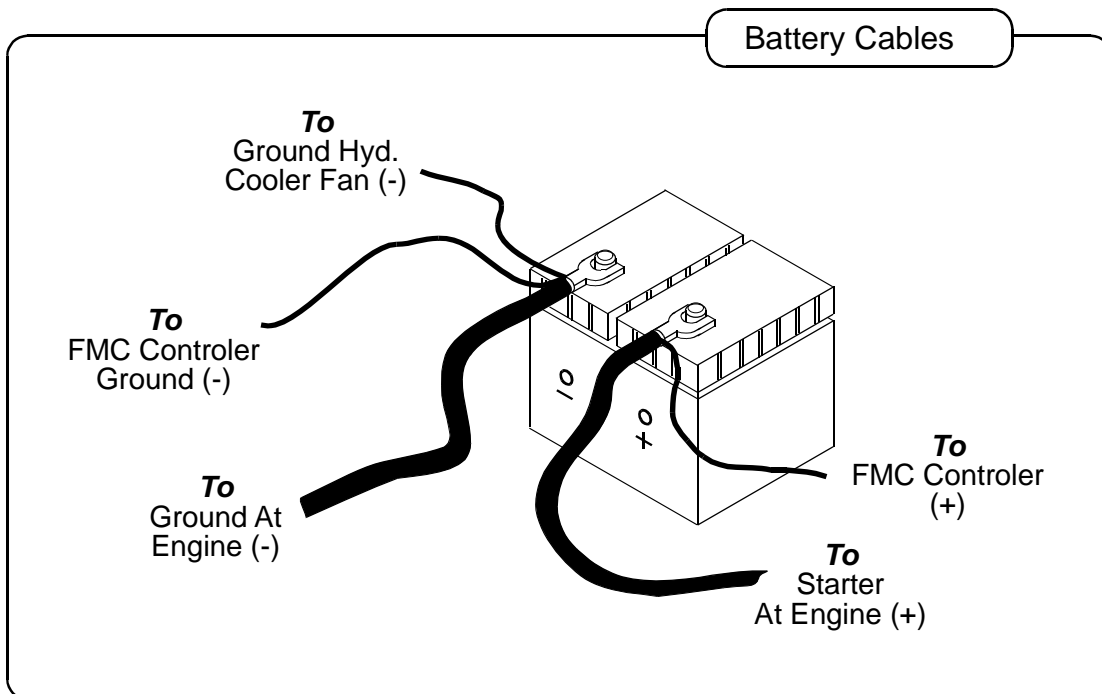
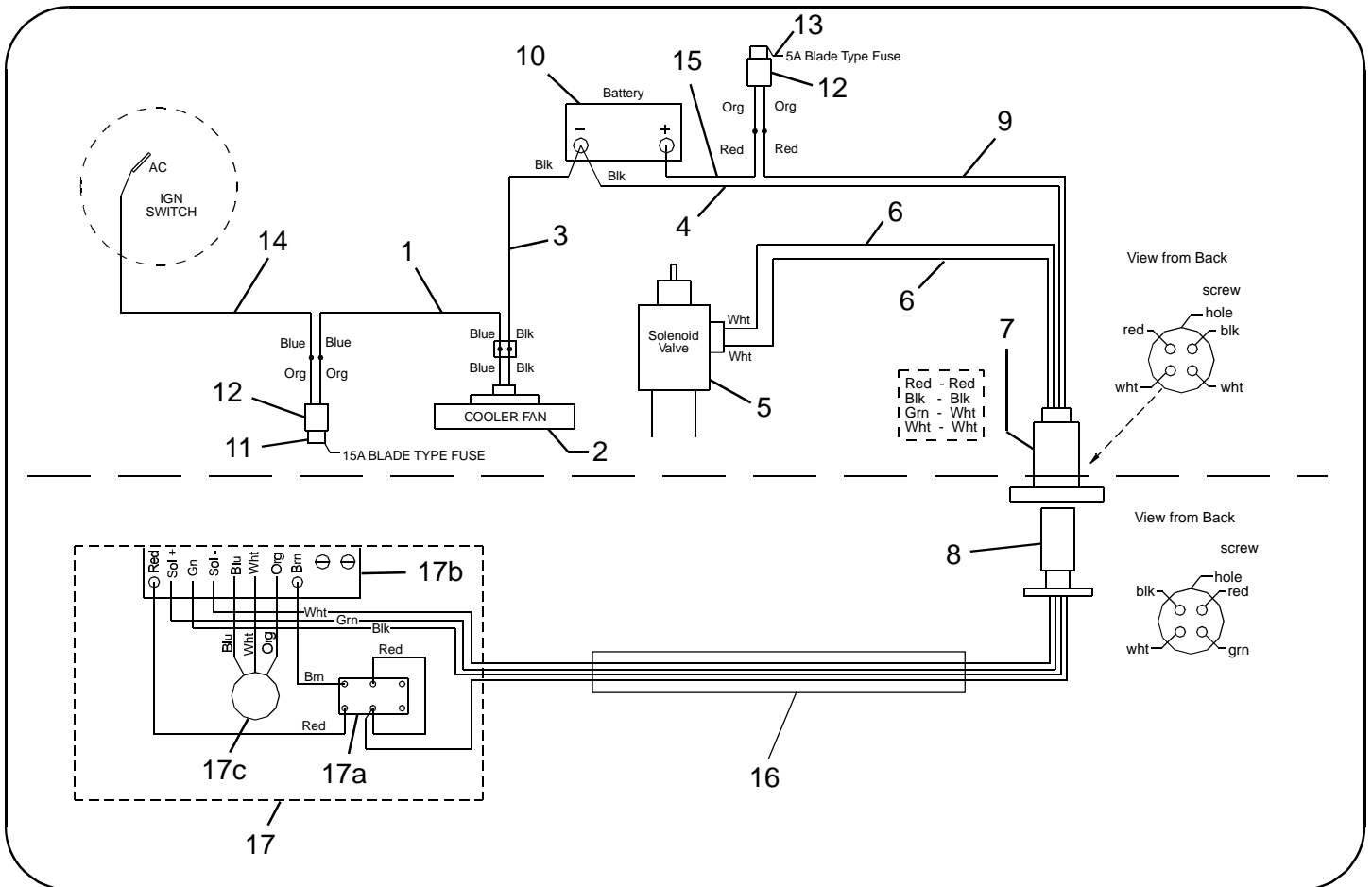
<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
201.....	236-8745-04.....	8-8FJX-8-8FJX x 61".....	1
202.....	236-8744-04.....	8-8FJX-8-8FJX x 52".....	1
203.....	236-3322-02.....	8-8FJX-8-8FJX x 22".....	2
204.....	236-6021-04.....	4-4FJX -4-4FJX90 x 53".....	1
205.....	236-7766-04.....	12-12FJX-12-12FJX x 48".....	1
206.....	236-3324-02.....	8-8FJX-8-8FJX x 24".....	1
208.....	236-9528-04.....	16-16FJX-16-16FJX x 51".....	1
209.....	236-1806-04.....	8-8FJX-8-8FJX x 90".....	1
212.....	236-6220-04.....	8-8FJX-8-8FJX90 x 35".....	1
214.....	236-7439-04.....	8-8FJX-8-8FJX x 41".....	1

Fittings

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
104.....	202-953-02.....	90 Elbow-8MB-8MJ90.....	5
106.....	120684.....	Check Valve.....	1
108.....	236-3305-02.....	Straight Adapter-8MJ-16FJ.....	1
109.....	202-939-02.....	Tee 16Mj-16FJX-16MJT.....	1
119.....	202-209-02.....	Tee 8MJ-8FJX-8MJT.....	3
120.....	202-937-02.....	Straight Adapter-8MJ-12FJ.....	3
121.....	202-950-02.....	Tee 12MJ-12FJX-12MJT.....	2
123.....	202-279-02.....	90 Elbow-10MB-8MJ90.....	1
124.....	120304.....	90 Elbow-12MJ-16MP90.....	2
125.....	202-249-02.....	90 Elbow-16MJ-16MP90.....	1

NOTE: Serial #'s before # 29

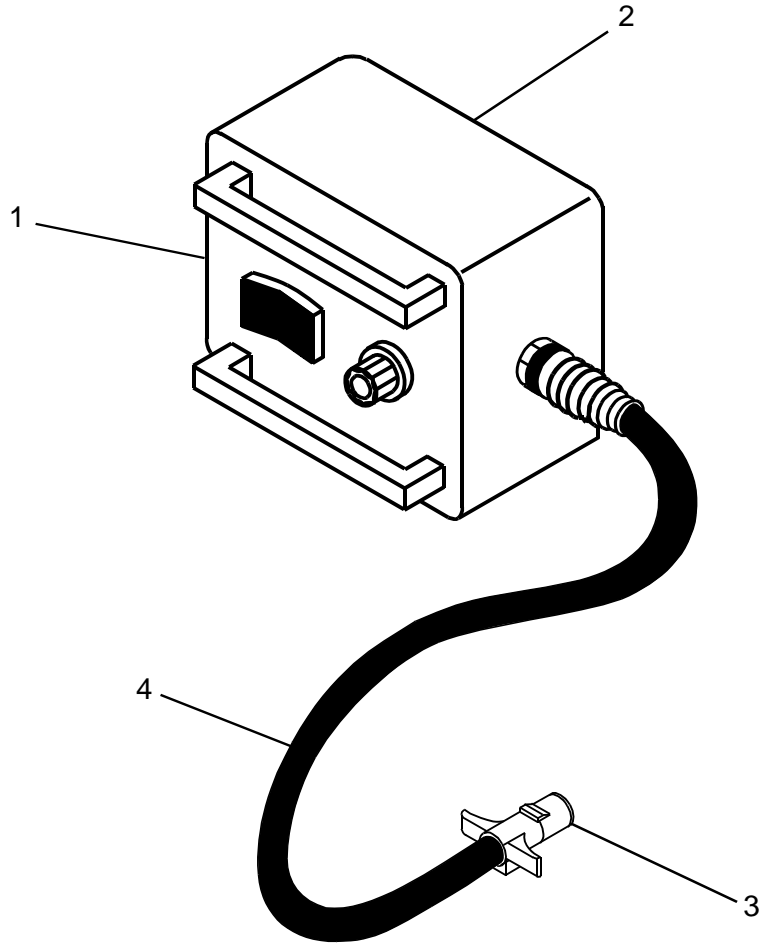
Electrical Wiring Assembly



Electrical Wiring Assembly Parts list

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1.....	236-1698-02.....	Stranded Wire - Blue-14 ga.....	72"
2.....	120453.....	Oil Cooler - 12 VDC.....	ref
3.....	236-1697-02.....	Stranded Wire - Black -14 ga.....	30"
4.....	236-1697-02.....	Stranded Wire - Black -14 ga.....	110"
5.....	120094.....	Flow Control Valve	ref
6.....	236-1700-02.....	Stranded Wire - White -14 ga.....	64"
7.....	203-199-02.....	Electrical Receptacle - 4/wire female	ref
8.....	203-198-02.....	Electrical Receptacle - 4 wire mal.....	ref
9.....	236-1699-02.....	Stranded Wire - Red -14.....	126"
10.....	236-5319-02.....	Battery - 12 Volt.....	ref
11.....	120708.....	ATC-15 amp Fuse.....	1
12.....	236-5841-02.....	FuseHolder.....	2
13.....	120707.....	ATC -5 amp Fuse.....	1
14.....	236-1698-02.....	Stranded Wire - Blue - 14 ga.....	13"
15.....	236-1699-02.....	Stranded Wire - Red - 14 ga.....	96"
16.....	120238.....	Cable, 14/4 Rubber Jacket.....	100'
17.....	380092.....	Mud Controller.....	1
17a.....	120797.....	Mud Control Rocker Switch.....	ref
17b.....	120798.....	Mud Control Module.....	ref
17c.....	120796.....	Mud Control Potentiometer.....	ref

Controller Assembly

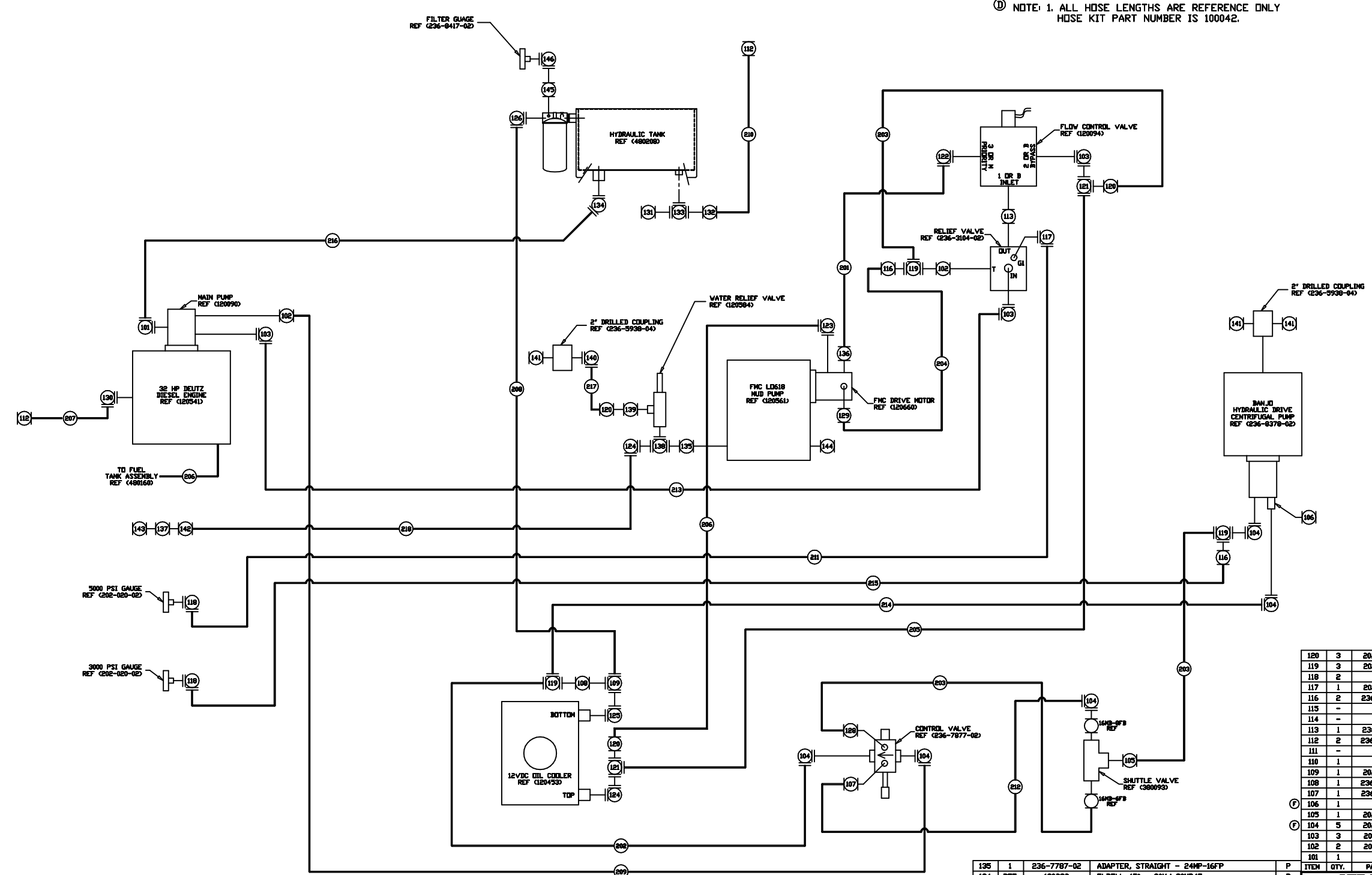


Controller Assembly Parts list

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1.....	380092.....	Controller Assembly.....	1
2.....	120095.....	Mud Pump Control Module.....	1
3.....	203-198-02.....	Electrical Plug - 4 Wire Male.....	1
4.....	120238.....	Electrical Cable - 100'.....	1

REV	REVISION
A	ITEMS 109, 104 WERE QTY 2, DELETED 106 (120296), 107 WAS QTY 1, ADDED 127 & 128. 4/9/97 SS
B	ADDED ITEM 129. C. JAMES 5/15/97
C	ITEM 1 WAS 120296, 102 WAS QTY 2, ADDED ITEM 130, DELETED ITEMS 111, 107 WAS QTY 3, 123 WAS QTY 4, 103 WAS QTY 1, 105 WAS QTY 2, 127 (202-215-02), 129 (202-231-02), ITEM 216 WAS 236-8742-02, 207 WAS QTY 1, 208 WAS 236-9529-04, 209 WAS 230-2300-02, 214 WAS QTY 2, DELETED ITEMS 217 (236-9591-04), 218 (236-3277-02), 7/18/97 SS
D	REVISED TO SHOW CURRENT ASSEMBLY CHANGES, CORRECTED HOSE DESCRIPTIONS & LENGTHS & ADDED NOTE 9/19/97 GMR
E	REVISED TO SHOW CURRENT FITTING CHANGES, ITEM 205 WAS QTY 2, ADDED ITEM 218. 10/2/97 SS
F	ADDED ITEM 218. 10/2/97 SS
	ITEM 104 WAS QTY 3, ADDED ITEM 106, UPDATED PER CHANGE TO ITEM 216, CHANGED ITEMS 131-134 TO REF'S. 12/10/97 SS

NOTE 1. ALL HOSE LENGTHS ARE REFERENCE ONLY
HOSE KIT PART NUMBER IS 100042.



ITEM	QTY.	PART NO.	DESCRIPTION	M/P	ITEM	QTY.	PART NO.	DESCRIPTION	M/P	ITEM	QTY.	PART NO.	DESCRIPTION	M/P
218	1	236-9604-04	HOSE, 12-12F JX, 12-12F JX X 53'	M	210	1	236-3521-02	HOSE, 8-8F JX, 8-8F JX X 48'	M	146	1	120720	ELBOW, 90° - 2FP-2FP90	P
217	1	236-4371-04	HOSE, 8-8F JX, 8-8F JX X 31'	M	209	1	236-1806-04	HOSE, 8-8F JX, 8-8F JX X 90'	M	145	1	236-5607-02	ADAPTER, NIPPLE - 2MP-2MP	P
216	1	236-9610-04	HOSE, 20-20F JX, 20-20F JX X 36'	M	208	1	236-9528-04	HOSE, 16-16F JX, 16-16F JX X 51'	M	144	1	202-275-02	PLUG, 24MP	P
215	1	236-9540-04	HOSE, 4-4F JX, 4-4F JX X 80'	M	207	1	236-7159-04	HOSE, 8-8F JX, 8-8F JX X 19'	M	143	1	236-9091-02	COUPLER, MALE-3/4 NPT VALVELESS	P
214	1	236-7439-04	HOSE, 8-8F JX, 8-8F JX X 41'	M	206	1	236-3324-02	HOSE, 8-8F JX, 8-8F JX X 24'	M	142	1	202-206-02	NUT, LOCK-- -12	P
213	1	236-9595-04	HOSE, 12-12F JX, 12-12F JX X 72'	M	205	1	236-7766-04	HOSE, 12-12F JX, 12-12F JX X 48'	M	141	3	236-5997-02	PLUG, 6MP	P
212	1	236-6220-04	HOSE, 8-8F JX, 8-8F JX X 35'	M	204	1	236-6021-04	HOSE, 4-4F JX, 4-4F JX X 53'	M	140	1	202-246-02	ELBOW, 90° - 8MJ-8MP90	P
211	1	236-7497-04	HOSE, 4-4F JX, 4-4F JX X 65-1/2'	M	203	2	236-3322-02	HOSE, 8-8F JX, 8-8F JX X 22'	M	139	1	202-298-02	ADAPTER, STRAIGHT - 12MJ-16MP	P
					202	1	236-8744-04	HOSE, 8-8F JX, 8-8F JX X 52'	M	138	1	202-244-02	TEE, 16MP-16FP-16FP	P
					201	1	236-8745-04	HOSE, 8-8F JX, 8-8F JX X 61'	M	137	1	202-204-02	ADAPTER, STRAIGHT - 12MJ, 12MP	P
					201	1	236-8745-04	HOSE, 8-8F JX, 8-8F JX X 61'	M	136	1	202-215-02	ADAPTER, STRAIGHT - 10MB-8MJ	P

120	3	202-937-02	ADAPTER, STRAIGHT - 8MJ-12FJ	P
119	3	202-209-02	TEE, 8MJ-8F JX-8MJT	P
118	2	120294	ELBOW, 90° - 4MJ-4FP90	P
117	1	202-908-02	ELBOW, 90° - 4MB-4MJ90	P
116	2	236-1043-02	ADAPTER, STRAIGHT - 4MJ-8FJ	P
115	-	-	-	-
114	-	-	-	-
113	1	236-4110-02	ADAPTER, STRAIGHT - 12MB-12MB	P
112	2	236-8806-02	PLUG, 8MJ	P
111	-	-	-	-
110	1	-	-	-
109	1	202-939-02	TEE, 16MJ-16FJX-16MJT	P
108	1	236-3305-02	ADAPTER, STRAIGHT - 8MJ-16FJ	P
107	1	236-1784-02	ADAPTER, STRAIGHT - 6MB-8MJ	P
106	1	120684	VALVE, CHECK	P
105	1	202-946-02	ADAPTER, STRAIGHT - 8MB-8MJ	P
104	5	202-953-02	ELBOW, 90° - 8MB-8MJ90	P
103	3	202-219-02	ELBOW, 90° - 12MB-12MJ90	P
102	2	202-217-02	ADAPTER, STRAIGHT - 12MB-8MJ	P
101	1	120295	ELBOW, 90° - 24MB-28MJ90	P
ITEM	QTY.	PART NO.	DESCRIPTION	M/P

STRAIGHTLINE MANUFACTURING, INC.
1450 S. SPENCER NEWTON, KANSAS 67114

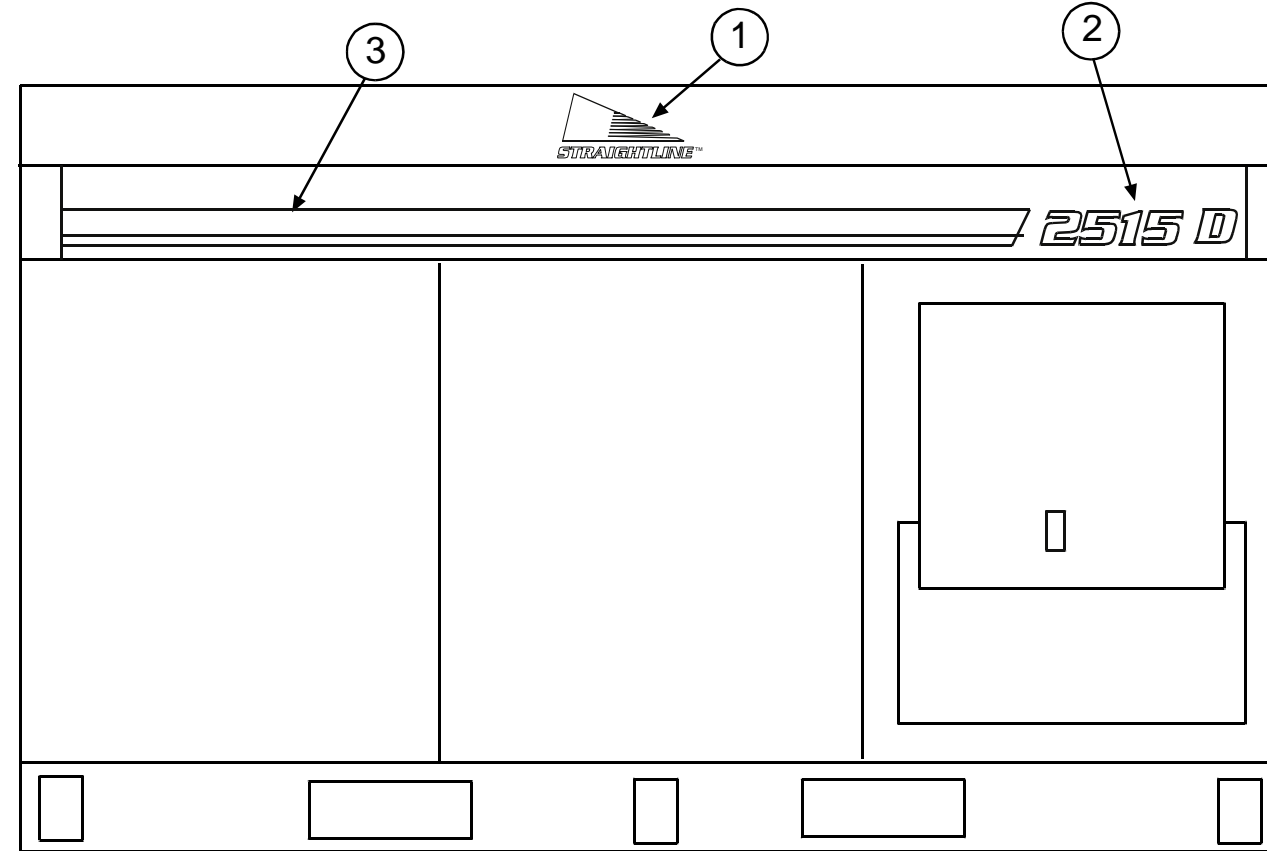
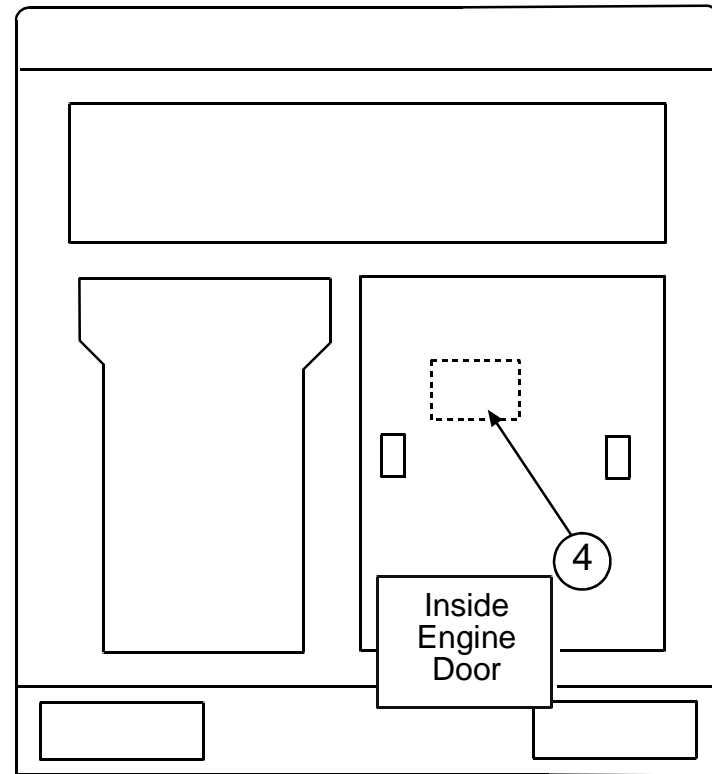
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DRAWN: S.SAUERWEIN 7/16/97
CHECK: []
PROJECT: 2515D
TITLE: ASSEMBLY, HYDRAULICS
REV: F

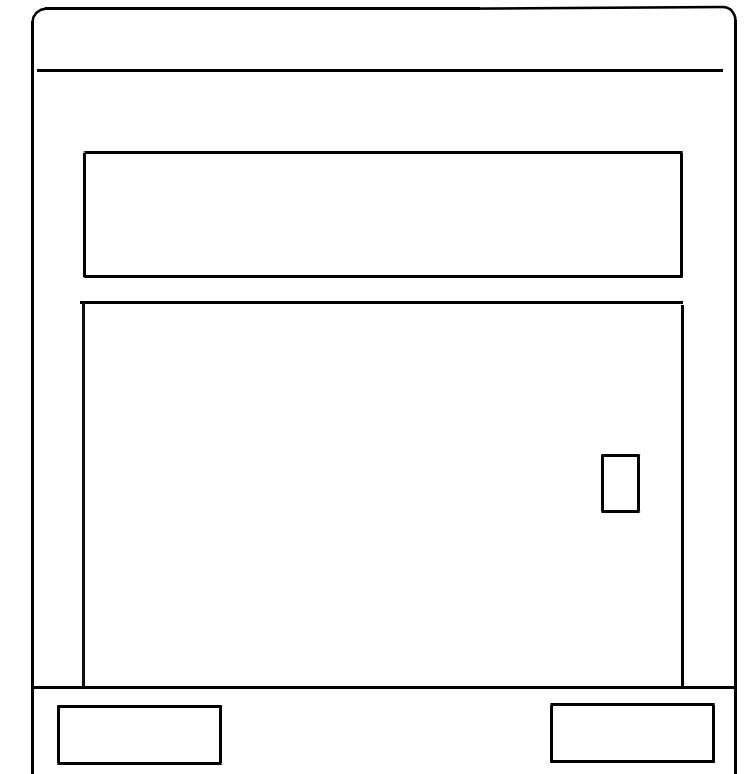
10 NOT SCALE PRINT
BREAK ALL SHARP EDGES
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ARE:

ANGULAR	DECIMALS	NEXT ASSEMBLY	480197	QTY: 1
MACHINED ± 0.005	0.0005	SCALE	NONE	SHEET 1 OF 1
FORMED ± 2°	0.0025			

View from Engine End

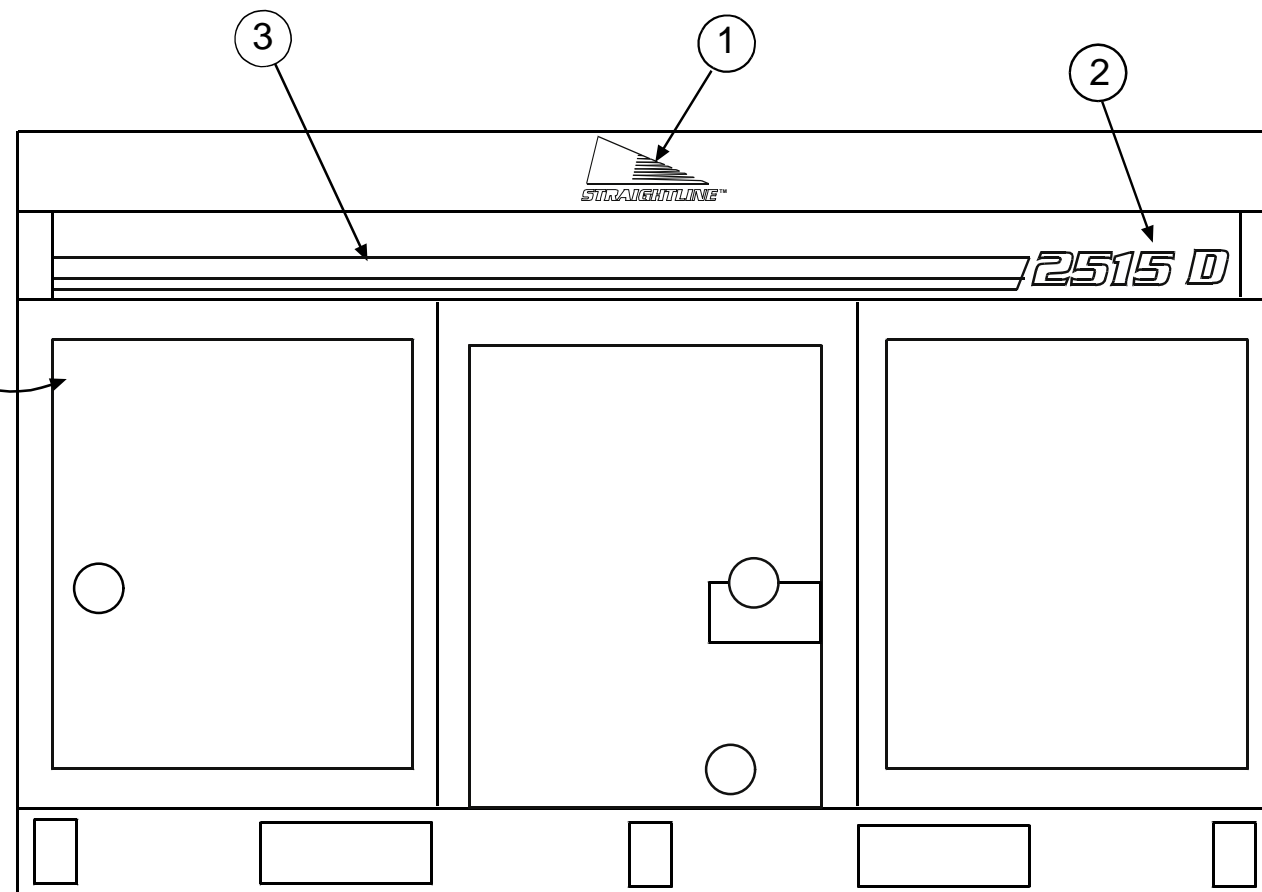


View from Front Side



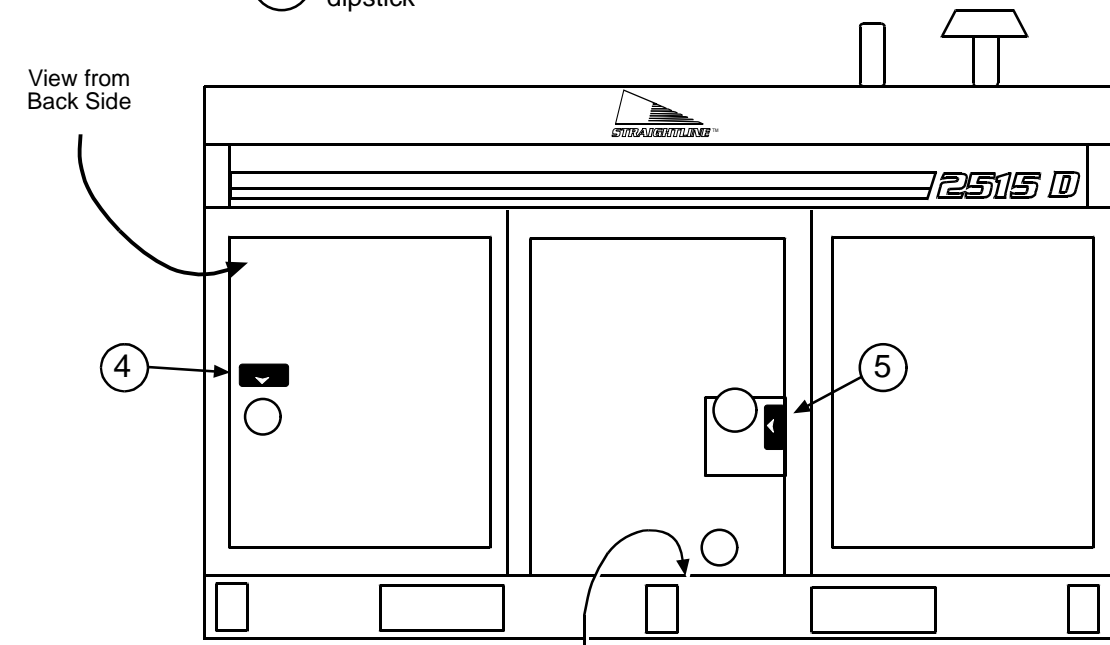
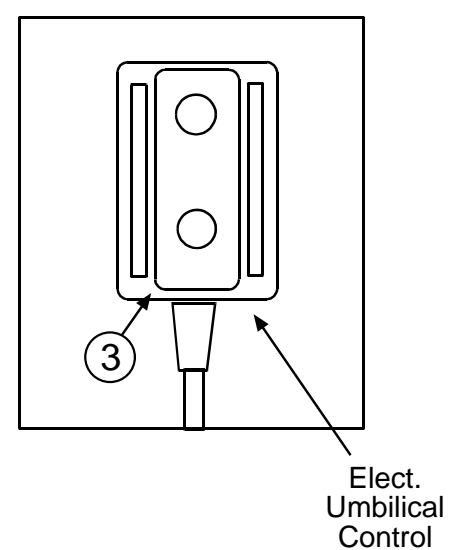
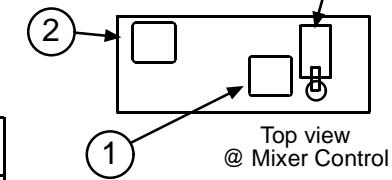
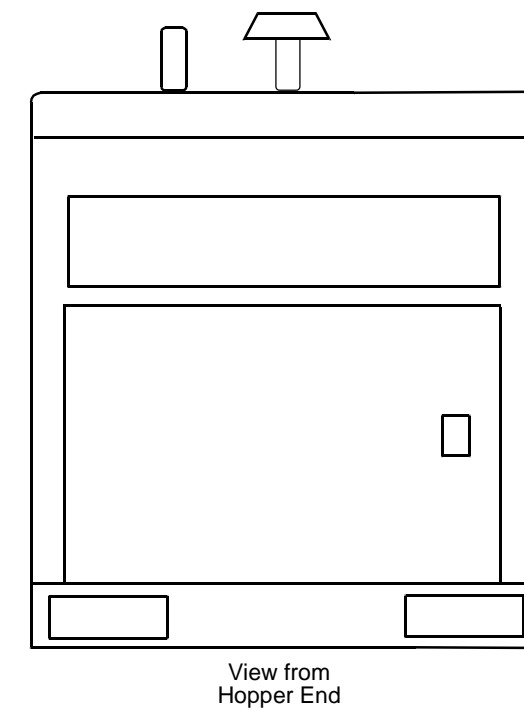
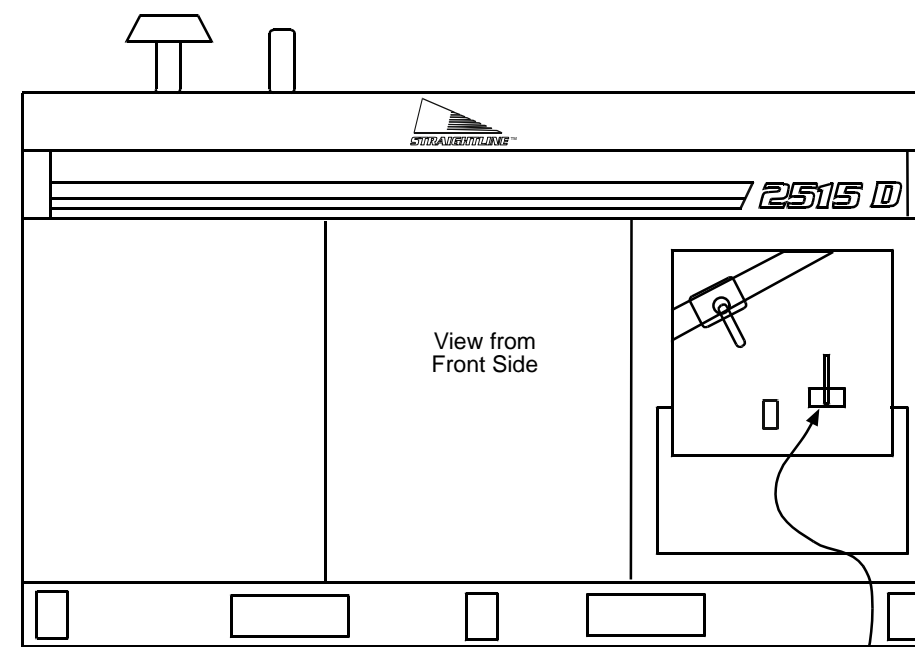
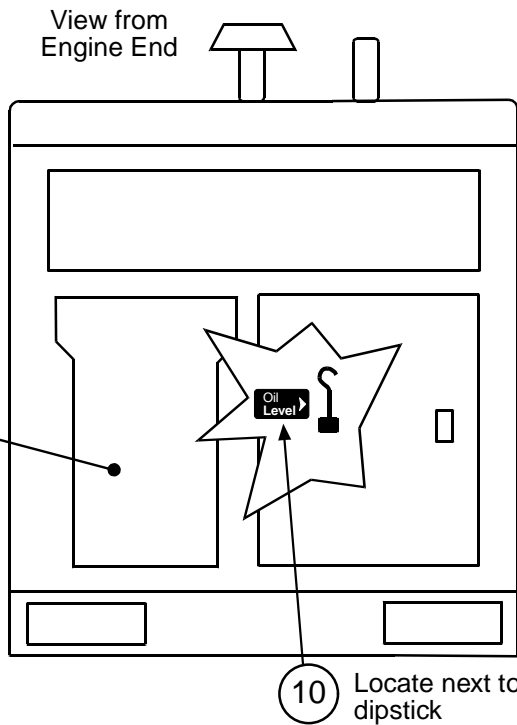
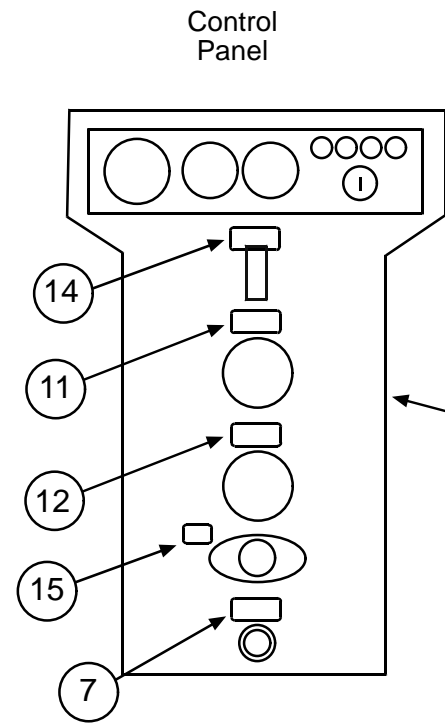
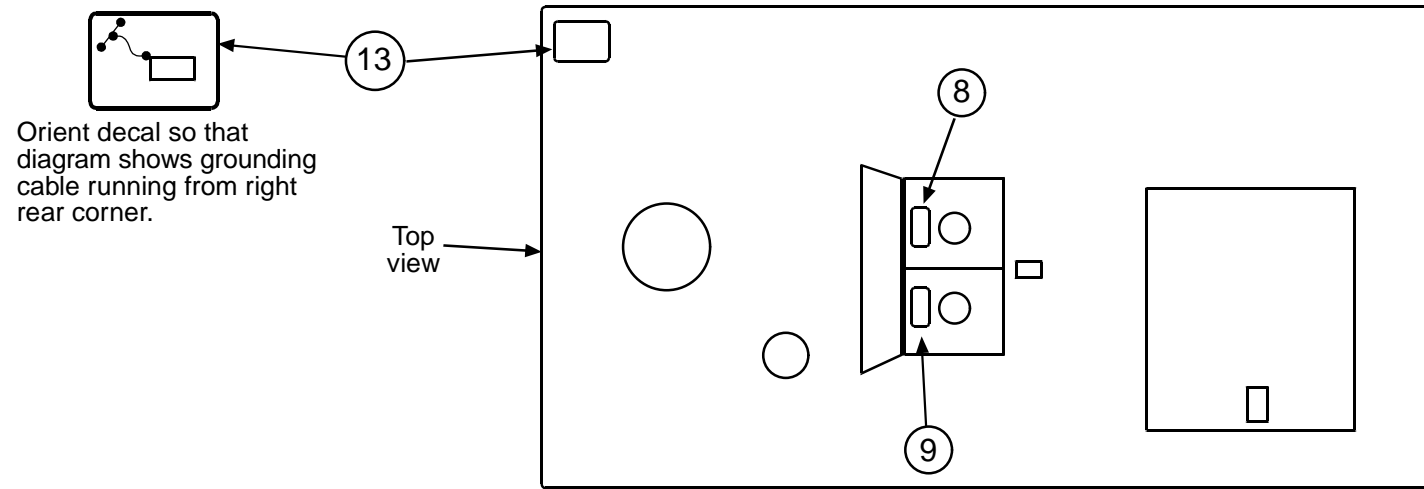
View from Hopper End

View from Back Side



Assembly, Decals-Image

Item	Part Number	Description	Qty
	280184.....	Image Decal Kit.....	ref
1.....	236-9443-02.....	Straightline Logo 4" x 8.5".....	2
2.....	220598.....	Model 2515D.....	2
3.....	161858.....	Blue/White stripe x 62".....	2
4.....	750-114-02.....	US Flag.....	1

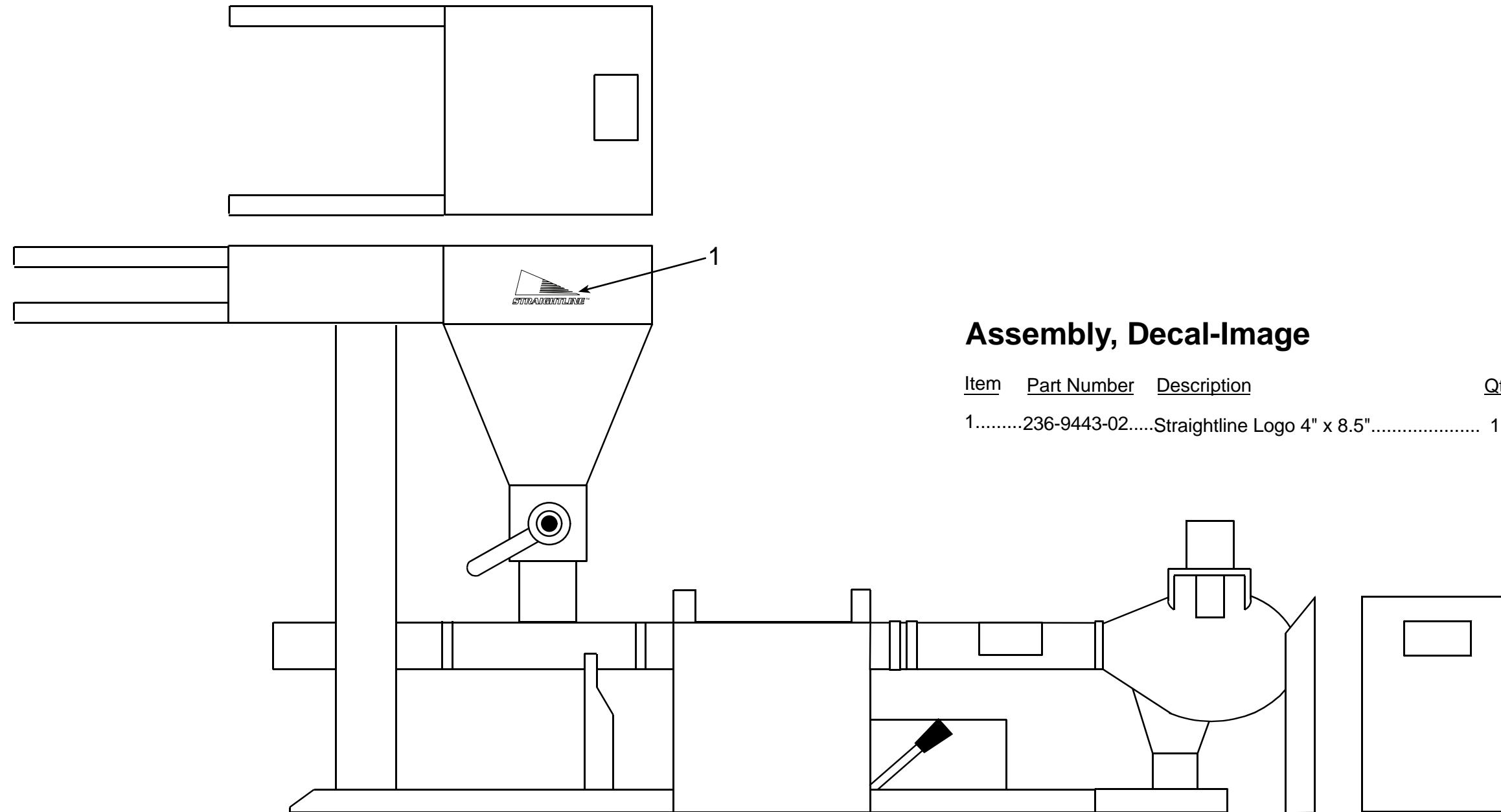


6 Place on flat surface. Point to pipe.

Assembly, Decals-Operation

Item	Part Number	Description	Qty
	280185	Operation Decal Kit	ref
1	120270	Mixer Control Valve	1
2	120271	Mixing Valve	1
3	120272	Mud Pump Flow Control	1
4	120273	Mud Mixer Inlet	1
5	120274	Mud Mixer Outlet	1
6	120275	Mud Pump Inlet	1
7	120276	Mud Pump Outlet	1
8	120277	Hydraulic Oil Fill	1
9	750-116-02	Diesel Fuel Only	1
10	120279	Check Engine Oil Level	1
11	120280	Hydr. Pressure @ Mud Pump	1
12	120281	Hydr. Pressure @ Mud Mixer	1
13	120485	Grounding Cable Diagram	1
14	120486	Throttle Control	1
15	120458	Electrical Umbilical	1

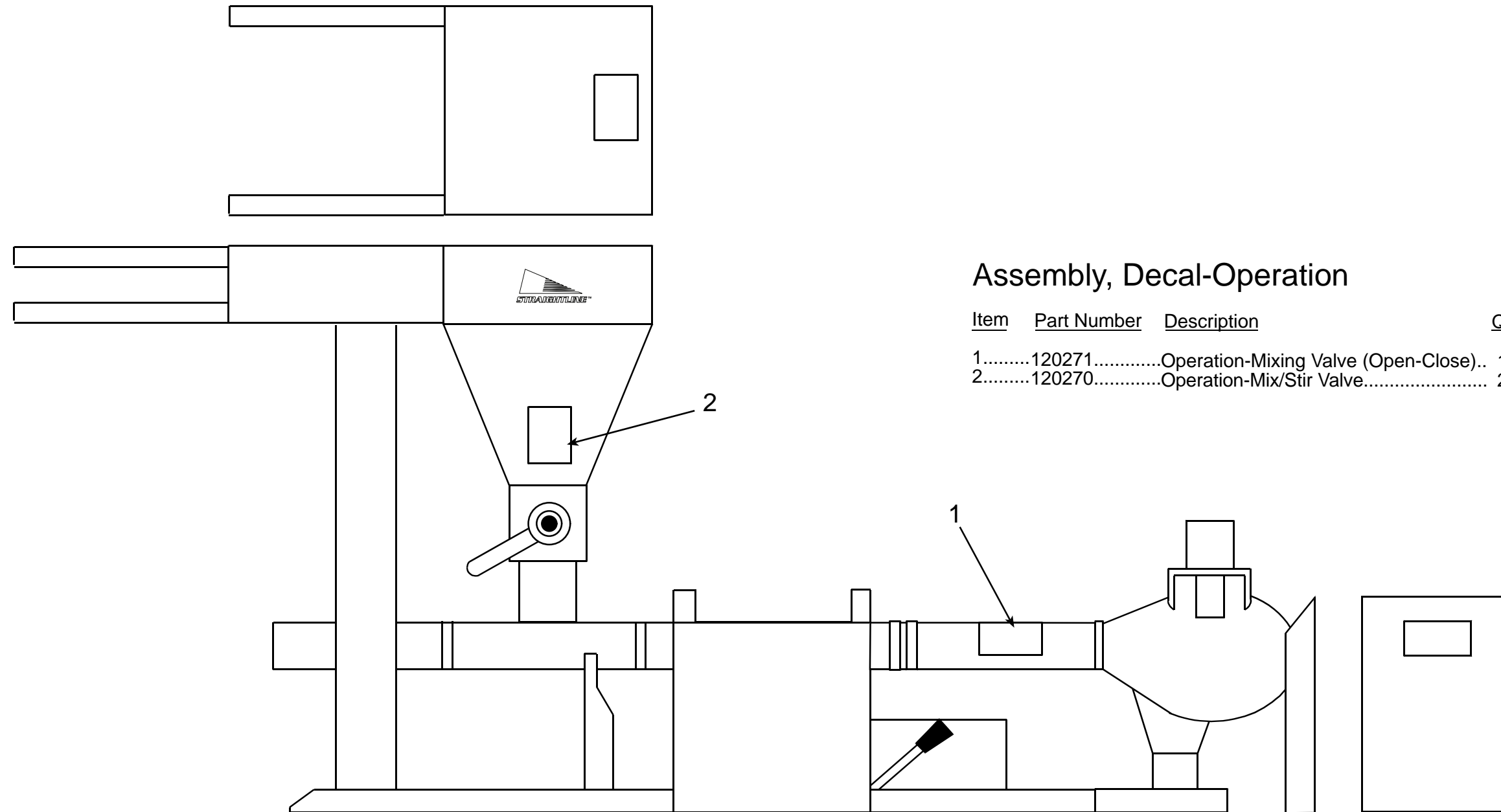
IMAGE
Mud Mixer - 2515D



Assembly, Decal-Image

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1.....	236-9443-02.....	Straightline Logo 4" x 8.5".....	1

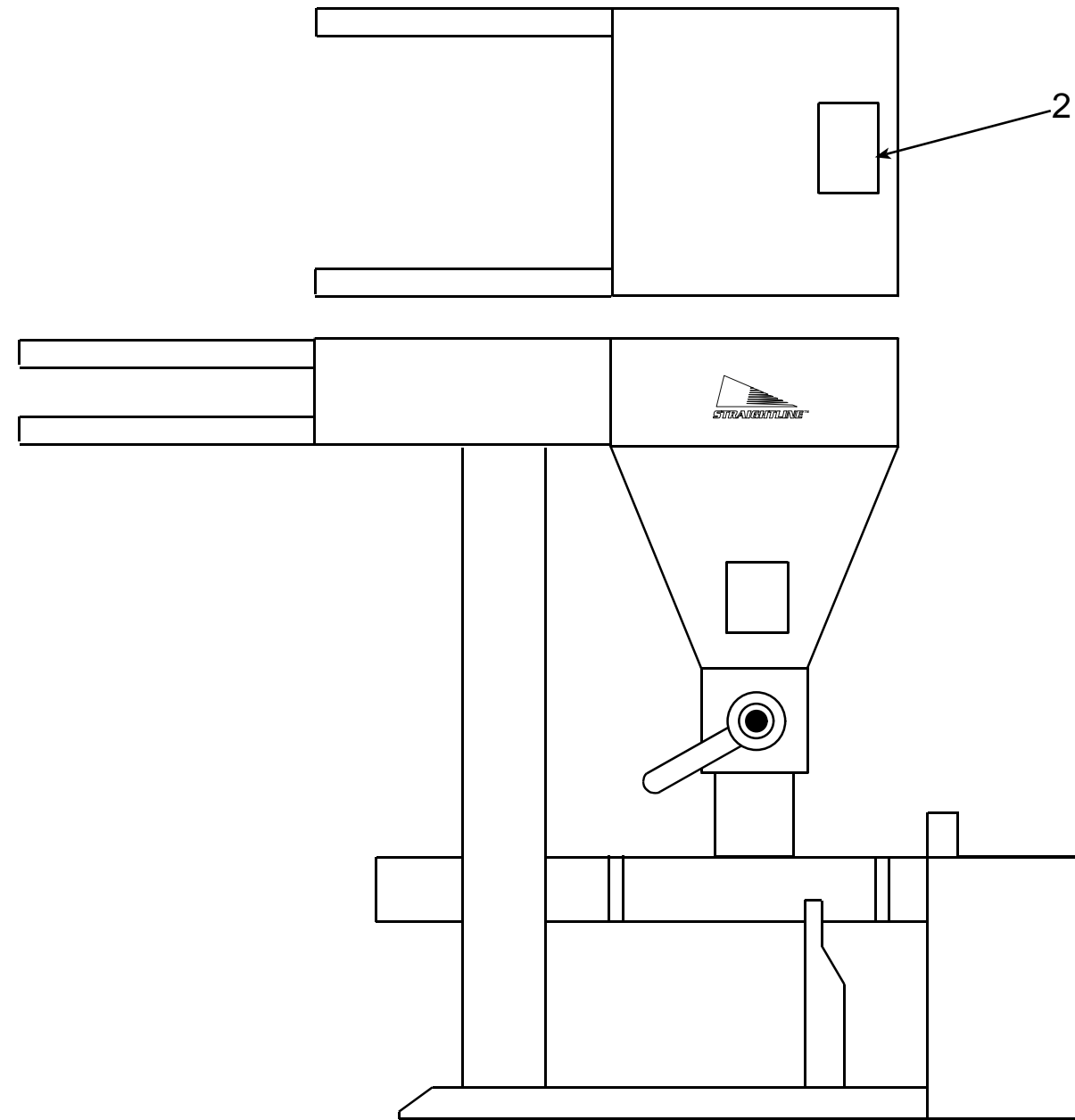
OPERATION
Mud Mixer - 2515 D



Assembly, Decal-Operation

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1.....	120271.....	Operation-Mixing Valve (Open-Close)..	1
2.....	120270.....	Operation-Mix/Stir Valve.....	2

SAFETY
Mud Mixer - 2515 D



Assembly, Decal-Safety

<u>Item</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty.</u>
1.....	120283.....	Warning, Rotation Machinery.....	1
2.....	120286.....	Warning, Avoid Breathing Dust.....	1