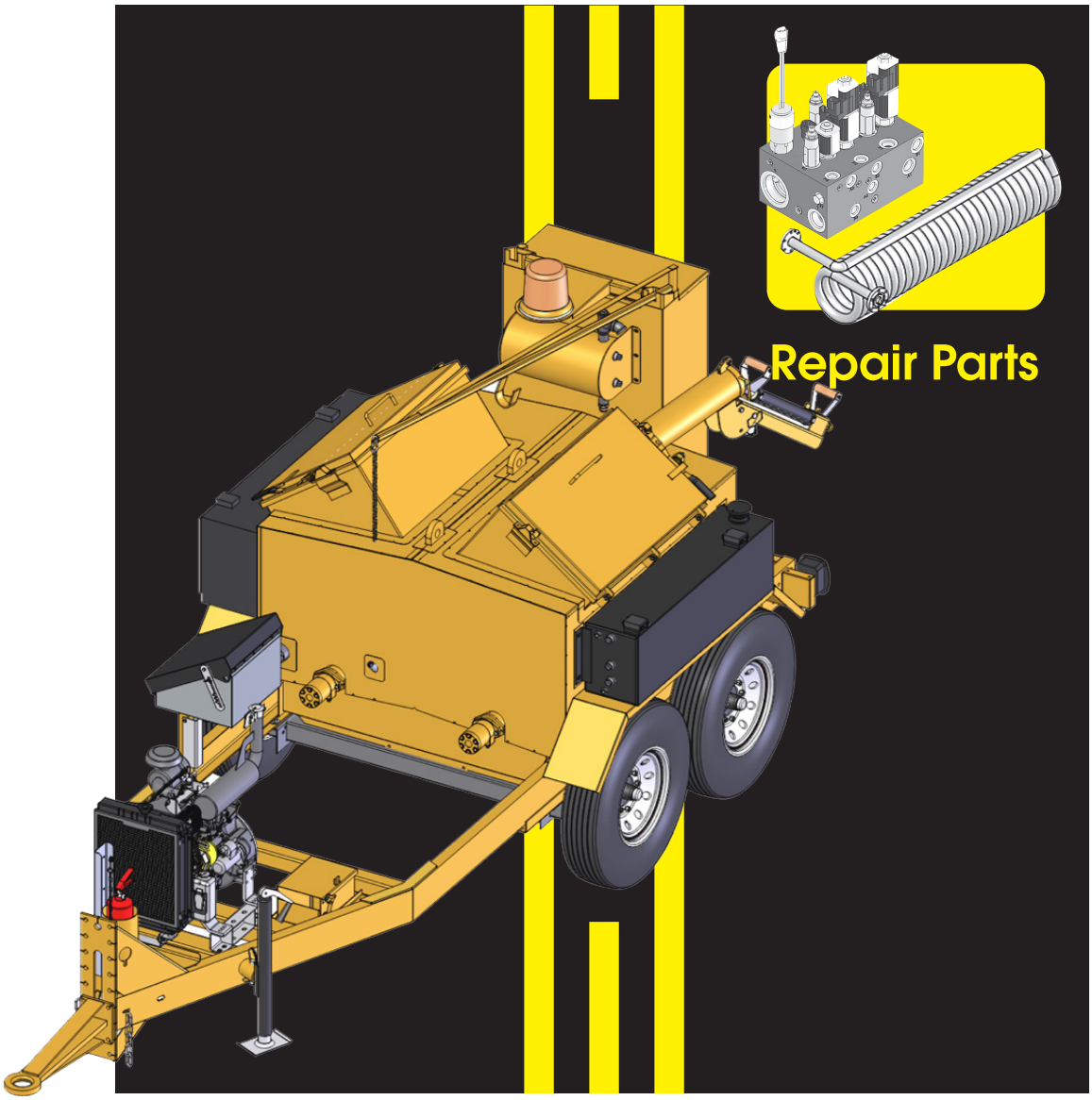
MP-ECS-21

Updated June 21, 2023

Crack Sealer

ECS-250



E.D. ETNYRE & CO. – 1333 S. Daysville Road – Oregon, Illinois 61061
Phone: 815-732-2116 or 800-995-2116 – Fax: 800-521-1107 – www.etnyre.com

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Etnyre Crack Sealer

PARTS MANUAL

HOW TO ORDER PARTS

To assure prompt delivery when ordering parts, please furnish the following information: **1)** Complete name and address of consignee. **2)** Method of shipment preferred. **3)** Is shipment to be prepaid or collect? **4)** Serial numbers of units to which parts apply. **5)** Complete part numbers and descriptions. **6)** Any special instructions.

Specify unit serial number when ordering parts!

WARRANTY

E. D. Etnyre & Co. warrants to the original Purchaser, its new product to be free from defects in material and workmanship for a period of twelve (12) months after date of delivery to original Purchaser. The obligation of the Company is limited to repairing or replacing any defective part returned to the Company and will not be responsible for consequential damages or any further loss by reason of such defect.

The company excludes all implied warranties of merchantability and fitness for a particular purpose. There are no warranties, express or implied, which extend beyond the description of the goods contained in this contract.

This warranty does not obligate the Company to bear the cost of machine transportation in connection with the replacement or repair of defective parts, nor does it guarantee repair or replacement of any parts on which unauthorized repairs or alterations have been made or for components not manufactured by the Company except to the extent of the warranty given by the original Manufacturer.

This warranty does not apply to:

(1) Normal start-up services, normal maintenance services or adjustments usually performed by the selling dealer, factory service representative or customer personnel.

(2) Any product manufactured by E. D. Etnyre & Co. purchased or subjected to rental use.

(3) Any product or part thereof which shows improper operation, improper maintenance, abuse,neglect, damage or modification after shipment from factory.

(4) Any product or part thereof damaged or lost in shipment. Inspection for damage should be made before acceptance or signing any delivery documents releasing responsibility of the delivering carrier.

This warranty and foregoing obligations are in lieu of all other obligations and liabilities including negligence and all warranties of merchantability or otherwise, express or implied in fact or by law.

E. D. ETNYRE & CO., Oregon, Illinois 61061-9778

1333 South Daysville Road Phone: 800-995-2116 Fax: 800-521-1107

www.etnyre.com

sales@etnyre.com

UNIT CONVERSION

fpm ↔ mph	1 fpm = 0.0114 mph	1 mph = 88 fpm
mi ↔ km	1 mile (5280') = 1.609 km	1 km (1000 m) = 0.62 mi
mi ↔ m	1 mile = 1609.3 m	1 m = 0.000621371 mi
ft ↔ m	1 ft = 0.3048 m	1 m = 3.281 ft
ft^2 ↔ m^2	1 ft^2 = 0.093 m^2	1 m^2 = 10.76 ft^2
ft^3 ↔ m^3	1 ft^3 = 0.028 m^3	1 m^3 = 35.31 ft^3
yd ↔ m	1 yd = 0.914 m	1 m = 1.093 yd
yd^2 ↔ m^2	1 yd^2 = 0.836 m^2	1 m^2 = 1.196 yd^2
yd^3 ↔ m^3	1 yd^3 = 0.756 m^3	1 m^3 = 1.308 yd^3
lbs ↔ kg	1 lb = 0.45 kg	1 kg = 2.2 lb
lbs-y^2 ↔ kg-m^2	1 lbs-y^2 = 0.54 kg-m^2	1 kg-m^2 = 1.8 lbs-y^2
tons ↔ tones (metric)	1 ton = 0.907 tones	1 tone = 1.102 tons
gal ↔ L	1 gal = 3.785 L	1 L = 0.264 gal
gal-y^2 ↔ L-m^2	1 gal-y^2 = 3.16 L-m^2	1 L-m^2 = 0.316 gal-y^2
gal-min ↔ L-min	1 gal/min = 3.785 L/min	1 L/min = 0.264 gal/min
psi ↔ bar	1 psi = 0.069 bar	1 bar = 14.504 psi
hp ↔ kW	1 hp = 0.746 kW	1 kW = 1.34 hp
BTU/h ↔ kWh	1 BTU/h = 0.0002931 kWh	1 kWh = 3412.2 BTU/h
°F ↔ °C	°F → °C = (°F - 32)/1.8	°C → °F = (°C x 1.8) + 32
Emulsion @ 140° F (approx.)	1 ton (240 gal) = 908.4 L	1 tone (264 gal) = 1001 L
Asphalt @ 325° F (approx.)	1 ton (245 gal) = 927.4 L	1 tone (270 gal) = 1022 L

The table above can be used to find any given unknown, given its counterpart's known value. For example:

If you are traveling at 500 FPM, your conversion to mph is 5.7. This is obtained by multiplying 500 by 0.0114 (1 fpm = 0.0114 mph).

BOLT TORQUE

SIZE	GRADE 2	GRADE 5	GRADE 8	L9
1/4-20	5	7	9	11
1/4-28	6	9	10	13
5/16-18	8	13	18	21
5/16-24	9	14	20	23
3/8-16	15	23	30	33
3/8-24	17	25	35	38
7/16-14	24	35	55	60
7/16-20	25	40	60	65
1/2-13	35	55	80	95
1/2-20	40	65	90	105
9/16-12	50	80	110	140
9/16-18	55	90	130	150
5/8-11	70	110	170	185
5/8-18	80	130	180	205
3/4-10	120	200	280	290
3/4-16	140	220	320	355
7/8-9	140	300	460	505
7/8-14	155	320	500	585
1-8	160	440	680	775
1-14	170	480	740	900
1 1/8-7	220	600	960	1150
1 1/8-12	260	660	1080	1325
1 1/4-7	320	840	1360	1600
1 1/4-12	360	920	1500	1750
1 3/8-6	420	1100	1780	2345
1 3/8-12	460	1260	2040	2660
1 1/2-6	560	1460	2360	3250
1 1/2-12	620	1640	2660	3650

TEMPERATURE CONVERSION

°F	°C
20	-6.7
30	-1.1
40	4.4
50	10.0
60	15.6
70	21.1
80	26.7
90	32.2
100	37.8
110	43.3
120	48.9
130	54.4
140	60.0
150	65.6
160	71.1
170	76.7
180	82.2
190	87.8
200	93.3
210	98.9
220	104.4
230	110.0
240	115.6

°F	°C
250	121.1
260	126.7
270	132.2
280	137.8
290	143.3
300	148.9
310	154.4
320	160.0
330	165.6
340	171.1
350	176.7
360	182.2
370	187.8
380	193.3
390	198.9
400	204.4
410	210.0
420	215.6
430	221.1
440	226.7
450	232.2
460	237.8

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Reporting Safety Defects

If you believe that your vehicle has a defect which could cause a crash, injury, or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying E.D. Etnyre & Co.

If NHTSA receives similar complaints, it may open an investigation. If it finds a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or E.D. Etnyre & Co.

To contact NHTSA, you may call the Auto Safety Hotline toll-free at 1-800-424-9393 (or 366-0123 in the Washington, D.C. area). Or, you may write to: U.S. Department of Transportation, Washington, D.C. 20696. You may also obtain other information about motor vehicle safety from the Auto Safety Hotline.

E.D. Etnyre & Co., Oregon, Illinois 61061, Phone Area Code 815/732-2116, Cable Address "EDECO". CALIFORNIA

⚠ CAUTION

Before breaking the seal on all hydraulic fittings, plugs, fill caps, etc. be sure to clean around the connection. Failure to do so may cause contaminants to enter the hydraulic system causing damage to pumps, motors, etc.

PROPOSITION 65 WARNING

⚠WARNING: This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer, birth defects or other reproductive harm. For more information, go to: www.P65Warnings.ca.gov

6322159

Please note this warning and remember -

Always start and operate the engine in a well-ventilated area;

If in an enclosed area, vent the exhaust to the outside;

Do not modify or tamper with the exhaust system.

⚠ WARNING

Fluoroelastomer handling

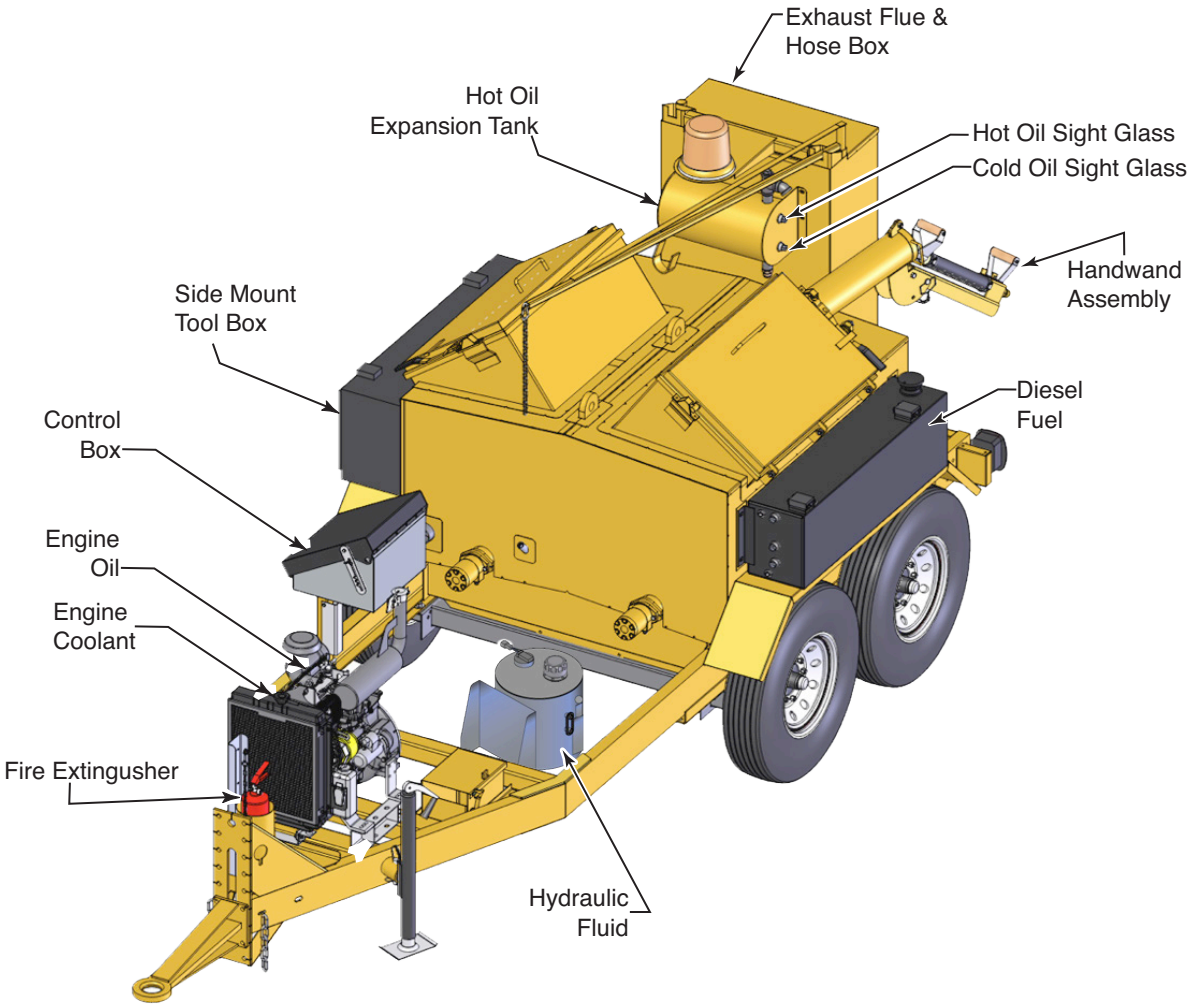
Some "O" rings and seals used in this vehicle are made from fluoroelastomers. When used under design conditions, fluoroelastomers do not require special handling. However, when fluoroelastomers are heated to temperatures beyond their design temperature (around 600 degrees Fahrenheit), decomposition may occur with the formation of hydrofluoric acid. Hydrofluoric acid can be extremely corrosive to human tissue if not handled properly.

A degraded seal may appear as a charred or black sticky mass. Do not touch either the seal or the surrounding equipment without wearing neoprene or PVC gloves if degradation is suspected. Wash parts and equipment with 10% lime water (calcium hydroxide solution) to neutralize any hydrofluoric acid.

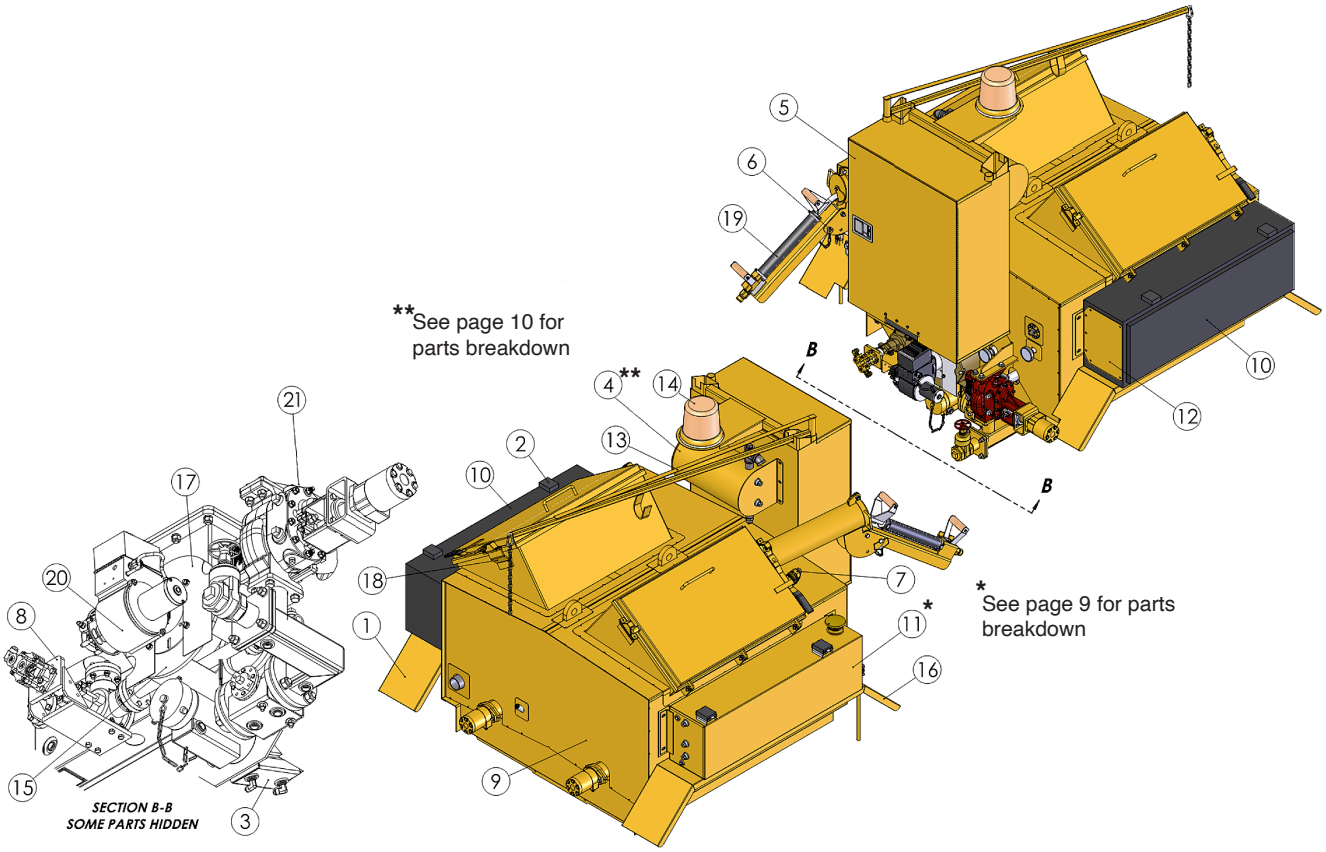
If contact with the skin occurs, wash the affected areas immediately with water. Then rub a 2.5 calcium gluconate gel into the skin until there is no further irritation, while seeking prompt medical attention.

Note to physicians: For advice or treatment of HF Burns, call the DuPont Medical Emergency Number 1-800-441-3637.

General Identification



Tank Assembly
220845

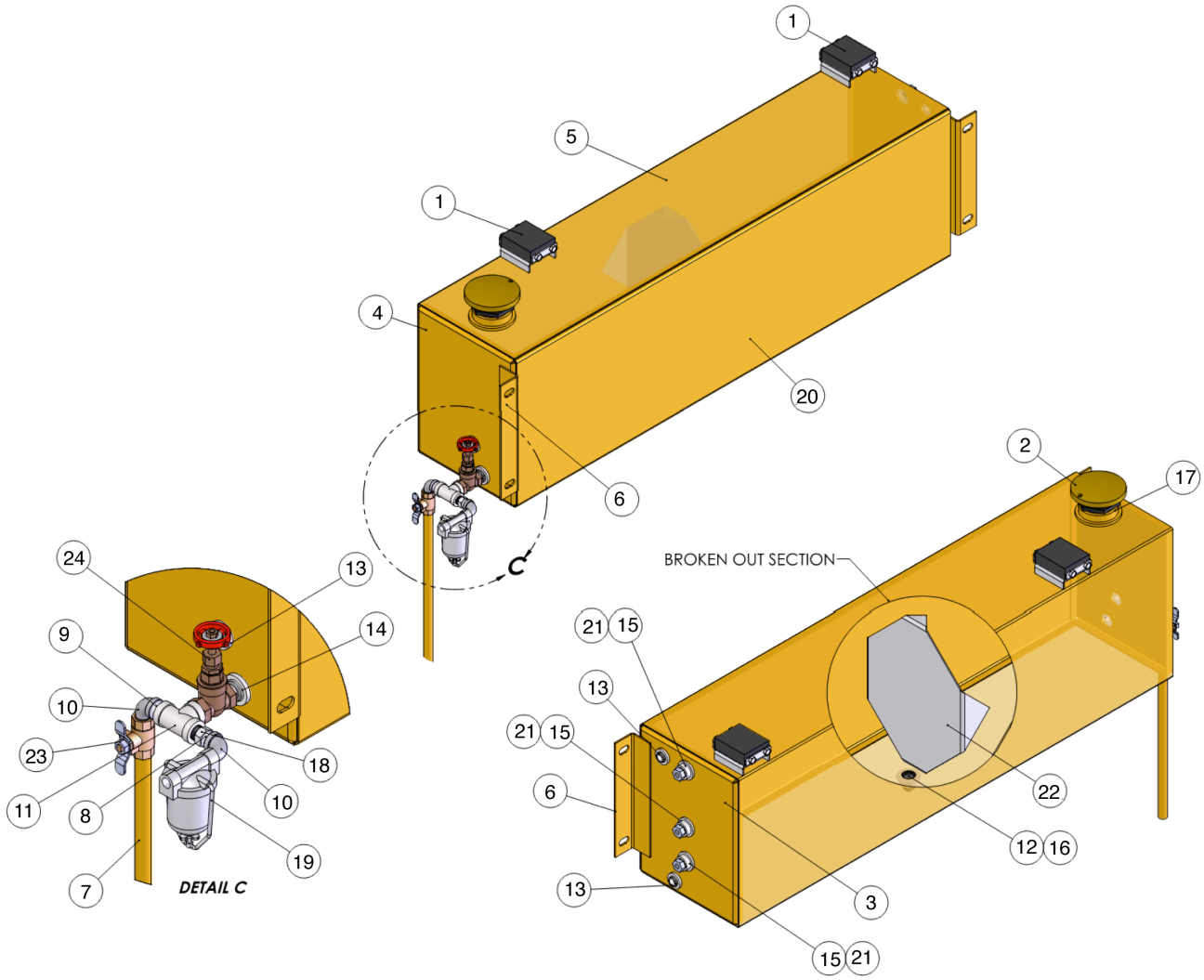


REF	PART NO.	QTY	DESCRIPTION	REF	PART NO.	QTY	DESCRIPTION
1	207522	1	Fender, RH	19	MSC-80409	1	Hand Wand Asm
2	210207	2	Rubber Pad-Lid Stop	20	PTM-80690	1	Burner Asm
3	217678	1	Sump-Heat Trace-Manifold		PTM-80685	1	Beckett Burner
4	217698	1	Tank-Expansion, Hot Oil		2208731	1	***
5	218060	1	Exhaust-Flue and Hose Box		ELC-80689	1	***
6	218064	1	Mount and Holder-Handwand		ELC-80699	1	***
7	218072	1	Hand Wand Hose Recirculate Line Asm		HSG-24948	1	***
8	220844	1	Tank Weldment and Rear Piping Asm		MCH-80690	1	***
9	220862	1	Skin Assembly		PMP-81061	1	***
10	220929	1	Side Mount-Tool Box		PTM-80685-1	1	***
11	220982	1	Tank Asm-Diesel		PTM-80685-2	1	***
12	220983	1	Mount-Box, Tool Box and Hose Control		PTM-80685-3	1	***
13	BRK-80365	1	Hose Jib		PTM-80685-4	2	***
14	ELC-24215	1	Beacon		PTM-80690-1	1	***
15	FIT-79011	1	Plate-Flue, Burner	21	PMP-80305	1	Pump
16	GRD-81060	1	Fender-LH		PTM-33741	1	Gear-LH
17	GRD-81180	1	Heat Shield-Burner		PTM-33742	1	Gear-RH
18	HSG-79014	2	Lid Asm-Tank		RNG-33728G	1	Packing

Specify Unit Serial No., Part No., & Part Description

Diesel Tank Assembly

220982

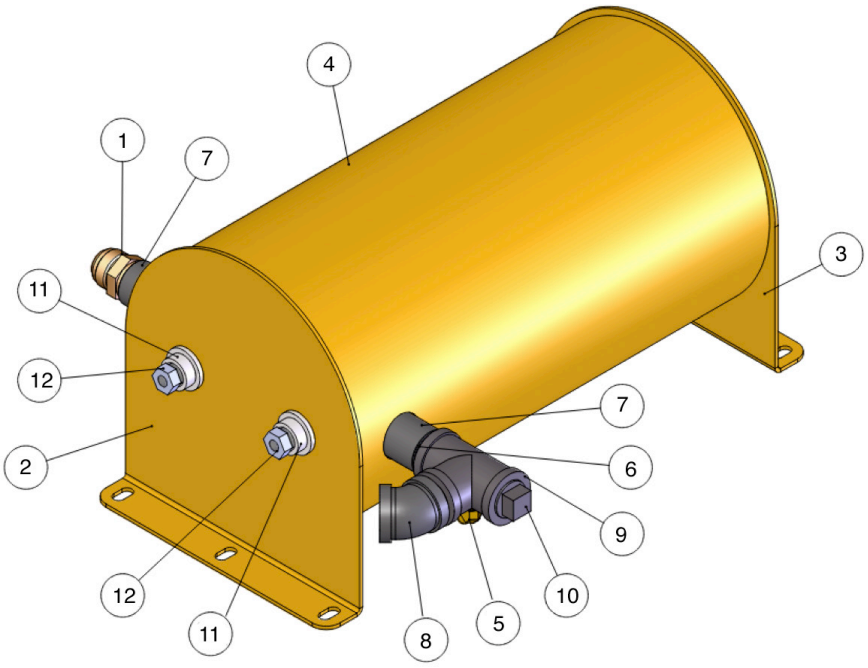


REF	PART NO.	QTY	DESCRIPTION
1	210208	2	Lid Stop Asm
2	218800	1	Cap-Fuel, Vented
3	220926	1	Head-Front, Diesel Tank
4	220927	1	Head-Rear Diesel Tank, Driver Side
5	220981	1	Shell-Diesel Tank, Front Side
6	BRK-80265	2	Mount-Tank
7	FIT-22150	1	Pipe-Sch40, CW, AJ3, 0.375” x 16.0”, Threaded
8	FIT-28001	1	Nipple-Sch80, CW, 0.25” x Close
9	FIT-28002	2	Nipple-Sch80, CW, 0.375” x Close
10	FIT-28236	2	Elbow-ST, 90, 0.25”
11	FIT-28252	1	Pipe-Tee, 0.375”
12	FIT-28284	1	Plug-Pipe, 0.75”
13	FIT-28311	3	Flange-0.25”
14	FIT-28312	1	Flange-Phoenix, 0.375”
15	FIT-28313	3	Flange-Phoenix, 0.5”

REF	PART NO.	QTY	DESCRIPTION
16	FIT-28314	1	Flange-Phoenix, 0.75”
17	FIT-28318	1	Flange-Phoenix, 2.0”
18	FIT-28342	1	Bushing-Pipe, Hex, 0.375” x 0.25”
19	FTR-81066	1	Filter-Fuel Bulk (Sediment Bowl)
20	HSG-80229	1	Shell-Diesel/Hyd Tank, Back Side
21	MTR-80270	3	Gauge-Sight
22	TNK-80236	1	Baffle-Tank, Hyd
23	VLV-29203	1	Valve-Ball, BR, Tee Handle, 0.375”
24	VLV-29206	1	Valve-Gate, 0.375”

Hot Oil Expansion Tank

217698

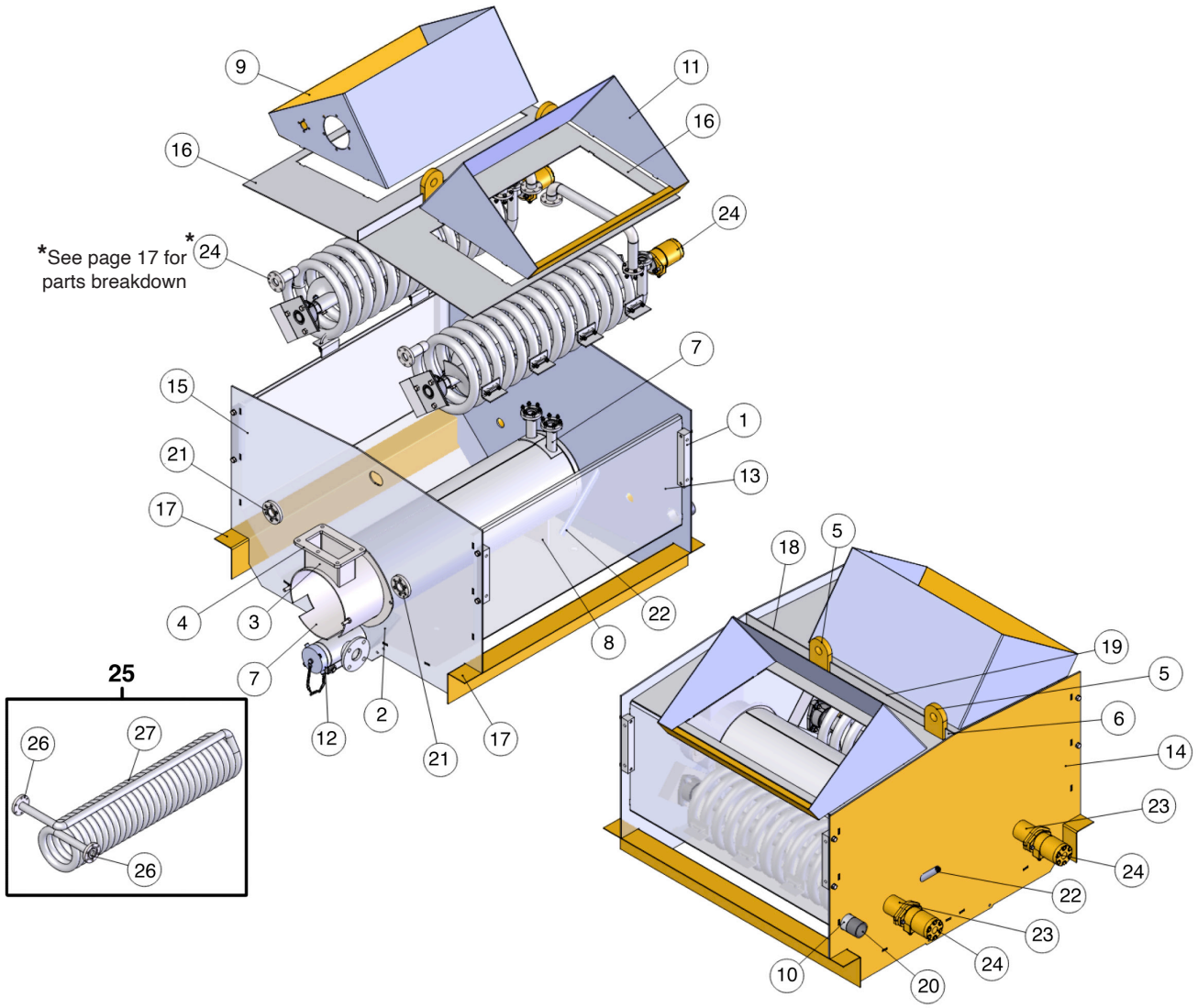


REF	PART NO.	QTY	DESCRIPTION
1	16MJ-16MP	1	C5205X16
2	217699	1	Tank-Hot Oil Expansion, RH
3	217701	1	Tank-Hot Oil Expansion, LH
4	217702	1	Shell-Hot Oil Expansion Tank
5	45D6MJ-4MP	1	C5355X6
6	FIT-28180	2	Nipple-Sch80, CW, 1.0” x Close

REF	PART NO.	QTY	DESCRIPTION
7	FIT-28180	2	Coupling-1.0”
8	FIT-28195	1	Elbow-Pipe, 45, 1.0”
9	FIT-28255	1	Tee-Pipe, 1.0”
10	FIT-28285	1	Plug-Pipe, 1.0”
11	FIT-28313	2	Flange-Phoenix, 0.5”
12	MTR-80270	2	Gauge-Sight

Specify Unit Serial No., Part No., & Part Description

Tank Weldment
220843

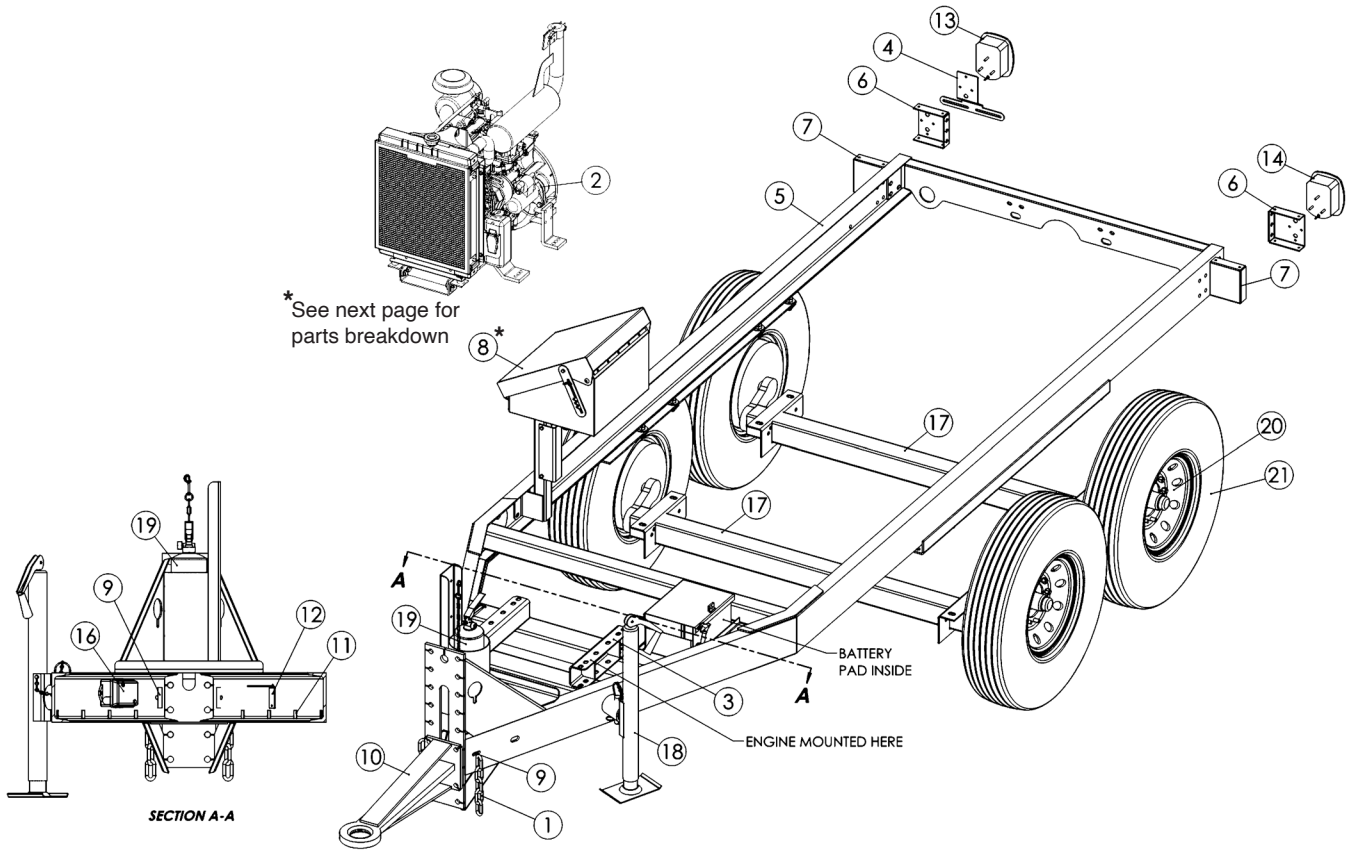


REF	PART NO.	QTY	DESCRIPTION
1	217658	4	Mount-Side Tank, Threaded
2	217659	1	Sump Tank Weldment
3	217661	1	Riser-Exhaust Stack
4	217662	1	Flange-Exhaust Stack Riser To Hose Box
5	217666	2	Lift-Eye, Tank Weldment
6	217667	1	Bar-H.R., Flat A36, 0.188" x 2.0" x 2.0"
7	217670	1	Heat Flue Asm-Domed, O-R
8	217673	1	Flue Support-Tank Weldment
9	217711	1	Riser-RH
10	217721	1	Tube-Round HREW Mech, 2.75" x 0.188" x 1.5"
11	217723	1	Riser-RH
12	220784	1	Pipe Sump Asm
13	220847	1	Weldment-Tank Shell
14	220848	1	Head-Tank, Front
15	220849	1	Head-Tank, Rear

REF	PART NO.	QTY	DESCRIPTION
16	220850	1	Cover-Tank
17	220851	2	Support Base to Frame Tank Weldment
18	220863	1	Bar-H.R., Flat A36, 0.188" x 2.0" x 15.0"
19	220864	1	Bar-H.R., Flat A36, 0.188" x 2.0" x 22.25"
20	FIT-28183	1	Coupling Merch.
21	FIT-71022	2	Flange-Double O-Ring, Groove, Bulkhead
22	HSG-80204	1	Thermocouple Well
23	HSG-80342	2	Shaft Packing Weldment Asm
24	MCH-80341	1	Mixing Augers Asm
25	MSC-71025	1	Coiling-Heat Flue w/ O-Ring Flanges *(Includes Ref 26, 27)*
26	FIT-71023	2	Flange-1.0" Pipe
27	MSC-80332	1	Coiling (Weld/Roll)-Heat Flue

Frame Assembly

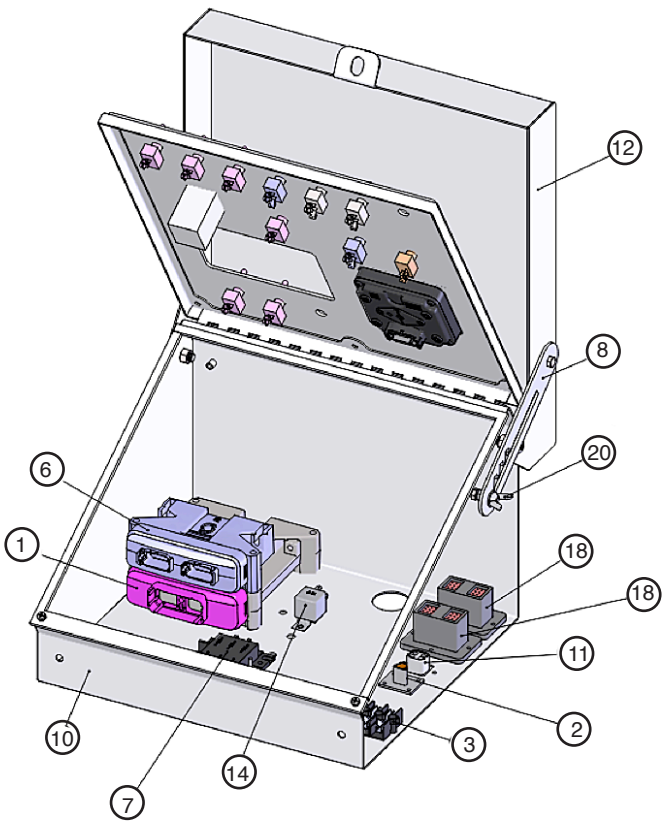
218075

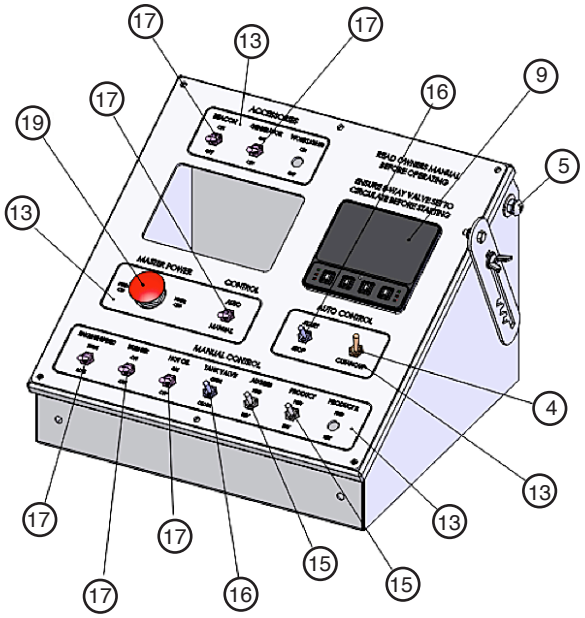


REF	PART NO.	QTY	DESCRIPTION
1	207333	2	Safety Chain Asm
2	214131	1	Engine-Diesel
	216827	1	Oil Filter
	216828	1	Fuel/Water Separator
	PMP-81008-1	1	Fuel Filter
	PMP-81008-2	1	Air Filter
3	214175	1	Mount-Engine
4	217108	1	Bracket-License Plate
5	218074	1	Frame
6	218079	2	Mount-Tail Light
7	218080	2	Cover-Mount, Tail Light
8	220940	1	Control Box Asm
9	BRK-80106	2	Mount-Safety Chain
10	BRK-80143	1	Hitch-Extended
11	BRK-80154	13	Retainer Tab-Brake Line
12	BRK-82261	1	Mount-Conduit Tee
13	ELC-24470	1	Tail Light-RH
14	ELC-24471	1	Tail Light-LH
15	GRD-80519	1	Pad-Battery
16	HSG-24235	1	Junction Box
17	MCH-80087	2	Axle Rubber
18	MCH-80104	1	Jack Tongue
19	MSC-80009	1	Fire Extinguisher
20	MSC-80126	4	White Rim
21	MSC-80127	4	Tire, 85/16

Control Box Assembly

220940



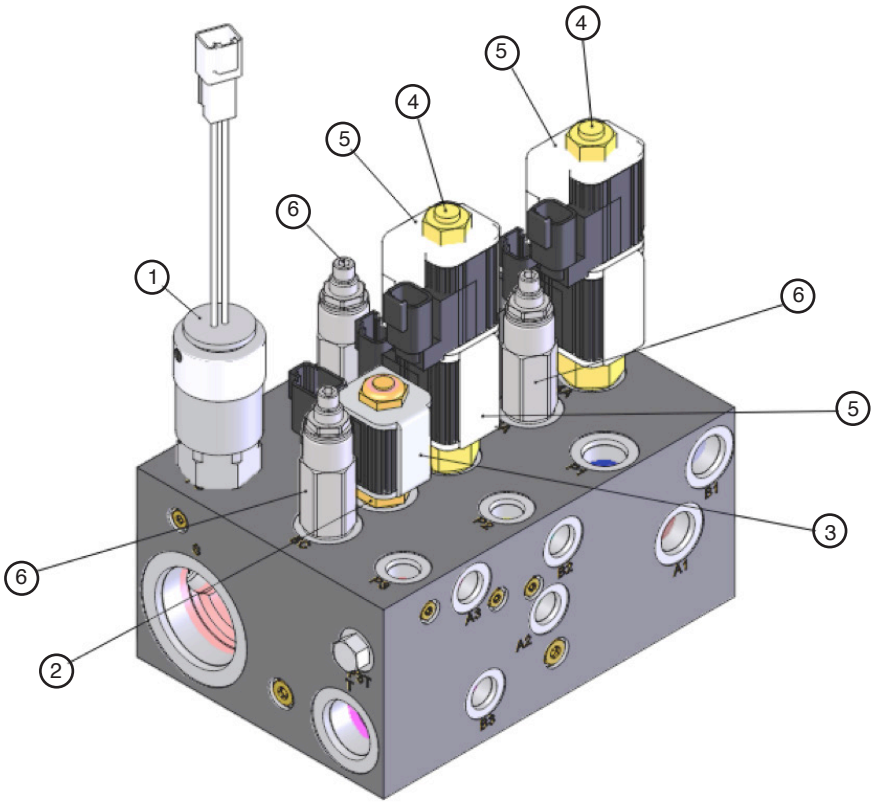


REF	PART NO.	QTY	DESCRIPTION
1	221134	1	Plus 1 Node 9 Auto
2	200656	1	3 Pin Receptacle
3	200710	6	Terminal Block
4	202719	1	Switch-Mom On/Off
5	202723	2	Screw-Mach Security
6	221133	1	Plus 1 Node 16 Auto
7	206356	1	Fuse Block
8	217623	1	Stop-Lid, Adjustable
9	221135	1	Plus 1 Node 8 Display
10	218706	1	Control Box
11	220747	1	DTP 4 Pin Female, Flanged

REF	PART NO.	QTY	DESCRIPTION
12	220939	1	Op. Panel-Long Guard Weldment
13	220943	1	Panel-Plus 1
14	ELC-24270	1	Relay-Power, 70 Amp
15	ELC-24272A	2	Switch-Toggle, Sealed, On-Off-On
16	ELC-24274A	2	Switch-One Pole, Sealed
17	ELC-24275	6	Switch-One Pole, On/Off
18	ELC-26255	2	24 Pin Recpt Keyed
19	ELC-74404	1	Switch-Emergency Stop

FRAME

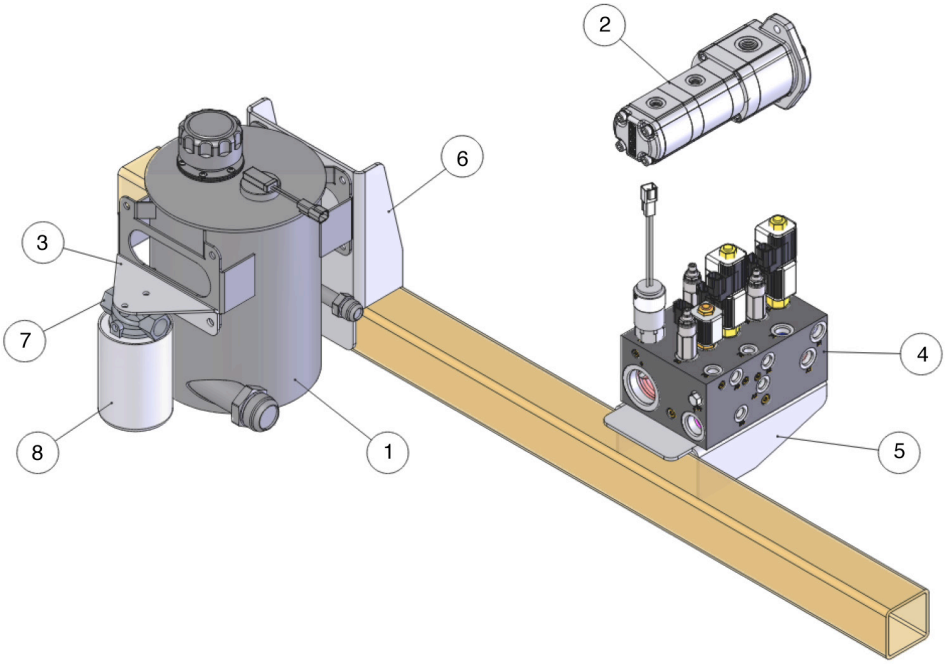
Valve Assembly w/ Manifold
220958



REF	PART NO.	QTY	DESCRIPTION	REF	PART NO.	QTY	DESCRIPTION
1	220944	1	Auger Hyd Pressure Switch				
2	220945	1	Hot Oil Solenoid Valve w/ Manual Override				
3	220946	1	Hot Oil Solenoid Valve Coil 0.5”				
4	220947	2	Auger Solenoid Valve w/ Manual Override				
5	220963	4	Auger Solenoid Valve Coil 0.625”				
6	220964	3	Relief Valve 12 GPM 1000-3000 PSI Screw Adjust				

Hydraulic and Mount Assembly

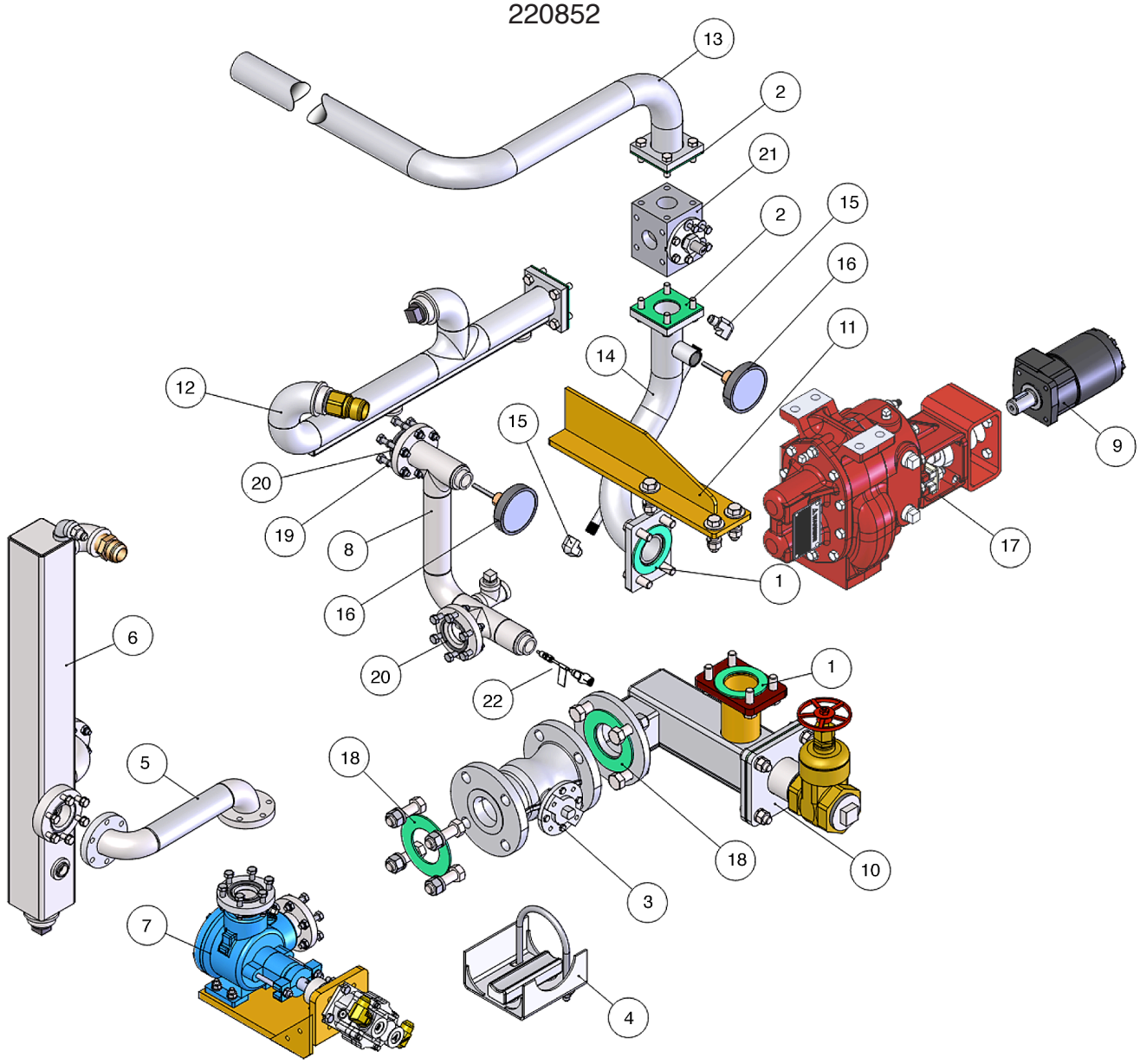
221102



REF	PART NO.	QTY	DESCRIPTION
1	218244	1	Tank-Hyd Cyclone, 20 GPM
2	218811	1	Pump-Triple, Auger
3	220935	1	Mount-Hyd Oil Filter
4	220958	1	Valve Asm-12V SAE-16ORB, 2500 PSI w/ Manifold
5	220999	1	Mount-Hyd Manifold
6	221100	1	Mount-Cyclone
7	FTR-51735	1	Filter Head-Traction Drive
8	FTR-51736	1	Filter-10 Micron, 15 GPM

Product Pump and Rear Piping

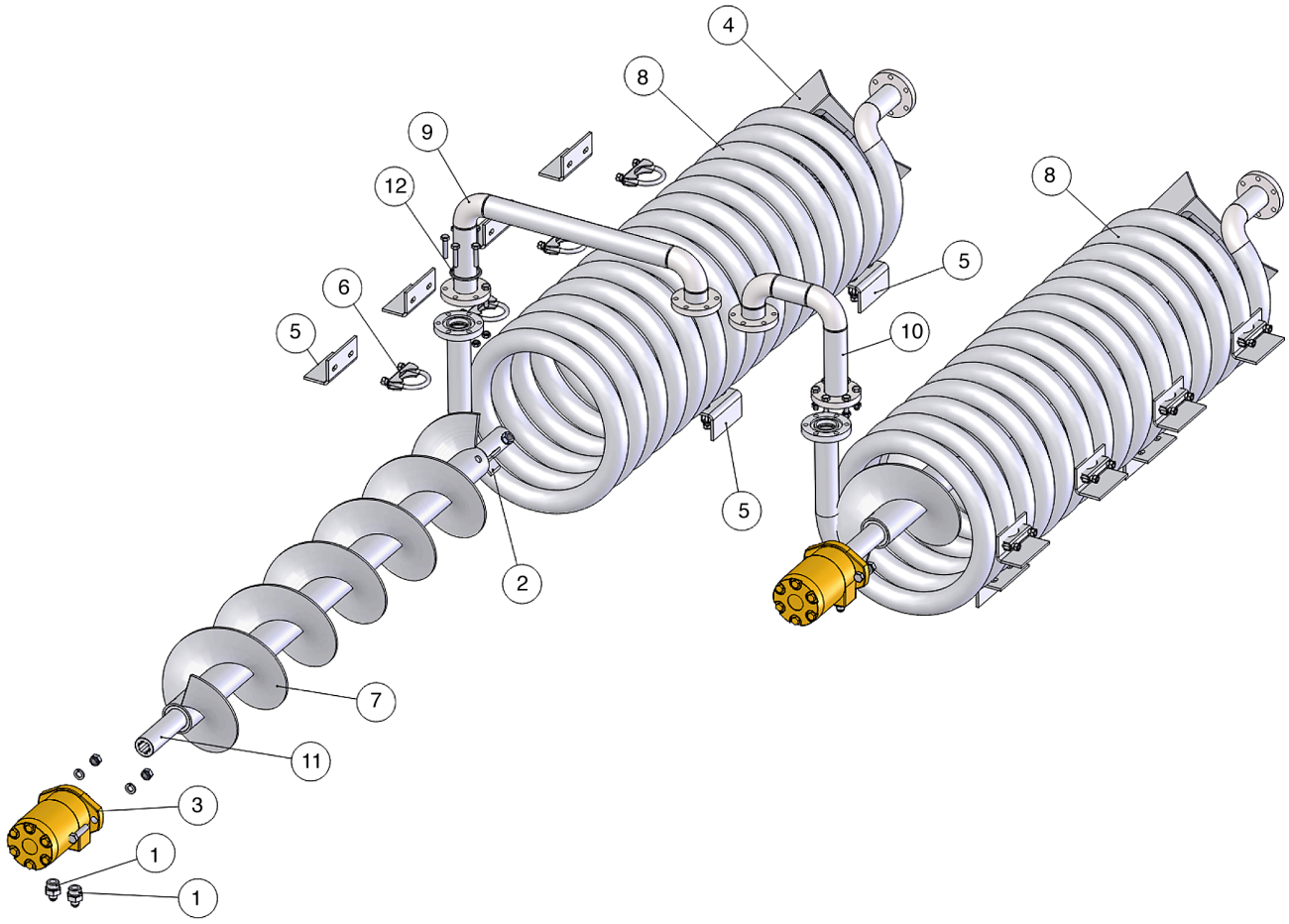
220852



REF	PART NO.	QTY	DESCRIPTION
1	RNG-29054	2	Gasket-2.0” Valve
2	216083	3	Gasket-3 Way Valve
3	216996	1	Valve-Ball, 2.0” Flanged Steel
4	217512	1	Heat Trace Asm-2.0” Valve
5	217679	1	Piping-Inner Coil to Hot Oil Return
6	217680	1	Hot Oil Return Suction Asm
7	217686	1	Pump-Parker Motor Asm
8	217696	1	Coiling Supply Line O-Ring
9	218325	1	Motor-Product Pump
10	220777	1	Product Strainer Asm
11	220788	1	Pump Mount Weldment
12	220794	1	Product Hose Hookup
13	220853	1	Return Piping Weldment
14	220871	1	Piping Wdmt-Product Pump to 3 Way Valve

REF	PART NO.	QTY	DESCRIPTION
15	90D4FP-6MJ	2	C5455X6
16	MTR-80311	2	Thermometer-Hot Oil, 150°F-750°F
17	PMP-80305	1	Pump-Roper
	PTM-33741	1	Gear-LH
	PTM-33742	1	Gear-RH
	RNG-33728G	1	Packing
18	RNG-29045	2	Gasket-4.125”OD x 2.375”ID x 0.125”
19	RNG-71031	24	O-Ring-Viton, 2-109.313ID x .5 OD x .094 (HT)
20	RNG-71032	6	O-Ring-Viton, 2-328 1.88ID x 2.25OD x .188 (HT)
21	VLV-80050	1	Valve Asm-RH, 3 Way Flow Control
22	204657	1	Thermocouple Cable Asm 3” Lg w/ 3 Pin Conn.

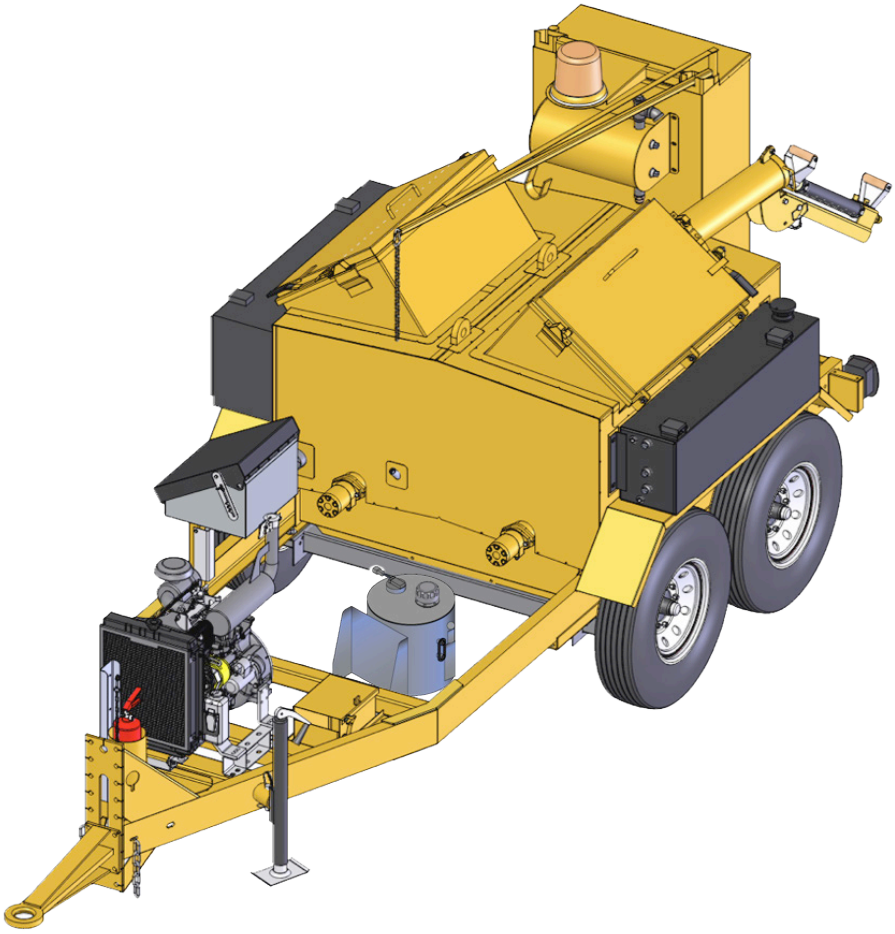
Mixing Auger Assembly
MCH-80341



REF	PART NO.	QTY	DESCRIPTION
1	10MB-6MJ	4	C5315X6X10
2	212836	2	Angle-H.R. Struct. A36 0.188" x 1.25" x 1.25" x 1.25"
3	218326	2	Auger Motor
4	BRK-80339	2	Bearing Plate-3 Bolt Asm w/ Brg
5	BRK-8038212		Tank Coiling Support
6	FAS-29363	12	Clamp-Muffler, 1.75"
7	MCH-80344	2	Auger-8.0" x 42.0" w/1.563" Dia

REF	PART NO.	QTY	DESCRIPTION
8	MSC-71207	2	Coiling-O-Ring, Product Tank
9	MSC-71214	1	Line Cross Over-O-Ring
11	PTM-80345	2	Auger Shaft
12	RNG-71032	2	O-Ring-Viton, 2-328 1.88ID x 2.25OD x .188 (HT)

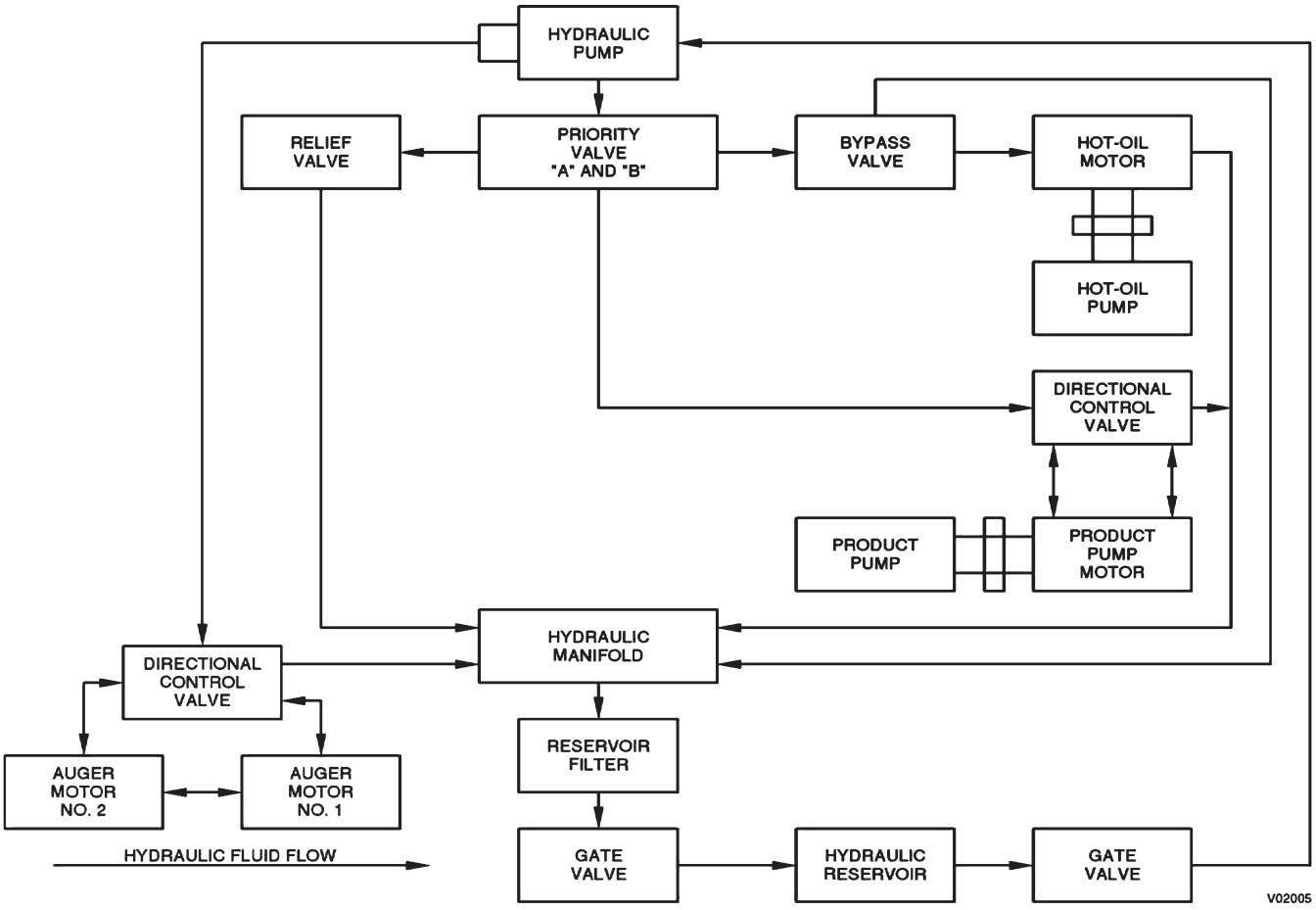
Recommended Parts (Not Shown)



REF	PART NO.	QTY	DESCRIPTION
*	216830	1	Engine Air Filter
*	216829	1	Diesel Fuel Filter - Engine Element
*	Ftr-22502	1	Hydraulic Filter Element
*	Rng-80054	1	Product Pump Packing
*	Rng-80297	1 Set	Hot-Oil Pump Packing
*	Msc-80418-Y	1	Application Hose With Fittings *(Hose Trough)*

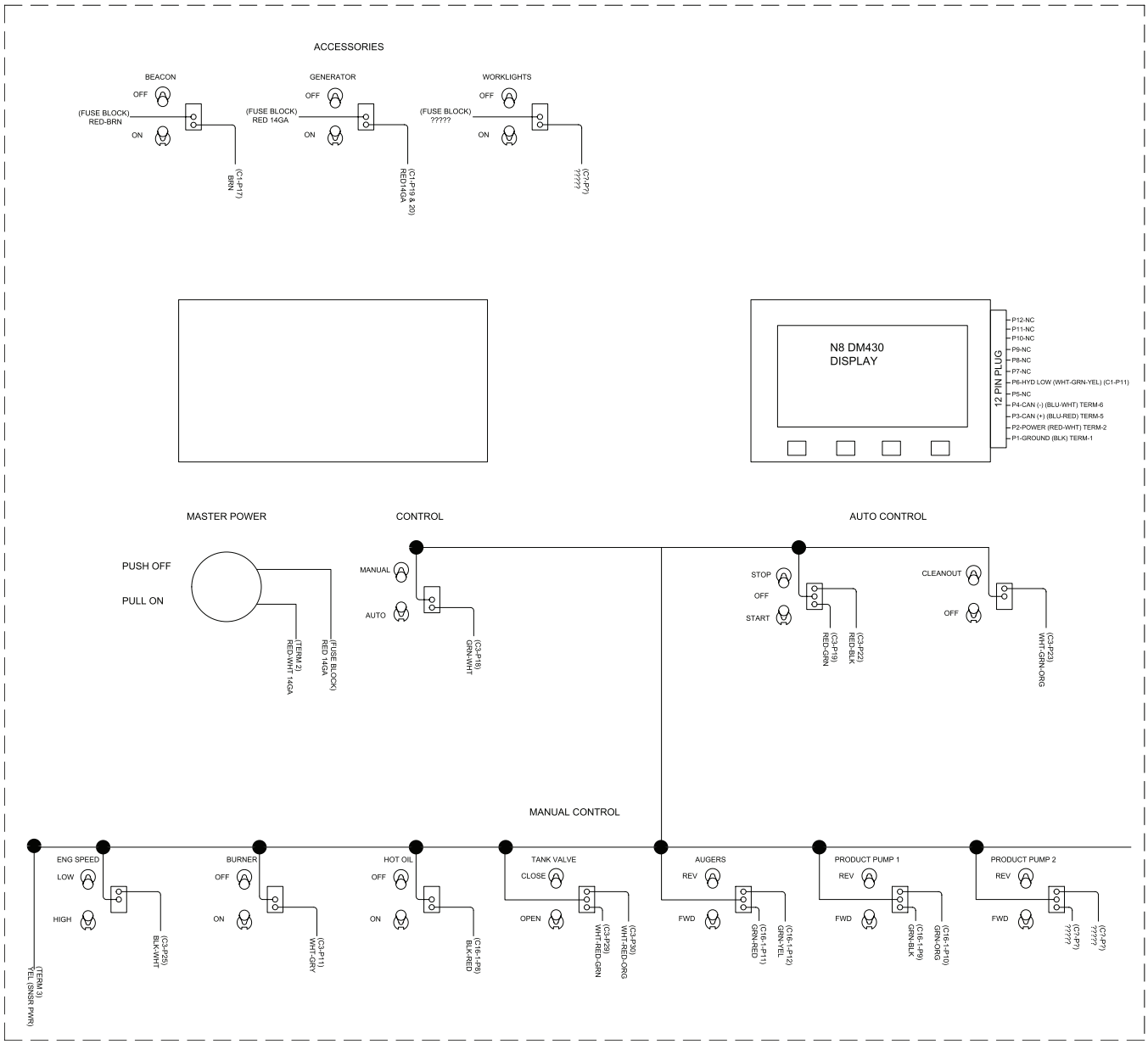
REF	PART NO.	QTY	DESCRIPTION
*	Vlv-27084	1	Wand Handle With Ball Valve
*	Fit-80017	1	Coupling Chain (Only)
*	Fit-80686	1	Burner Nozzle, 2.25 - 60°
*	Brk-81182	1	Bus Bar Support
*	208731	1	Fuel Pump Coupling
*	Pip-80415	1	Application Hose With Fittings *(Hose Box)*

Hydraulic System Flow Diagram



Control Box Schematic

1 of 2

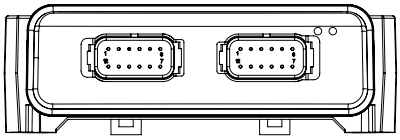


SCHEMATICS

Control Box Schematic

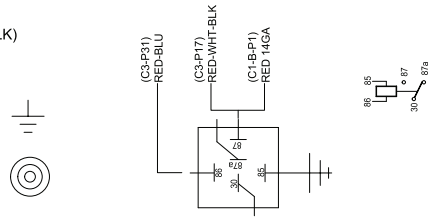
2 of 2

NODE16
KRACKER
IX024-110

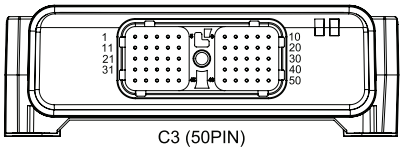


CONNECTOR 16-1 (GRY)
1-GROUND (BLK)
2-ACC PWR (RED-WHT)
3-CAN 0 + (BLU-RED)
4-CAN 0 - (BLU-WHT)
5-NC
6-NC
7-NC
8-HOT OIL SW (BLK-RED)
9-PUMP FWD SW (GRN-BLK)
10-PUMP REV SW (GRN-ORG)
11-AUGER FWD SW (GRN-RED)
12-AUGER REV SW (GRN-YEL)

CONNECTOR 16-2 (BLK)
1-NC
2-NC
3-NC
4-NC
5-NC
6-NC
7-NC
8-NC
9-NC
10-NC
11-NC
12-NC

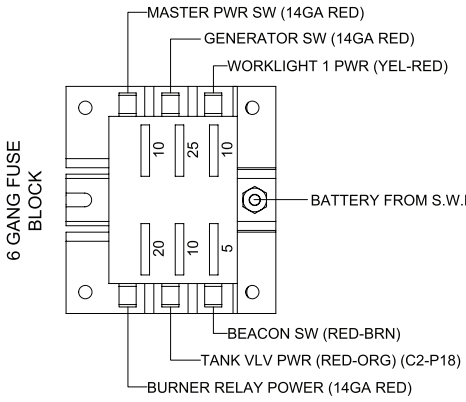


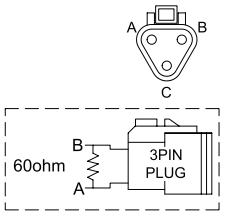
NODE9
KRACKER
MC50-110



C3 (50PIN)

PIN KEY C3
1-GROUND (BLK)
2-ACC PWR (RED-WHT)
3-CAN 0 + (BLU-RED)
4-CAN 0 - (BLU-WHT)
5-TANK VLV FULL OPEN (WHT-BLK-GRN) (C2-P13)
6-NC
7-NC
8-SNSR PWR (YEL)
9-SNSR GRND (BLU)
10-NC
11-BURNER ON SW (WHT-GRY)
12-HOT OIL PRESSURE (WHT-PUR) (C1-P13)
13-NC
14-NC
15-NC
16-NC
17-BURNER RELAY (RED-WHT-BLK) (TERM 87)
18-AUTO SW (GRN-WHT)
19-START SW (RED-GRN)
20-NC
21-NC
22-STOP SW (RED-BLK)
23-CLEANOUT SW (WHT-GRN-ORG)
24-AUGER PRESSURE (WHT-BLK-PUR) (C1-P9)
25-ENGINE SPEED (THROTTLE) SW (BLK-WHT)
26-TANK VLV FULL CLOSE (WHT-BLK-RED) (C2-P14)
27-TEMP SNSR (FRONT) (WHT-BLK-BLU) (C1-P7)
28-HOT OIL TEMP (WHT-BLK-ORG) (C1-P15)
29-TANK VLV OPEN SW (WHT-RED-GRN)
30-TANK VLV CLOSE SW (WHT-RED-ORG)
31-BURNER RELAY COIL (RED-BLU) (TERM 86)
32-HOT OIL PUMP VLV (WHT-BRN-BLU) (C2-P1)
33-AUGER FWD (WHT-BRN-PUR) (C2-P7)
34-TANK VLV OPEN (WHT-BRN-GRN) (C2-P11)
35-TANK VLV CLOSE (WHT-BRN-ORG) (C2-P12)
36-THROTTLE PULL (ORG) (RELAY S.W.P.)
37-PRODUCT PUMP FORWARD (WHT-BRN-GRY) (C2-P3)
38-PRODUCT PUMP REVERSE (WHT-BRN-YEL) (C2-P5)
39-THROTTLE HOLD (PUR) (RELAY S.W.P.)
40-NC
41-AUGER REV (WHT-GRN-BLU) (C2-P9)
42-NC
43-NC
44-NC
45-NC
46-NC
47-ACC PWR (RED-WHT)
48-ACC PWR (RED-WHT)
49-ACC PWR (RED-WHT)
50-ACC PWR (RED-WHT)



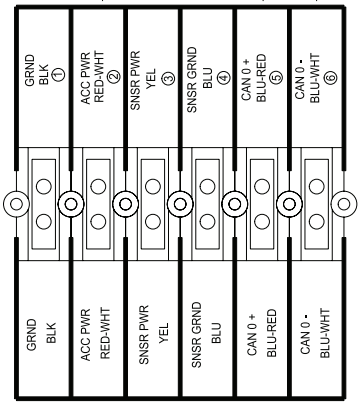


C2 (KEYED B)
NC-P24
NC-P23
NC-P22
NC-P21
NC-P20
NC-P19
NC-P18
ACTUATOR GRND (BLK)-P17
ACTUATOR PWR (FUSE BLOCK) (RED-ORG)-P16
CONTROL GRND (BLK)-P15
TANK VLV FULL CLOSE (WHT-BLK-RED)-P14
TANK VLV FULL OPEN (WHT-BLK-GRN)-P13
TANK VLV CLS (WHT-BRN-ORG)-P12
TANK VLV OPN (WHT-BRN-GRN)-P11
AUGER REV GRND (BLK)-P10
AUGER REV (WHT-GRN-BLU)-P9
AUGER FWD GRND (BLK)-P8
AUGER FWD (WHT-BRN-PUR)-P7
PRODUCT PUMP REV GRND (BLK)-P6
PRODUCT PUMP REV (WHT-BRN-YEL)-P5
PRODUCT PUMP FWD GRND (BLK)-P4
PRODUCT PUMP FWD (WHT-BRN-GRY)-P3
HOT OIL PUMP GRND (BLK)-P2
HOT OIL PUMP (WHT-BRN-BLU)-P1

C1 (KEYED A)
NC-P24
NC-P23
NC-P22
NC-P21
GENERATOR ON (14GA RED)-P20
GENERATOR ON (14GA RED)-P19
BEACON GRND (BLK)-P18
BEACON PWR (FOM SW) (BRN)-P17
HOT OIL TEMP SNSR GRND (BLU)-P16
HOT OIL TEMP SNSR (WHT-BLK-ORG)-P15
HOT OIL PRESSURE SNSR PWR (YEL)-P14
HOT OIL PRESSURE SNSR (WHT-PUR)-P13
HYDRAULIC LOW SNSR PWR (YEL)-P12
HYDRAULIC LOW SNSR (TO DISPLAY) (WHT-GRN-YEL)-P11
AUGER PRESSURE SNSR PWR (YEL)-P10
AUGER PRESSURE SNSR (WHT-BLK-PUR)-P9
TEMP SNSR GRND (BLU)-P8
TEMP SNSR (FRONT) (WHT-BLK-BLU)-P7
NC-P6
NC-P5
NC-P4
NC-P3
NC-P2
NC-P1

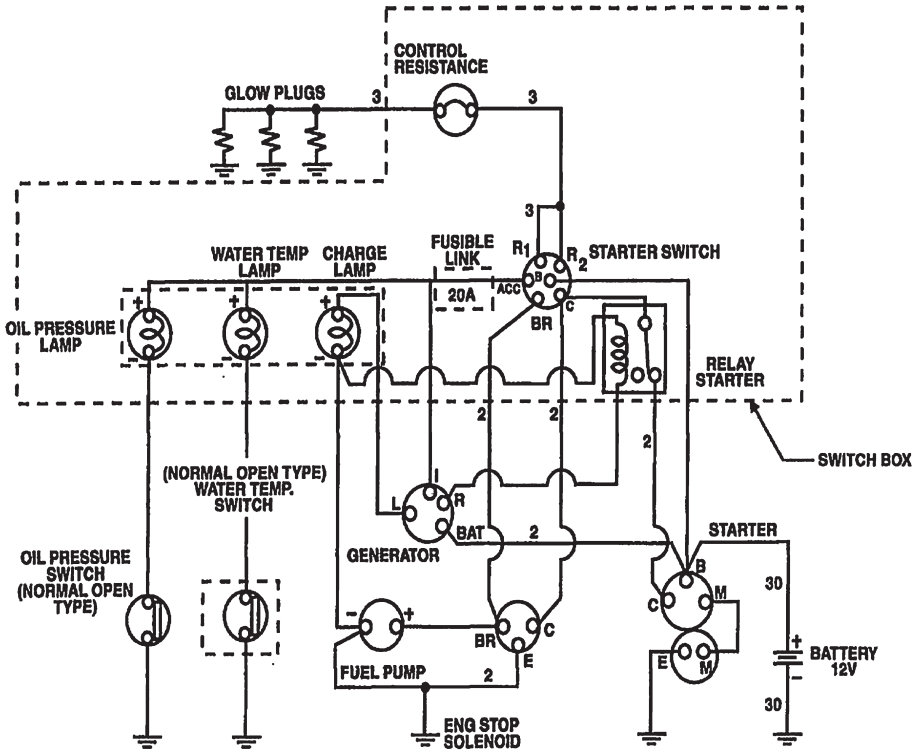
C1-B (BURNER)
NC-P4
HEATED GUN (ACC PWR 5AMP FUSE) (14GA RED-WHT)-P3
BURNER GRND (14GA BLK)-P2
BURNER PWR (RELAY) (14 GA RED)-P1

DIAGNOSTIC
NC-PC
CAN 0 - (BLU-WHT)-PB
CAN 0 + (BLU-RED)-PA



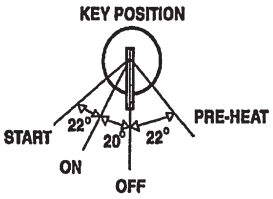
SCHEMATICS

Diesel Engine Schematic



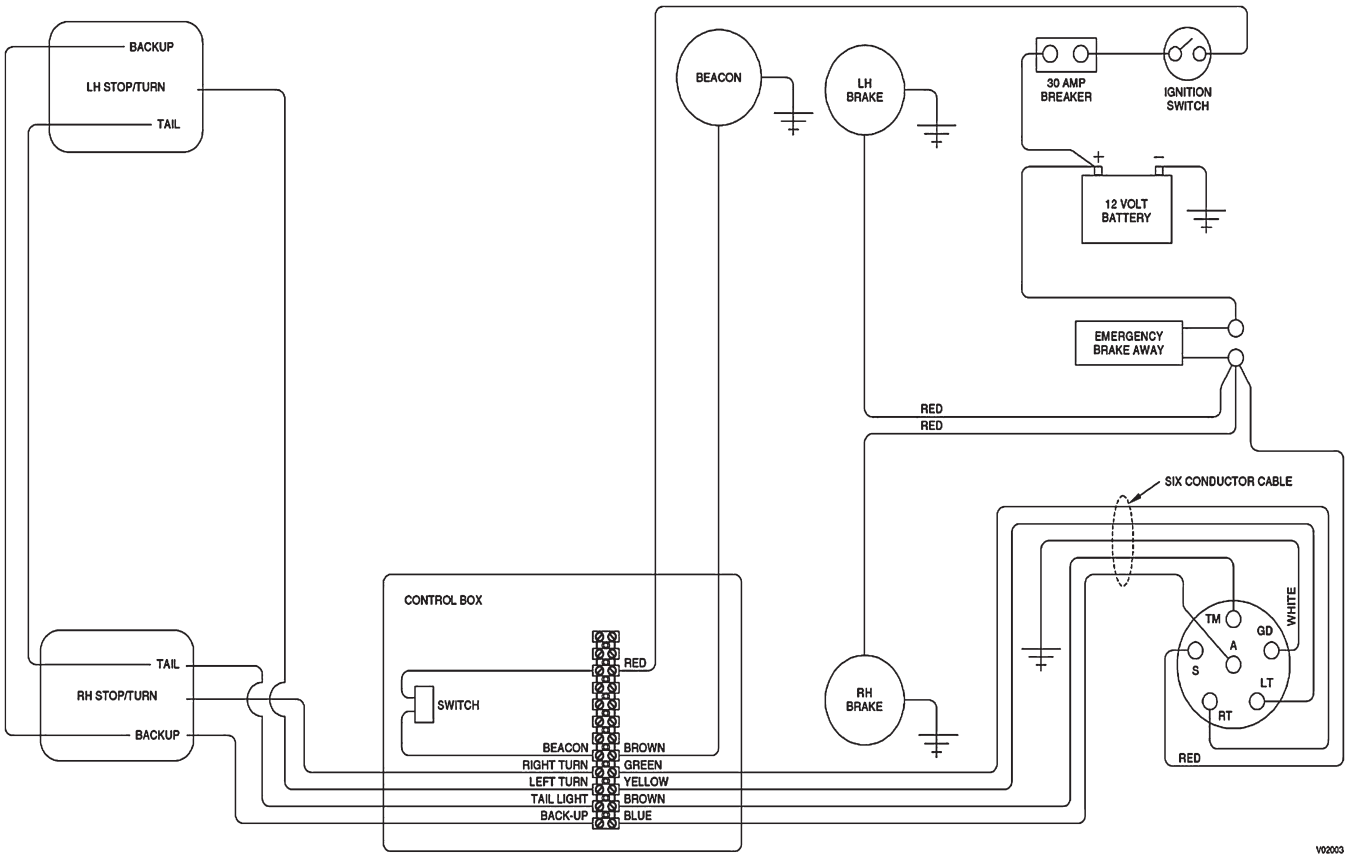
CONNECTION TABLE

CONTACT CAPACITY			50A	10A	50A	20A	2A
TERMINAL		B	R1	ACC	R2	C	BR
KEY POSITION	OFF	○					
	PRE-HEAT	○	○				○
	ON	○		○			○
	START	○		○	○	○	○



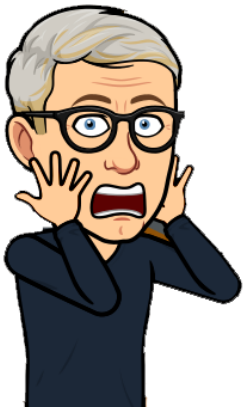
SCHEMATICS

Lights and Brakes Schematic



SCHEMATICS

Part No.	Page No.	Part No.	Page No.	Part No.	Page No.	Part No.	Page No.	Part No.	Page No.
10MB-6MJ	17	220777	16	ELC-24272A	13	MSC-80409	8		
16MJ-16MP	10	220784	11	ELC-24274A	13	MTR-80270	9		
200656	13	220788	16	ELC-24275	13	MTR-80270	10		
200710	13	220794	16	ELC-24470	12	MTR-80311	16		
202719	13	220843	11	ELC-24471	12	PMP-80305	8		
202723	13	220844	8	ELC-26255	13	PMP-80305	16		
204657	16	220845	8	ELC-74404	13	PMP-81008-1	12		
206356	13	220847	11	ELC-80689	8	PMP-81008-2	12		
207333	12	220848	11	ELC-80699	8	PMP-81061	8		
207522	8	220849	11	FAS-29363	17	PTM-33741	8		
210207	8	220850	11	FIT-22150	9	PTM-33741	16		
210208	9	220851	11	FIT-28001	9	PTM-33742	8		
212836	17	220852	16	FIT-28002	9	PTM-33742	16		
214131	12	220853	16	FIT-28180	10	PTM-80345	17		
214175	12	220862	8	FIT-28180	10	PTM-80685	8		
216083	16	220863	11	FIT-28183	11	PTM-80685-1	8		
216827	12	220864	11	FIT-28195	10	PTM-80685-2	8		
216828	12	220871	16	FIT-28236	9	PTM-80685-3	8		
216996	16	2208731	8	FIT-28252	9	PTM-80685-4	8		
217108	12	220926	9	FIT-28255	10	PTM-80690	8		
217512	16	220927	9	FIT-28284	9	PTM-80690-1	8		
217623	13	220929	8	FIT-28285	10	RNG-29045	16		
217658	11	220935	15	FIT-28311	9	RNG-29054	16		
217659	11	220939	13	FIT-28312	9	RNG-33728G	8		
217661	11	220940	12	FIT-28313	9	RNG-33728G	16		
217662	11	220940	13	FIT-28313	10	RNG-71031	16		
217666	11	220943	13	FIT-28314	9	RNG-71032	16		
217667	11	220944	14	FIT-28318	9	RNG-71032	17		
217670	11	220945	14	FIT-28342	9	TNK-80236	9		
217673	11	220946	14	FIT-71022	11	VLV-29203	9		
217678	8	220947	14	FIT-71023	11	VLV-29206	9		
217679	16	220958	14	FIT-79011	8	VLV-80050	16		
217680	16	220958	15	FTR-51735	15				
217686	16	220963	14	FTR-51736	15				
217696	16	220964	14	FTR-81066	9				
217698	8	220981	9	GRD-80519	12				
217698	10	220982	8	GRD-81060	8				
217699	10	220982	9	GRD-81180	8				
217701	10	220983	8	HSG-24235	12				
217702	10	220999	15	HSG-24948	8				
217711	11	221100	15	HSG-79014	8				
217721	11	221102	15	HSG-80204	11				
217723	11	221133	13	HSG-80229	9				
218060	8	221134	13	HSG-80342	11				
218064	8	221135	13	MCH-80087	12				
218072	8	45D6MJ-4MP	10	MCH-80104	12				
218074	12	90D4FP-6MJ	16	MCH-80341	11				
218075	12	BRK-80106	12	MCH-80341	17				
218079	12	BRK-80143	12	MCH-80344	17				
218080	12	BRK-80154	12	MCH-80690	8				
218244	15	BRK-80265	9	MSC-71025	11				
218325	16	BRK-80339	17	MSC-71207	17				
218326	17	BRK-80365	8	MSC-71214	17				
218706	13	BRK-80382	17	MSC-80009	12				
218800	9	BRK-82261	12	MSC-80126	12				
218811	15	ELC-24215	8	MSC-80127	12				
220747	13	ELC-24270	13	MSC-80332	11				



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Explain the problem in the space below.

Page Number	Reference Number	Paragraph Number	Figure Number	Problem (please be specific)