



SUPER SHOT 125 DIESEL MELTER

PART MANUAL - 26320
REV. A

SUPER SHOT 125 DIESEL MELTER



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SUPER SHOT 125 DIESEL MELTER

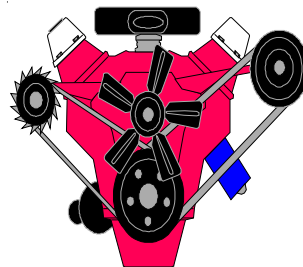
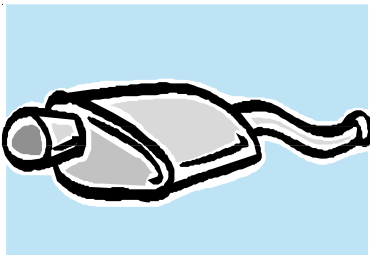
This manual is furnished with each new **CRAFCO SUPER SHOT 125 DIESEL MELTER**. This manual will help your machine operators learn to run the melter applicator properly and understand its mechanical functions for trouble-free operation.

Your **CRAFCO SUPER SHOT 125 DIESEL MELTER** is designed to give excellent service and save maintenance expense. However, as with all specially engineered equipment, you can get best results at minimum costs if:

1. You operate your machine as instructed in this manual.
2. Maintain your machine regularly as stated in this manual.



WARNING: The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Operate in well ventilated area only. Engine exhaust is deadly.



SAFETY PRECAUTIONS

- High operating temperatures of sealant and machine require protective clothing, hard-soled shoes and heat resistant gloves be worn by operator.

- Always wear eye protection.



- Observe all **CAUTION AND WARNING** signs posted on machine.



- Avoid the entrance of water into any part of the machine. Water will displace heat transfer oil or sealant, which could be hazardous to personnel surrounding the machine when it reaches operating temperatures.

- Avoid bodily contact with hot sealant material or heat transfer oil, serious burns may result.

- Read Operator Manual thoroughly before operating machine.

- Make sure operator is familiar with machine operation.

- Do not operate in closed building or confined areas.

- Shut-down burner and engine prior to refilling diesel tank.

- When adding solid material to sealant tank, stop mixer, lift lid, place material onto lid and close lid before restarting mixer. Hot material could splash and cause serious burns if this procedure is not followed.

- Keep hands, feet, and clothing away from all moving parts.

- Always keep a fire extinguisher near the unit. Maintain extinguisher properly and be familiar with its use.



- **DO NOT** exceed 525° F. for heat transfer oil temperature.

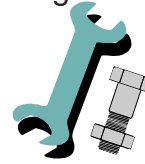
- **DO NOT** overfill heat transfer oil level. Expansion of oil during heat up could cause overflow. With machine in level position, check oil each day before starting burner, add oil to top mark on dipstick if required (at 70° F.). **Use only recommended heat transfer oil and change after 500 hours of operation or one year, whichever occurs first.**

- Follow operating instructions for starting and shut-down of burner. See operating instructions.

- Calibrate temperature control prior to initial operation and each 50 hours of operation. See temperature control calibration.

SAFETY PRECAUTIONS

- Replace any hoses which show signs of wear, fraying, or splitting. Be sure all fittings and joints are tight and leak-proof, each time machine is used.
- Precaution is the best insurance against accidents.
- The melter should not be left unattended with burner lit.
- Tighten all bolts and screws after every 100 hours of operation.
- Crafco, Inc. assumes no liability for an accident or injury incurred through improper use of the machine.



LIMITED WARRANTY

Crafco, Inc., through its authorized distributor, will replace for the original purchaser free of charge any parts found upon examination by the factory at Mesa, Arizona, to be defective in material or workmanship. This warranty is for a period within 60 days of purchase date, but excludes engine or components, tires, and battery as these items are subject to warranties issued by their manufacturers.

After 60 days, Crafco, Inc., warrants structural parts, excluding heating system, hydraulic components, material pump and hoses, hot oil pump, applicator valves, and electrical components for a period of (1) one year from date of delivery. Crafco, Inc., shall not be liable for parts that have been damaged by accident, alteration, abuse, improper lubrication/maintenance, normal wear, or other cause beyond our control.

The warranty provided herein extends only to the repair and/or replacement of those components on the equipment covered above and does not cover **labor** costs. The warranty does not extend to incidental or consequential damages incurred as a result of any defect covered by this warranty.

All transportation and labor costs incurred by the purchaser in submitting or repairing covered components must be bore by the purchaser.

Crafco, Inc. specifically disavows any other representation, warranty, or liability related to the condition or use of the product.



WARNING: Use of replacement parts other than genuine Crafco parts may impair the safety or reliability of your equipment and nullifies any warranty.

WARRANTY CLAIM INSTRUCTIONS

Please follow the instructions stated below when calling in a Warranty Claim. Failure to follow these procedures may be cause to void the warranty.

1. Call your local CrafcO Distributor. If you do not know who your local distributor is, call a CrafcO Customer Service Representative, (Toll Free 1-800-528-8242) for name, location, and telephone number.
2. On contacting the distributor, be prepared to identify the machine type, model number, and serial number, also, the date of purchase if available.
3. Should the cause of the malfunction be a defective part, the distributor will advise you of the procedure to follow for a replacement.
4. The warranty is valid only for parts, which have been supplied or recommended by CrafcO, Inc.

If you have any additional questions regarding warranty repairs and parts, please do not hesitate to call toll free 1-800-528-8242.

CRAFCO, INCORPORATED
235 SOUTH HIBBERT DRIVE
MESA, AZ. 85210
480-655-8333
Toll Free 1-800-528-8242

SPECIFICATIONS

Vat Capacity.....	125 Gallons
Melt Capacity.....	90 Gallons/Hour
Heat Transfer Oil Required.....	34 Gallons at 70° F
Tank Construction.....	Double Boiler Type
Tank Opening Size.....	14" X 18"
Maximum Heat Input.....	250,000 BTU's
Burner and Temperature Control.....	Diesel-Forced Air Thermostatic Control
Engine - Isuzu.....	Twin Cylinder
Model 3LB1 - Diesel	25.4 BHP @ 3600 RPM
Hydraulic Drive Mechanism.....	All Hydraulic with Infinite Speed on Mixer and Material Pump
Mixer.....	Full Sweep Mixer with 2 Horizontal Paddles Vertical Risers
Axle.....	Single - 5,200 Lb. Torsional
Tires (2).....	ST225/75R15 Load Range D
Dry Weight.....	Approximately 2,600 Lbs.
Diesel Tank Capacity.....	24 Gallons
Hydraulic Tank Capacity.....	24 Gallons

SUPER SHOT 125 DIESEL MELTER

OPERATING INSTRUCTIONS

INTRODUCTION

The CRAFCO SUPER SHOT 125 MELTER was developed to melt CRAFCO Brand Sealant. However, it will work equally well with all road asphalt and federal specification crack or joint sealant.

DO NOT operate machine without following these instructions:

1. Fill fuel tank with diesel fuel (use #1 in cold weather, #2 in warm weather).
2. Check engine crankcase oil level (refer to Engine Operator's Manual).
3. Check hydraulic fluid level, at 70° F. Add fluid if necessary.
4. Check heat transfer oil level, at 70° F., the oil should be at the full mark on the dipstick. **DO NOT** overfill or spillage may occur when oil is heated and expands.
5. All toggle switches should be turned "**OFF**" and both temperature control dials at minimum settings.
6. Remember that safe operation of this equipment is the operator's responsibility.



CAUTION:

Extreme care must be used when operating this equipment. Safety is the result of being careful and paying attention to details. Remember the diesel flame is about 2,200° F. Certain exposed parts of this machine, when operating reach 500° F.; the sealant as high as 400° F. and the hydraulic fluid may reach 200° F. Always wear protective clothing, hard-soled shoes, and eye protection. Be sure that all joints and fittings are tight and leak proof. Immediately replace any hose, which shows any signs of wear, fraying, or splitting. Tighten all bolts, nuts, and screws every 250 hours.

MACHINE START UP

TO START BURNER

1. Fully open the damper vent.
2. Start engine per Engine Manual.
3. Turn burner toggle switch at control box “ON”.
4. Set hot oil temperature at 500° F and material temperature at manufacturers recommended temperature.



CAUTION:

If burner does not ignite the first time, turn burner toggle switch to “OFF.” Turn burner toggle switch to “ON” again. Burner should ignite. If burner still does not ignite, determine cause of malfunction (see Trouble Shooting Guide, Page 29).

- NOTE:** The solid material in the tank melts first around the walls and bottom of the material tank. Material temperature sensor is located by the wall; therefore, it is possible that the beginning of the melting process the indicated temperature reaches operating value, but the material closer to the center of the tank is still solid. This is normal and when the heated hose is ready for operation, most of the material in the tank will be melted and heated to application temperature.
5. Allow the heating oil to continue to heat. When sealant material reaches a liquid state, engage the mixer by turning the toggle switch at the hydraulic control panel “ON”, open flow control approximately 3-4 turns. If the mixer does not move, allow the material to heat longer. Jamming of mixer causes hydraulic oil to overheat and machine damage could occur. When approximately half the material is melted turn the agitator speed up to approximately 6-8 turns (this will mix the material to even temperature throughout).
 6. Turn “ON” the hose toggle switch when hot oil temperature reaches approximately 300° F. See Operating Instructions. Adjust the temperature dial to 380° F. The hose will come up to temperature in approximately 30 minutes. After the hose is hot, the light in the control box marked “HEATED HOSE” will turn off and the temperature may be reduced to approximately 360° F. It is advisable to run the hose at the lowest temperature setting possible and still have material dispense.

NOTE!! The hose must be up to temperature before dispensing can take place.

IMPORTANT!! DO NOT twist or kink hose. Avoid sharp bends and continuous twisting. Maintain minimum, 10 inch bend radius. **DO NOT** exceed 400° F. setting on hose controller!! **DO NOT** move or bend hose when cold. Damage may result. **DO NOT** leave hose “ON” for longer than 30 minutes without dispensing material. Coking will occur and permanently damage hose. **DO NOT** remove hose from boom during operation, kinking will occur.

IT IS STRONGLY RECOMMENDED THAT THE HOSE BE STORED IN THE HOSE HANGER WHEN NOT IN USE OR WHEN IN TRANSIT. THIS WILL HELP PREVENT TWISTING OR KINKING.

7. The heated hose supplied with the machine is Teflon lined with steel over braid. It has a heating element, which runs down the hose to heat the material within the hose. The hose is covered with high temperature, durable rubber hose. The wand has an aluminum tube to protect both the wand and the operator. The pistol grip actuator is equipped with an electric switch which when depressed sends a signal to actuate the pump. At the end of the wand, a high temperature elastomeric output valve is attached. The valve is pressure actuated and opens automatically when fluid pressure is applied. The wand is equipped with a trigger lock to prevent accidental pump actuation when not pumping material. The trigger should be in the “LOCKED” position at all times except when intentionally pumping material.



DISPENSING THE MATERIAL



NOTE: PROTECTIVE CLOTHING, GLOVES, HARD SOLED SHOES, AND FACE SHIELD OR SAFETY GLASSES SHOULD BE WORN WHEN OPERATING OR FILLING THIS EQUIPMENT. READ ENTIRE MANUAL BEFORE OPERATING.

The wand is equipped with a disposable duckbill valve on the end, which shuts off the flow of material when the pump is turned off and prevents excessive dripping of material. This valve also directs the material into a stream for easy application into the crack. Other sealing tips are available. See your local distributor for options.

Some difficulty may be encountered when starting up on cold days. Although the wand is designed to heat the material all the way down to the tip, on cold days it may be necessary to place the tip of the wand under the lid to facilitate material melting in the valve. Insert the wand tip for only a short time before proceeding.

When the material and the hose have reached proper application temperature, you are ready to dispense material. Turn the pump speed control to the lowest setting by turning the speed control knob fully counter clockwise. With the wand tip inserted into the top of the melter, depress trigger on the wand and slowly increase pump speed by turning the speed control knob clockwise until the pump motor starts to turn. Material should start to flow from the tip of the duckbill valve. Adjust the pump speed for the desired rate of flow for the application and dispense material as required. The rate of flow may be varied while the pump is running by rotating the control knob.



NEVER POINT THE WAND AT ANY PART OF THE BODY OR AT ANY OTHER PERSON. HOT MATERIALS CAN CAUSE SEVERE BURNS. WEAR PROTECTIVE EQUIPMENT WHEN FILLING OR OPERATING THE EQUIPMENT. READ MANUAL BEFORE OPERATING EQUIPMENT.



ACTIVE PUMP PROTECTION

The pump shall be completely encircled by a protective screen. The screen shall not allow anything larger than 1/2" (1.27 cm) in size to pass from the sealant tank into the pump suction port. The screen shall continuously rotate 360 around the pump whenever the sealant agitator is engaged. The *active screen* will protect the pump from foreign object damage and will self clean as it rotates around the sealant pump and suction port.

LOADING THE MACHINE

When loading solid material into the sealant tank, the mixer will stop when the lid is lifted.

To load, lift the lid, place the material on the lid and close lid. Following this procedure will prevent the hot material from splashing and causing serious burns to personnel.

The solid material must be added at intervals, which will allow the mixer to rotate without jamming. If blocks of material are fed in too quickly, jamming will result and slow down the melting process.

SHUTDOWN AND CLEAN-OUT PROCEDURE

When shutting down the machine for the day, there are several schools of thought about how much material to leave in the machine. Crafcoc recommends leaving the melter about half full. This will give a fairly rapid heat up rate in the morning, but will allow enough material to start dispensing right away when the material becomes molten.

1. Turn the burner toggle switch “**OFF**”.
2. Reverse the pump for approximately 30 seconds.
3. Turn the hose controller toggle switch “**OFF**”.
5. Store the hose in the hose hanger per transport decal on machine.
IMPORTANT!! DO NOT kink or twist hose, as permanent damage will result.
6. Turn the mixer toggle switch to “**OFF**”.
7. Shut the engine down by turning the key to the “**OFF**” position.

STORING MACHINE

The melter should be stored in an area where moisture cannot enter the machines heating system such as hot oil, controls, etc. Extended down time can cause moisture build up in heating oil tank.

If there is any suspicion that moisture may have collected in heat transfer oil, warm heat transfer fluid to 300° F. for 2 to 3 hours to evaporate the moisture.

INSTRUCTIONS FOR ORDERING PARTS

Parts may be ordered from your local CRAFCO distributor or directly from CRAFCO, Inc. if a distributor is not available in your area. When ordering parts, give the following information:

1. Part Number
2. Machine Model
3. Serial Number

Write, telephone, or fax:

CRAFCO, INCORPORATED
235 SOUTH HIBBERT DRIVE
MESA, AZ. 85210
Phone: 480-655-8333
Fax: 480-655-1712
Toll Free: 1-800-528-8242



ELECTRIC HOSE CARE AND CAUTIONS



Twisting and kinking of the electric hose (used on LF, BAX, SS60, SS125, and SS250 Melter) is the number one cause of hose failure.

When this happens, the electric heating wires are shorted out to the metal hose cover and the hose stops heating.

This type of failure is not covered under the CrafcO warranty.

To help prevent twisting and kinking and the resulting hose damage, the operator should:

- a. Not move or use hose unless it has been turned on a least 30 minutes and set at a minimum temperature of 300° F.
- b. Make sure hose swivel between hose and wand moves freely.
- c. Limit the hose bending to a radius of 10 inches.
- d. Avoid bending the hose over sharp edges such as the edge of the frame or tank.
- e. Avoid twisting.
- f. Do not exceed 400° F. on the hose or material temperature.
- g. Follow all instructions of the melter as well as those in the instruction manual.

HOSE TRANSPORT INSTRUCTIONS

1. Remove hose from jib support and rotate jib support towards front of machine until it locks into position.
2. Wrap hose on hose hanger two complete wraps (Approximately 20 inch diameter).
3. Store wand in support hook.

CAUTION: 

Hose damage will occur if:

- a. Hose is bent or moved when cold.
- b. Hose is twisted or bent at less than a 10 inch radius.
- c. Hose is moved prior to being turned on at least 35 minutes and set at 380° F.
- d. Operator crosses over or under hose causing hose to twist or wires between hose and wand connection to twist or wrap up.
- e. Swivel is cold and not free to move allowing hose to twist.
- f. Hose to wand wiring is pulled, stressed, or used to support the wand.

MAINTENANCE INSTRUCTIONS

ENGINE

See engine owner manual for operating and maintenance instructions.

HYDRAULIC SYSTEM

Check hydraulic fluid daily. Change hydraulic filter after first 10 hours of operating and every 250 hours thereafter. Change hydraulic fluid every 500 hours of operation.

WHEEL BEARINGS

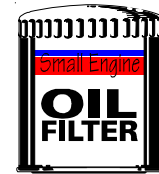
Re-pack wheel bearings every 24,000 miles or every two years, using a good grade of bearing grease.

TONGUE JACK

Lubricate tongue jack, using a good grade of bearing grease.

MIXER BEARING

Lubricate every 50 hours with good quality, high temperature grease.



TEMPERATURE CONTROL CALIBRATION

Check control knob calibration weekly. There are two ways to calibrate.

1. Calibrate by aligning the line on the control knob with the calibration line on the scale plate (See Fig. 1).
2. Calibrate using test Light Kit p/n 43447. Install all test plugs as shown in (fig. 2), attach original cable to test plug #4.
 - A. Calibrate material and hot oil by turning burner toggle switch "ON", and material/ hot oil knob to 267°, burner light in control box and on test plug #4 should illuminate. If not turn each knob until light works, then loosen set screw on the knob and align knob to the 267° mark. Tighten set screw.
 - B. Calibrate hose by turning hose toggle switch "ON" and knob to 267°, the light in the control box and on test plug #4 should illuminate. If not turn knob until light works, then loosen set screw on the knob and align knob to the 267° mark. Tighten set screw.

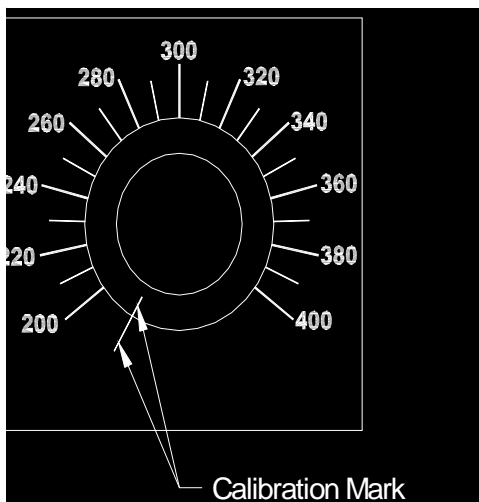


Fig. 1

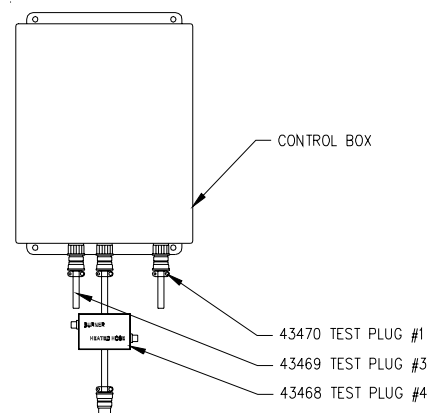


Fig. 2

MAINTENANCE CHART

		HOURS			
LOCATION	PROCEDURE	8	50	250	500
Engine check oil level	See Engine Instruction Manual.	*			
Other engine maintenance	See Engine Operating and Maintenance Instructions.				
Battery	Check water level weekly.				
Heat transfer oil	Check.	*			
Heat transfer oil	Change.				*
Hydraulic oil filter	Change.			*	
Hydraulic oil	Check oil.	*			
Hydraulic oil	Change oil.				*
Burner	Check burner box insulation.				*
	Clean cad cell.				*
	Check electrodes.				*
	Check blower brushes.				*
	Check nozzle pressure.				*
Wheel bearings	Clean & re-pack using a good grade of bearing grease.	Every 24,000 miles or every two years.			
Tongue jack	Grease, using good grade of bearing grease.	Once a year.			

SERVICE INSTRUCTIONS

1. Conduct a general inspection of your machine at least once a week. Replace all worn or damaged parts, make any necessary adjustments and tighten all loose nuts or screws.
2. Keep regular replacement items in stock for emergency repairs, to avoid costly "down" time.
3. Watch for leaks. Tighten fitting or repair as necessary.
4. Clean machine externally periodically. Check with sealant manufacturer for recommendation.
5. Follow recommended maintenance procedures on maintenance chart.

RECOMMENDED FLUIDS AND LUBRICANTS

APPLICATION	RECOMMENDED	FULL POINT
Engine oil	Refer to Isuzu owners manual.	3 Qts.
Diesel	#1 Cold climate #2 Warm climate	24 Gals.
Hydraulic oil	Rondo HD-68 Texaco	24 Gals.
Heat transfer oil	Regal R&O 68	34 Gals.

The following is a list of suitable Heat Transfer Oil to be used in CrafcO equipment.

PRODUCER	PRODUCT NAME	PRODUCT NUMBER
Texaco	Regal	R&O 68
Exxon	Caloria	HT 43
Arco	Rubilene	--
Citgo	Sentry	R&O 68
Gulf Oil Co.	Security	R&O 68
Shell Oil Co.	Therma	C
Chevron	Chevron Heat Transfer Oil	--
Conoco	Heat Transfer Oil	R&O 68

TYPICAL SPECIFICATIONS

ISO	68	Viscosity Index	95-100
Flash Point, COC	445° F.	Pour Point	0° F.
Viscosity @ 100° F.-SUS	325	Carbon Residue	1%
Viscosity @ 210° F.-SUS	50		



WARNING:

The Heat Transfer Oil in this machine is a grade that has been tested and recommended by CrafcO, Inc. The addition of any grade of oil not specifically recommended by CrafcO, Inc., shall be cause for warranties to be voided.

All oils subjected to high temperatures deteriorate with time and lose many of their characteristics. Tests conducted by CrafcO, Inc. have determined that for best results and safety, the Heat Transfer Oil in this machine must be drained and replaced with CrafcO, Inc. recommended oil after five hundred (500) hours of operation or one (1) year, whichever occurs first.

SUPER SHOT PUMP REPLACEMENT

Step 1

Bring melter up to temperature as preparation for draining the material tank. Remove pipe cap located at rear of machine and drain tank (**CAUTION!! EXTREMELY HOT MATERIAL**).



Step 2

Remove both guards from the motor mount to access the chain and sprockets.

Step 3

Rotate agitator until connecting link is accessible. Disassemble the connecting link and remove the drive chain.

Step 4

Loosen set screw in the lower coupling half between the hydraulic motor and the drive shaft.

Step 5

Remove the (4) hydraulic hoses and cap off all ports. Note: Mark hoses for ease of replacement.

Step 6

Remove the (4) bolts holding motor mount on top of melter. Lift off motor mounting and set aside.

Step 7

Remove (2) bolts holding agitator shaft bearing. Note: Do not remove bearing from agitator shaft.

Step 8

When unit has cooled sufficiently, remove (6) bolts holding paddles on top of screen. Remove paddles from tank.

Step 9

Remove pump drive shaft from center of agitator shaft then lift agitator shaft and screen assembly as high as possible and insert screw driver into shaft hole. (**Note: There is a key in the pump drive shaft.**) This will support the assembly while removing the pump from the tank.

Step 10

Remove the (6) bolts, which fasten the pump to the tank. Lift the pump from the material tank (**CAUTION!! THE PUMP WEIGHS APPROXIMATELY 90LBS.**)

Disassembly of Material Pump

Step 11

Remove the (2) bolts, which hold the pump plates together. Disassemble the (3) plates from each other (**NOTE: as pump is being disassembled make note of the orientation of holes in each plate.**)

Step 12

Clean all pump parts thoroughly before beginning to reassemble the pump.

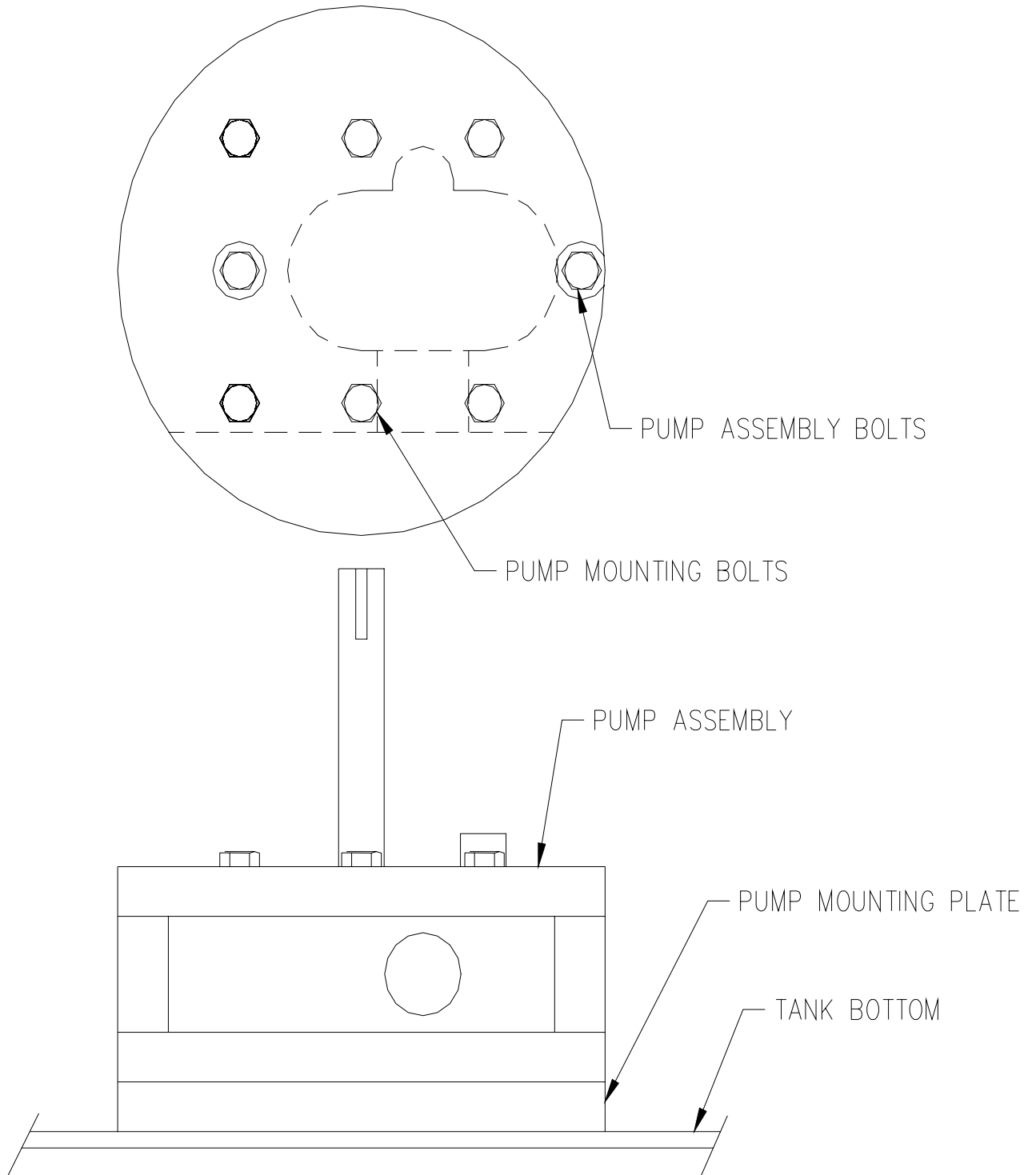
Step 13

Assemble the pump, check for free movement of the pump gears. If gears do not turn freely, loosen bolts slightly and align plates until the gears turn freely. Torque all the bolts to 35 ft. lbs.

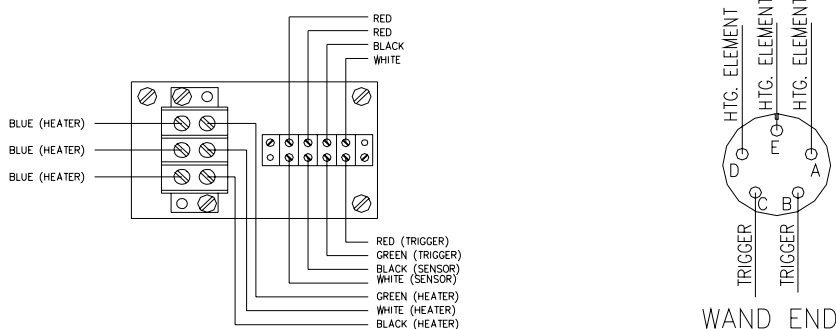
Step 14

Install all parts in machine starting at: **Step 10** and working backward to **Step 1**.

SUPER SHOT PUMP REPLACEMENT



TROUBLE SHOOTING GUIDE



HOSE DOES NOT HEAT

Step 1: Is the "HEATED HOSE" switch "ON"?

YES: Go to step 2

NO: Turn switch "ON".

Step 2: Is "HEATED HOSE" light illuminated?

YES: Go to step 3

NO: Check for tripped circuit breaker in front panel.

YES: Reset circuit breaker.

NO: Remove front panel and check for 12 volts at purple wire on hose switch.

YES: Go to step 2a.

NO: Check for 12 volts at circuit breaker in front panel.

Step 2a: Check for 12 volts at #3 terminal (purple wire) on Pak-Stat.

YES: Go to step 2b.

NO: Check wire connections or replace switch.

Step 2b: Check for 12 volts at #7 terminal (blue wire) when Pak-Stat is on.

YES: Go to step 3

NO: Replace Pak-Stat.

YES: Check wire connections (red wire) between circuit breaker and switch

NO: Check wire connections between "ACC" terminal on ignition switch and "A" terminal on the second plug from the left.

Step 3: Check for 12 volts at "BATT" terminal on generator.

YES: Go to step 4

NO: Check wire connections between "D" (blue wire) at control box to generator.

Step 4: Check for 24 volts AC at the "BLACK", "WHITE" and "GREEN" wires on the generator.

YES: Go to step 5.

NO: Replace generator.

Step 5: Check for 1.08K (1080) OHMS resistance of the hose sensor (black and white wire) at the junction box. (**NOTE: One of the sensor wires must be disconnected to check resistance**)

YES: Go to step 6

NO: Send hose to your Crafcro distributor for repair.

Step 6: Check for continuity between three heating element wires (blue) in junction box.

(**NOTE: Wires must be disconnected from terminal block**)

YES: Go to step 7

NO: Check wire connections between hose and wand.

Step 7: Check for continuity between element wires (blue) and the fitting of the hose.

YES: Replace hose.

NO: Hose is OK.

TROUBLE SHOOTING GUIDE

MATERIAL DOES NOT DISPENSE WHEN PUMP IS ACTIVATED

Step 1: Is the motor coupling turning?

YES: Go to step 2

NO: Has the sealant had sufficient time to completely melt?

YES: Go to step 2

NO: Has the hose had sufficient time to reach operating temperature?

YES: Go to step 2

NO: Allow hose to heat up to operating temperature.

Step 2: Is the "HEATED HOSE" switch "ON"?

YES: Go to step 3.

NO: Turn switch "ON".

Step 3: Is the "HEATED HOSE" light "ON"?

YES: Go to step 4.

NO: Check for tripped circuit breaker on front panel. (If display is operating circuit breaker is ok)

YES: Reset circuit breaker.

NO: Check for blown fuse inside control box.

YES: Replace fuse (**5 amp only**).

NO: Press white test button on relay, pump will turn.

YES: Go to step 8.

NO: Check for 12 volts at terminals #12 and terminal #14 (purple wire) of the relay. (**NOTE: Terminal #12 will have 12 volts when hose is turned "ON". Terminal #14 will on have 12 volts when trigger is activated.**)

YES: Go to step 6.

NO: Check all wire connections.

Step 4: Is the center and top right lights on hydraulic valve illuminated (looking from rear of machine) when trigger is activated?

YES: Replace hydraulic cartridge.

NO: Disconnect wand and check continuity between "C" and "B" on wand when trigger is activated.

YES: Go to step 5

NO: Replace switch or check for poor wire connection.

Step 5: Then reassemble plug and check continuity at the two red wires in junction box.

YES: Go to step 8.

NO: Check all wire connections between junction box and wand.

Step 6: Check for 12 volts at terminals #8 (purple wire) and #5 (purple wire) of the relay.

YES: Go to step 7

NO: Replace the relay

Step 7: Check for 12 volts at the "POWER" terminal on the driver card.

YES: Go to step 8

NO: Check purple wire between relay and driver card

Step 8: Check the "MIN" on the driver card. This is done by taking the voltage between "COIL+" and "COIL-" when potentiometer is turned to the lowest setting. The voltage should be 3.5 volts.

If not, set "MIN" on the driver card by turning the screw counter clockwise to lower the voltage and clockwise to increase the voltage. (See Fig. 3 pg. 24)

Step 9: Check "MAX" on the driver card. This is done by taking the voltage between "COIL+" and "COIL-" when potentiometer is turned to the highest setting. The voltage should be 9.5-10.0 volts. If not, set "MAX" on the driver card by turning the screw counter clockwise to lower the voltage and clockwise to increase the voltage. (See Fig. 3 pg. 24)

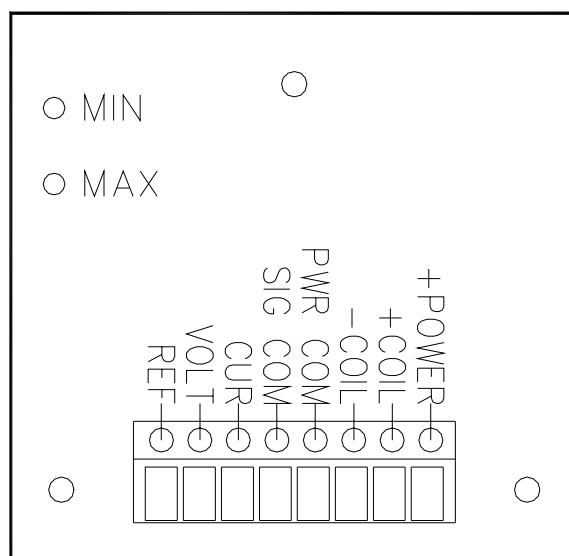
TROUBLE SHOOTING GUIDE

PUMP ROTATES BUT NO MATERIAL IS DISCHARGED

- Step 1:** Has the sealant had sufficient time to completely melt?
YES: Go to step 2.
NO: Allow the sealant to melt longer.
- Step 2:** The heated hose is not up to temperature.
YES: Go to step 3.
NO: Allow heated hose to heat longer.
- Step 3:** Check material outlet pipe and connection between hose and wand for obstruction.
YES: Remove obstruction and reassemble hose connection.
NO: Go to step 4.
- Step 4:** Is there an obstruction at the pump suction?
YES: Reverse material pump for 30 seconds.
NO: Refer to page 20 for pump removal.

MATERIAL DISPENSING RATE IS TOO SLOW

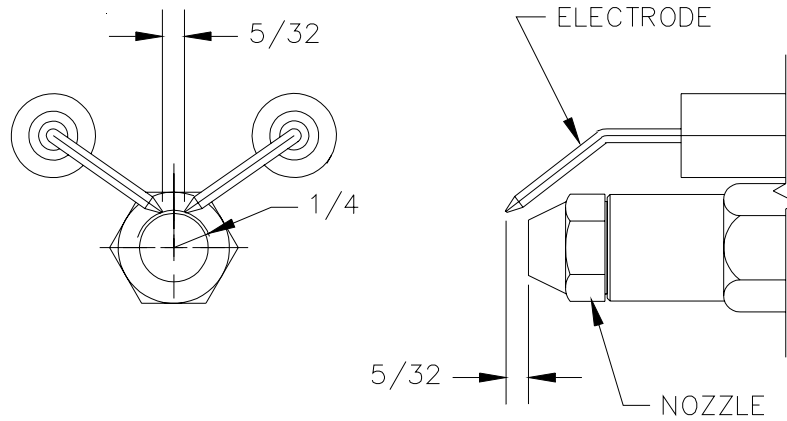
- Step 1:** Check speed control knob (potentiometer) for desired flow adjustment.
YES: Go to step 2.
NO: Adjust to desired flow.
- Step 2:** Check driver card for proper adjustment.
YES: Go to step 3.
NO: See page 23 step #8 and #9.
- Step 3:** Is there enough material in the tank?
YES: Go to step 4.
NO: Add enough material to bring tank level above the screen.
- Step 4:** Check material outlet pipe and connection between hose and wand for obstruction.
YES: Remove obstruction and reassemble hose connection.
NO: Pump is worn out (See page 20 for pump removal and installation).



DRIVER CARD

Fig. 3

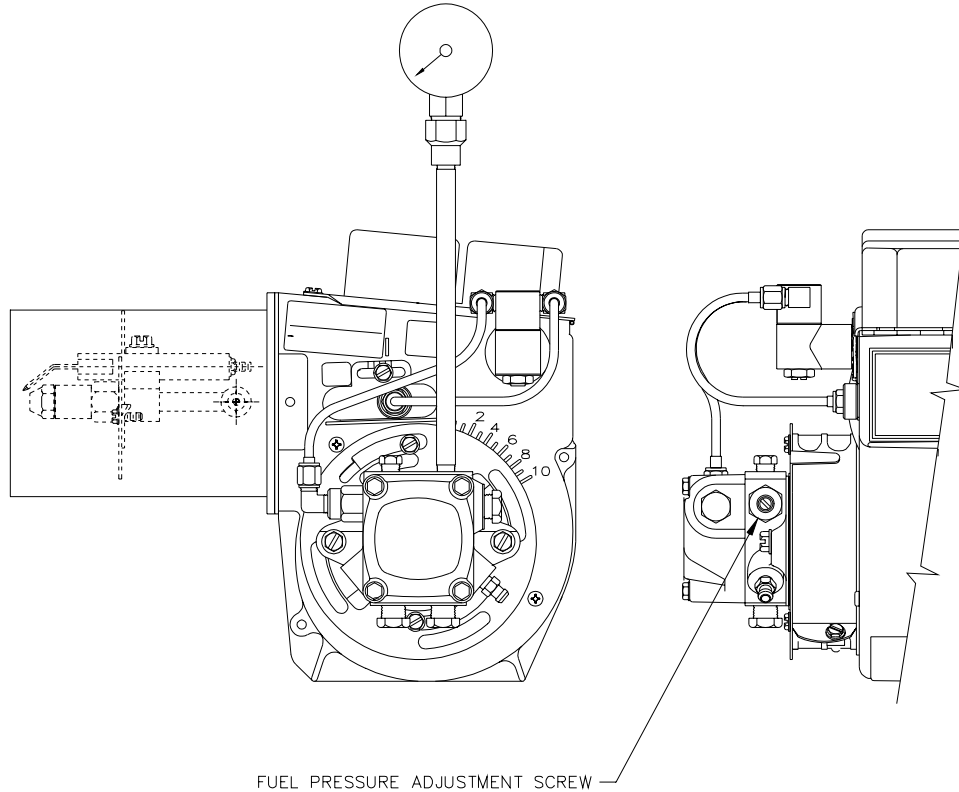
DIESEL BURNER ADJUSTMENTS



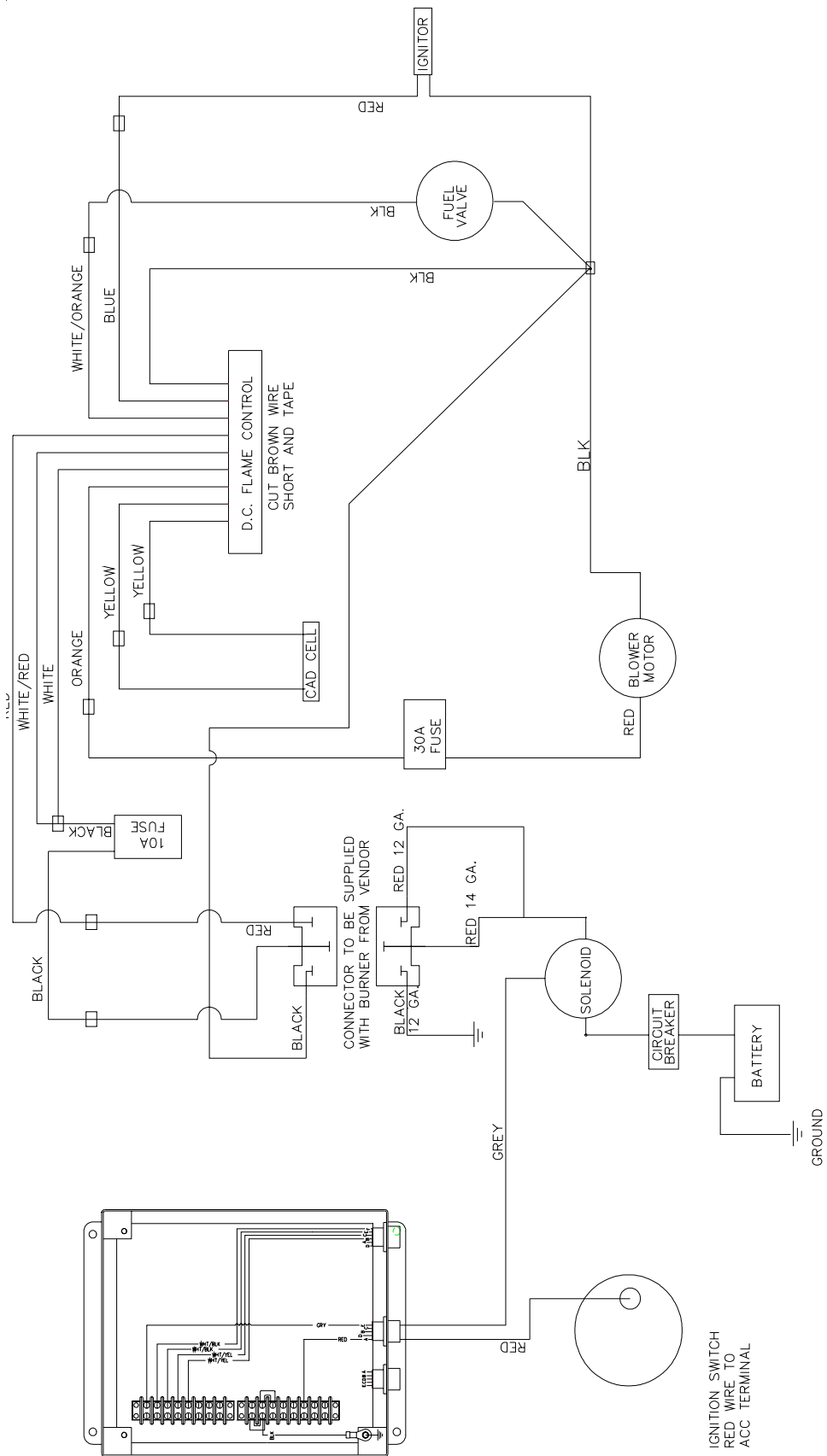
DIESEL BURNER SETTINGS

Air Shutter = 7
Air Band = 0
Fuel Pressure = 140 PSI
Adjustment Plate = 3

Use fuel and hydraulic pressure gauge kit part number 29960.



BURNER SCHEMATIC



BURNER TROUBLE SHOOTING

BURNER WILL NOT IGNITE

Step 1: Check for 12 volts at burner toggle switch.

No: Engine key "OFF"
Toggle switch "OFF"
Blown fuse
Broken wire



YES: 12 volts at terminal #7 on "material" thermostat

NO: Bad thermostat
Faulty sensor

YES: Check for 12 volts at terminal #7 on "OIL" thermostat

NO: Bad thermostat
Faulty sensor

YES: Check for 12 volts at solenoid (frame) terminal to burner

NO: Bad solenoid
Bad connection at battery
Faulty circuit breaker
Broken or loose wire

YES: Faulty DC Controller, poor ground / loose wire
Faulty or dirty flame
Faulty ignitor transformer, cracked electrode (ceramic)
Incorrect ignitor gap
Faulty fuel solenoid
Bleed fuel pump / check fuel pump coupling
Fuse under DC Controller
Blower motor relay
Faulty blower motor
Alternator charging @ 14 volts
Faulty 12 volt battery

BURNER LIGHTS BUT SHUTS DOWN AFTER 15 SEC.

Faulty flame eye
Broken, loose flame eye sensor wires, receptacle
Faulty DC Controller

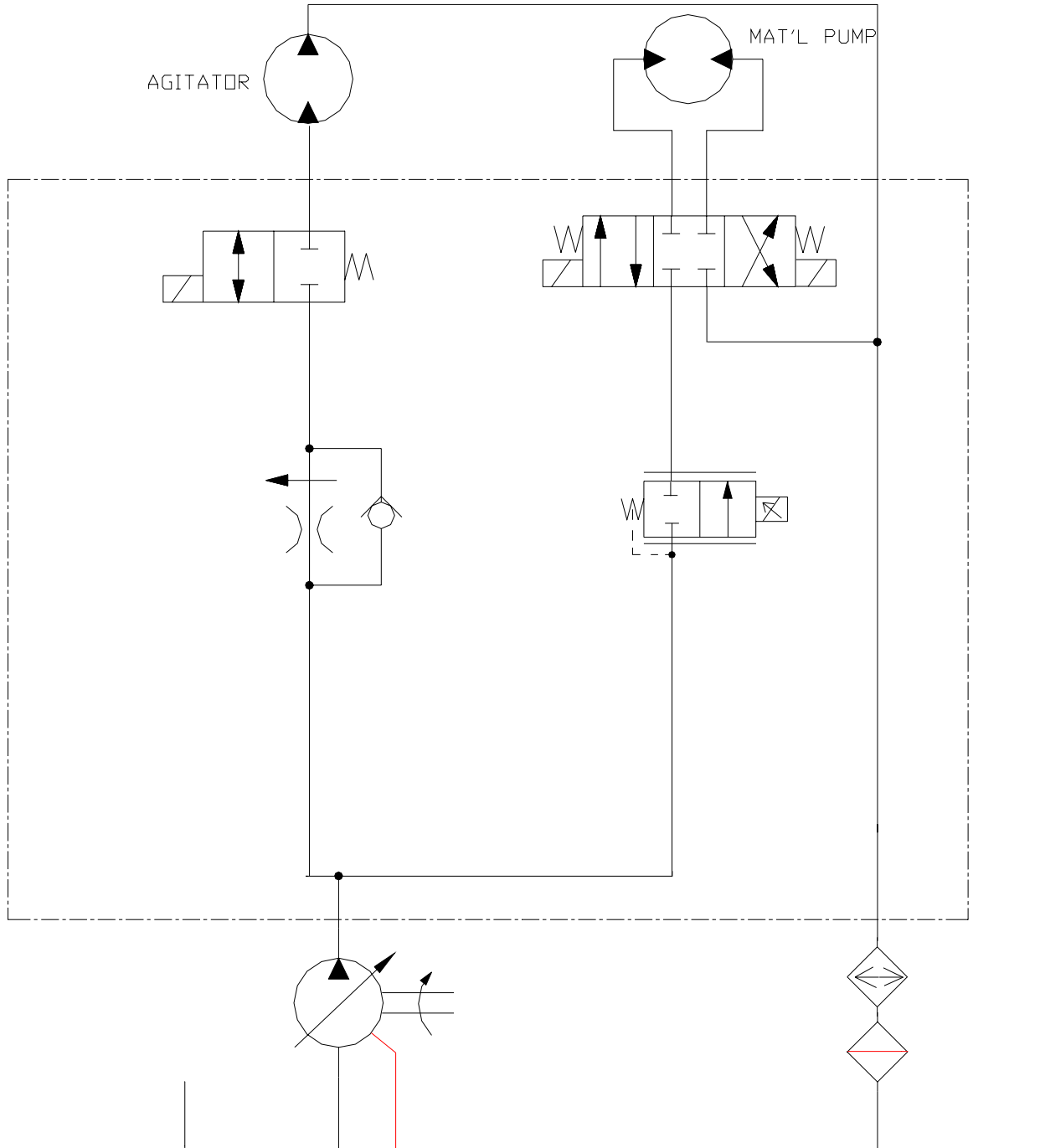
BURNER LIGHTS BUT WILL NOT RELIGHT

Bad connection at battery
Broken or loose wires
Faulty DC Controller
Alternator charging at 14 volts
Faulty 12 volt battery

EXCESSIVE SMOKE FROM BURNER EXHAUST

Air vent incorrectly set - set at 7
Blower motor not turning at correct speed
Alternator charging at 14 volts
Faulty 12 volt battery

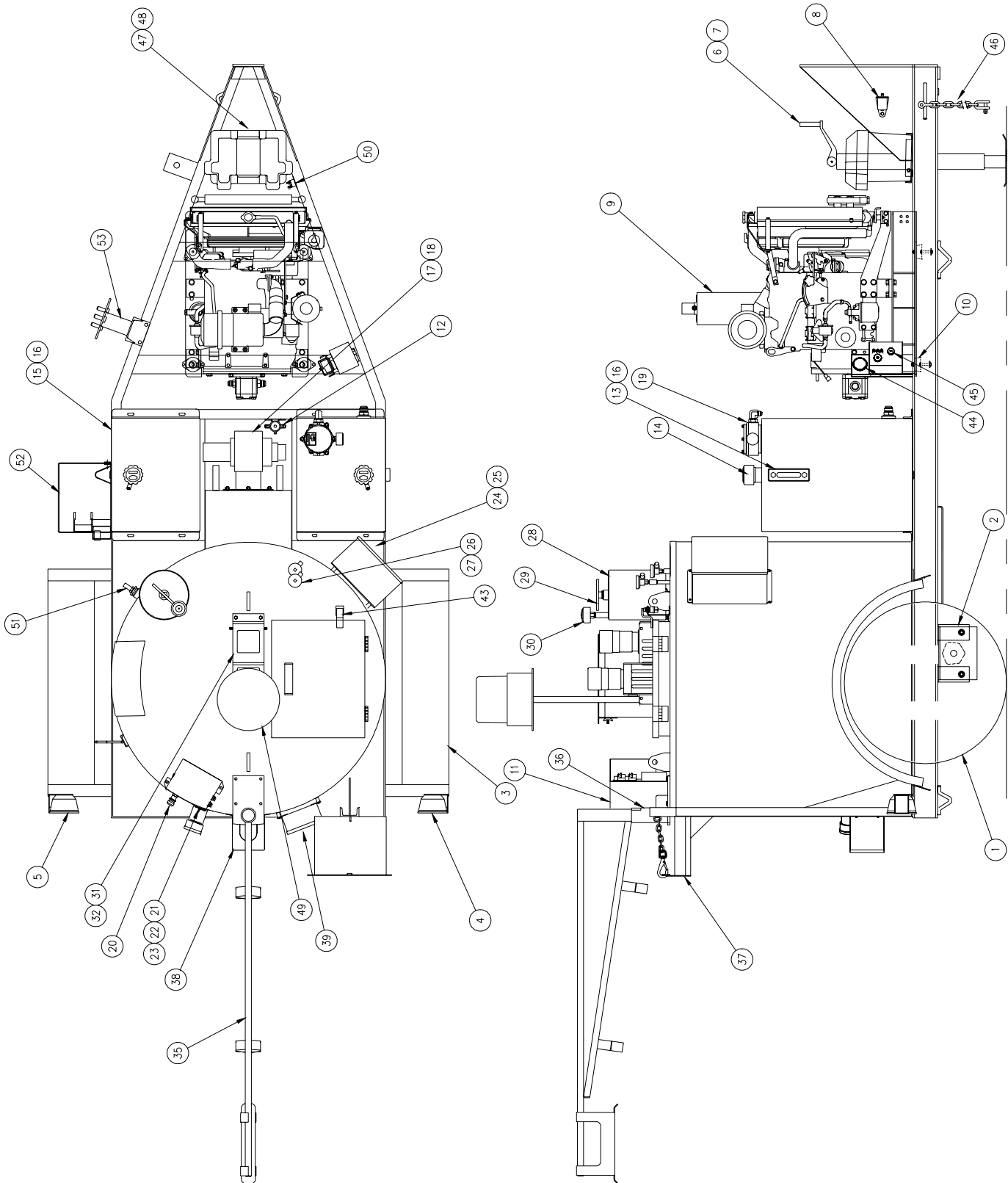
HYDRAULIC SCHEMATIC



TROUBLE SHOOTING HYDRAULICS

PROBLEM	CAUSE	REMEDY
Mixer will not rotate.	Sealant temperature too low.	Continue to heat material.
Mixer will not rotate.	Too many blocks placed at one time.	Continue to heat material.
Mixer will not rotate.	Inadequate hydraulic flow/pressure.	Check hydraulic fluid level.
Mixer will not rotate.	Toggle switch turned off.	Reset pressure, check flow if necessary.
Material pump will not rotate.	Material in tank not to operating temperature.	Continue heating material.
Material pump will not rotate.	Inadequate hydraulic flow/pressure.	Check hydraulic fluid level. Reset pressure, check flow as necessary.
Material pump will not rotate.	Material pump damaged.	Remove and replace.
Material pump will not rotate.	Foreign object lodged in pump.	Remove pump, clean & replace.
Material pump will not rotate.	Temperature at wand tip is inadequate.	Set wand tip inside material tank.
Material pump will not rotate.	Bad switch at wand.	Remove and replace.
Material pump will not rotate.	Hydraulic cartridge failure.	Remove and replace.
Material pump will not rotate.	Hydraulic coil failure.	Remove and replace.
When applying sealant it stops flowing from applicator wand.	Tank fluid level too low for material to flow into pump.	Add more material or continue heating material until more liquid material is available.
Pump rotates, but will not pump material.	Material cold, inlet still solid. Hose not to temperature. Temperature at wand tip is inadequate.	Continue to heat material. Allow to heat longer. Set wand tip inside material tank.
Pump does not rotate.	Bad wire connection. Bad switch at wand handle. Hydraulic cartridge failure. Hydraulic coil failure.	Find bad repair. Remove and replace. Remove and replace. Remove and replace.
Slow heat up of sealant.	Built up of coked material on inside of material tank. Low heating oil level. Low heating oil temperature.	Allow machine to cool. Remove deposits and flush with solvent. Make sure fluid level is correct. Set at recommended temperature.

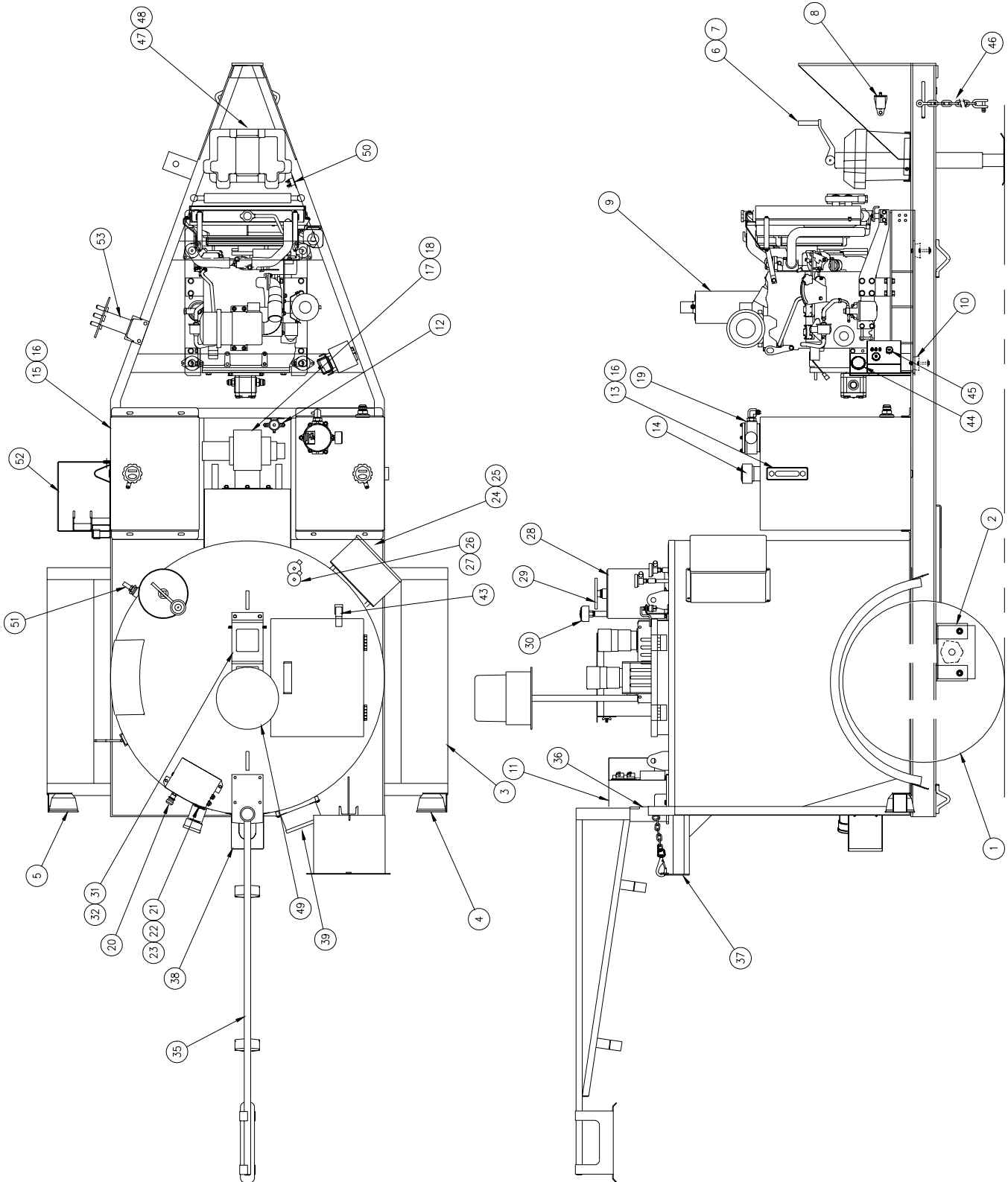
SS 125 MELTER



SS 125 MELTER PARTS LIST

NUMBER	PART NUMBER	QTY.	DESCRIPTION
1	42515	2	TIRE AND WHEEL ASSEMBLY
2	45007	1	TORSIONAL AXLE ASSEMBLY
3	45210	2	FENDER ASSEMBLY
4	24022	1	TAIL LIGHT - R.H.
5	24023	1	TAIL LIGHT - L.H.
6	23082	1	TONGUE JACK
7	23095	1	SWIVEL BUSHING
8	23117	1	BREAKAWAY SWITCH
9	44120	1	ENGINE ASSEMBLY
10	29399	4	ISOMOUNT
11	44821	1	COVER - CONTROL VALVE
12	39602	1	SOLENOID
13	43595	1	HYDRAULIC TANK ASSEMBLY
14	43579	2	FILLER / BREATHER
15	43594	1	FUEL TANK ASSEMBLY
16	44807	1	SIGHT GAUGE
17	41891	1	14 VOLT BURNER
18	41893	1	COVER - BURNER
19	44804	1	HYDRAULIC FILTER ASSEMBLY
19a	44805	1	HYDRAULIC FILTER ELEMENT
19b	44838	-	O-RING, HYDRAULIC FILTER
19c	44839	-	GASKET, HYDRAULIC FILTER
20	44820	1	CONTROL VALVE ASSEMBLY
21	32513	1	TOGGLE SWITCH - PUMP REVERSE
22	51678	1	TOGGLE SWITCH - AGITATOR
23	50720	2	BOOT - TOGGLE SWITCH

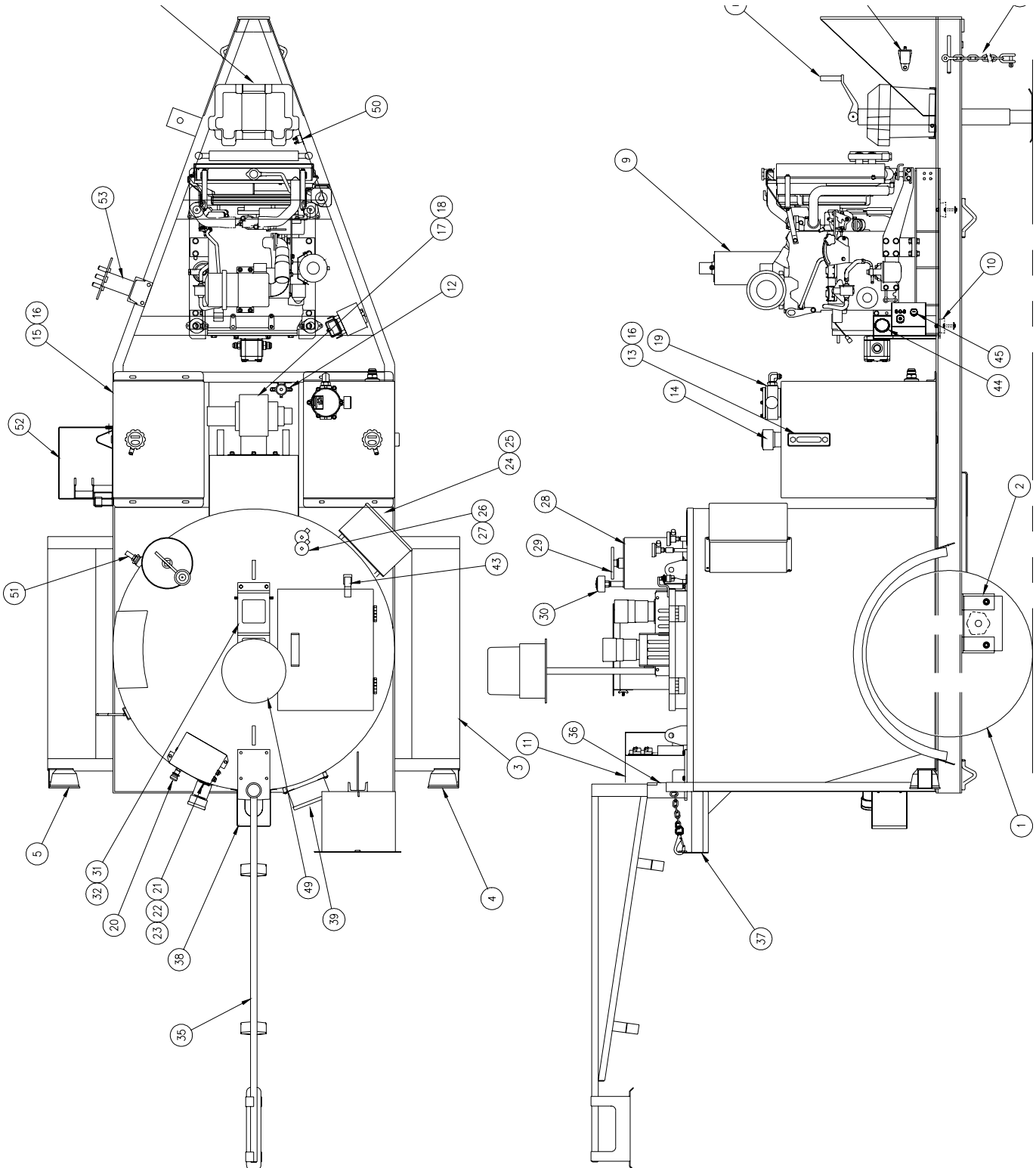
SS 125 MELTER



SS 125 MELTER PARTS LISTS

NUMBER	PART NUMBER	QTY.	DESCRIPTION
24	45050	1	CONTROL BOX ASSEMBLY
25	50074	8	SPACER - CONTROL BOX
26	43465	2	SENSOR, RTD
27	51065	2	CORD GRIP
28	43355	1	OVERFLOW TANK
29	43673	1	DIPSTICK
30	26025	1	AIR BREATHER
31	44832	1	PUMP/AGITATOR MOTOR ASSEMBLY
32	43727	2	CHAIN GUARD ASSEMBLY
33	44818	1	TUBING, FUEL SIGHT GAUGE
34	44817	2	FITTING, SIGHT GAUGE
35	43828	1	BOOM - HOSE
36	44823	1	BASE - BOOM
37	43827	1	HOSE HANGER ASSEMBLY
38	43821	1	HEAT GUARD
39	44027	1	JUNCTION BOX ASSEMBLY
40*	51700	1	ELECTRIC HEATED HOSE ASSEMBLY - 15 FT.
41*	51055	1	ELECTRIC HEATED WAND ASSEMBLY - 48"
42*	43768	1	WAND HANDLE
43	39608	1	SWITCH
44	24076	1	HOUR METER
45	41948	1	KEY AND TUMBLER
46	20130	2	48" SAFETY CHAIN
47	24000	1	BATTERY
48	24002	1	BATTERY BOX
49a	43672	OPT.	MOUNT - STROBE LIGHT
49b	24108	OPT.	STROBE LIGHT

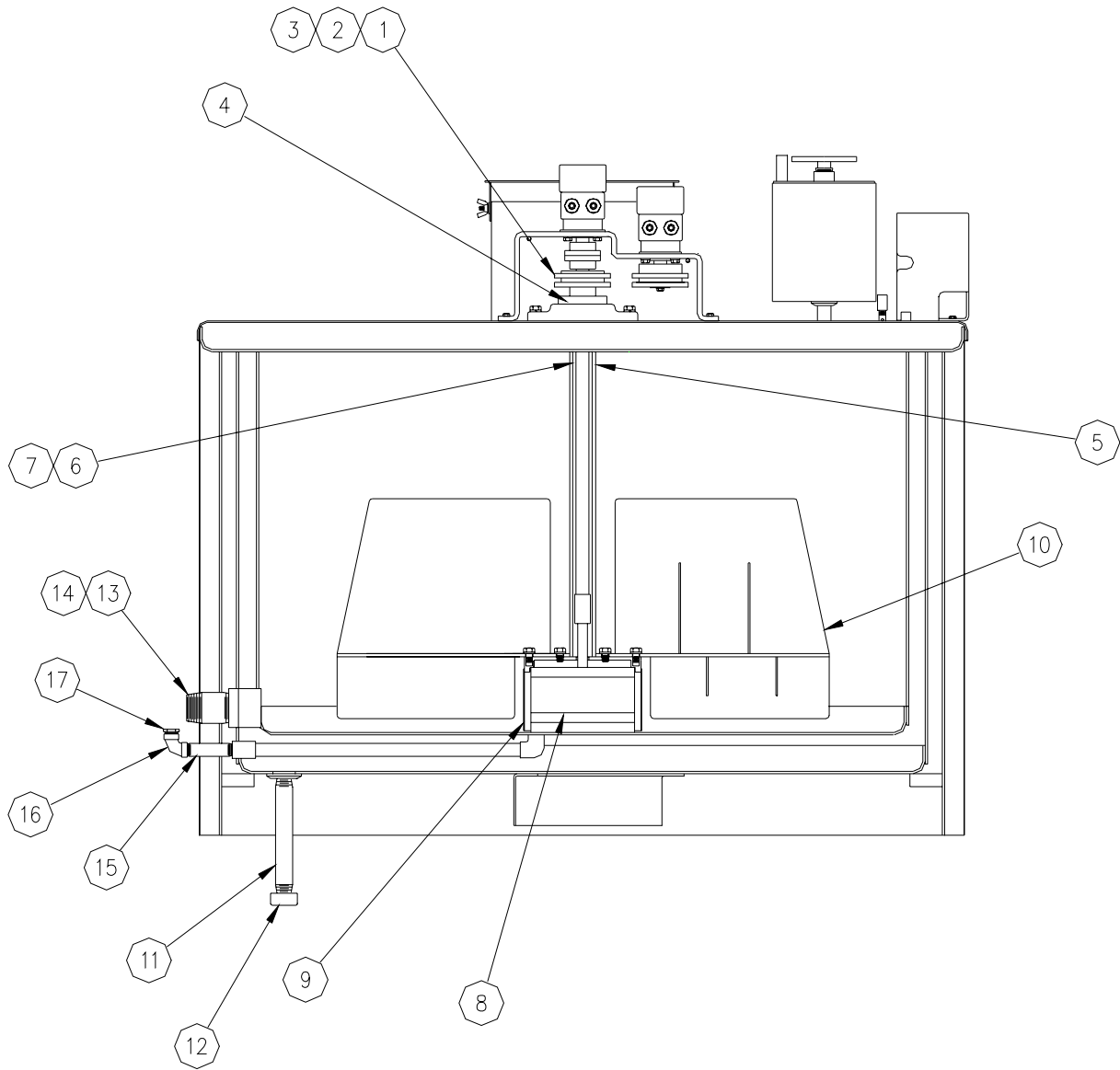
SS 125 MELTER



SS 125 MELTER PARTS LIST

NUMBER	PART NUMBER	QTY.	DESCRIPTION
50	31512	1	CIRCUIT BREAKER
51	24190	OPT.	OVERNIGHT HEATER
53	43540	OPT.	SPARE TIRE MOUNT
54	24190	OPT.	OVERNIGHT HEATER
56	43411	OPT.	TIP ADAPTER
55	27162R	OPT.	3" DISK W/ RESTRICTOR
56	27163R	OPT.	4" DISK W/ RESTRICTOR
57	27170	OPT	3/8 ROUND SEALING TIP
58	27171	OPT.	1/2" ROUND SEALING TIP
59	27173	OPT.	3/4" SEALING SHOE
60	27146	OPT.	1/4" ELONGATED SEALING TIP

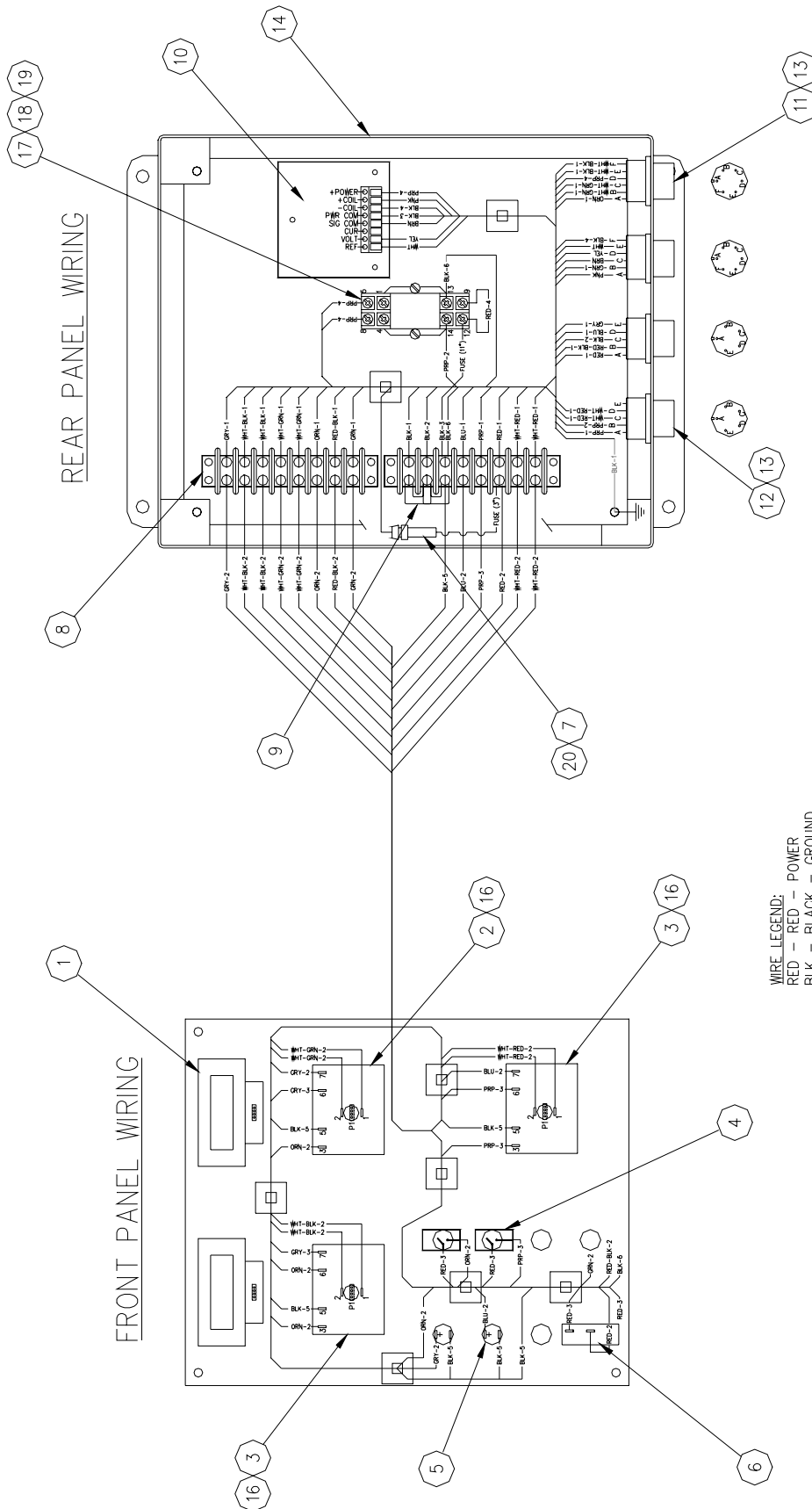
TANK DETAIL



TANK DETAIL

ITEM	PART NUMBER	QTY	DESCRIPTION
1	44165	1	SPROCKET - DRIVEN
2	44163	1	KEY, SPROCKET
3	43321	1	CHAIN - DRIVE
4	43760	1	BEARING, FLANGED
5	43753	1	SHAFT - AGITATOR
6	43641	1	SHAFT, DRIVE - PUMP
7	31368	1	KEY - DRIVE SHAFT
8	43677	1	PUMP, MATERIAL
9	43655	1	SCREEN - PUMP
10	43649	2	PADDLE - AGITATOR
11	28132	1	1" X 10" LG. PIPE NIPPLE
12	28270	1	1" PIPE CAP
13	28046	1	2" X 4" LG. PIPE NIPPLE
14	28273	1	2" PIPE CAP
15	28039	1	1" X 4" LG. PIPE NIPPLE
16	28210	1	1" PIPE ELBOW
17	28351	1	1" X 3/4" REDUCER BUSHING

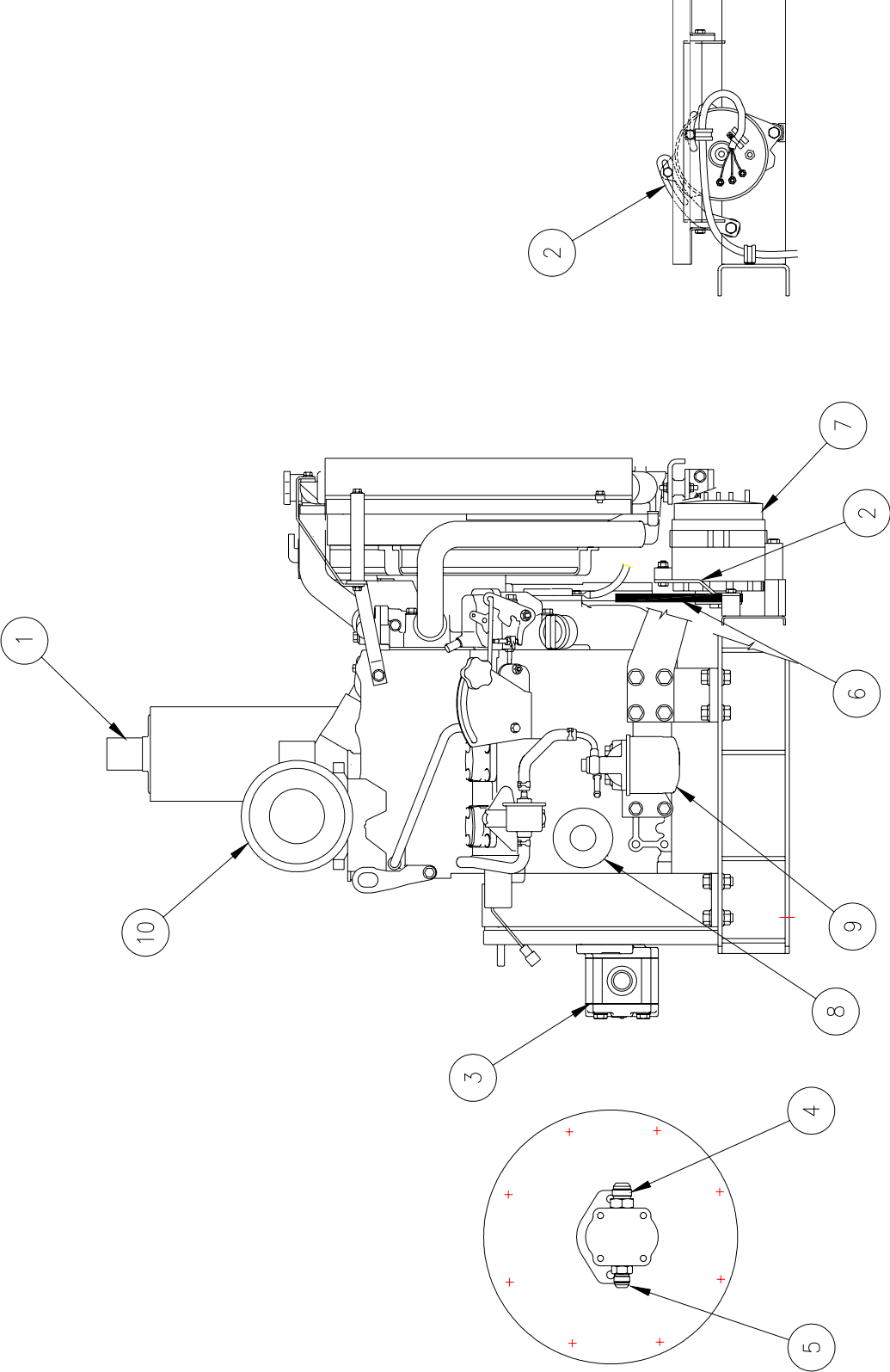
CONTROL BOX



CONTROL BOX

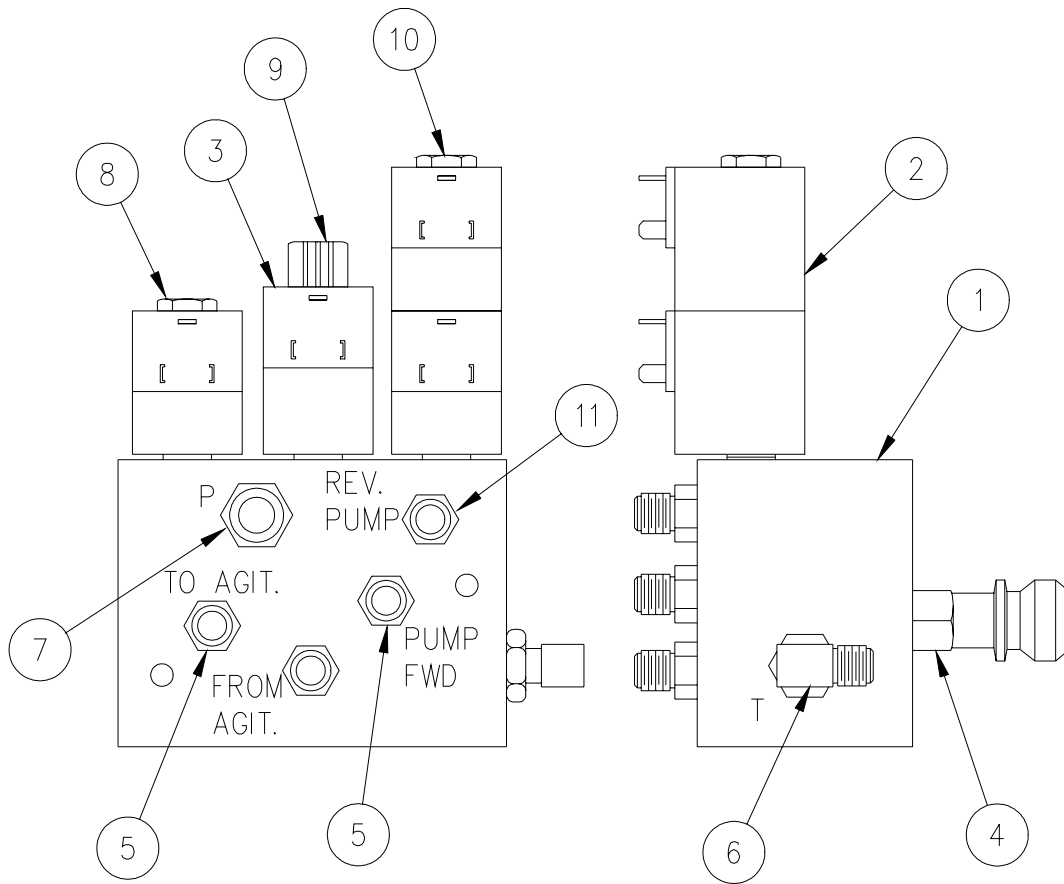
NUMBER	PART NUMBER	QTY.	DESCRIPTION
1	43665	1	ENCLOSURE (NOT SHOWN)
2	24021	3	CORD CONNECTOR - "BLUE"
3	50280	3	1/2" CONDUIT NUT
4	51662	1	SOCKET - RELAY
5	51661	1	RELAY
6	51663	1	HOLD DOWN SPRING
7	51691	1	TEMPERATURE CONTROLLER, 400° / 325°
8	51672	1	TEMPERATURE CONTROLLER, 400° / 275°
9	51688	1	MOUNTING RAIL
10	51687	2	END BRACKET
11	51685	15	FEED THROUGH TERMINAL
12	51686	1	2-POLE JUMPER
13	51689	1	3-POLE JUMPER
14	50251	3	DIGITAL READOUT
15	43391	1	TEMPERATURE CONTROLLER, 150°-550°
16	51651	4	LIGHT, 12VDC
17	50719	1	TOGGLE SWITCH
18	51665	1	CIRCUIT BREAKER, 15 AMP
19	50593	3	KNOB
20	43926	1	CABLE ASSY. - SENSOR
21	43927	1	CABLE ASYSY. - POWER
22	43928	1	CABLE ASSY. - TRIGGER/SENSOR
23	51684	2	RIBBON CABLE, 36" (NOT SHOWN)

ENGINE ASSEMBLY



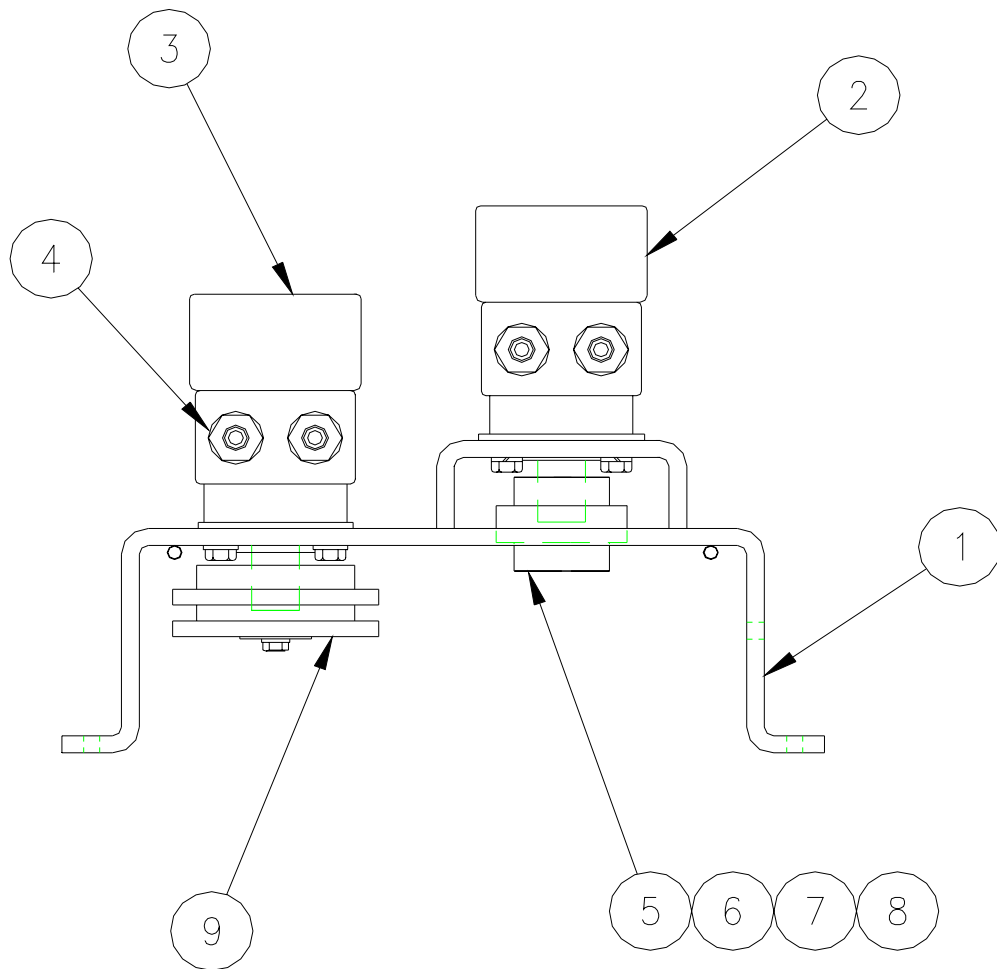
ENGINE ASSEMBLY

NUMBER	PART NUMBER	QTY.	DESCRIPTION
1	43076	1	ENGINE, 23 HP
2	43899	1	ADJUSTMENT BRACKET, GENERATOR
3	44802	1	HYDRAULIC PUMP
4	29819	1	3/4 TUBE X 1 1/16-12 O-RING ADAPTOR
5	29812	1	5/8 TUBE X 7/8-14 O-RING ADAPTOR
6	43613	1	DRIVE BELT - GENERATOR
7	43612	1	GENERATOR, 24VAC
8	43851	-	OIL FILTER
9	41867	-	FUEL FILTER
10	43850	-	AIR FILTER ELEMENT



HYDRAULIC CONTROL VALVE

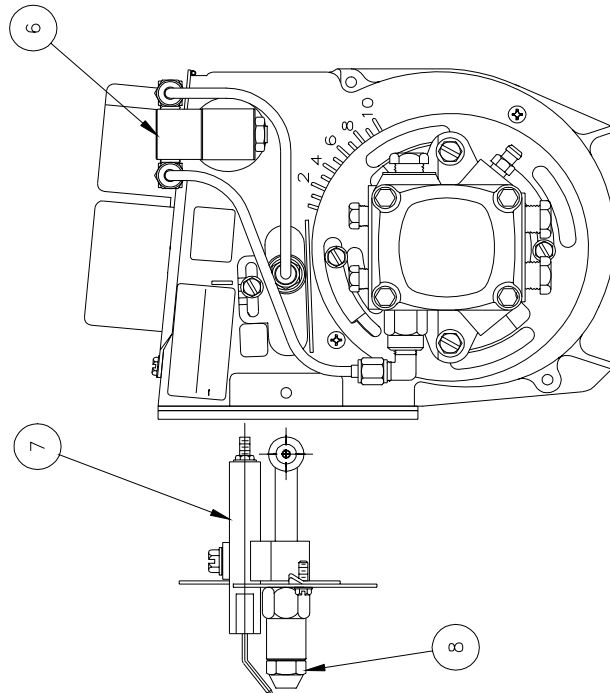
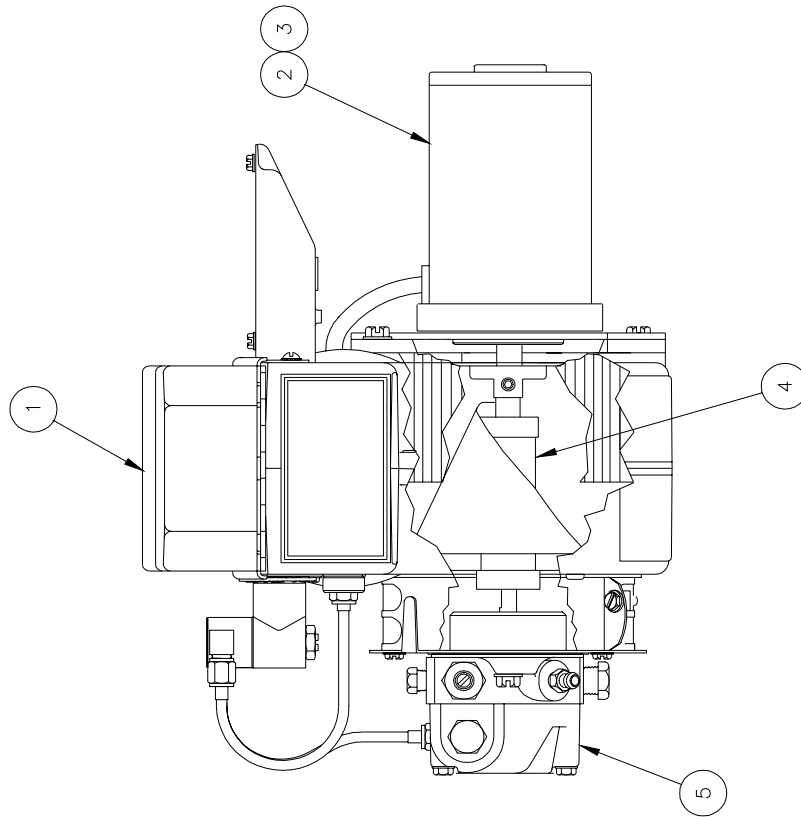
NUMBER	PART NUMBER	QTY.	DESCRIPTION
1	43817	1	HYDRAULIC VALVE ASSEMBLY
2	43853	3	COIL - PUMP FORWARD/REVERSE, AGITATOR
3	43854	1	COIL - PROPORTIONAL
4	43718	1	FLOW CONTROL - AGITATOR
5	40311	2	3/8 TUBE X 3/8 O-RING ADAPTOR
6	29869	1	3/8 O-RING X 1/2 TUBE ELBOW
7	29897	1	1/2 O-RING X 1/2 TUBE ADAPTOR
8	43721	1	CARTRIDGE - MIXER
9	43719	1	CARTRIDGE - PROPORTIONAL
10	43724	1	CARTRIDGE - FWD/REV
11	29919	1	9/16-18 O-RING X 1/2 TUBE ADAPTOR



PUMP / AGITATOR MOTOR ASSEMBLY

NUMBER	PART NUMBER	QTY.	DESCRIPTION
1	43345	1	MOUNTING BRACKET - MOTORS
2	44809	1	HYDRAULIC MOTOR - PUMP
3	22027	1	HYDRAULIC MOTOR - AGITATOR
4	22029	4	3/8 TUBE X 5/8 O-RING ADAPTOR
5	26002	2	SPROCKET - CHAIN COUPLING
6	26016	1	CHAIN - COUPLING
7	26030	1	CONNECTING LINK - CHAIN
8	31368	1	KEY, 1/4 X 7/8
9	43323	1	SPROCKET - AGITATOR DRIVE

DIESEL BURNER

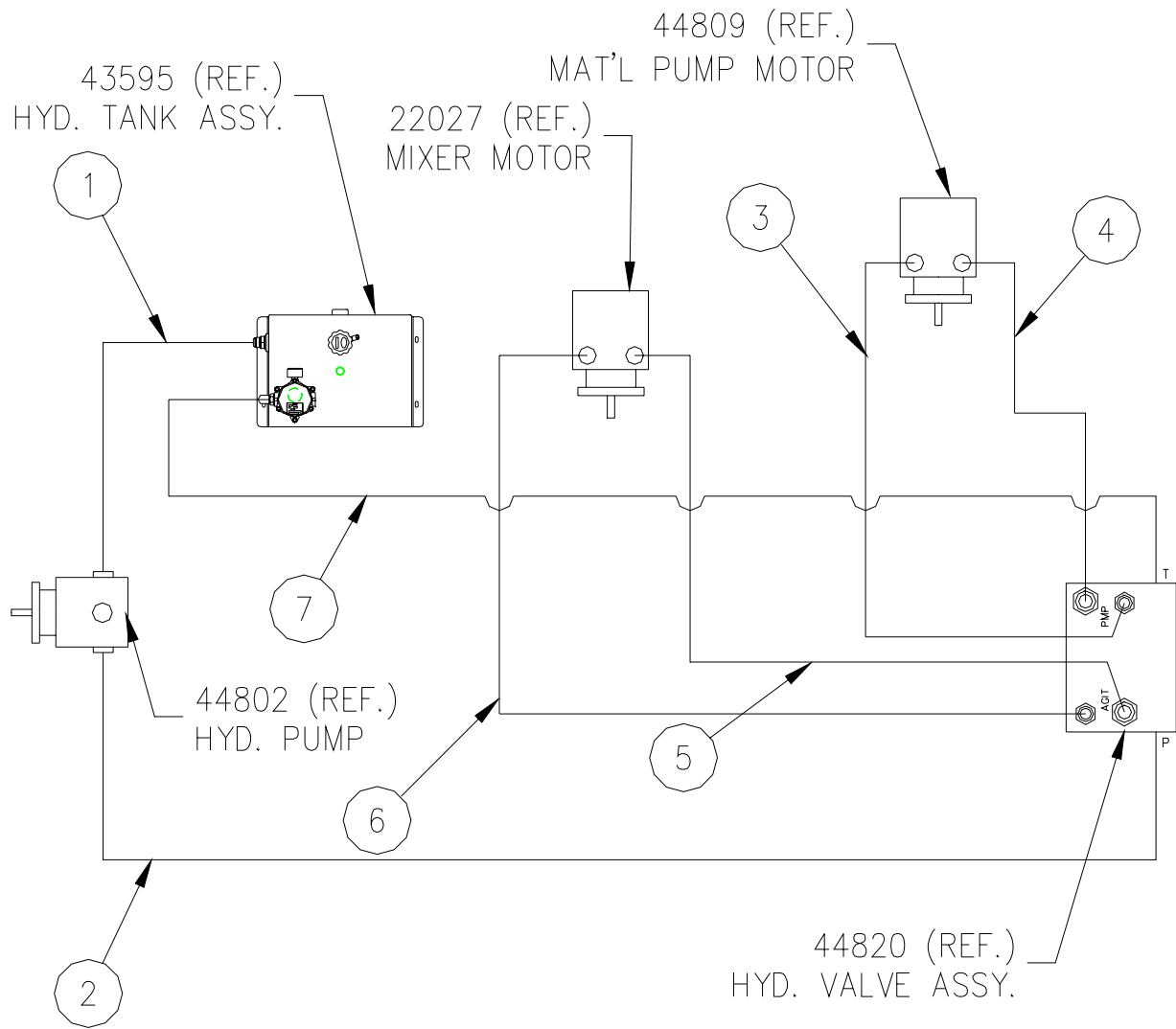


DIESEL BURNER

ITEM	PART NUMBER	QTY	DESCRIPTION
1	41949	-	IGNITION TRANSFORMER
2	41890	-	BLOWER MOTOR
3	41934	-	BRUSH KIT - MOTOR
4	41970	-	COUPLING - FUEL PUMP
5	41979	-	PUMP - FUEL
6	41888	-	SOLENOID - FUEL
7	41993	-	ELECTRODE
8a	41883	-	NOZZLE (SS125D, SS125DC, SS125DCRC)
8b	41881	-	NOZZLE (SS250D, SS250DC, SS250DRC)
8c	42559	-	NOZZLE (350D, 400D)
9	41870	-	CAD EYE (NOT SHOWN)
10	42335	-	DC CONTROLLER (NOT SHOWN)

HYDRAULIC DIAGRAM

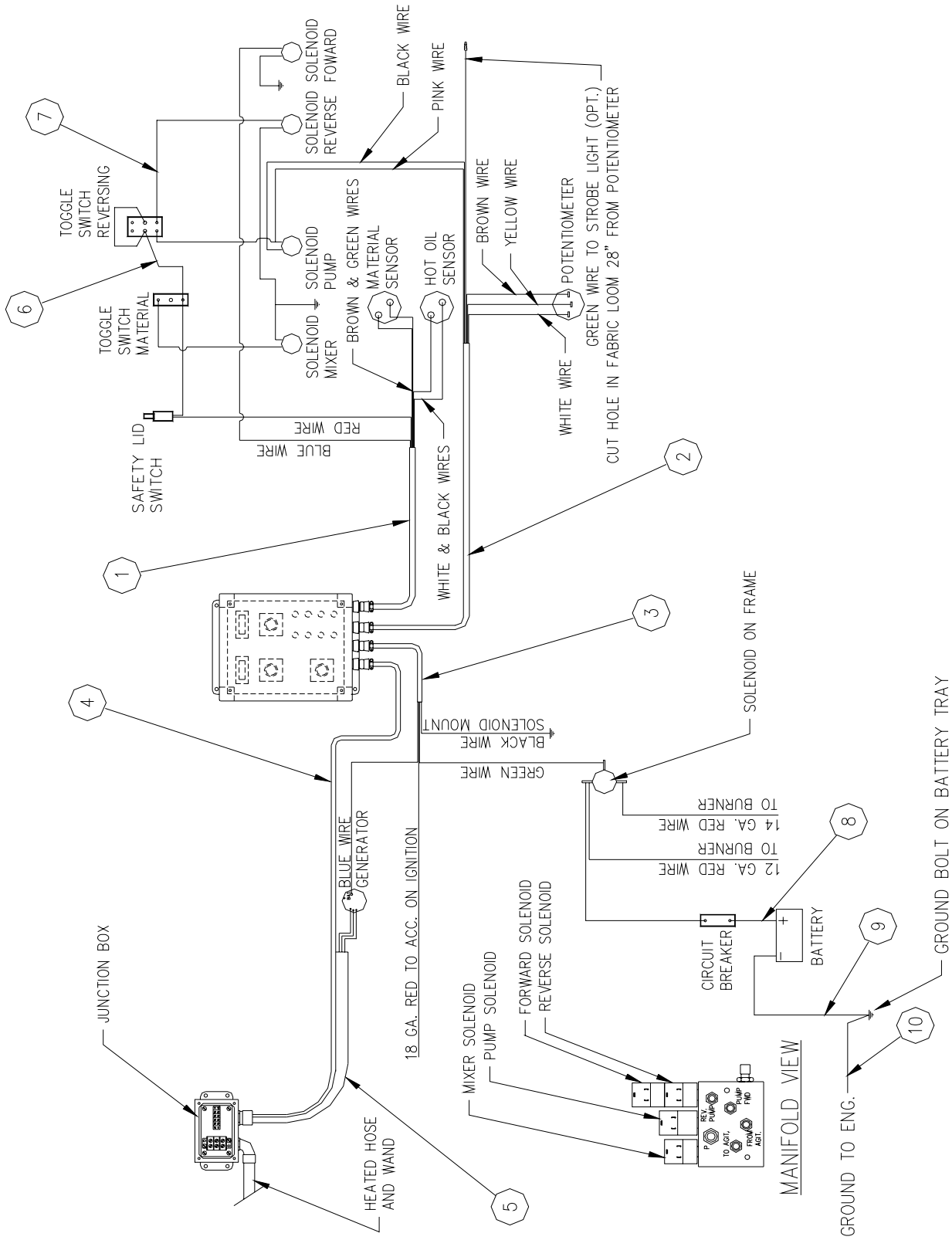
MAT'L PUMP DIRECTION CLOCKWISE
HYDRAULIC PRESSURE 1500 P.S.I.
HYDRAULIC OIL FLOW 7.4 G.P.M. @ 2800 RPM



HYDRAULIC DIAGRAM

1. HYDRAULIC RESERVOIR TO HYDRAULIC PUMP SUCTION		
REF	29948	1 1/4 NPT X 1" TUBE ELBOW
1	C12-16FJ-12FJ-24	HYDRAULIC HOSE ASSEMBLY 3/4 X 24" LONG
1	29819	3/4 TUBE X 1-1/16-12 O-RING
2. HYDRAULIC PUMP TO HYDRAULIC VALVE "P" PORT		
1	29812	5/8 TUBE X 7/8-14 O-RING ADAPTER
1	AX6-10FJ-8FJ9L-90	HYDRAULIC HOSE ASSEMBLY 3/8 X 90" LONG
1	29897	1/2 TUBE X 3/4-16 O-RING ADAPTER
3. HYDRAULIC VALVE "A" PORT TO MAT'L PUMP MOTOR		
1	40311	3/8 TUBE X 9/16-18 O-RING ADAPTER
1	AX6-6FJ-6FJ9L-20	HYDRAULIC HOSE ASSEMBLY 3/8 X 20" LONG
1	22029	3/8 TUBE X 7/8-14 O-RING ADAPTER
4. HYDRAULIC VALVE "PMP B" PORT TO MAT'L PUMP MOTOR		
1	29919	1/2 TUBE X 9/16-18 O-RING ADAPTER
1	AX6-8FJ-6FJ9-18	HYDRAULIC HOSE ASSEMBLY 3/8 X 18" LONG
1	22029	3/8 TUBE X 7/8-14 O-RING ADAPTER
5. HYDRAULIC VALVE "AGIT B" PORT TO MIXER MOTOR		
1	29919	1/2 TUBE X 9/16-18 O-RING ADAPTER
1	AX6-8FJ-6FJ9-22	HYDRAULIC HOSE ASSEMBLY 3/8 X 22" LONG
1	22029	3/8 TUBE X 7/8-14 O-RING ADAPTER
6. MIXER MOTOR TO HYDRAULIC VALVE "AGIT A" PORT		
1	22029	3/8 TUBE X 7/8-14 O-RING ADAPTER
1	AX6-6FJ-6FJ9L-24	HYDRAULIC HOSE ASSEMBLY 3/8 X 24" LONG
1	40311	3/8 TUBE X 9/16-18 O-RING ADAPTER
7. HYDRAULIC VALVE "T" PORT TO HYDRAULIC FILTER		
1	29896	1/2 TUBE X 7/8-14 O-RING ELBOW ADAPTER
1	AX8-8FJ-12FJ9-70	HYDRAULIC HOSE ASSEMBLY 1/2 X 70" LONG
1	29816	3/4 TUBE X 1 5/16" O-RING ADAPTER

ELECTRICAL CABLES



ELECTRICAL CABLES

ITEM	PART NUMBER	QTY	DESCRIPTION
1	43926	1	SENSOR CABLE ASSEMBLY
2	43927	1	POWER CABLE ASSEMBLY
3	43928	1	TRIGGER/SENSOR CABLE ASSEMBLY
4	43901	1	HOSE CABLE ASSEMBLY
5	43921	1	CABLE ASSEMBLY - VALVE
6	24015	1	BATTERY CABLE, 38" - POSITIVE (NOT SHOWN)
7	24010	1	BATTERY CABLE, 12" - NEGATIVE (NOT SHOWN)
8	37038	1	BATTERY CABLE, 20" - ENG GND (NOT SHOWN)

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