



DIESEL MELTER

PART MANUAL - 26479
REV. 0

E-Z1500 Series II DIESEL MELTER



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E-Z1500 Series II **DIESEL MELTER**

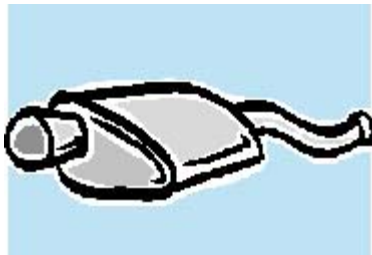
This manual is furnished with each new **CRAFCO *E-Z1500 Series II* DIESEL MELTER**. This manual will help your machine operators learn to run the melter applicator properly and understand its mechanical functions for trouble-free operation.

Your **CRAFCO *E-Z1500 Series II* 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 to 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.

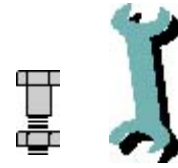
- **DO NOT** overfill heat transfer oil level. Expansion of oil during heat up could cause overflow. With machine in level position, check oil each day before starting burner, add oil to top mark on dipstick if required (at 70° F.). **Use only recommended heat transfer oil and change after 500 hours 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 borne 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..... | 396 Gallons(1500 Liters) |
| Melt Capacity..... | 275 Gallons/Hour |
| Heat Transfer Oil Required..... | 48 Gallons at 70° F |
| Tank Construction..... | Double Boiler Type |
| Tank Opening Size..... | 16" x 24" and 14" X 18" |
| Maximum Heat Input..... | 425,000 BTU's |
| Burner and Temperature Control..... | Diesel-Forced Air Thermostatic Control |
| Engine - Standard..... | Isuzu Three Cylinder Model 3CD1 - Diesel 35.5 BHP @ 3000 RPM |
| Hydraulic Drive Mechanism..... | All hydraulic with infinite speed on mixer and material pump. |
| Mixer..... | Full sweep mixer with two horizontal paddles vertical risers. |
| Axle..... | Dual -6,000 Lb. Torsional |
| Tires (2)..... | LT235/85 R16 Load Range E |
| Dry Weight..... | Approximately 6,320 Lbs. |
| Diesel Tank Capacity..... | 30 Gallons |
| Hydraulic Tank Capacity..... | 24 Gallons |

***E-Z1500 Series II* DIESEL MELTER**

OPERATING INSTRUCTIONS

INTRODUCTION

The **CRAFCO *EZ1500 Series II* MELTER** was developed to melt Crafcoc brand sealant. However, it will work well with most road asphalt and federal specification crack or joint sealant.

DO NOT operate machine without following these instructions:

1. Read entire operators manual.
2. Fill fuel tank with diesel fuel (use #1 in cold weather, #2 in warm weather).
3. Check engine crankcase oil level (refer to Engine Operator's Manual).
4. Check hydraulic fluid level, at 70°F. Add fluid if necessary.
5. 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.
6. All toggle switches should be turned "**OFF**" and both temperature control dials at minimum settings.
7. 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 for ELECTRIC HOSE

TO START BURNER

1. Fully open the damper vent.
2. Start engine per Engine Manual.
3. Turn "POWER" toggle switch at control box "ON".
4. Turn "Hose Selector" switch to "ELECTRIC Hose".
NOTE: Electric hose will only work if hose selector switch is in the electric hose position.
5. Set hot oil temperature at 500°F. and material temperature at manufacturers recommended temperature.



CAUTION:

If burner does not ignite the first time, turn toggle switch to "OFF." Turn toggle switch to "ON" again. Burner should ignite. If burner still does not ignite, determine cause of malfunction (see Trouble Shooting Guide Pg. 32-33).

- 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 at the beginning of the melting process the indicated temperature reaches operating value. 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.
6. Allow the heating oil to continue to heat. When sealant material reaches 275°F. mixer may be engaged by turning the toggle switch at hydraulic control panel "ON". 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. **NOTE: Mixer speed is preset at the factory and cannot be adjusted. Mixer temperature interlock will not allow mixer to engage until material reaches 275°F.**
 7. Hose (passenger side) will automatically turn "ON" when material temperature reaches approximately 275°F. To heat the drivers side hose, the power switch of the control box (drivers side) must be turned "ON" and hose selector switch must be in the electric position. **Note: Drivers side hose will turn "ON" when material temperature reaches 275°.** Adjust the temperature dial to sealant manufacturers recommended application temperature. 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 indicating the hose is up to temperature. It is advisable to run the hose at the sealant manufactures recommended temperature setting.

NOTE!! The hose must be up to 325°F. before dispensing can take place. The pump light will come on indicating the temperature interlock will allow pump operation.

8. The oven must be at 300° for a minimum of 20 minutes before attempting to pump. The temperature in the oven can be regulated by opening or closing the slide gate on the right hand side. To increase temperature, open the gate and to decrease temperature close the slide gate.

MACHINE START UP for ELECTRIC HOSE

9. Remove hose and wand from transport position and place wand tip in shoebox/ recirculation port. Open appropriate main tank valve. Reverse pump for 30 seconds by turning the toggle switch on the main control panel to "PUMP REVERSE" for passenger side pump. Reverse drivers side pump for 30 seconds by turning toggle switch on the divers side control panel to "PUMP REVERSE". Set pump flow at maximum to start pumping. Then activate wand trigger to engage pump. Then reduce pump flow to desired output. **NOTE: If hose does not dispense when trigger is activated then allow material to heat longer. If hose still does not dispense material then shut machine down and locate plug in the line and remove.**
10. The heated hoses 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.



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.

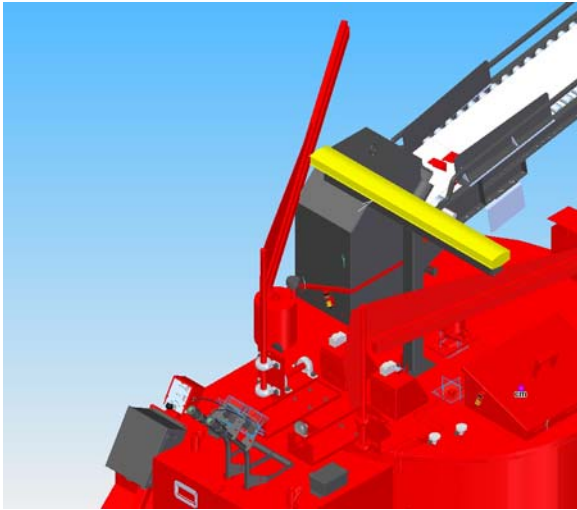
This type of failure is not covered under the Crafcro warranty.

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

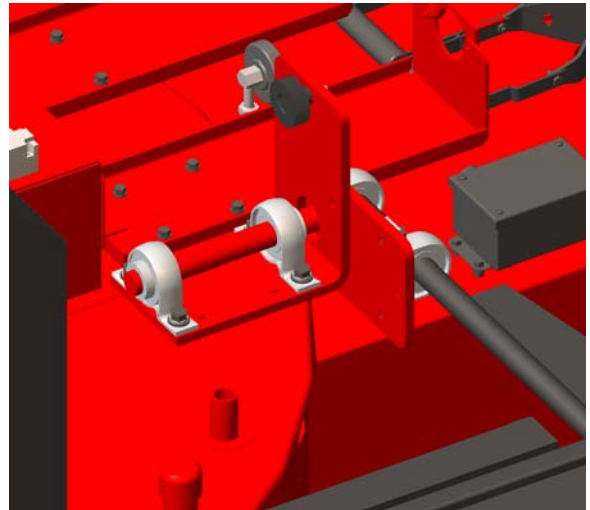
- a. Not move or use hose unless it has been turned on at least 30 minutes and set at a minimum temperature of 300°F.
- b. Make sure hose swivel between hose and wand moves freely.
- c. Avoid bending the hose over sharp edges such as the edge of the frame or tank.
- d. Avoid twisting.
- e. Do not exceed 400°F. on the hose or material temperature.

HOSE TRANSPORT INSTRUCTIONS

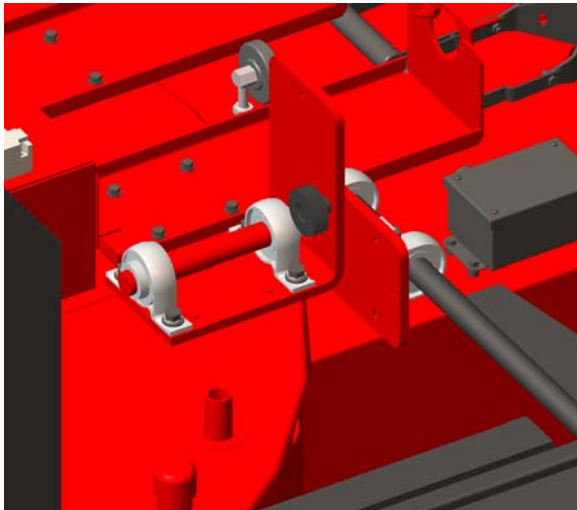
1. Leaving the hose in the boom, swing the boom towards the front of the machine and lock the boom into position with the latch provided. If the machine is equipped with an Auto Loader the the drivers side boom will require the following.



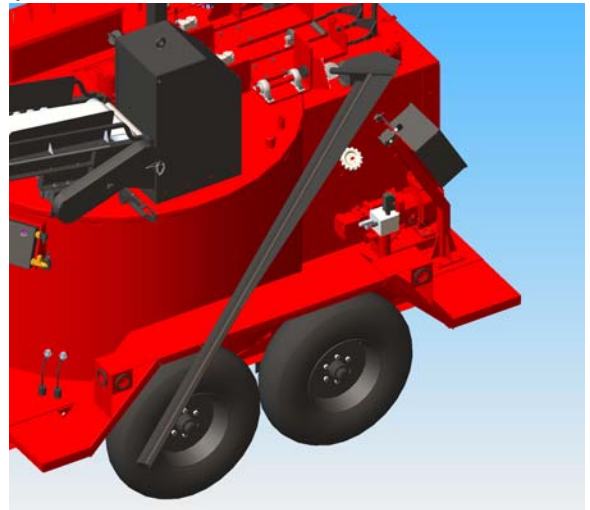
1. Rotate boom towards front of machine.



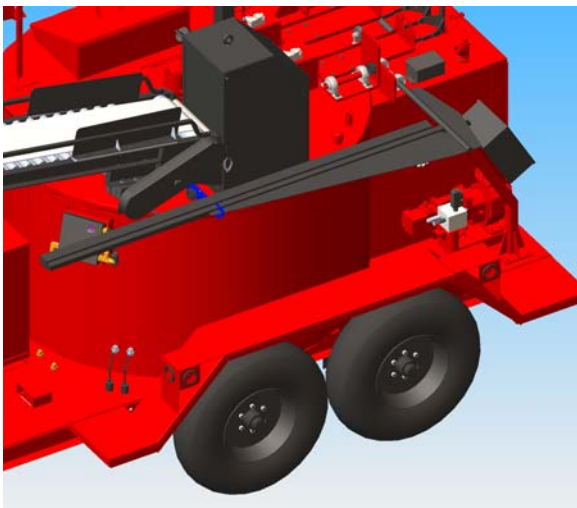
2. Remove rotation knob from top position.



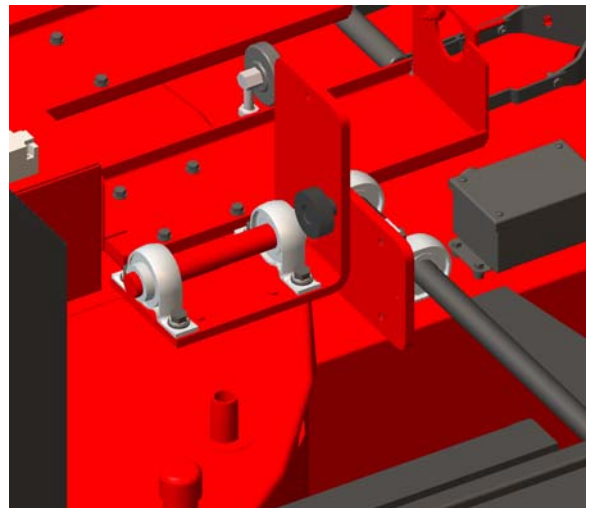
3. And insert into lower position, but do not tighten. Note: Hold boom while moving rotation knob.



4. Rotate boom on its horizontal axis towards the street and at the same time rotate boom on its vertical axis towards top of machine.



Place boom in boom lock (Located in front of splash box) and tighten boom lock knob.



Tighten rotation knob.

LOADING THE MACHINE

This unit is equipped with an safety interlock system on each loading door. This sytem disables the mixer hydraulic system when either lid is open. This system is for operator safety and should never be diabled for any reason. **CAUTION: Personal injury could occur if this safety system is disabled.**

1. To load, open the lid fully.
2. Place the material on the center of the lid.
3. Close the lid allowing material to fall into tank. Mixer should engage when lid is closed.

Following this procedure will prevent the hot material from splashing and causing serious burns to personnel. **WARNING:** Never throw blocks of material directly into tank. Hot material splash hazard will result.

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 could result and slow down the melting process.

All material being added to the tank shall be free and clear of all rock, dirt, or other contaminants that will damage material pump.



DISPENSING THE MATERIAL

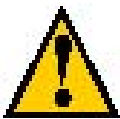


NOTE: PROTECTIVE CLOTHING, GLOVES, HARD-SOLED SHOES, AND FACE SHIELD OR SAFETY GLASSES SHOULD BE WORN WHEN OPERATING OR FILLING THIS EQUIPMENT. READ ENTIRE MANUAL BEFORE OPERATING.

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. For all accessories, and tools see pages 76-78.

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 in the shoe box 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 flow control to the lowest setting by turning the speed control knob fully 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.



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. CrafcO 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. Leaving the hose in the boom, swing the boom towards the front of the machine and lock the boom into position with the latch provided.
2. Place the wand in the wand holder and lock the wand into position with the latch provided.
3. Reverse the pump for approximately 30 seconds.
4. Close tank valve.
5. Turn the mixer toggle switch to “**OFF**”.
6. Turn the “**POWER**” switch to “**OFF**”.
7. Shut the engine down by turning the key to the “OFF” position.

MACHINE START UP for STANDARD HOSE

TO START BURNER

1. Fully open the damper vent.
2. Start engine per Engine Manual.
3. Turn "POWER" toggle switch at control box "ON".
4. Turn "Hose Selector" switch to "STD. Hose" .
5. Set hot oil temperature at 500°F. and material temperature at sealant manufacturers recommended application temperature.



CAUTION:

If burner does not ignite the first time, turn toggle switch to "OFF." Turn toggle switch to "ON" again. Burner should ignite. If burner still does not ignite, determine cause of malfunction (see Trouble Shooting Guide Pg. 32-33).

- 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 at the beginning of the melting process the indicated temperature reaches operating value. This is normal and when the machine is ready for operation, most of the material in the tank will be melted and heated to application temperature.
6. Allow the heating oil to continue to heat. When sealant material reaches 275°F. mixer may be engaged by turning the toggle switch at hydraulic control panel "ON". 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. **NOTE: Mixer speed is preset at the factory and cannot be adjusted. Mixer temperature interlock will not allow mixer to engage until material reaches 275°F.**
 7. The pump light will come on indicating the temperature interlock will allow operation of either pump when material temperature reaches approximately 275°F. To operate drivers side pump turn power switch "ON" and hose selector switch must be in the "STD" position. **Note: Temperature gauge will not read properly until the sealant is being pumped.**
 8. The oven must be at 300° for a minimum of 20 minutes before attempting to pump. The temperature in the oven can be regulated by opening or closing the slide gate on the right hand side. To increase temperature, open the gate and to decrease temperature close the slide gate.
 9. Remove hose from heat compartment and connect to wand assembly using a proper sized wrench. Open the appropriate main tank valve. Insert wand tip fully into shoebox/recirculation port to engage recirculation paddle. Turn Recirc toggle switch "on" at hydraulic control panel. Set pump flow at maximum to start pumping. Then reduce pump flow to desired output. **NOTE: If hose does not dispense when trigger is activated then allow material to heat longer. If hose still does not dispense material then shut machine down and locate plug in the line and remove.**

LOADING THE MACHINE

This unit is equipped with an safety interlock system on each loading door. This sytem disables the mixer hydraulic system when either lid is open. This system is for operator safety and should never be diabled for any reason. **CAUTION: Personal injury could occur if this safety system is disabled.**

1. To load, open either lid fully.

Caution: When loading material from both sides of the machine, be sure to have opposite lid closed. Hot material splash hazard will result.

2. Place the material on the center of the lid.

3. Close the lid allowing material to fall into tank. Mixer should engage when lid is closed.

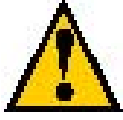
Following this procedure will prevent the hot material from splashing and causing serious burns to personnel. **WARNING: Never throw blocks of material directly into tank. Hot material splash hazard will result.**

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 could result and slow down the melting process.

All material being added to the tank shall be free and clear of all rock, dirt, or other contaminants that will damage material pump.



DISPENSING THE MATERIAL

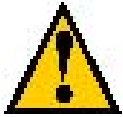


NOTE: PROTECTIVE CLOTHING, GLOVES, HARD-SOLED SHOES, AND FACE SHIELD OR SAFETY GLASSES SHOULD BE WORN WHEN OPERATING OR FILLING THIS EQUIPMENT. READ ENTIRE MANUAL BEFORE OPERATING.

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. For all accessories, and tools see pages 76-78.

When operator is ready to dispense material turn the pump flow control to the desired flow by turning the pump flow knob clockwise to decrease and counterclockwise to increase. Remove the wand from the shoebox and begin dispensing material by engaging wand trigger.

Utilizing the non heated hose recirculation of material back into the tank is required when not dispensing material to the pavement. This requires the operator to return the wand back into the shoebox/ recirculation port, fully engaging the pump recirc paddle. This allows continuous flow of material through the hose and back to tank. **NOTE:** If material flow through the hose is stopped for an extended period of time, the material will solidify and hose will have to be returned to the oven to be reheated.



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.



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. CrafcO 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. Reverse the pump for one to three minutes.
2. Close the tank valve.
3. Turn the mixer, pump, and power toggle switches "OFF".
4. Remove wand from hose and place into wand storage port in oven.
5. Remove hose from boom and wrap on hose hanger located in the oven.

CAUTION: When wrapping hose ensure hose does not contact the tank wall, plumbing, or the heat damper. These areas can be extremely hot and cause damage to the hose.

STORING MACHINE

The melter should be stored in an area where moisture cannot enter the machine 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
420 N. Roosevelt Ave.
Chandler, AZ 85226-2601
Phone: 602-276-0406
Fax: 480-961-0513
Toll Free: 1-800-528-8242

MAINTENANCE INSTRUCTIONS

ENGINE

See Engine Owner Manual for operating and maintenance instructions.

HYDRAULIC SYSTEM

Check hydraulic fluid daily. Change hydraulic filter every 250 hours of operation. Change hydraulic fluid every 500 hours of operation.

HEAT TRANSFER OIL

Check oil level every 8 hours of operation. Change oil every 500 hours of operation.

WHEEL BEARINGS

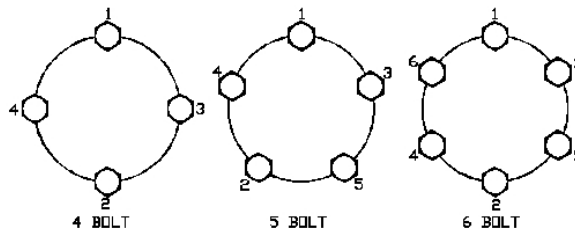
Re-pack wheel bearings every 24,000 miles or every two years, using a good grade of bearing grease.

Material Pump

Lubricate on board bearings using a good grade of bearing grease. Adjust pump packing periodically. A slight drippage (several drops per minute) should be allowed. Refer to pump section for details.

LUG NUTS

Wheel nuts/bolts should be torqued before first road use and after each wheel removal. Check and retorque after the first 10 miles, 25 miles, and again at 50 miles. Check periodically thereafter. Torque in stages. 1st stage 20-25 ft.lbs., 2nd stage 50-60 ft.lbs., 3rd stage 90-120 ft.lbs.



TIGHTENING SEQUENCE

BRAKES

Check brakes daily. Refer to DEXTER AXLE Operation Maintenance Service Manual located in the manual box.

TONGUE JACK

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

MIXER BEARING

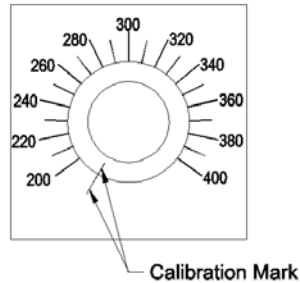
Lubricate every 50 hours with good quality, high temperature grease.

MAINTENANCE INSTRUCTIONS

TEMPERATURE CONTROL CALIBRATION

Check control knob calibration weekly.

1. Calibrate by aligning the
with the calibration line on



line on the control knob with
the scale plate (See Fig. 1).

Fig. 1

REPLACING HEAT TRANSFER OIL

1. Drain oil by removing oil drain cap located under machine.
2. Open ball valve located rear drivers side of machine before refilling. This allows the air to escape the center column.
3. Start burner and heat the heat transfer oil until one drop of oil comes out of ball valve.
4. Shut ball valve immediately. **(CAUTION: HOT OIL WILL CAUSE SEVERE BURNS)**

NOTE: THIS PROCEDURE IS NOT REQUIRED FOR DAILY OPERATION.

MAINTENANCE CHART

| LOCATION | PROCEDURE | HOURS | | | |
|----------------------------------|---|--|----|-----|-----|
| | | Daily | 50 | 100 | 500 |
| Engine check oil level. | Check daily. | * | | | |
| Other Engine Maintenance | See Isuzu Operating and Maintenance Instructions. | | | | |
| Battery | Check water level weekly. | | | | |
| Pump Packing | Tighten as required. Drip should be several drops/per minute. | | * | | |
| Pump Outboard Bearing | Lubricate using a good grade of bearing grease. | | * | | |
| Heat Transfer Oil | Check (every 8 hours) | | * | | |
| | Change | After 500 hours or 1 year. | | | |
| Hydraulic Oil Return Line Filter | First change (250 hours) | | | | |
| | Subsequent changes (500 hours) | | | | * |
| Hydraulic Oil | Check oil (daily). | * | | | |
| | Change oil (every 500 hours). | | | | * |
| | For proper oil, see recommended fluids & lubricants. | | | | |
| Burner | Check burner box insulation. | | | | * |
| | Clean cad cell. | | | | * |
| | Check electrodes. | | | | * |
| | Check blower brushes. | | | | * |
| | Replace burner nozzle | | | | * |
| Wheel Bearings | Clean & repack - using 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 and 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.

RECOMMENDED FLUIDS AND LUBRICANTS

| APPLICATION | RECOMMENDED | FULL POINT |
|-------------------|------------------------------------|------------|
| Engine oil | Refer to Kohler owners manual. | 3 Qts. |
| Diesel | #1 Cold climate #2 Warm climate | 30 Gals. |
| Hydraulic oil | Rondo Oil - Texaco HD-68 | 24 Gals. |
| Heat transfer oil | Regal R&O 68 | 33.5 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 | | |

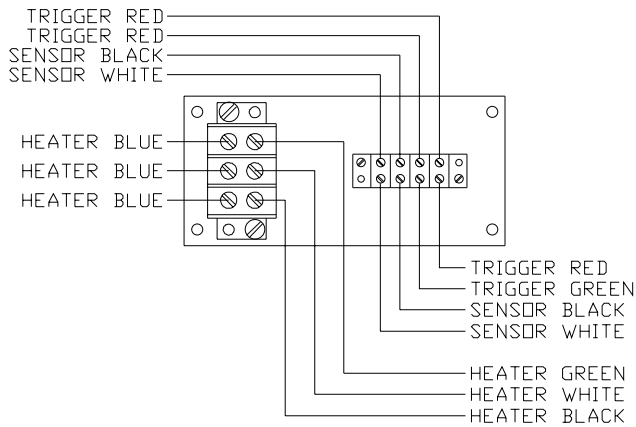


WARNING:

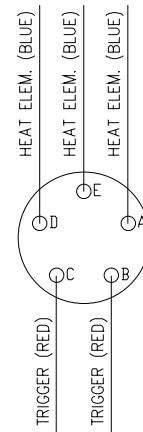
The heat transfer oil in this machine is a grade that has been tested and recommended by CrafcO, Inc. The addition of any grade of oil not specifically recommended by CrafcO, Inc., shall be cause for warranties to be voided.

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.

TROUBLE SHOOTING GUIDE - ELECTRIC HOSE



KETTLE END



WAND END

HOSE DOES NOT HEAT

Step 1: Is the “MATERIAL” temperature at 275°F?

YES: Go to step 2.

NO: Turn “POWER” toggle 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 pink wire terminal #2 of the material Pak-Stat.

YES: Go to step 2a.

NO: Check for 12 volts at pink wire terminal #9 of the hose Pak-Stat.

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

YES: Go to step 2b.

NO: Check wire connections or go to step 1.

Step 2b: Check for 12 volts at #4 terminal (blue wire) when Pak-Stat is on.

YES: Go to step 3.

NO: Check the ohms between black and white wires at terminals #6 and #7.

(NOTE: One of the sensor wires must be disconnected to check resistance) See page 30 for the corresponding temperature reading.

Temperature reading should match LCD readout.

YES: Replace Pak-Stat.

NO: Replace hose.

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

YES: Go to step 4.

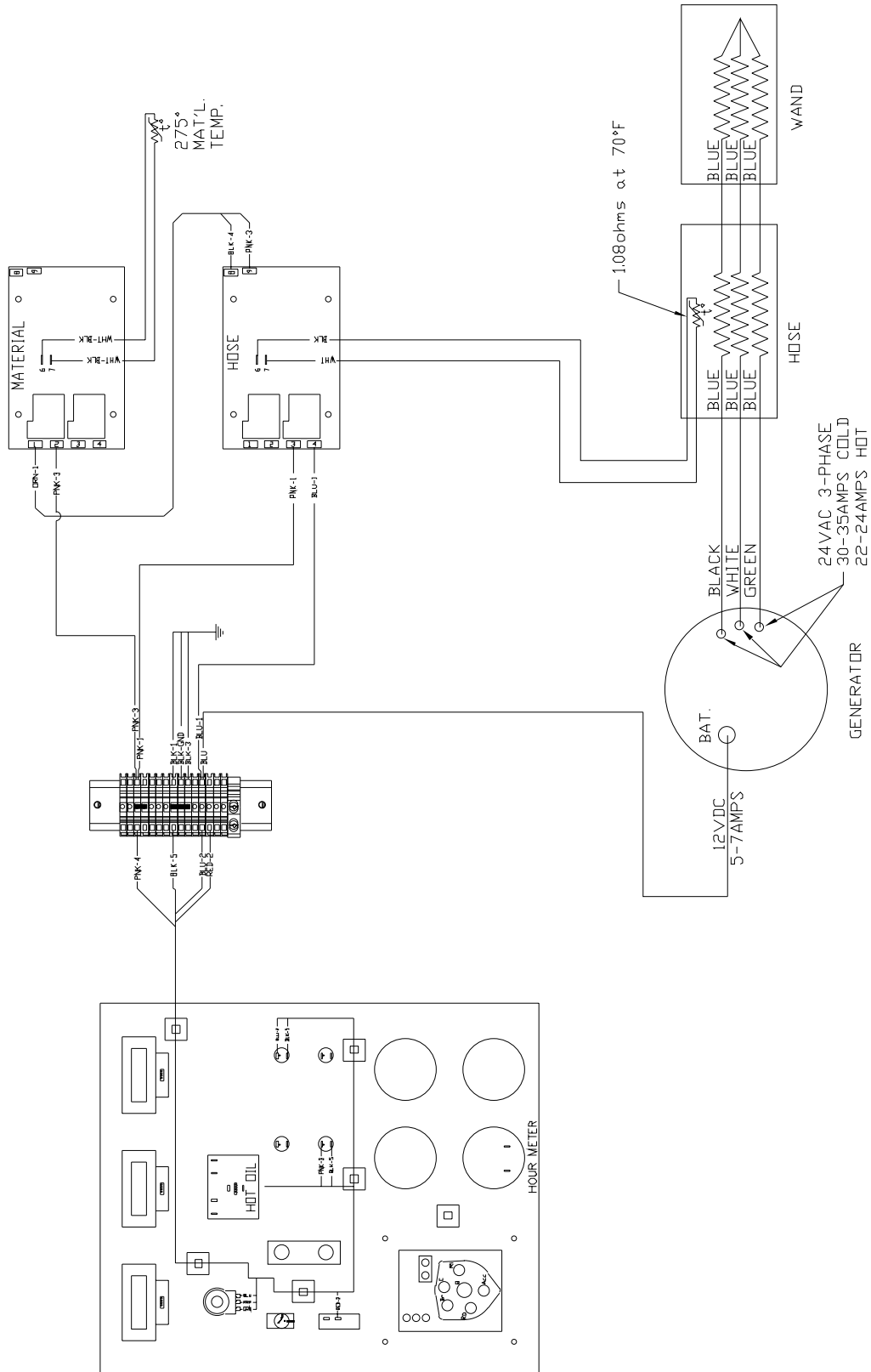
NO: Check 12 volts at terminal strip(blue wire) in control box.

Step 4: Check for 24 volts AC at the “BLACK”, “WHITE” and “GREEN” wires on the generator. (Check between blk and wht, blk and grn, wht and grn)

YES: Go to step 5.

NO: Replace generator.

TROUBLE SHOOTING GUIDE - ELECTRIC HOSE



HOSE CIRCUIT

TROUBLE SHOOTING GUIDE - ELECTRIC HOSE

Step 5: Check for 30 amps (cold) or 22-24 amps (hot) at the 3 blue wires in the junction box. **(Always use a clamp-on AMP meter to perform this test)**

YES: Hose should be operating properly.

NO: Go to step 6.

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 continuity between terminals “A”, “E”, and “D” at the wand.

YES: Wand is Ok. Go to step 7.

NO: Replace wand.

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

YES: Replace hose.

NO: Hose is OK.

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 “MATERIAL” temperature at 275°F ?

YES: Go to step 3.

NO: Allow material to heat longer or turn “POWER” toggle switch “ON”.

Step 3: Is the “PUMP” light illuminated?

YES: Go to step 4.

NO: Hose temperature must be at 325°F before the pump will activate.

Step 4: Check for 12 volts at terminals #12 (red-blk wire) and terminal #14 (green wire) of the relay. **(NOTE: Terminal #12 will have 12 volts when the key is “ON”. Terminal #14 will have 12 volts when trigger is activated.)**

YES: Go to step 4a.

NO: Check continuity of red trigger wires in junction box.

Yes: Go to step 5.

No: Check for continuity between terminals “C” and “B” on wand when the trigger is activated.

YES: Go to step 5.

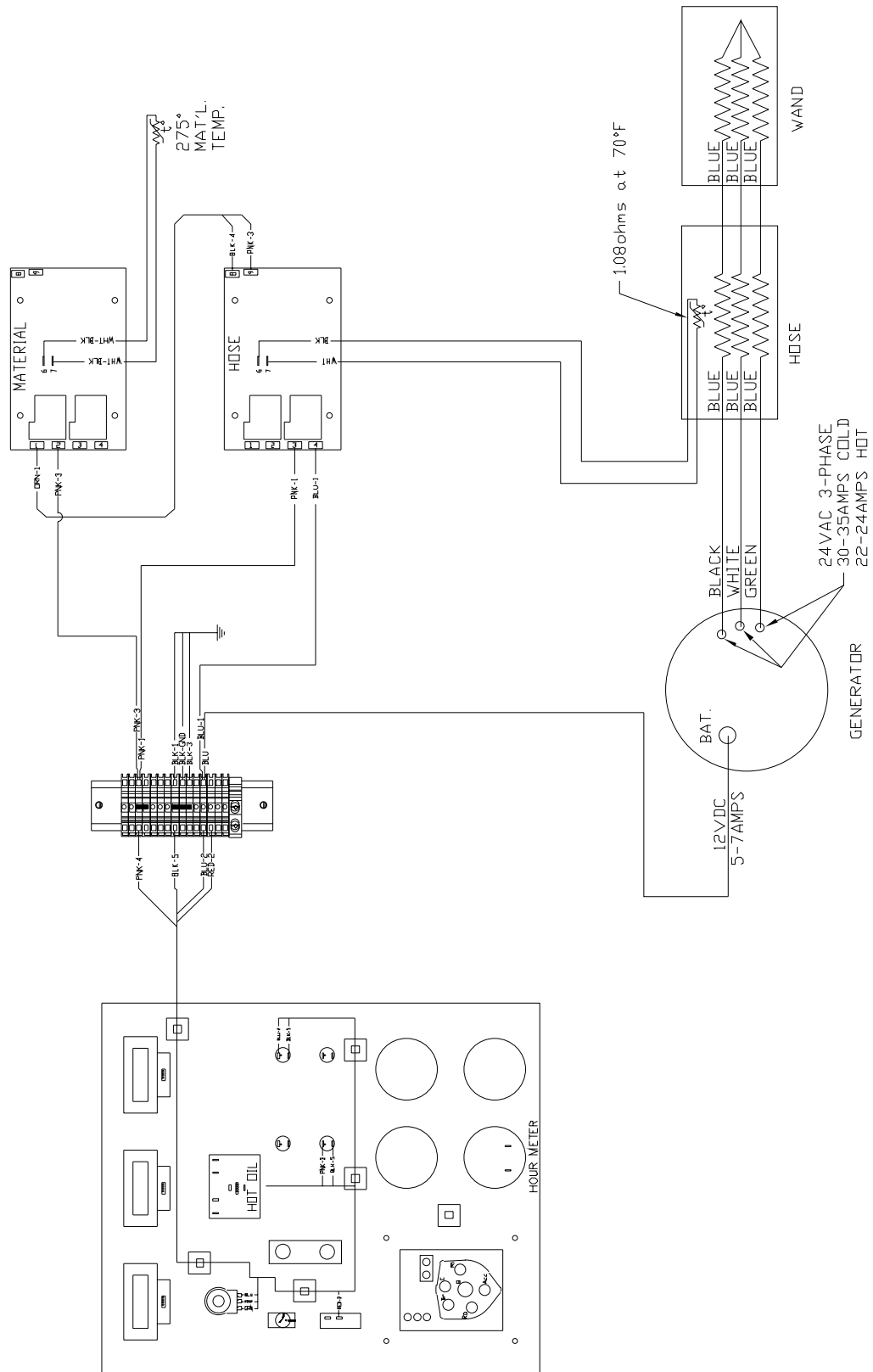
NO: Replace trigger or check for poor connections.

Step 4a: Check relay by pressing the white test button on top of relay. **(CAUTION: Pump will dispense material)**

YES: Go to step 5.

NO: Replace relay.

TROUBLE SHOOTING GUIDE - ELECTRIC HOSE



HOSE CIRCUIT

TROUBLE SHOOTING GUIDE - ELECTRIC HOSE

Step 5: Is the top right light on hydraulic valve illuminated (looking at the rear of the hydraulic valve) when trigger is activated?

YES: Replace hydraulic cartridge.

NO: Go to step 4.

PUMP ROTATES BUT NO MATERIAL IS DISCHARGED

Step 1: Has the sealant and heated hose had sufficient time to reach temperature?

YES: Go to step 2.

NO: Allow the sealant and hose to heat longer.

Step 2: Check material outlet pipe and connection between hose and wand for obstruction.

YES: Remove obstruction and reassemble hose connection.

NO: Go to step 3.

Step 3: Is there an obstruction at the pump suction?

YES: Reverse material pump for 30 seconds.

NO: Refer to page 20 for pump removal if required.

MATERIAL DISPENSING RATE IS TOO SLOW

Step 1: Check speed control knob for desired flow adjustment.

YES: Go to step 2.

NO: Adjust to desired flow.

Step 2: Is there enough material in the tank?

YES: Go to step 3.

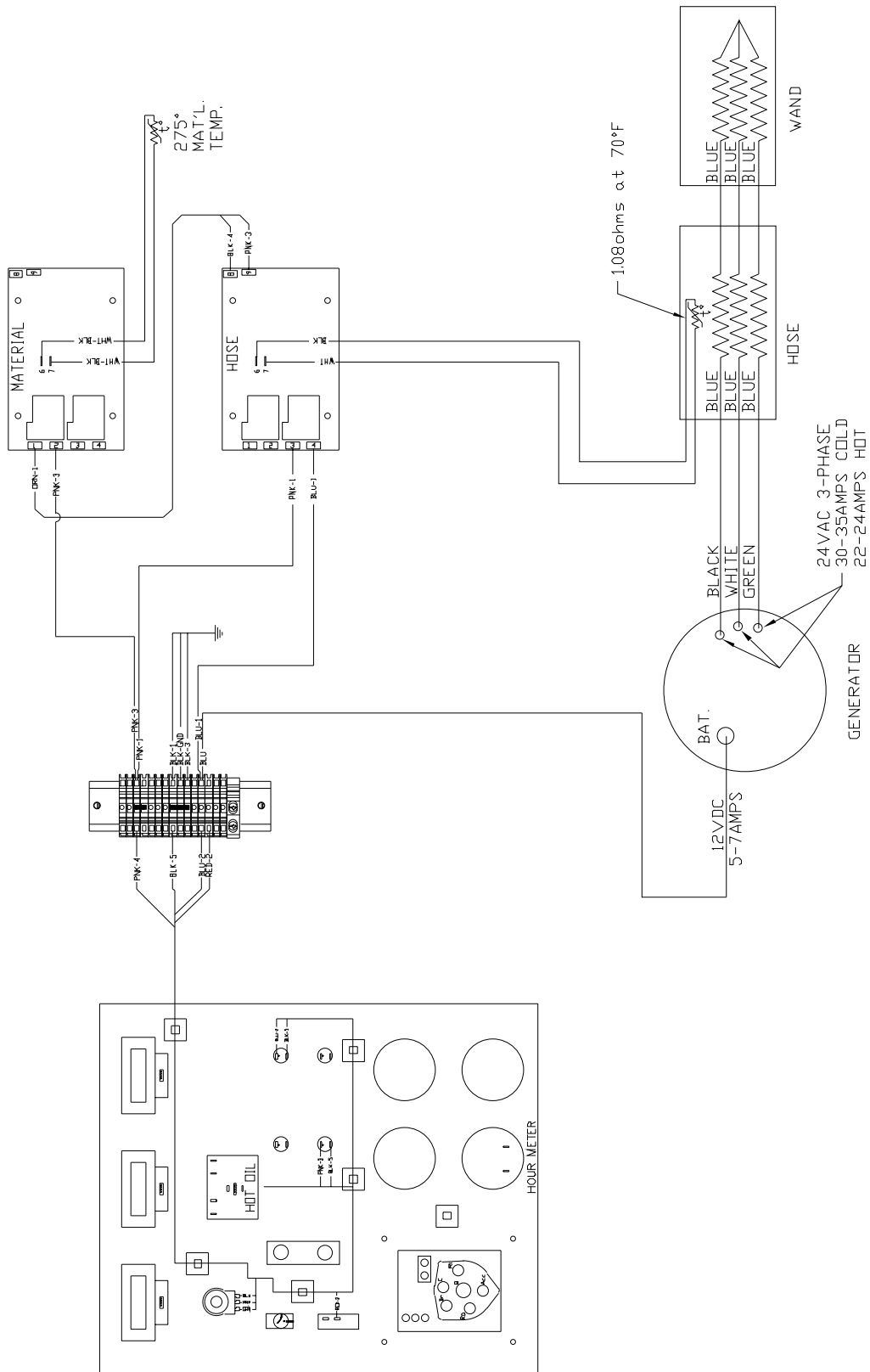
NO: Add enough material to bring tank level above the screen.

Step 3: Check material outlet pipe and connection between hose and wand for obstruction.

YES: Remove obstruction and reassemble hose connection.

NO: Pump is worn out .

TROUBLE SHOOTING GUIDE - ELECTRIC HOSE



HOSE CIRCUIT

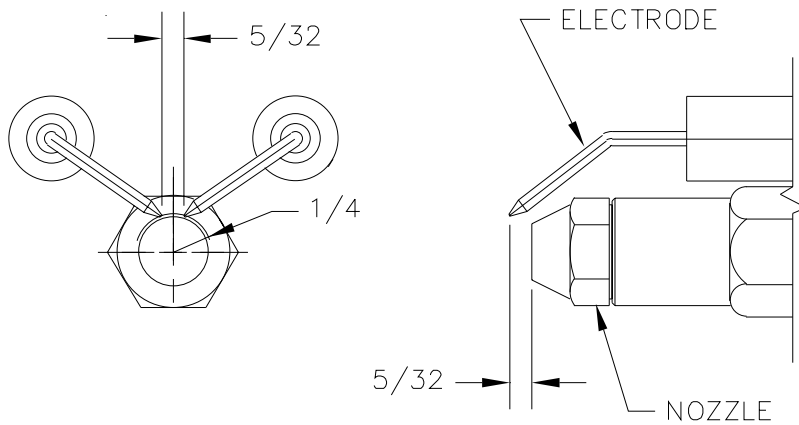
RTD SENSOR - OHMS vs. TEMPERATURE

The following chart shows what the Ohm reading would be for a given temperature. This is to be used when trouble shooting the burner and the hose. The following are the instructions for use.

1. Measure the resistance (Ohms) of the sensor in question with an Ohm meter.
2. Find the reading in the chart.
3. Follow the row to the left and get the temperature in 10° increment, then follow the column up to get the 1° increment. **Example:** 1573 Ohms =302°

| °F | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0 | 930.3 | 932.5 | 934.7 | 936.9 | 939.1 | 941.3 | 943.4 | 945.6 | 947.8 | 950.0 |
| 10 | 952.2 | 954.3 | 956.5 | 958.7 | 960.9 | 963.0 | 965.2 | 967.4 | 969.6 | 971.8 |
| 20 | 973.9 | 976.1 | 978.3 | 980.5 | 982.6 | 984.8 | 987.0 | 989.1 | 991.3 | 993.5 |
| 30 | 995.7 | 997.8 | 1000.0 | 1002.2 | 1004.3 | 1006.5 | 1008.7 | 1010.9 | 1013.0 | 1015.2 |
| 40 | 1017.4 | 1019.5 | 1021.7 | 1023.9 | 1026.0 | 1028.2 | 1030.4 | 1032.5 | 1034.7 | 1036.9 |
| 50 | 1039.0 | 1041.2 | 1043.4 | 1045.5 | 1047.7 | 1049.8 | 1052.0 | 1054.2 | 1056.3 | 1058.5 |
| 60 | 1060.7 | 1062.8 | 1065.0 | 1067.1 | 1069.3 | 1071.5 | 1073.6 | 1075.8 | 1077.9 | 1080.1 |
| 70 | 1082.2 | 1084.4 | 1086.6 | 1088.7 | 1090.9 | 1093.0 | 1095.2 | 1097.3 | 1099.5 | 1101.6 |
| 80 | 1103.8 | 1106.0 | 1108.1 | 1110.3 | 1112.4 | 1114.6 | 1116.7 | 1118.9 | 1121.0 | 1123.2 |
| 90 | 1125.3 | 1127.5 | 1129.6 | 1131.8 | 1133.9 | 1136.1 | 1138.2 | 1140.4 | 1142.5 | 1144.7 |
| 100 | 1146.8 | 1149.0 | 1151.1 | 1153.2 | 1155.4 | 1157.5 | 1159.7 | 1161.8 | 1164.0 | 1166.1 |
| 110 | 1168.3 | 1170.4 | 1172.5 | 1174.7 | 1176.9 | 1179.0 | 1181.1 | 1183.3 | 1185.4 | 1187.5 |
| 120 | 1189.7 | 1191.8 | 1194.0 | 1196.1 | 1198.2 | 1200.4 | 1202.5 | 1204.6 | 1206.8 | 1208.9 |
| 130 | 1211.0 | 1213.2 | 1215.3 | 1217.5 | 1219.6 | 1221.7 | 1223.9 | 1226.0 | 1228.1 | 1230.3 |
| 140 | 1232.4 | 1234.5 | 1236.7 | 1238.9 | 1240.9 | 1243.0 | 1245.2 | 1247.3 | 1249.4 | 1251.6 |
| 150 | 1253.7 | 1255.8 | 1258.0 | 1260.1 | 1262.2 | 1264.3 | 1266.5 | 1268.6 | 1270.7 | 1272.8 |
| 160 | 1275.0 | 1277.1 | 1279.2 | 1281.3 | 1283.5 | 1285.6 | 1287.7 | 1289.8 | 1292.0 | 1294.1 |
| 170 | 1296.2 | 1298.3 | 1300.4 | 1302.6 | 1304.7 | 1306.8 | 1308.9 | 1311.0 | 1313.2 | 1315.3 |
| 180 | 1317.4 | 1319.5 | 1321.6 | 1323.8 | 1325.9 | 1328.0 | 1330.1 | 1332.2 | 1334.3 | 1336.5 |
| 190 | 1338.6 | 1340.7 | 1342.8 | 1344.9 | 1347.0 | 1349.1 | 1351.2 | 1353.4 | 1355.5 | 1357.6 |
| 200 | 1359.7 | 1361.8 | 1363.9 | 1366.0 | 1368.1 | 1370.2 | 1372.4 | 1374.5 | 1376.6 | 1378.7 |
| 210 | 1380.8 | 1382.9 | 1385.0 | 1387.1 | 1389.2 | 1391.3 | 1393.4 | 1395.5 | 1397.6 | 1399.7 |
| 220 | 1401.8 | 1403.9 | 1406.0 | 1408.1 | 1410.3 | 1412.4 | 1414.5 | 1416.6 | 1418.7 | 1420.8 |
| 230 | 1422.9 | 1425.0 | 1427.1 | 1429.2 | 1431.3 | 1433.4 | 1435.5 | 1437.6 | 1439.6 | 1441.7 |
| 240 | 1443.8 | 1445.9 | 1448.0 | 1450.1 | 1452.2 | 1454.3 | 1456.4 | 1458.5 | 1460.6 | 1462.7 |
| 250 | 1464.8 | 1466.9 | 1469.0 | 1471.1 | 1473.2 | 1475.3 | 1477.3 | 1479.4 | 1481.5 | 1483.6 |
| 260 | 1485.7 | 1487.8 | 1489.9 | 1492.0 | 1494.1 | 1496.1 | 1498.2 | 1500.3 | 1502.4 | 1504.5 |
| 270 | 1506.6 | 1508.7 | 1510.8 | 1512.8 | 1514.9 | 1517.0 | 1519.1 | 1521.2 | 1523.3 | 1525.3 |
| 280 | 1527.4 | 1529.5 | 1531.6 | 1533.7 | 1535.7 | 1537.8 | 1539.9 | 1542.0 | 1544.1 | 1546.1 |
| 290 | 1548.2 | 1550.3 | 1552.4 | 1554.5 | 1556.5 | 1558.6 | 1560.7 | 1562.8 | 1564.8 | 1566.9 |
| 300 | 1569.0 | 1571.1 | 1573.1 | 1575.2 | 1577.3 | 1579.4 | 1581.4 | 1583.5 | 1585.6 | 1587.7 |
| 310 | 1589.7 | 1591.8 | 1593.9 | 1595.9 | 1598.0 | 1600.1 | 1602.2 | 1604.2 | 1606.3 | 1608.4 |
| 320 | 1610.4 | 1612.5 | 1614.6 | 1616.6 | 1618.7 | 1620.8 | 1622.8 | 1624.9 | 1627.0 | 1629.0 |
| 330 | 1631.1 | 1633.2 | 1635.2 | 1637.3 | 1639.3 | 1641.4 | 1643.5 | 1645.5 | 1647.6 | 1649.7 |
| 340 | 1651.7 | 1653.8 | 1655.8 | 1657.9 | 1660.0 | 1662.0 | 1664.1 | 1666.1 | 1668.2 | 1670.2 |
| 350 | 1672.3 | 1674.4 | 1676.4 | 1678.5 | 1680.5 | 1682.6 | 1684.6 | 1686.7 | 1688.7 | 1690.8 |
| 360 | 1692.9 | 1694.9 | 1697.0 | 1699.0 | 1701.1 | 1703.1 | 1705.2 | 1707.2 | 1709.3 | 1711.3 |
| 370 | 1713.4 | 1715.4 | 1717.5 | 1719.5 | 1721.6 | 1723.6 | 1725.7 | 1727.7 | 1729.8 | 1731.8 |
| 380 | 1733.9 | 1735.9 | 1737.9 | 1740.0 | 1742.0 | 1744.1 | 1746.1 | 1748.2 | 1750.2 | 1752.3 |
| 390 | 1754.3 | 1756.3 | 1758.4 | 1760.4 | 1762.5 | 1764.5 | 1766.6 | 1768.6 | 1770.6 | 1772.7 |
| 400 | 1774.7 | 1776.8 | 1778.8 | 1780.8 | 1782.9 | 1784.9 | 1786.9 | 1789.0 | 1791.0 | 1793.1 |
| 410 | 1795.1 | 1797.1 | 1799.2 | 1801.2 | 1803.2 | 1805.3 | 1807.3 | 1809.3 | 1811.4 | 1813.4 |
| 420 | 1815.4 | 1817.5 | 1819.5 | 1821.5 | 1823.6 | 1825.6 | 1827.6 | 1829.6 | 1831.7 | 1833.7 |
| 430 | 1835.7 | 1837.8 | 1839.8 | 1841.8 | 1843.8 | 1845.9 | 1847.9 | 1849.9 | 1851.9 | 1854.0 |
| 440 | 1856.0 | 1858.0 | 1860.0 | 1862.1 | 1864.1 | 1866.1 | 1868.1 | 1870.2 | 1872.2 | 1874.2 |
| 450 | 1876.2 | 1878.2 | 1880.3 | 1882.3 | 1884.3 | 1886.3 | 1888.3 | 1890.4 | 1892.4 | 1894.4 |
| 460 | 1896.4 | 1898.4 | 1900.5 | 1902.5 | 1904.5 | 1906.5 | 1908.5 | 1910.5 | 1912.6 | 1914.6 |
| 470 | 1916.6 | 1918.6 | 1920.6 | 1922.6 | 1924.6 | 1926.6 | 1928.7 | 1930.7 | 1932.7 | 1934.7 |
| 480 | 1936.7 | 1938.7 | 1940.7 | 1942.7 | 1944.7 | 1946.8 | 1948.8 | 1950.8 | 1952.8 | 1954.8 |
| 490 | 1956.8 | 1958.8 | 1960.8 | 1962.8 | 1964.8 | 1966.8 | 1968.8 | 1970.8 | 1972.8 | 1974.8 |
| 500 | 1976.8 | 1978.8 | 1980.8 | 1982.9 | 1984.9 | 1986.9 | 1988.9 | 1990.9 | 1992.9 | 1994.9 |
| 510 | 1996.9 | 1998.9 | 2000.9 | 2002.9 | 2004.9 | 2006.9 | 2008.8 | 2010.8 | 2012.8 | 2014.8 |
| 520 | 2016.8 | 2018.8 | 2020.8 | 2022.8 | 2024.8 | 2026.8 | 2028.8 | 2030.8 | 2032.8 | 2034.8 |
| 530 | 2036.8 | 2038.8 | 2040.8 | 2042.8 | 2044.7 | 2046.7 | 2048.7 | 2050.7 | 2052.7 | 2054.7 |
| 540 | 2056.7 | 2058.7 | 2060.7 | 2062.7 | 2064.6 | 2066.6 | 2068.6 | 2070.6 | 2072.6 | 2074.6 |
| 550 | 2076.6 | 2078.5 | 2080.5 | 2082.5 | 2084.5 | 2086.5 | 2088.5 | 2090.4 | 2092.4 | 2094.4 |

DIESEL BURNER ADJUSTMENTS



DIESEL BURNER SETTINGS

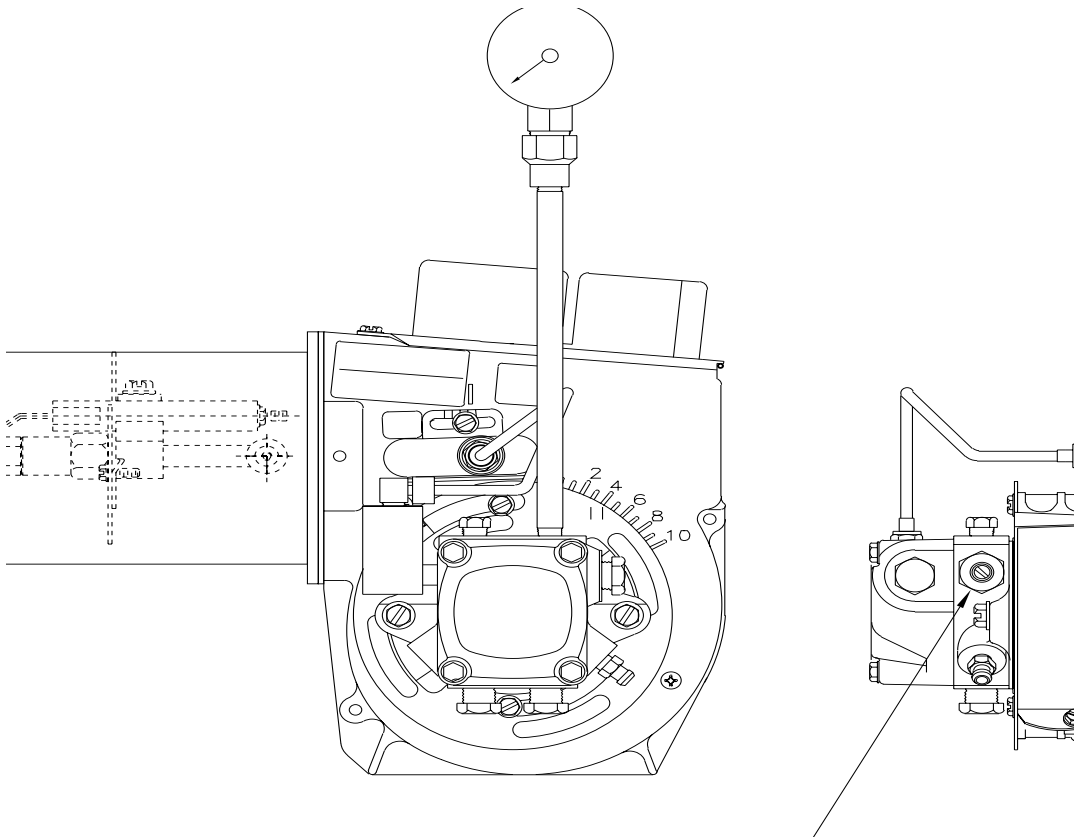
Air Shutter = 8

Air Band = 2

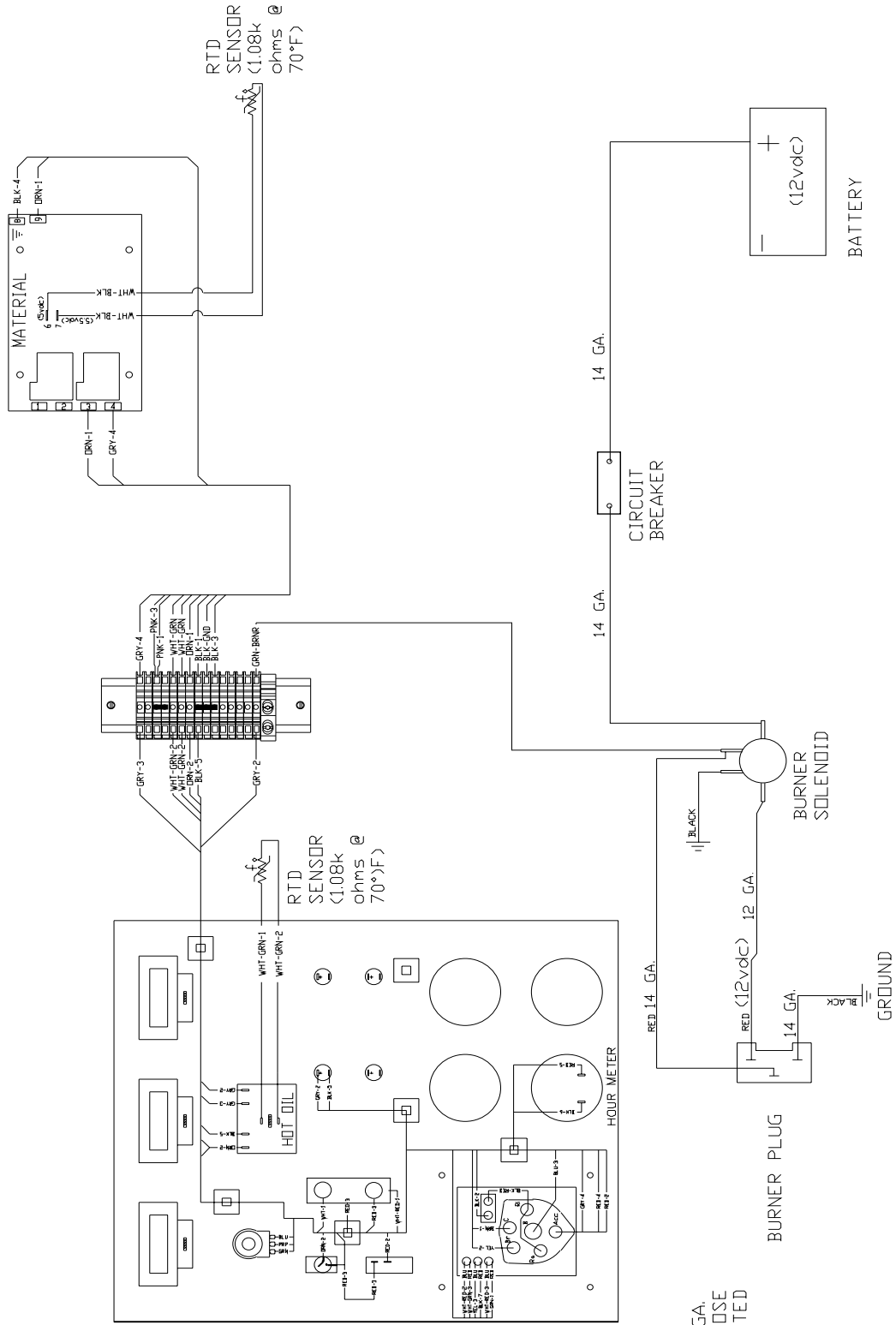
Fuel Pressure = 140 PSI

Adjustment Plate = 3

Use fuel and hydraulic pressure gauge kit part number 29960.



BURNER SCHEMATIC



NOTE:
ALL WIRE 18 GA.
GENERAL PURPOSE
EXCEPT AS NOTED

DIESEL BURNER CIRCUIT

BURNER TROUBLE SHOOTING

BURNER WILL NOT IGNITE

Step 1: Check for 12 volts at "POWER" toggle switch.

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

YES: 12 volts at terminal #4 on "MATERIAL" Pak-Stat

NO: Bad Pak-Stat
Faulty sensor

YES: Check for 12 volts at terminal #7 on "OIL" Pak-Stat

NO: Bad Pak-Stat
Faulty sensor

YES: Check for 12 volts at solenoid (frame).

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 igniter transformer, cracked electrode (ceramic)
Incorrect igniter 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

PUMP SECTION PACKING INSTRUCTIONS

Operate the pump under normal conditions and, after a short run-in period, examine packing for leakage. If leakage is excessive tighten locknuts evenly until there is only slight leakage from the packing rings. This slight leakage is a necessary and normal condition for packing and allows for expansion and proper seating.



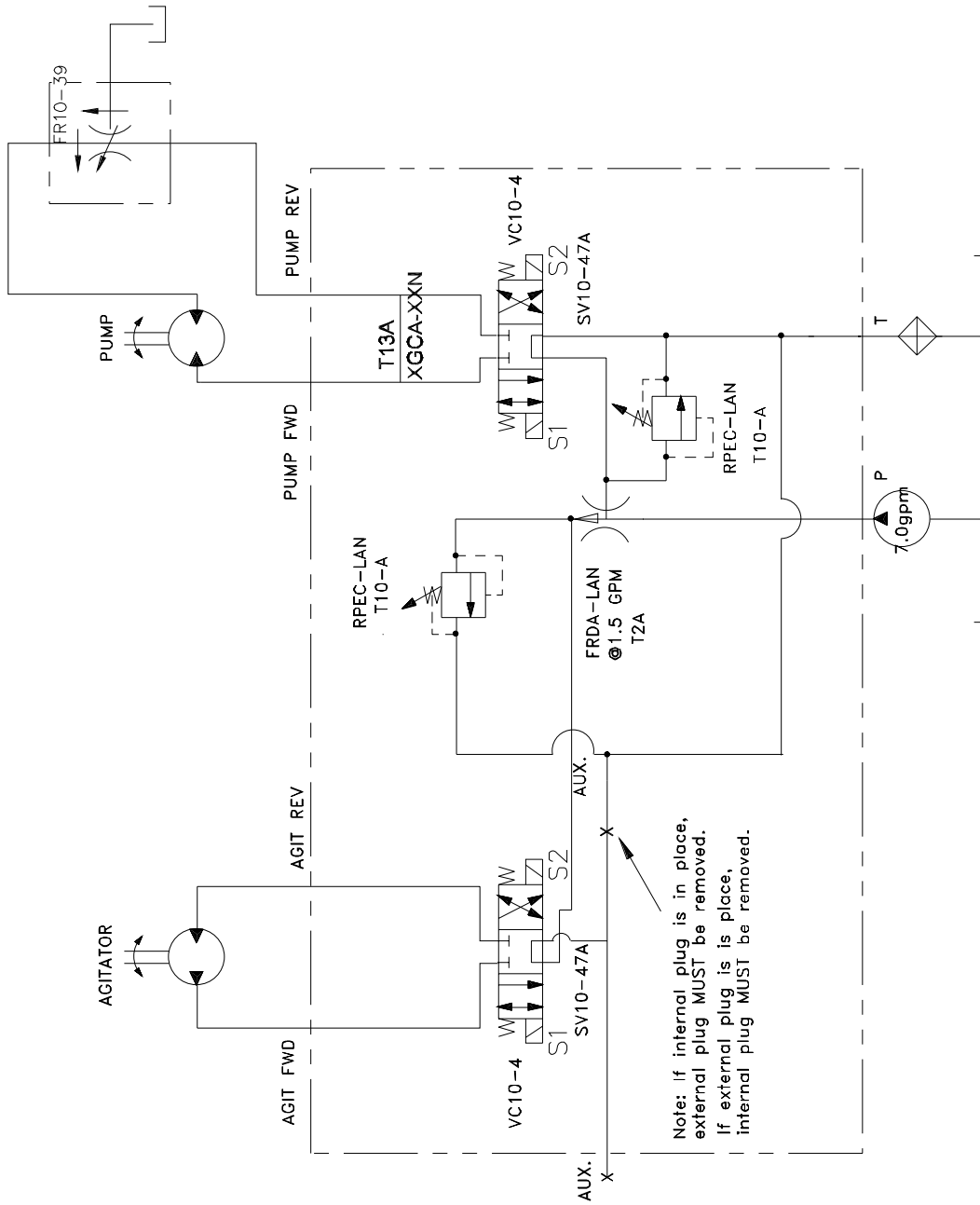
NOTE:

WHERE LIQUID IS BEING HANDLED, THAT IS HAZARDOUS OR VOLATILE, FULL PRECAUTIONS SHOULD BE TAKEN DURING THE RUN-UP PERIOD.

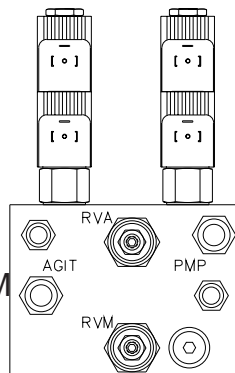
To replace packing remove key, two nuts and clips, packing gland and packing rings. (Packing hooks are commercially available to assist in removing the packing rings). Clean the shaft and adjacent parts. Examine the shaft, if it is excessively worn or scored, replacement of pump may be necessary.

Insert packing rings, making sure the joints are staggered 180 degrees. Use split ring bushings to seat each ring before adding the next ring. The rings must not be taped or seated in place too tightly. When the packing box is sufficiently full to allow entry of the packing gland (about 1/4") reassemble the packing gland, clips and nuts. Draw up evenly on the packing gland to assure proper seating of the packing, and then loosen nuts about 1/2 turn. Do not cock the packing gland. (This could cause binding or heating of the shaft).

HYDRAULIC SCHEMATIC



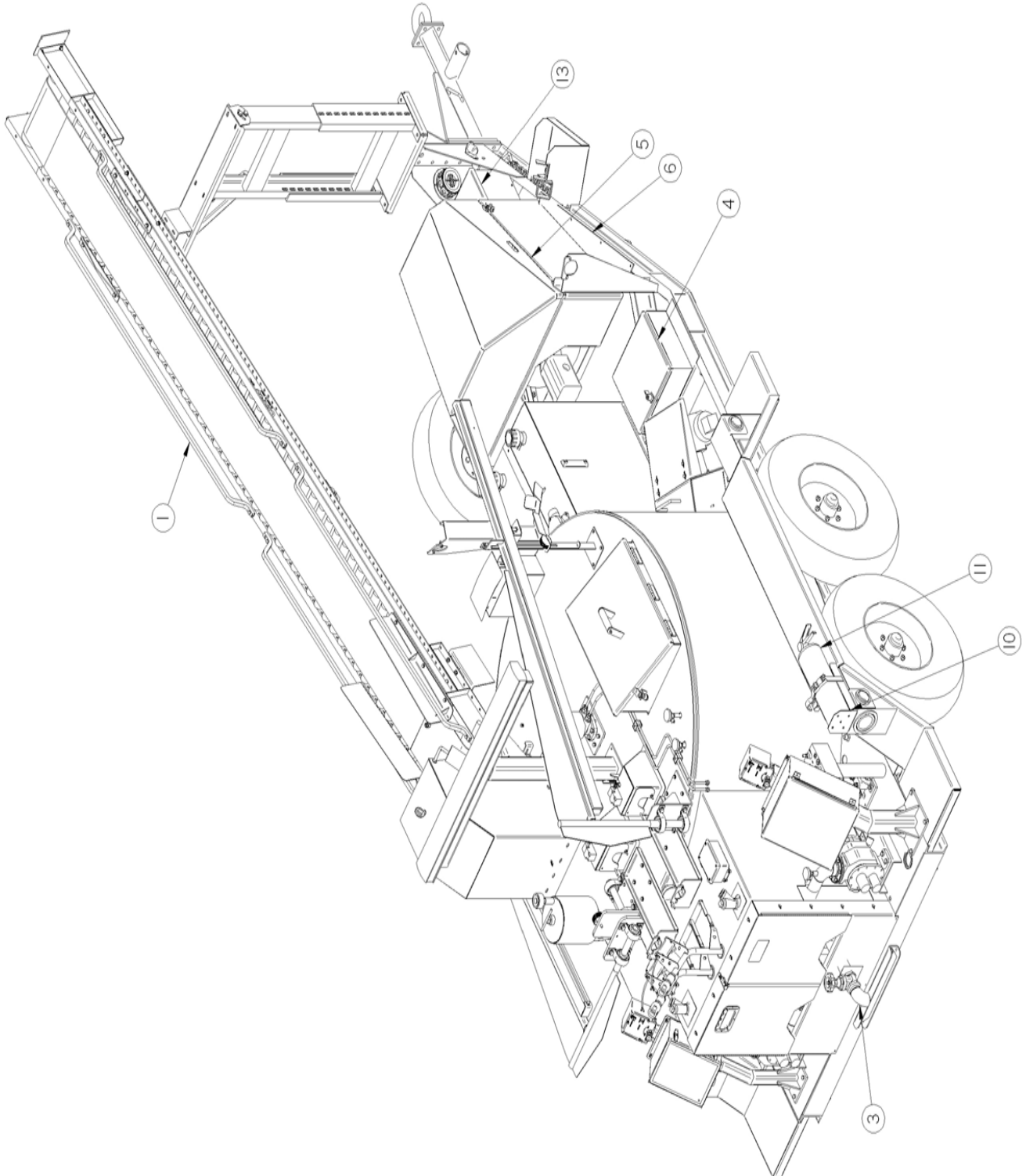
HYDRAULIC FLOW = 8.0 GPM @ 2800 RPM
 HYDRAULIC FLOW = 15.4 GPM @ 2800 RPM
 RELIEF VALVE (RVA) = 1000 PSI
 RELIEF VALVE (RVP) = 2000 PSI
 RELIEF VALVE (RVHO) = 500 PSI



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. |
| Hydraulic cooling fan not on | Oil is not above 140° Temperature switch not functioning | Allow oil to warm up Replace switch (See pg. 43) |

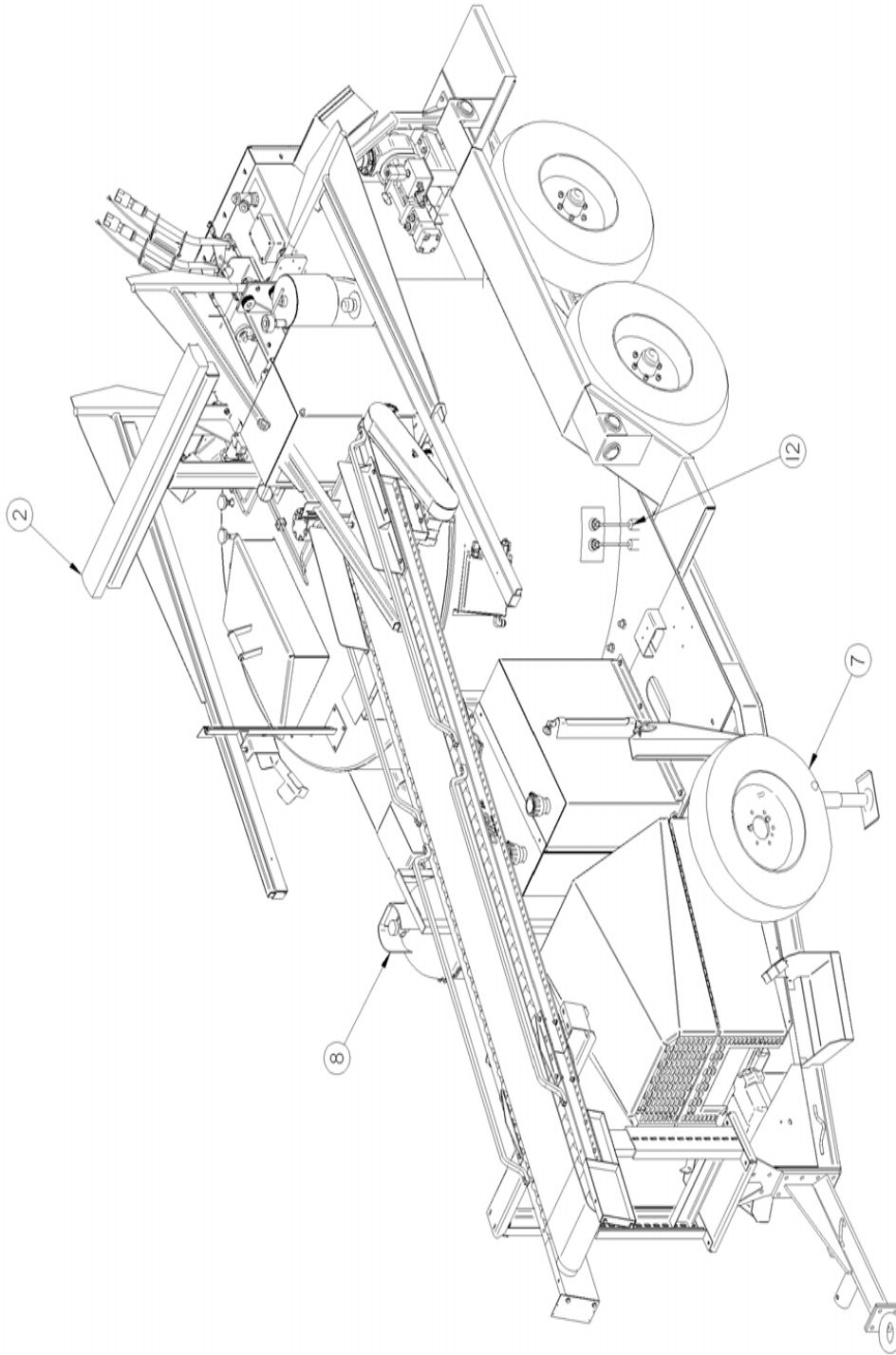
EZ1500 SERIES II MELTER



EZ1500 SERIES II MELTER

| NUMBER | PART NUMBER | QTY. | DESCRIPTION |
|--------|-------------|------|--|
| 1 | 90100 | 4 | TIRE AND WHEEL ASSEMBLY |
| 2 | 45704 | 2 | TORSIONAL AXLE ASSEMBLY |
| 3 | 23117 | 1 | BREAKAWAY SWITCH |
| 4 | 46542 | OPT. | ENGINE ASSEMBLY - 35.5HP (ELECTRIC HOSE) |
| 4 | 45750 | OPT. | ENGINE ASSEMBLY - 27.5HP (STANDARD HOSE) |
| 5 | 29399 | 4 | ISOMOUNT |
| 6 | 46255 | 1 | HYDRAULIC TANK ASSEMBLY |
| 7 | 44804 | 1 | HYDRAULIC FILTER ASSEMBLY |
| 7a | 44805 | 1 | HYDRAULIC FILTER ELEMENT |
| 7b | 44838 | - | O-RING, HYDRAULIC FILTER |
| 7c | 44839 | - | GASKET, HYDRAULIC FILTER |
| 8 | 46017 | 1 | CONTROL BOX ASSEMBLY - ELEC. HOSE |
| 8 | 46035 | 1 | CONTROL BOX ASSEMBLY - STD. HOSE |
| 9 | 43355 | 1 | OVERFLOW TANK |
| 10 | 46450 | 1 | DIPSTICK |
| 11 | 26025 | 1 | AIR BREATHER |
| 12 | 45706 | 1 | MOTOR, HYDRAULIC - AGITATOR |
| 13 | 46010 | 2 | BOOM - HOSE |
| 14 | 45579 | 2 | BASE - BOOM |
| 15 | 43127 | 1 | MATERIAL PUMP ASSEMBLY - PASS. SIDE |
| 16 | 45553 | 4 | BEARING, BOOM |
| 17 | 46455 | 1 | HYDRAULIC CONTROL VALVE ASSEMBLY |
| 18 | 44027 | 2 | JUNCTION BOX ASSEMBLY |
| 19 | 25057 | 1 | GAUGE, HOSE COMPARTMENT |
| 20 | 43465 | 2 | SENSOR, RTD |
| 21 | 46013 | 2 | COVER, SWITCH |
| 22 | 51678 | 3 | SWITCH, DPDT (ON/MOMENTARY) |
| 23 | 55120 | 2 | SENSOR, PUMP |
| 24 | 46060 | 2 | REGULATOR, FLOW |
| 25 | 32363 | 2 | TAIL LIGHT, STOP, TURN, AND TAIL |
| 26 | 32364 | 2 | SIDE MARKER, RED |

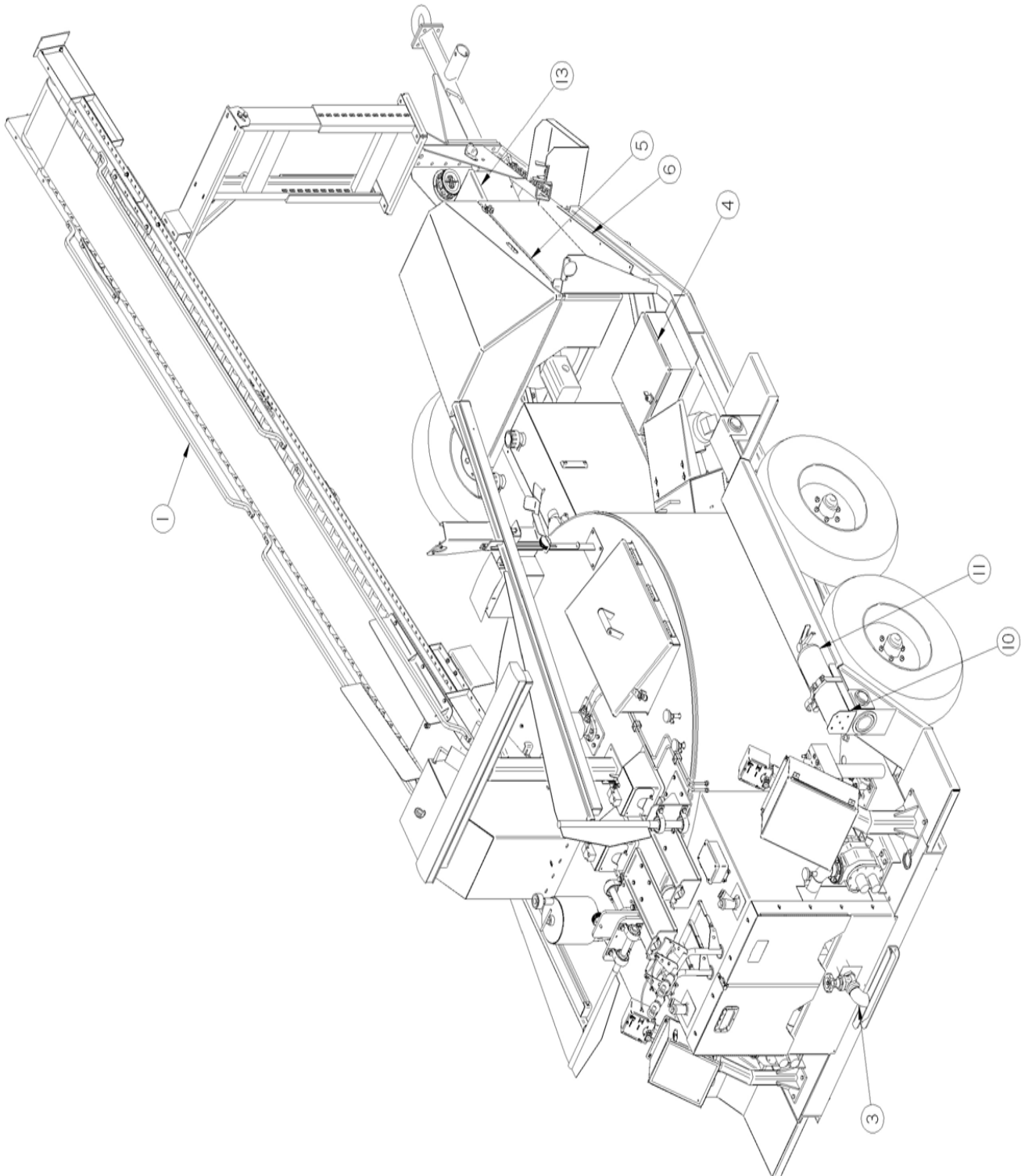
EZ1500 SERIES II MELTER



EZ1500 SERIES II MELTER

| NUMBER | PART NUMBER | QTY. | DESCRIPTION |
|--------|-------------|------|-------------------------------------|
| 27 | - | 4 | SIDE MARKER, YELLOW |
| 28 | 32371 | 1 | CLEARANCE MARKER, REAR - RED |
| 29 | 46012 | 2 | SUPPORT ASSEMBLY, WAND |
| 30 | 24000 | 1 | BATTERY |
| 31 | 24002 | 1 | BATTERY BOX |
| 32 | 46083 | 2 | SWITCH, LIMIT - RECIRCULATION |
| 33 | 46088 | 2 | LEVER ASSEMBLY, LIMIT SWITCH |
| 34 | 46543 | 1 | HYDRAULIC PUMP ASSEMBLY |
| 35 | 43126 | 1 | MATERIAL PUMP ASSY. - DRIVERS SIDE |
| 36 | 46588 | 1 | CONTROL BOX ASSY. - DRIVERS SIDE |
| 37 | 20130 | 2 | SAFETY CHAIN |
| 38 | 46572 | 2 | FENDER ASSEMBLY (NO STEPS) |
| 39 | 51730 | OPT. | WAND ASSEMBLY - ELECTRIC |
| 39 | 46069 | OPT. | WAND, STANDARD HOSE |
| - | 46076 | 1 | SWITCH, WAND - STANDARD HOSE ONLY |
| 40 | 45372 | 1 | EXHAUST PIPE |
| 41 | 41891 | 1 | BURNER, DIESEL |
| 42 | 44785 | 1 | NOZZLE, BURNER |
| 43 | 46053 | 1 | HOSE HANGER |
| 44 | 51065 | 4 | CORD GRIP |
| 45 | 39608 | 2 | SWITCH, LID |
| 45a | 28569 | 2 | NUT, LID SWITCH |
| 46 | 23095 | 1 | BUSHING, JACK ASSEMBLY |
| 47 | 23082 | 1 | JACK ASSEMBLY, 7000# |
| 48 | 51731 | OPT. | ELECTRIC HEATED HOSE ASSEMBLY - 15' |
| 48 | 27009 | OPT. | HOSE, 20' SEALANT |
| 49 | 46263 | 2 | BOOM LOCK ASSEMBLY |

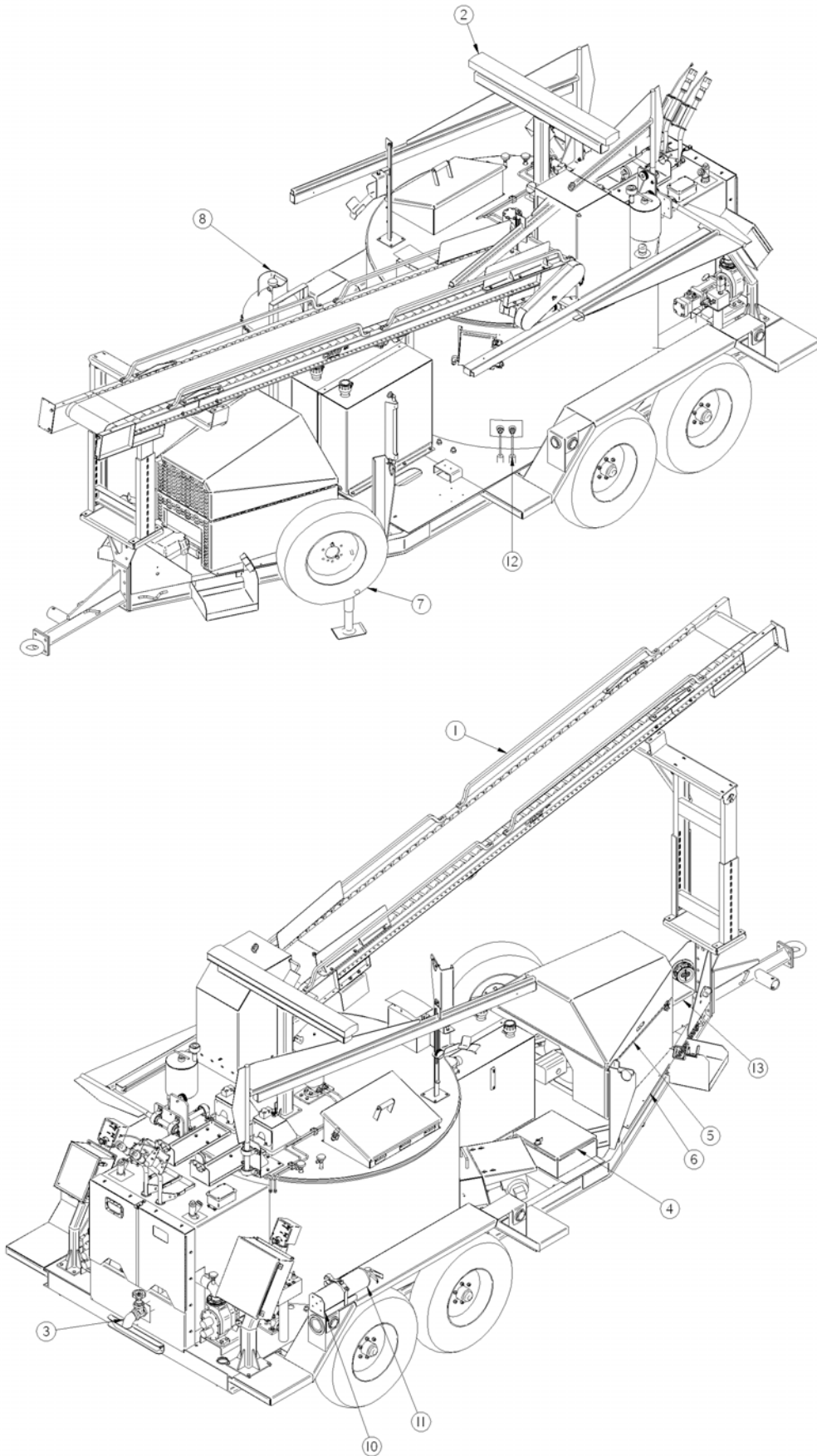
EZ1500 SERIES II MELTER



EZ1500 SERIES II MELTER

| NUMBER | PART NUMBER | QTY. | DESCRIPTION |
|--------|-------------|------|-------------------------------------|
| 50 | 46555 | 1 | VALVE , SINGLE HYDRAULIC |
| 51 | 45541 | OPT. | HYD . OIL COOLER - COMPRESSORS ONLY |
| 52 | 45542 | OPT. | TEMPERATURE SW ITCH - OIL COOLER |
| 53 | 41696 | 1 | PUMP ASSY . , HOT OIL |
| 54 | 46030 | 1 | MOUNT , CONTROL PANEL P S . |
| 55 | 46585 | 1 | MOUNT , CONTROL PANEL D S . |
| 56 | 2610 | 6 | 1/4 QUICK PIN |
| 57 | 44157 | 6 | PIN ATTACHMENT CABLE |
| 58 | 46250 | 1 | DIESEL TANK ASSEMBLY |
| 58a | 44817 | - | FITTING , SIGHT GLASS - DIESEL |
| 58b | 44191 | - | TUBING , SIGHT GAUGE |
| 59 | 46041 | 1 | DRIP PAN P S . |
| 60 | 46580 | 1 | DRIP PAN D S . |
| 61 | 27114 | 2 | TIP ADAPTER |
| 62 | 27115 | 2 | SHROUD , TIP ADAPTER |
| 63 | 27130 | 2 | SEALING DISK , 4" |

EZ1500 SERIES II MELTER OPTIONS

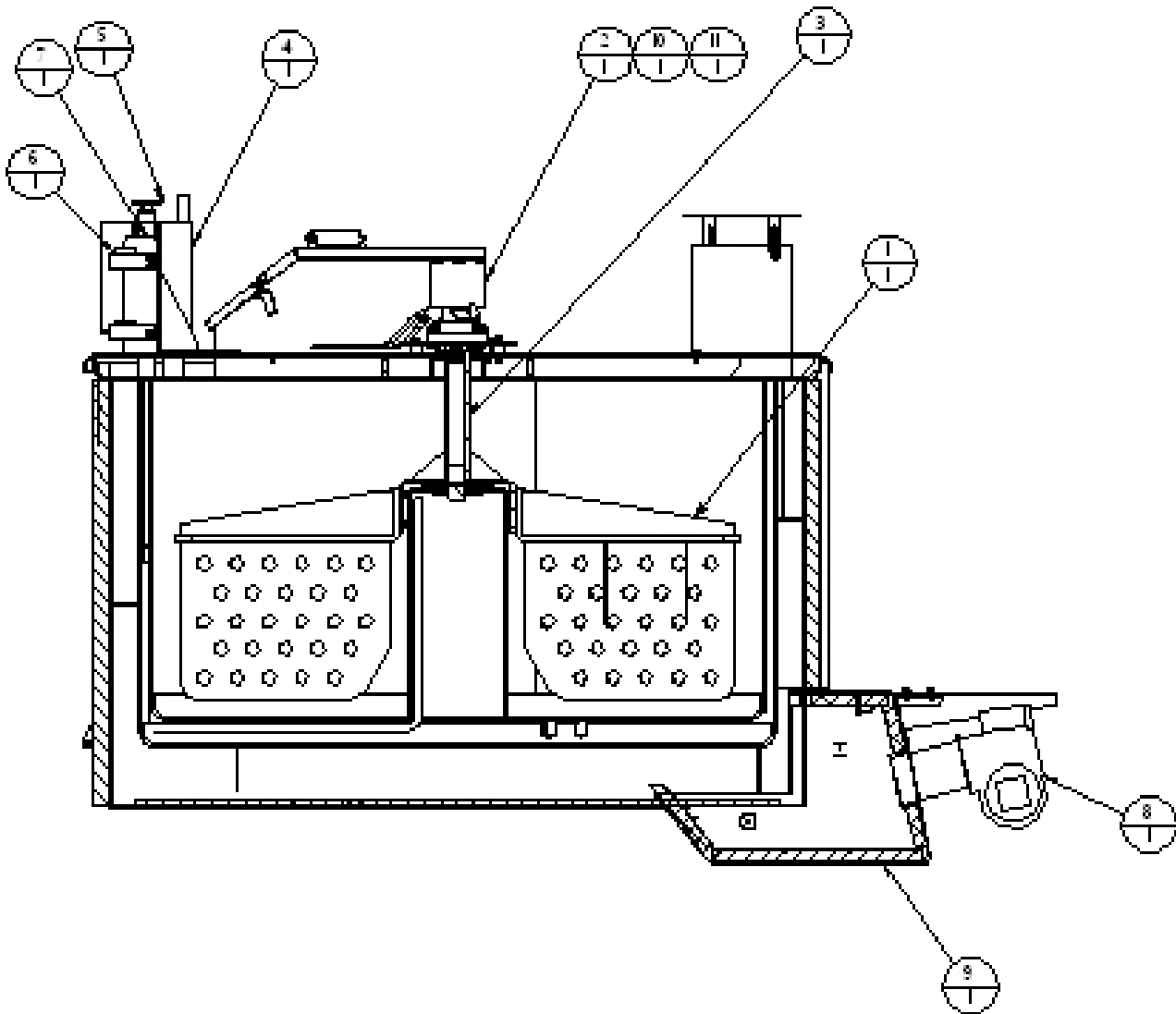


EZ1500 SERIES II MELTER OPTIONS

| NUMBER | PART NUMBER | QTY. | DESCRIPTION |
|--------|-------------|------|---------------------------------|
| 1 | 51390 | 1 | CONVEYOR ASSEMBLY |
| 2 | 46280K | 1 | ARROW BOARD |
| 3 | 41930 | 1 | KIT, GRAVITY FEED |
| 4 | 46260 | 1 | TOOL BOX |
| 5 | 45535 | 1 | ENGINE COVER ASSEMBLY |
| 6 | 44151 | 2 | PLATE, SUPPORT - ENGINE COVER |
| 7 | 42743 | 1 | KIT, SPARE TIRE |
| 8 | 41259K | 1 | 100# PROPANE TANK KIT |
| 9 | 26119 | 2 | 3/8" SAFETY HOOK |
| 10 | 26059 | 1 | BRACKET, FIRE EXTINGUISHER |
| 11 | 26058 | 1 | FIRE EXTINGUISHER, 10# W/ COVER |
| 11a | 26060 | 1 | FIRE EXTINGUISHER, 20# W/ COVER |
| 12 | 24190 | 2 | HEATER, FIREROD |
| 13 | 24086 | 1 | BATTERY BOX, LOCKABLE |
| 14 | 45650 | 1 | HOT AIR LANCE |

NOTE: If item #4 is installed then item #8 cannot be used. If item #8 is installed then item #4 cannot be used.

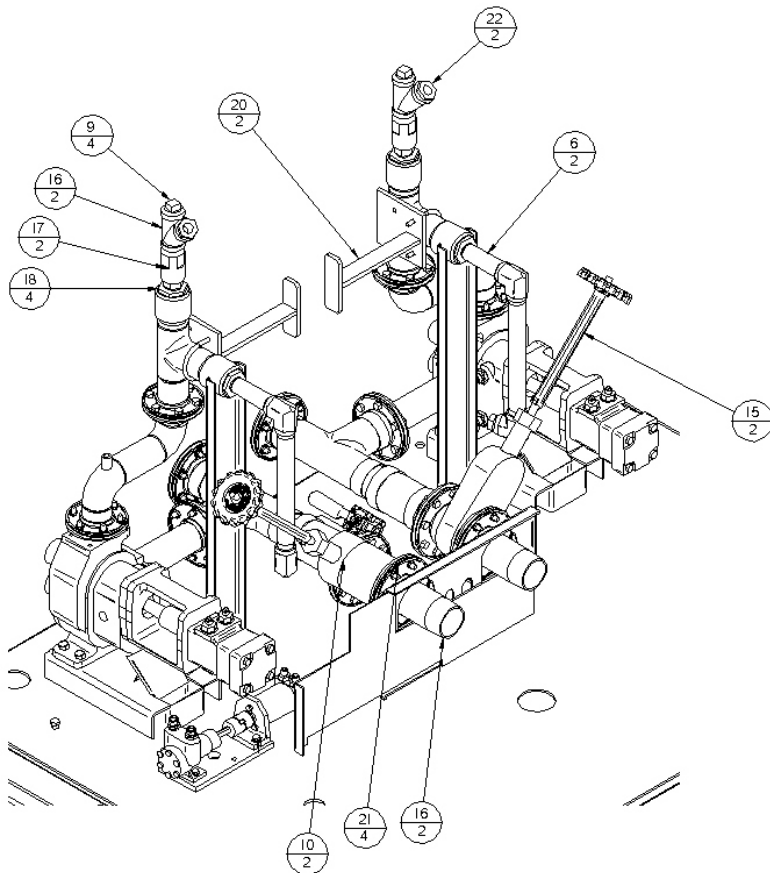
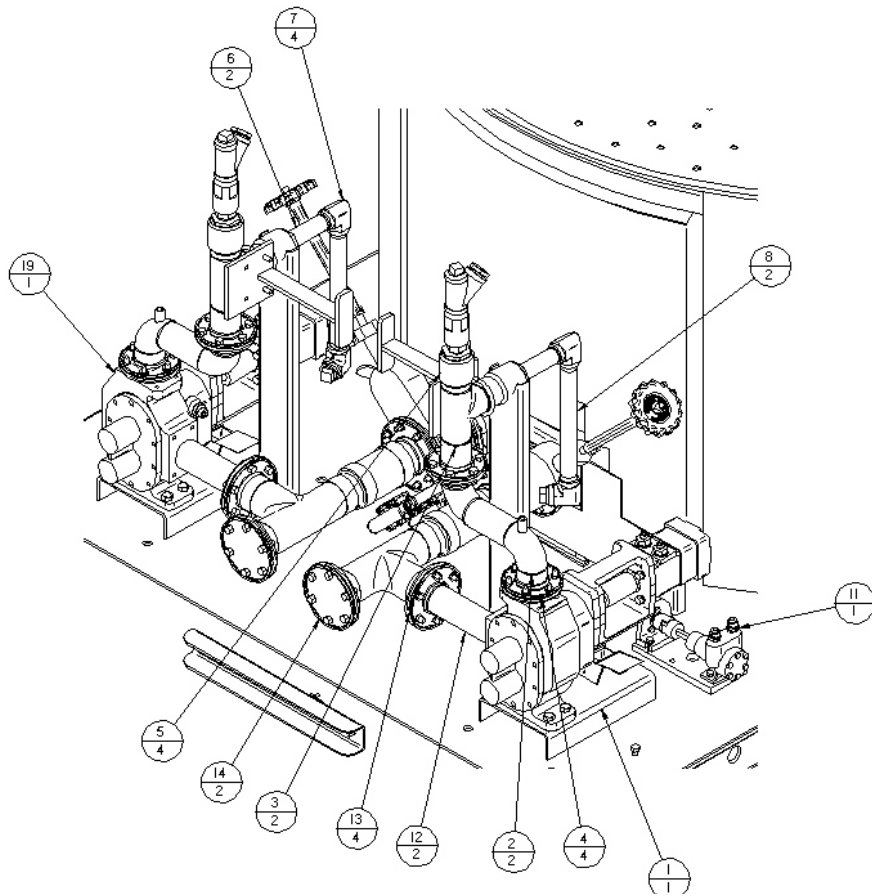
TANK DETAIL



TANK DETAIL

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|------------------------------|
| 1 | 46531 | 2 | PADDLE, AGITATOR |
| 2 | 45706 | 1 | MOTOR, HYDRAULIC - AGITATOR |
| 3 | 46050 | 1 | SHAFT ASSEMBLY, MIXER |
| 4 | 43355 | 1 | TANK, OVERFLOW |
| 5 | 46450 | 1 | DIPSTICK, HEAT TRANSFER OIL |
| 6 | 45553 | 4 | BEARING, PILLOW BLOCK - BOOM |
| 7 | 45579 | 2 | BOOM SUPPORT ASSEMBLY |
| 8 | 41891 | 1 | BURNER, 14 VOLT DIESEL |
| 9 | 46560 | 1 | BURNER BOX ASSEMBLY |
| 10 | 42573 | 1 | MOUNTING PLATE - MOTOR |
| 11 | 40030 | 4 | SPACER, MOTOR |

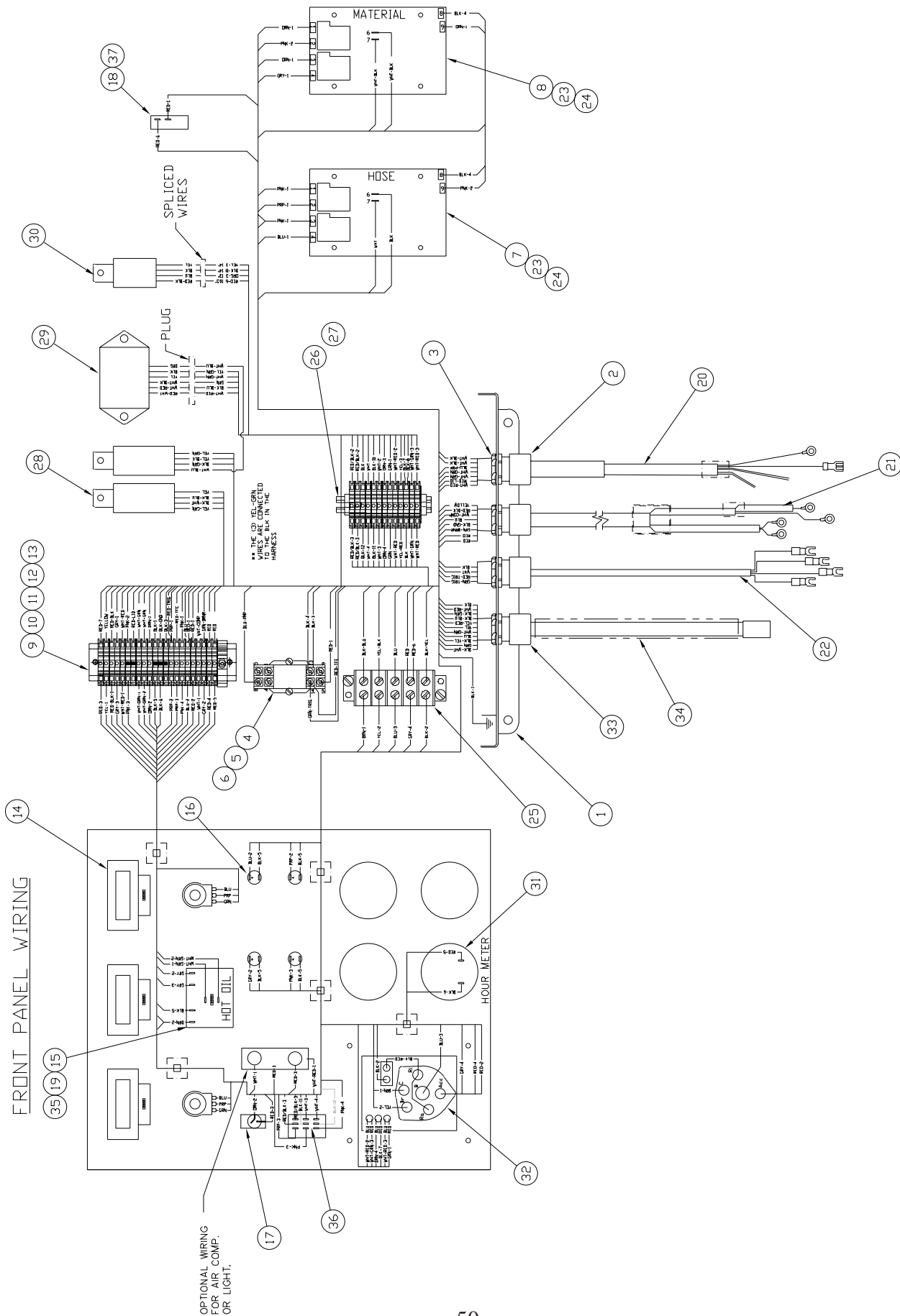
PLUMBING



PLUMBING

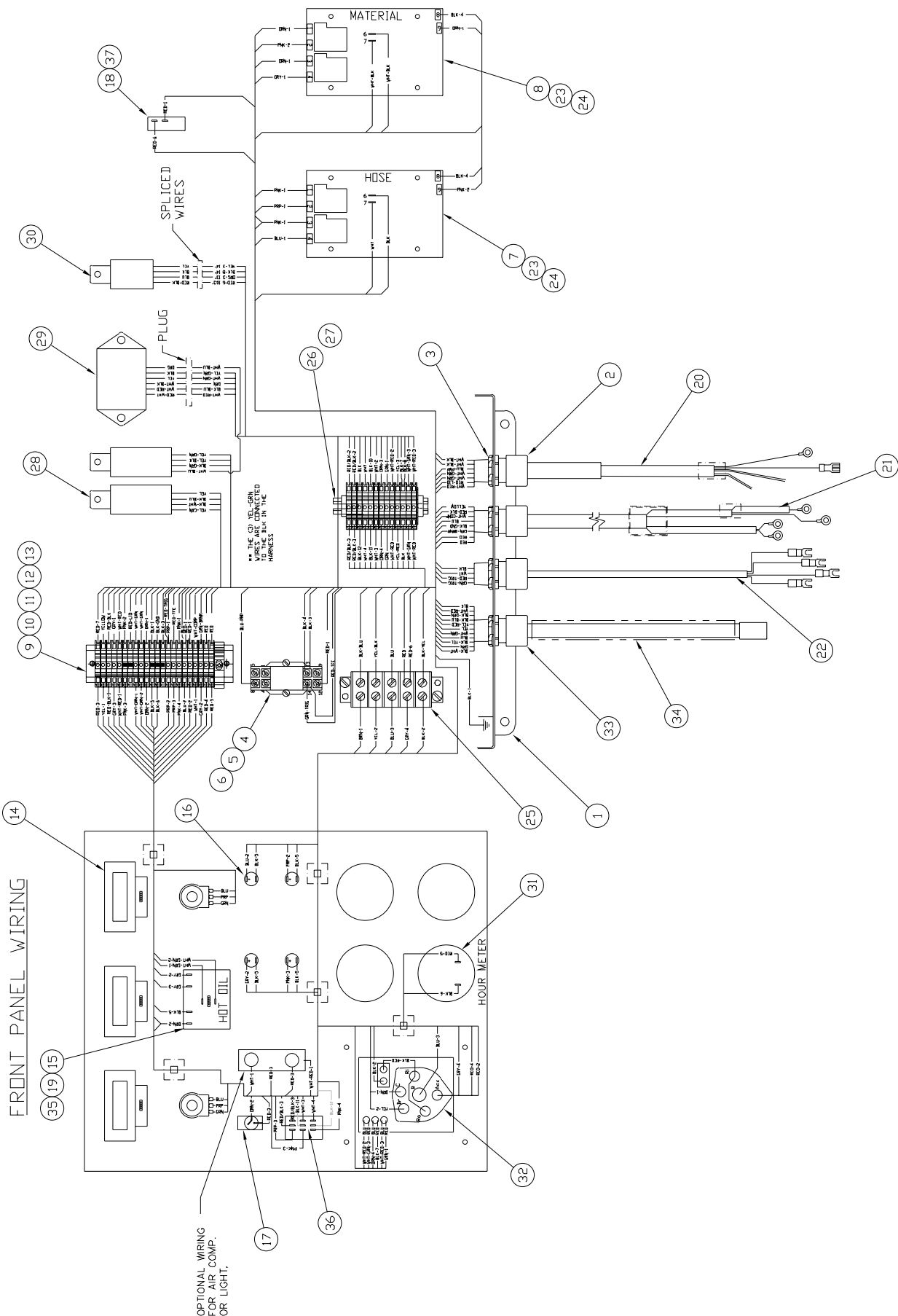
| NUMBER | PART NUMBER | QTY. | DESCRIPTION |
|--------|-------------|------|-------------------------------------|
| 1 | 43127 | 1 | PUMP, MATERIAL - P.S. |
| 2 | 46547 | 2 | PIPE ASSEMBLY, DOUBLE ELBOW |
| 3 | 46568 | 2 | TEE ASSEMBLY, MATERIAL OUTLET |
| 4 | 29050 | 4 | GASKET, 2" FLANGE |
| 5 | 28183 | 4 | COUPLING, 2" PIPE |
| 6 | 28055 | 2 | NIPPLE, 1" X 5" PIPE |
| 7 | 28210 | 4 | ELBOW, 1" PIPE |
| 8 | 28162 | 2 | NIPPLE, 1" X 12" PIPE |
| 9 | 28285 | 4 | PLUG, 1" SQ. HD. |
| 10 | 29292 | 2 | VALVE, 3" FLANGED GATE |
| 11 | 41696 | 1 | PUMP & MOTOR ASSY., HOT OIL |
| 12 | 46549 | 2 | PIPE ASSEMBLY, MATERIAL |
| 13 | 41043 | 4 | GASKET, 2.94 FLANGE |
| 14 | 29161 | 2 | FLANGE, 2 1/2" BLIND |
| 15 | 46509 | 2 | EXTENSION, VALVE HANDLE |
| 16 | 46570 | 2 | EXTENSION ASSEMBLY, DRAIN PIPE |
| 17 | 27048 | 2 | SWIVEL, MALE / FEMALE |
| 18 | 28358 | 4 | BUSHING, 2" X 1" HEX HEAD REDUCER |
| 19 | 43126 | 1 | PUMP, MATERIAL - D.S. |
| 20 | 42722 | 2 | HANGER ASSEMBLY, HOSE |
| 21 | 29060 | 4 | GASKET, 3.0 FLANGE 8 - HOLE |
| 22 | 28351 | 2 | BUSHING, 1" X 3/4" HEX HEAD REDUCER |

CONTROL BOX - ELECTRIC HOSE



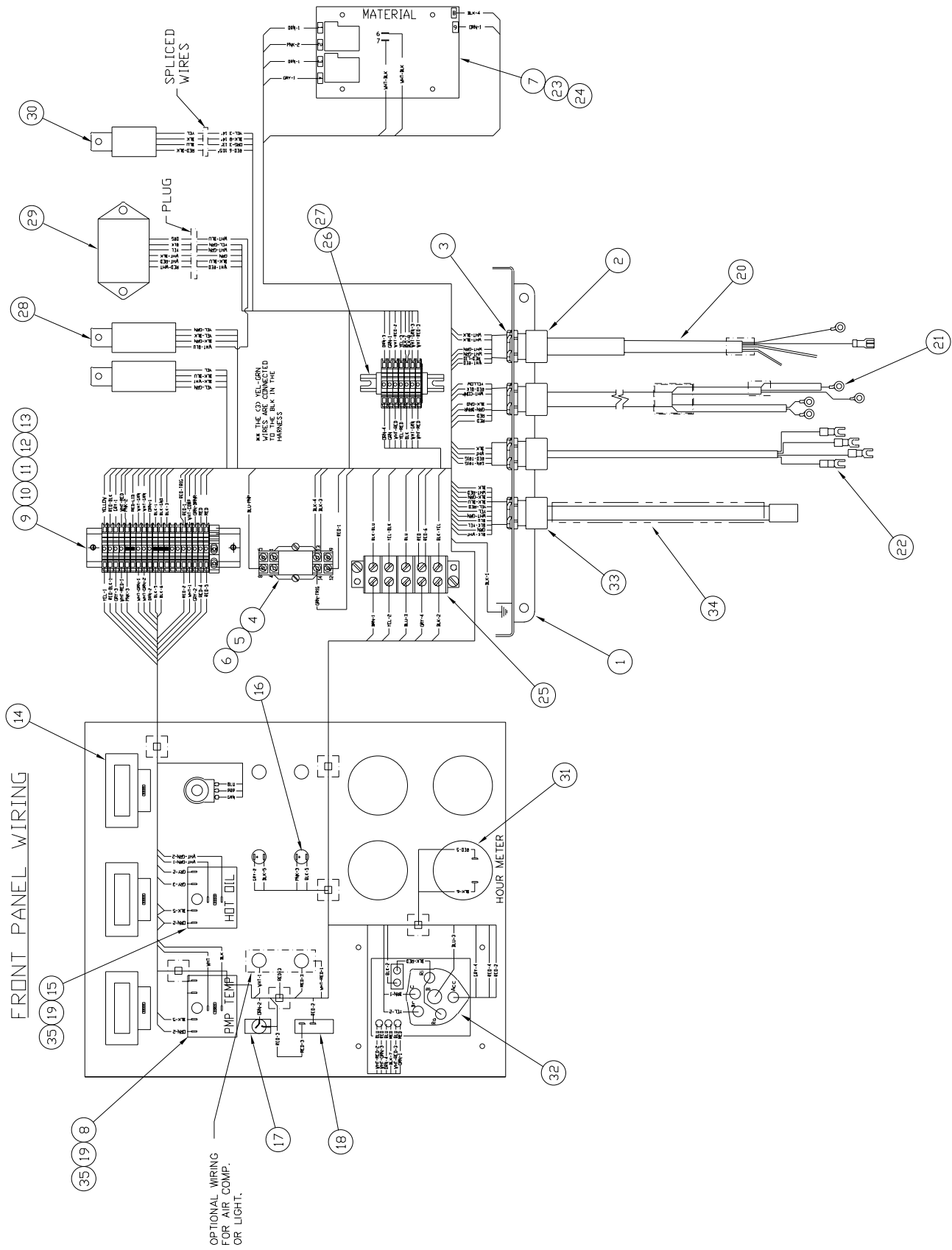
| CONTROL BOX - ELECTRIC HOSE | | | |
|------------------------------------|--------------------|-------------|-------------------------------------|
| NUMBER | PART NUMBER | QTY. | DESCRIPTION |
| 1 | 44970 | 1 | ENCLOSURE (NOT SHOWN) |
| 2 | 40446 | 3 | CORD CONNECTOR - "BLUE" |
| 3 | 50280 | 4 | 1/2" 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 | 51803 | 1 | MOUNTING RAIL |
| 10 | 51802 | 2 | END BRACKET |
| 11 | 51800 | 35 | FEED THROUGH TERMINAL |
| 12 | 51801 | 1 | 2-POLE JUMPER |
| 13 | 51804 | 1 | 3-POLE JUMPER |
| 14 | 50251 | 3 | DIGITAL READOUT |
| 15 | 43391 | 1 | TEMPERATURE CONTROLLER, 150°-550° |
| 16 | 51651 | 4 | LIGHT, 12VDC |
| 17 | 50719 | 2 | TOGGLE SWITCH |
| 18 | 51665 | 1 | CIRCUIT BREAKER, 15 AMP |
| 19 | 50593 | 3 | KNOB |
| 20 | 44983 | 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) |
| 24 | 51670 | 8 | SPACER, PAK-STAT |
| 25 | 44994 | 1 | TERMINAL BLOCK 5-POLE |

CONTROL BOX - ELECTRIC HOSE



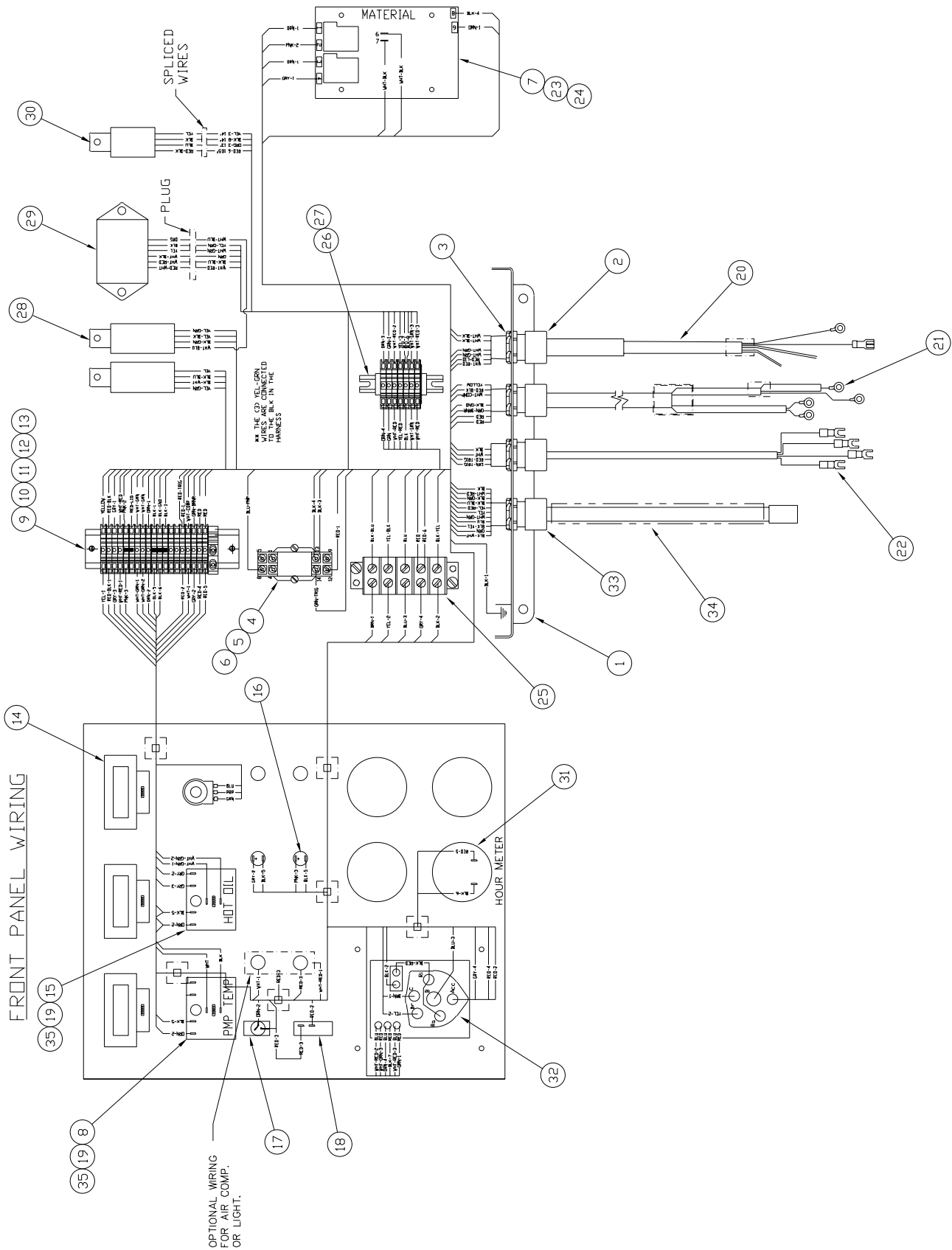
| CONTROL BOX - ELECTRIC HOSE | | | |
|------------------------------------|--------------------|-------------|--------------------------|
| NUMBER | PART NUMBER | QTY. | DESCRIPTION |
| 26 | 44993 | 1 | MOUNTING RAIL 3 1/2" LG. |
| 27 | 51805 | 4 | END BRACKET |
| 28 | 44979 | 2 | RELAY, STARTER |
| 29 | 44980 | 1 | TIMER |
| 30 | - | 1 | RELAY |
| 31 | 24076 | 1 | HOUR METER |
| 32 | 41994 | 1 | IGNITION SWITCH |
| 33 | 24024 | 1 | CORD GRIP - "YELLOW" |
| 34 | 44978 | 1 | CABLE, ENGINE |
| 35 | 51698 | 1 | RIBBON CABLE - 5" |
| 36 | 51811 | 1 | SWITCH, HOSE SELECTOR |
| 37 | 46032 | 1 | BRACKET, CIRCUIT BREAKER |
| 38 | 44975 | OPT. | GAUGE, WATER TEMPERATURE |
| 39 | 44976 | OPT. | GAUGE, OIL PRESSURE |
| 40 | 44977 | OPT. | GAUGE, VOLT METER |

CONTROL BOX - STANDARD HOSE



| CONTROL BOX - STANDARD HOSE | | | |
|------------------------------------|--------------------|-------------|-------------------------------------|
| NUMBER | PART NUMBER | QTY. | DESCRIPTION |
| 1 | 44970 | 1 | ENCLOSURE (NOT SHOWN) |
| 2 | 40446 | 3 | CORD CONNECTOR - "BLUE" |
| 3 | 50280 | 4 | 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 | 43397 | 1 | TEMPERATURE CONTROLLER, 400° |
| 9 | 51803 | 1 | MOUNTING RAIL |
| 10 | 51802 | 2 | END BRACKET |
| 11 | 51800 | 25 | FEED THROUGH TERMINAL |
| 12 | 51801 | 1 | 2-POLE JUMPER |
| 13 | 51804 | 1 | 3-POLE JUMPER |
| 14 | 50251 | 3 | DIGITAL READOUT |
| 15 | 43391 | 1 | TEMPERATURE CONTROLLER, 150°-550° |
| 16 | 51651 | 4 | LIGHT, 12VDC |
| 17 | 50719 | 2 | TOGGLE SWITCH |
| 18 | 51665 | 1 | CIRCUIT BREAKER, 15 AMP |
| 19 | 50593 | 3 | KNOB |
| 20 | 44983 | 1 | CABLE ASSY. - SENSOR |
| 21 | 43927 | 1 | CABLE ASYSY. - POWER |
| 22 | 43928 | 1 | CABLE ASSY. - TRIGGER/SENSOR |
| 23 | 51684 | 1 | RIBBON CABLE, 36" (NOT SHOWN) |
| 24 | 51670 | 8 | SPACER, PAK-STAT |
| 25 | 44994 | 1 | TERMINAL BLOCK 5-POLE |

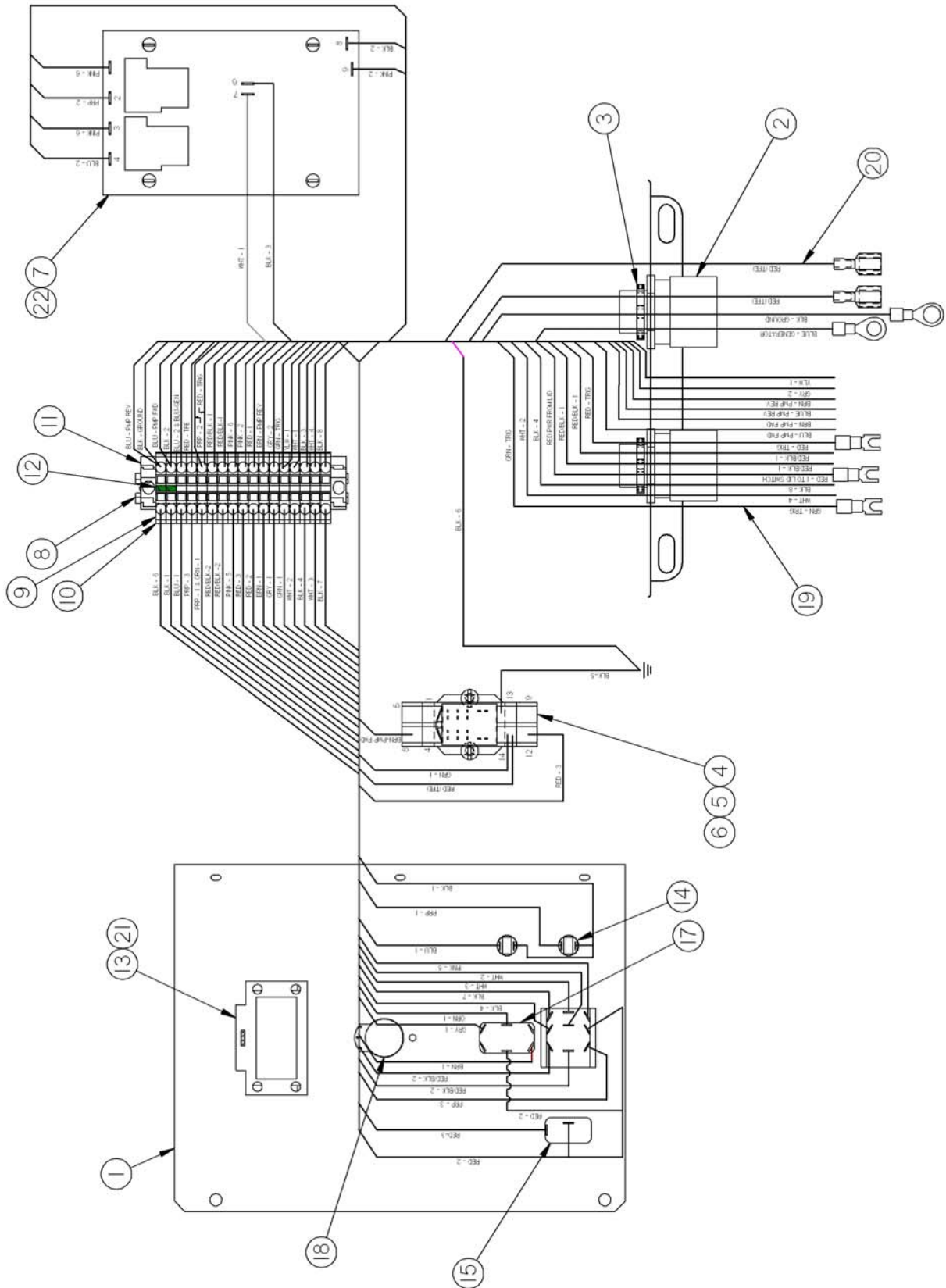
CONTROL BOX - STANDARD HOSE



CONTROL BOX - STANDARD HOSE

| NUMBER | PART NUMBER | QTY. | DESCRIPTION |
|--------|-------------|------|--------------------------|
| 26 | 44993 | 1 | MOUNTING RAIL 2 3/4" LG. |
| 27 | 51805 | 4 | END BRACKET |
| 28 | 44979 | 2 | RELAY, STARTER |
| 29 | 44980 | 1 | TIMER |
| 30 | - | 1 | RELAY |
| 31 | 24076 | 1 | HOUR METER |
| 32 | 41994 | 1 | IGNITION SWITCH |
| 33 | 24024 | 1 | CORD GRIP - "YELLOW" |
| 34 | 44978 | 1 | CABLE, ENGINE |
| 35 | 51698 | 2 | RIBBON CABLE - 5" |
| 37 | 44975 | OPT. | GAUGE, WATER TEMPERATURE |
| 38 | 44976 | OPT. | GAUGE, OIL PRESSURE |
| 39 | 44977 | OPT. | GAUGE, VOLT METER |

CONTROL BOX - DRIVERS SIDE

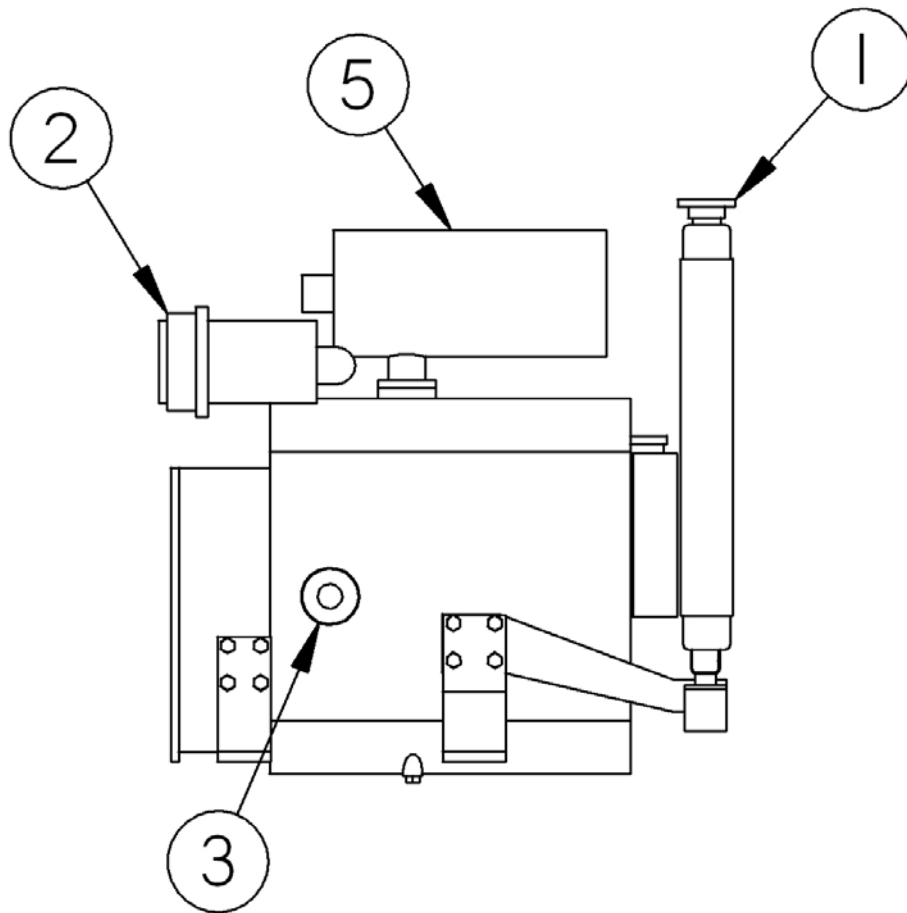


CONTROL BOX - ELECTRIC HOSE

| NUMBER | PART NUMBER | QTY. | DESCRIPTION |
|--------|-------------|------|-------------------------------------|
| 1 | 44860 | 1 | ENCLOSURE (NOT SHOWN) |
| 2 | 24021 | 2 | CORD CONNECTOR |
| 3 | 50280 | 2 | 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 | 51803 | 1 | MOUNTING RAIL |
| 9 | 51802 | 1 | END PLATE |
| 10 | 51800 | 17 | FEED THROUGH TERMINAL |
| 11 | 51805 | 2 | END BRACKET |
| 12 | 51801 | 1 | 2-POLE JUMPER |
| 13 | 50251 | 1 | DIGITAL READOUT |
| 14 | 51651 | 2 | LIGHT, 12VDC |
| 15 | 50719 | 2 | TOGGLE SWITCH |
| 16 | 51811 | 1 | SWITCH, HOSE SELECTOR |
| 17 | 51678 | 1 | SWITCH, ON - (ON) |
| 18 | 50593 | 1 | KNOB |
| 19 | 43974 | 1 | CABLE ASSY. - SENSOR |
| 20 | 43958 | 1 | CABLE ASYSY. - TRIGGER |
| 21 | 51684 | 1 | RIBBON CABLE, 36" (NOT SHOWN) |
| 22 | 51670 | 4 | SPACER, PAK-STAT |

ENGINE ASSEMBLY - 27.5 HP

PRESET ENGINE SPEED = 2400 RPM
HOSE GENERATOR OUTPUT = 30-35 AMPS COLD
24 VAC 3-PHASE



ENGINE ASSEMBLY - 27.5 HP

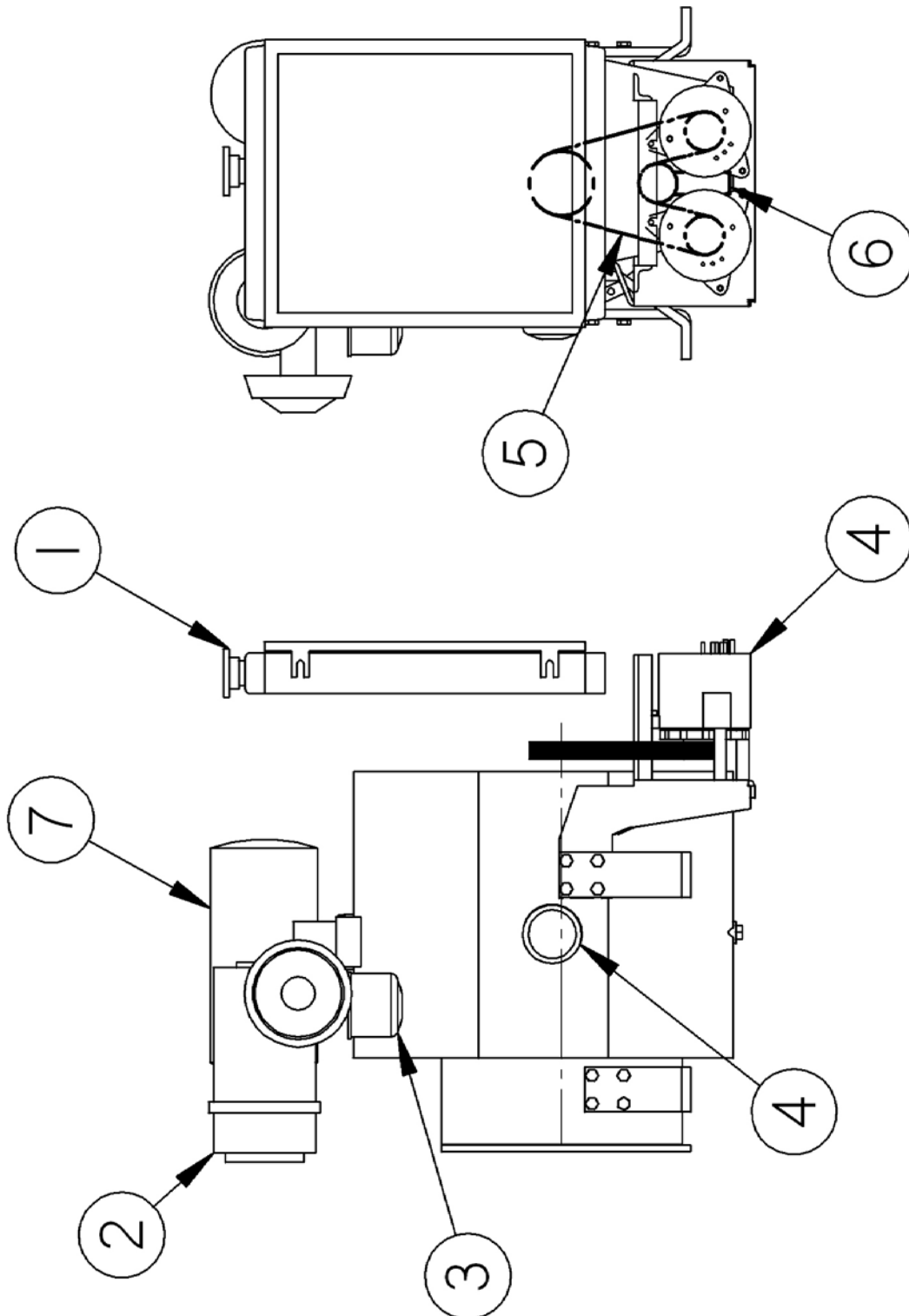
| NUMBER | PART NUMBER | QTY. | DESCRIPTION |
|--------|-------------|------|---------------------|
| 1 | 45750 | 1 | ENGINE, 27.5 HP |
| 2 | 45391 | - | ELEMENT, AIR FILTER |
| 3 | 45389 | - | OIL FILTER |
| 4 | 41867 | - | FUEL FILTER |
| 5 | 46326 | 1 | MUFFLER |

**THIS ENGINE IS FOR THE FOLLOWING MACHINE MODEL NUMBERS
46500SB.**

ENGINE ASSEMBLY - 35.5 HP

PRESET ENGINE SPEED = 2400 RPM

HOSE GENERATOR OUTPUT = 30-35 AMPS COLD
24 VAC 3-PHASE

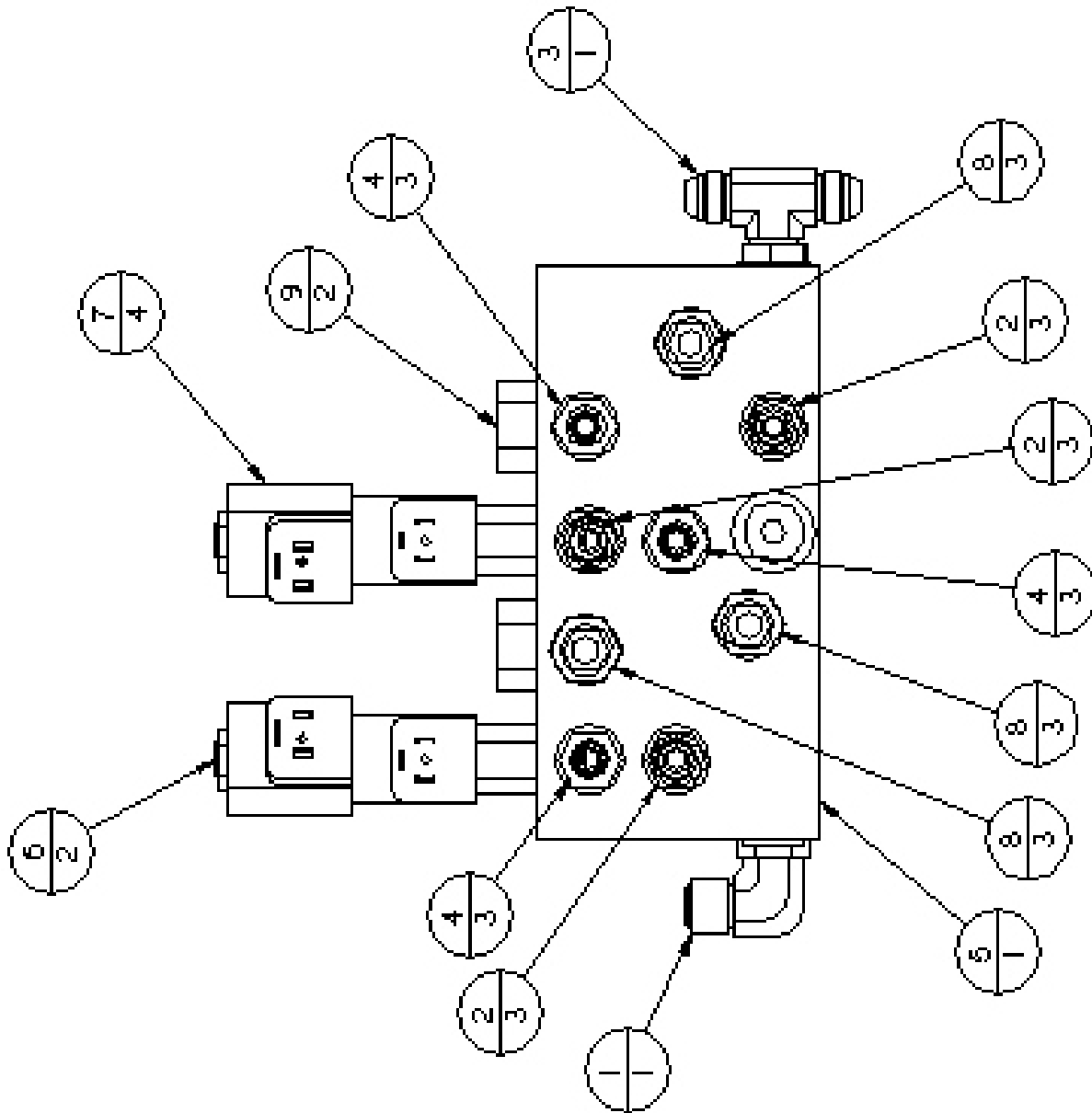


ENGINE ASSEMBLY - 35.5 HP

| NUMBER | PART NUMBER | QTY. | DESCRIPTION |
|--------|-------------|------|------------------------|
| 1 | 46542 | 1 | ENGINE, 35.5 HP |
| 2 | 45382 | - | ELEMENT, AIR FILTER |
| 3 | 41867 | - | FUEL FILTER |
| 4 | 45381 | - | OIL FILTER |
| 5 | 46322 | 2 | GENERATOR, 24VAC |
| 6 | 46323 | 1 | DRIVE BELT - GENERATOR |
| 7 | 46324 | 1 | TENSIONER, BELT |
| 8 | 46325 | 1 | MUFFLER |

**THIS ENGINE IS FOR THE FOLLOWING MACHINE MODEL NUMBERS
46500EB.**

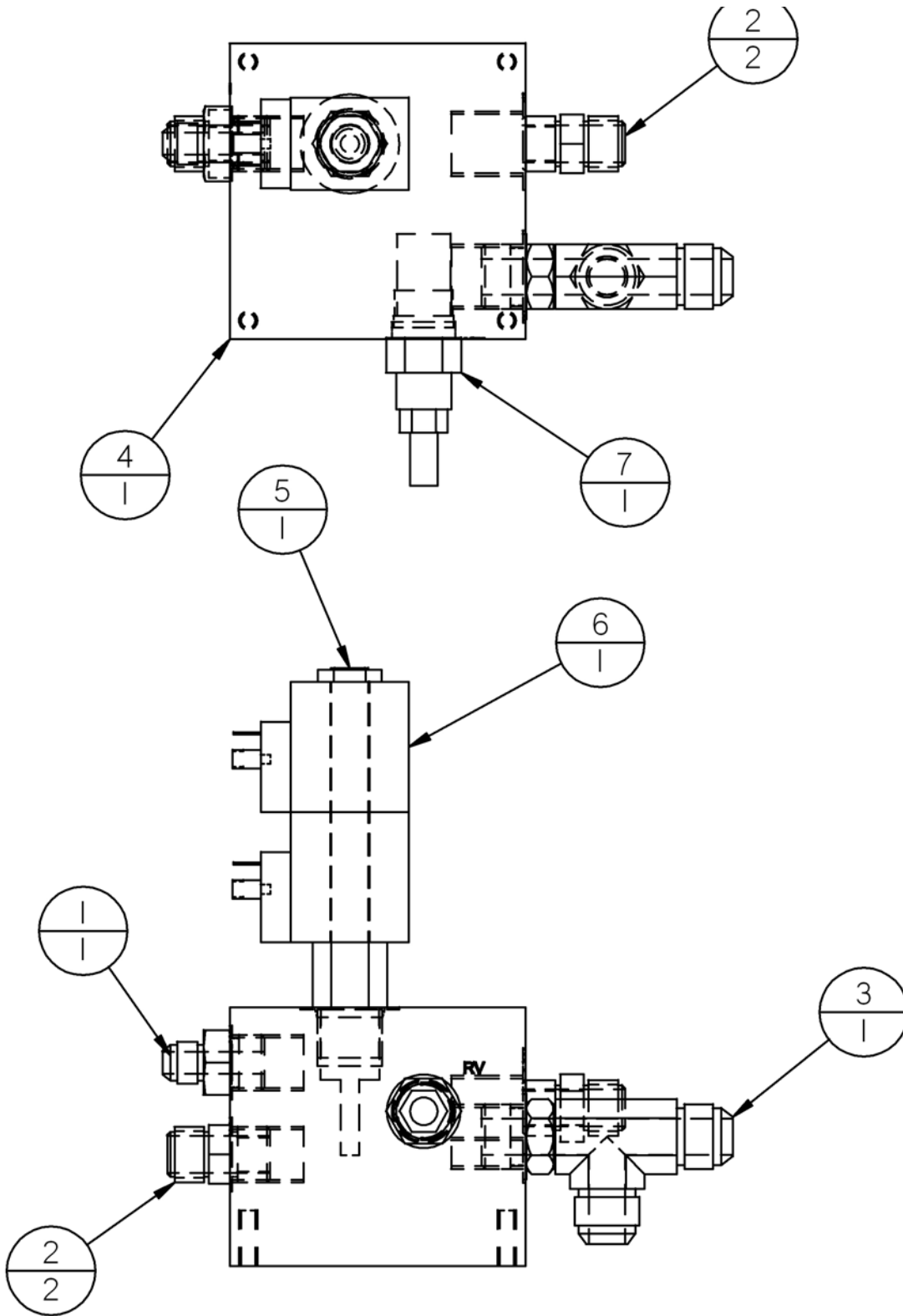
HYDRAULIC CONTROL VALVE



HYDRAULIC CONTROL VALVE

| NUMBER | PART NUMBER | QTY. | DESCRIPTION |
|--------|-------------|------|---------------------------------------|
| 1 | 29896 | 1 | 3/4-16 ORING ELBOW ADAPTER |
| 2 | 29919 | 3 | 3/4-16 O-RING X 9/16-18 TUBE ADAPTER |
| 3 | 29976 | 1 | 3/4-16 O-RING BRANCH TEE |
| 4 | 40311 | 2 | 9/16-18 O-RING X 9/16-18 TUBE ADAPTER |
| 5 | - | 1 | MANIFOLD |
| 6 | 44888 | 2 | CARTRIDGE - PUMP/AGITATOR |
| 7 | 44889 | 4 | COIL-CONTROL VALVE |
| 8 | 44812 | 3 | REFIEF VALVE |
| 9 | 44811 | 1 | FLOW CONTROL, 1.5 GAL. |

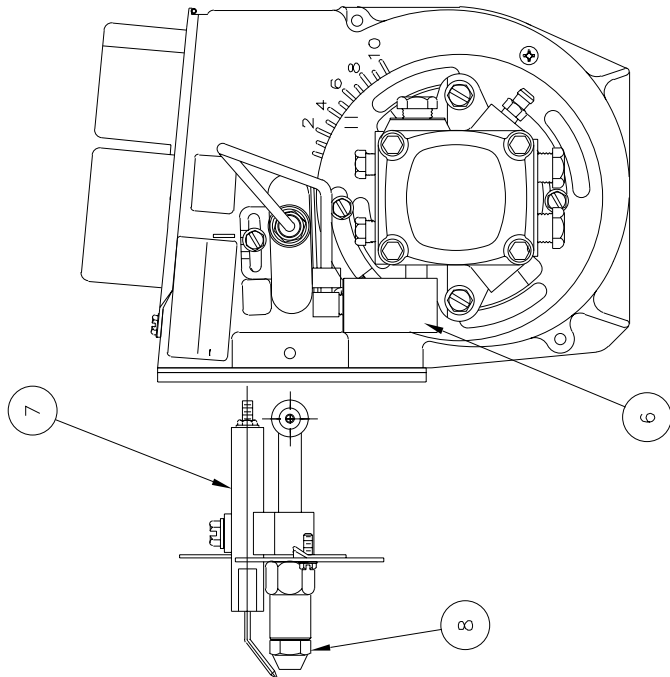
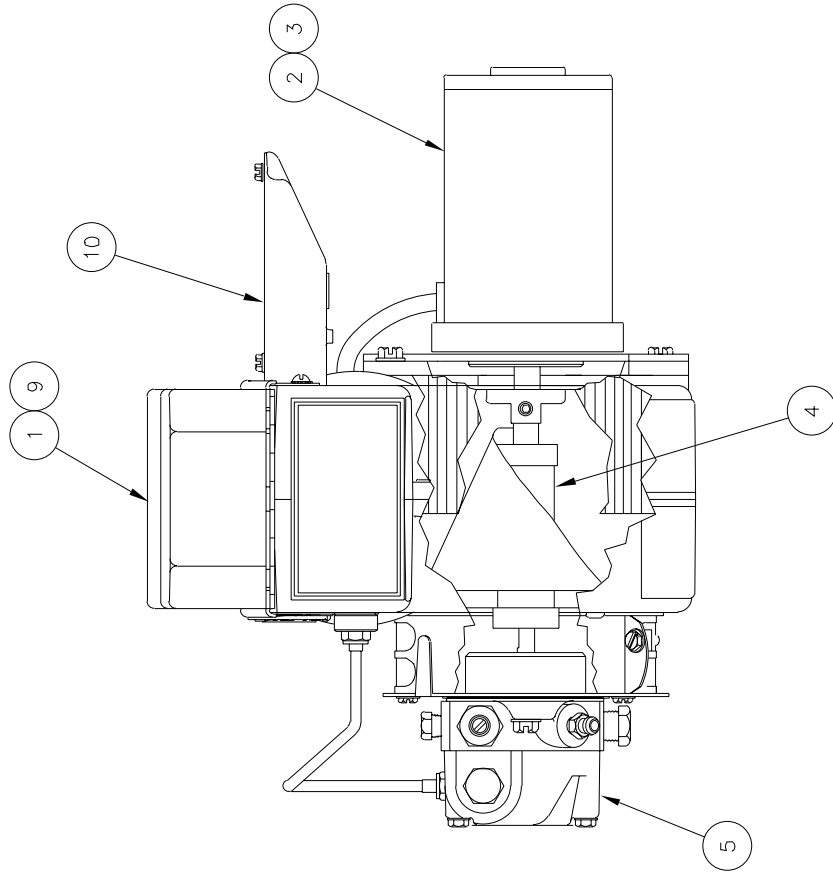
HYDRAULIC CONTROL VALVE DRIVERS SIDE



HYDRAULIC CONTROL VALVE DRIVERS SIDE

| NUMBER | PART NUMBER | QTY. | DESCRIPTION |
|--------|----------------|------|-------------------------------------|
| 1 | 29998 | 1 | 3/4-16 ORING x 9/16-18 TUBE ADAPTER |
| 2 | 29897 | 2 | 3/4-16 O-RING X 3/4-16 TUBE ADAPTER |
| 3 | 29933 | 1 | 7/8-14 O-RING RUN TEE |
| 4 | 46589 | 1 | MANIFOLD |
| 5 | 44888 | 2 | CARTRIDGE - PUMP |
| 6 | 44889 | 4 | COIL-CONTROL VALVE |
| 7 | 44812 | 3 | REFIEF VALVE |

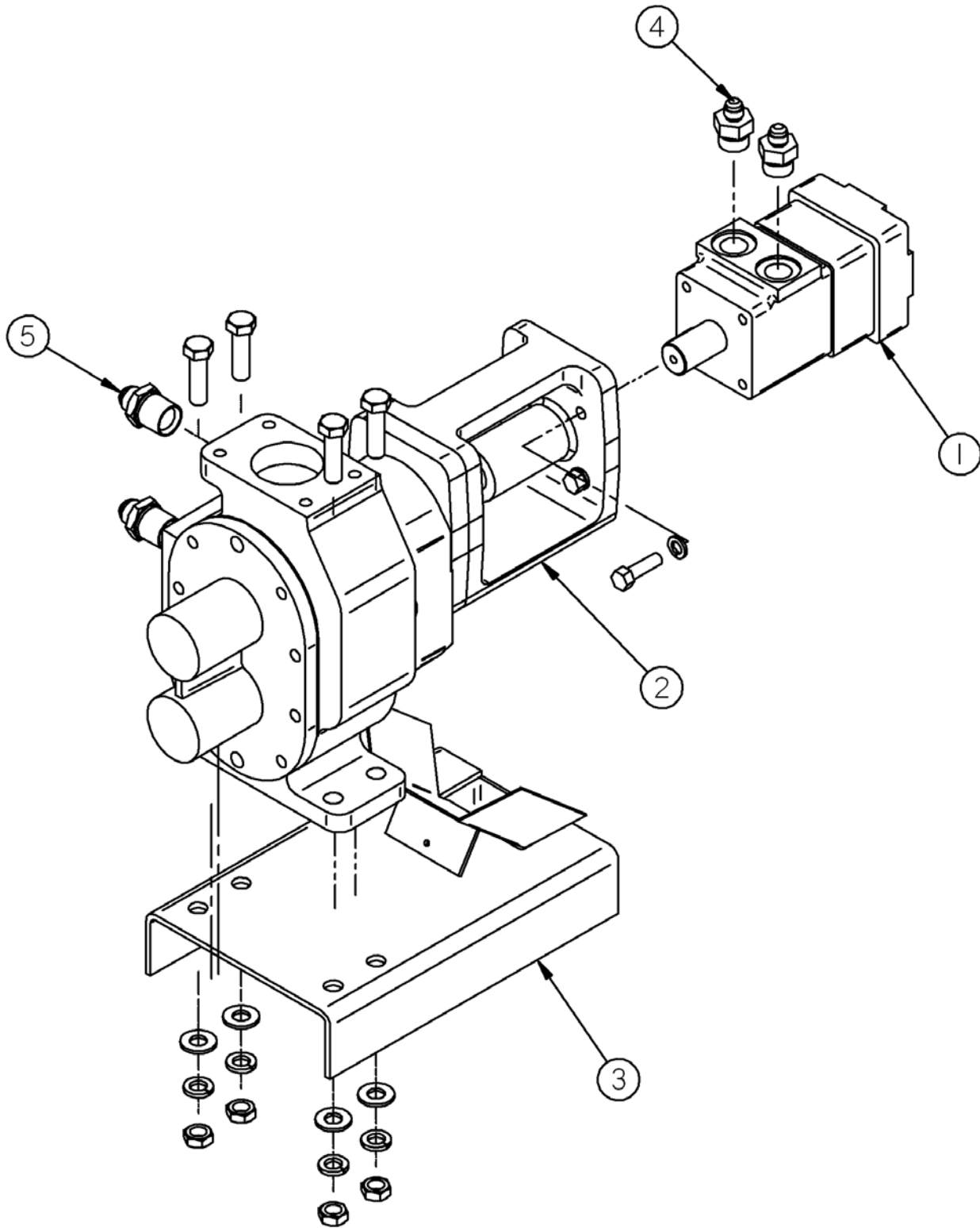
DIESEL BURNER



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, EZ100, EZ500) |
| 8b | 41881 | - | NOZZLE (SS250, EZ200, EZ1000) |
| 8c | 42559 | - | NOZZLE (EZ350D, EZ400D) |
| 8d | 44785 | - | NOZZLE (EZ400HD & EZ1500) |
| 9 | 41870 | - | CAD EYE (NOT SHOWN) |
| 10 | 42335 | - | DC CONTROLLER (NOT SHOWN) |

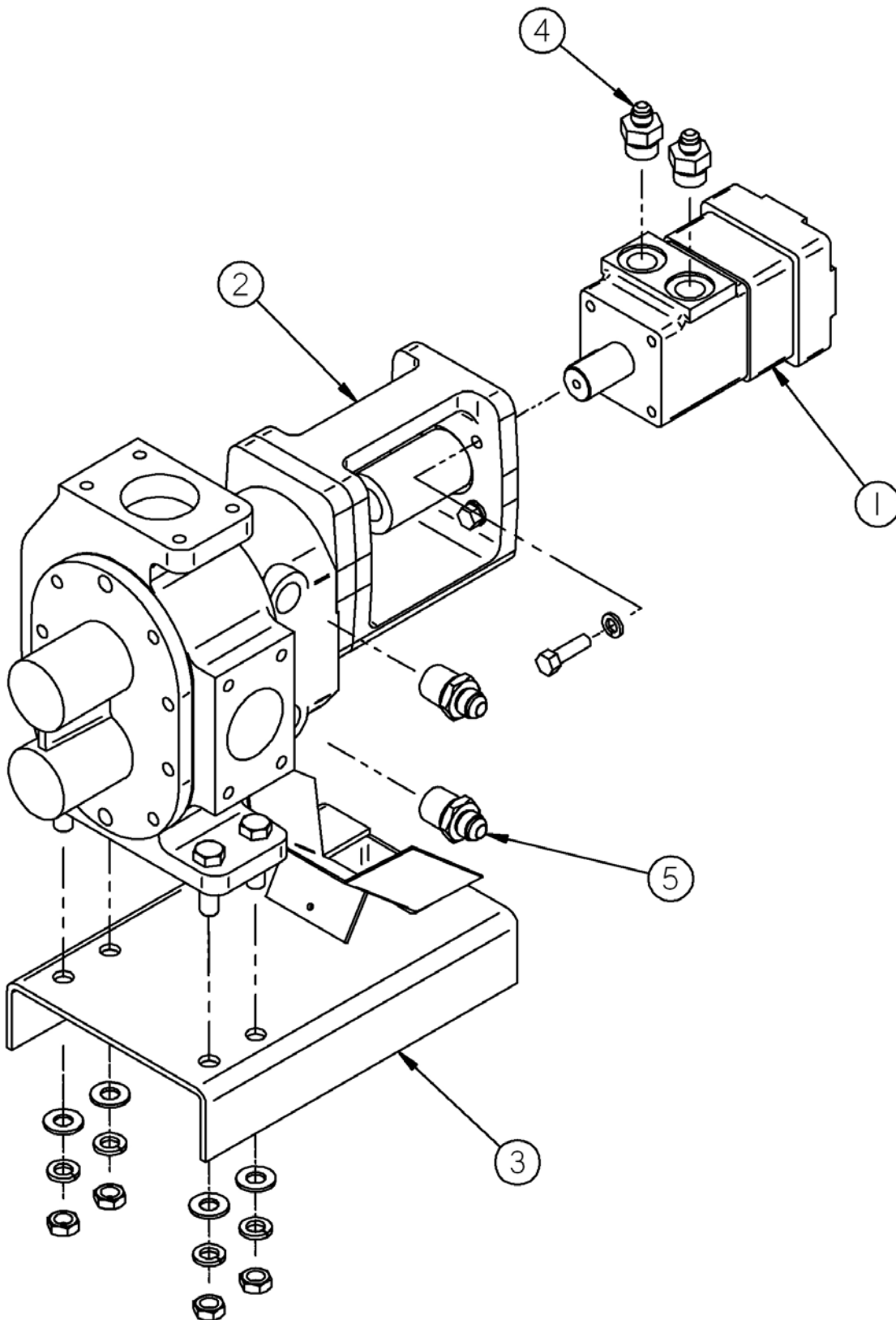
MATERIAL PUMP ASSEMBLY PASSENGER SIDE



MATERIAL PUMP ASSEMBLY PASSENGER SIDE

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|----------------|-----|--|
| 1 | 22027 | 1 | HYDRAULIC MOTOR |
| 2 | 42070 | 1 | PUMP ASSEMBLY, NON-JACKETED |
| 2a | - | - | PUMP, REPLACEMENT (LESS MOUNT & CPLG.) |
| 2b | 29990S | 1 | PACKING RING (SET OF 7) |
| 3 | 43129 | 1 | MOUNTING PLATE ASSEMBLY, PUMP |
| 4 | 22029 | 2 | STRAIGHT THREAD O-RING ADAPTER |
| 5 | 40316 | 2 | MALE ADAPTER |

MATERIAL PUMP ASSEMBLY DRIVERS SIDE

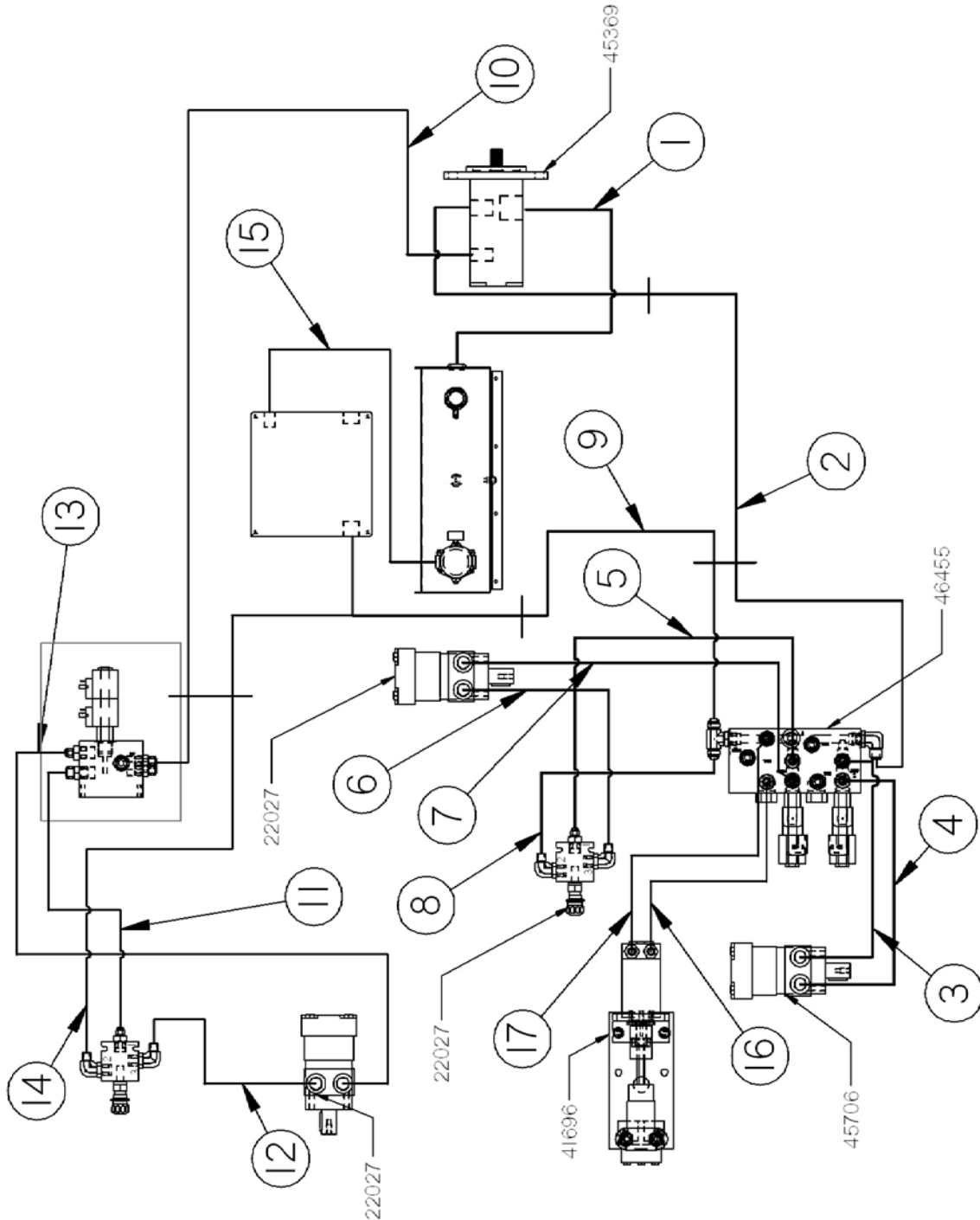


MATERIAL PUMP ASSEMBLY DRIVERS SIDE

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|----------------|-----|--|
| 1 | 22027 | 1 | HYDRAULIC MOTOR |
| 2 | 42072 | 1 | PUMP ASSEMBLY, NON-JACKETED |
| 2a | - | - | PUMP, REPLACEMENT (LESS MOUNT & CPLG.) |
| 2b | 29990S | 1 | PACKING RING (SET OF 7) |
| 3 | 43129 | 1 | MOUNTING PLATE ASSEMBLY, PUMP |
| 4 | 22029 | 2 | STRAIGHT THREAD O-RING ADAPTER |
| 5 | 40316 | 2 | MALE ADAPTER |

HYDRAULIC DIAGRAM

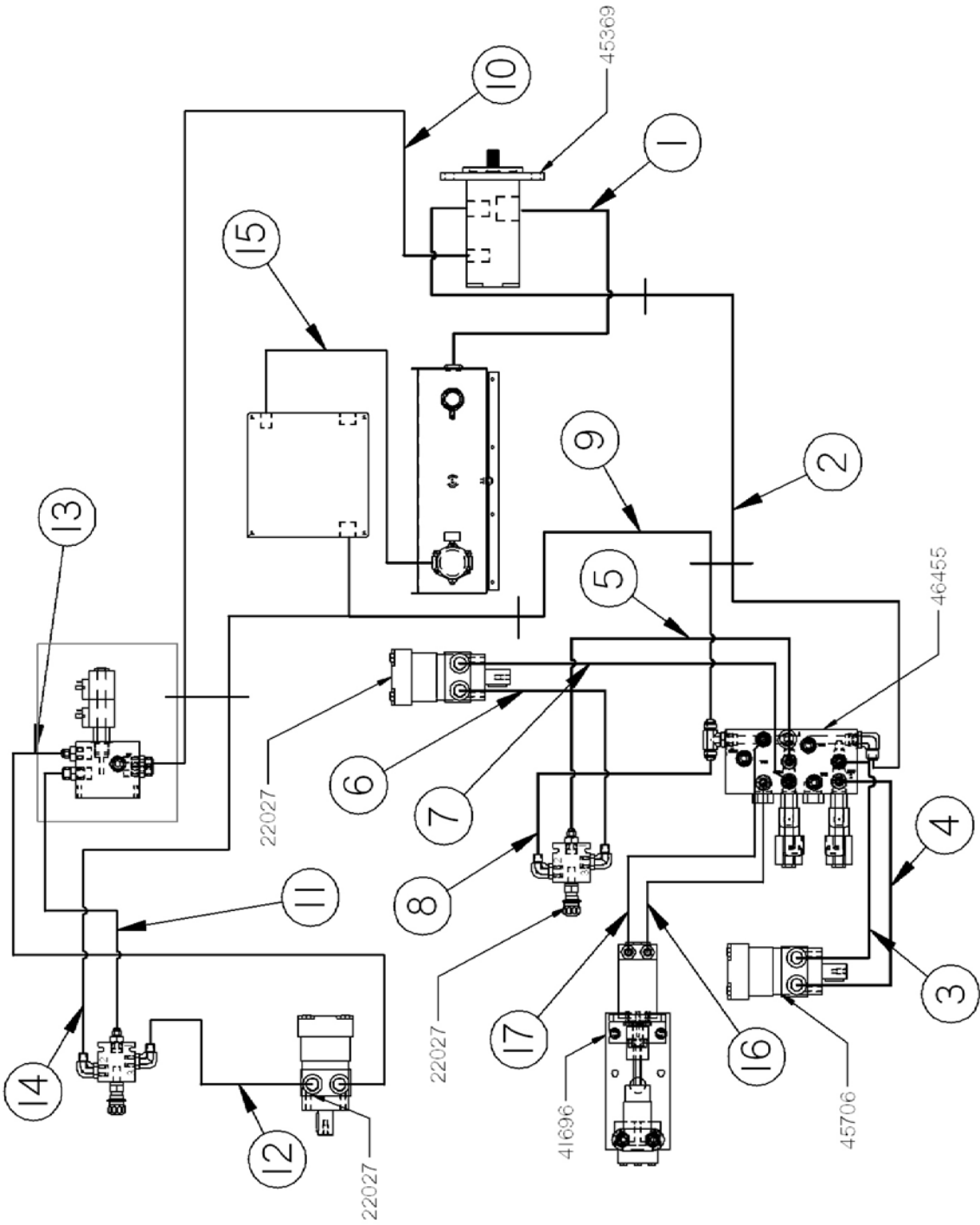
AGITATOR DIRECTION = COUNTERCLOCKWISE
MATERIAL PUMP DIRECTION = CLOCKWISE
HYDRAULIC FLOW = 8.83 GPM @ 2400 RPM
HYDRAULIC FLOW = 5.09 GPM @ 2400 RPM
RELIEF VALVE (RVA) = 1000 PSI
RELEIF VALVE (RVP) = 2000 PSI



HYDRAULIC DIAGRAM

| 1. HYDRAULIC RESERVOIR TO HYDRAULIC PUMP SUCTION | | |
|--|-------------------|--|
| REF | 29818 | 1 5/8-12 O-RING X 1" TUBE ELBOW |
| 1 | C16-16FJ9-16FJ-20 | HYDRAULIC HOSE ASSEMBLY 1" X 20" LONG |
| REF | 29820 | 1-5/16-12 O-RING X 1" TUBE |
| 2. HYDRAULIC PUMP TO HYDRAULIC VALVE "P" PORT | | |
| REF | 29842 | 1 1/16-12 O-RING X 5/8 TUBE ADAPTER |
| 1 | AX8-10FJ-10FJ-24 | HYDRAULIC HOSE ASSEMBLY 1/2 X 24" LONG |
| REF | 29805 | 7/8-14 TUBE BULKHEAD ADAPTER |
| REF | 29807 | 7/8-14 NUT |
| REF | 46277 | TUBE, HYDRAULIC PRESSURE |
| 1 | AX8-8FJ-10FJ-31 | HYDRAULIC HOSE ASSEMBLY 1/2 X 31" LONG |
| 1 | 29896 | 3/4-16 O-RING X 1/2 TUBE ELBOW |
| 3. HYDRAULIC VALVE (BOTTOM PORT) TO AGITATOR MOTOR | | |
| REF | 29919 | 9/16-18 O-RING X 1/2 TUBE ADAPTER |
| 1 | AX6-6FJ-8FJ9L-27 | HYDRAULIC HOSE ASSEMBLY 3/8 X 27" LONG |
| REF | 46008 | TUBE, HYDRAULIC PRESSURE - AGITATOR |
| REF | 22029 | 3/8 TUBE X 7/8-14 O-RING ADAPTER |
| 4. AGITATOR MOTOR TO HYDRAULIC VALVE (TOP PORT) | | |
| REF | 22029 | 3/8 TUBE X 7/8-14 O-RING ADAPTER |
| REF | 46007 | TUBE, HYDRAULIC RETURN - AGITATOR |
| 1 | AX6-6FJ-6FJ9-26 | HYDRAULIC HOSE ASSEMBLY 3/8 X 26" LONG |
| REF | 40311 | 3/8 TUBE X 9/16-18 O-RING ADAPTER |
| 5. HYDRAULIC VALVE (BOTTOM PORT) TO FLOW CONTROL #1 PORT | | |
| REF | 40311 | 9/16-18 O-RING X 3/8 TUBE ADAPTER |
| 1 | AX6-6FJ9L-6FJ-16 | HYDRAULIC HOSE ASSEMBLY 3/8 X 16" LONG |
| REF | 29869 | 3/4-16 O-RING X 3/8 TUBE ADAPTER |
| 6. FLOW CONTROL #3 PORT TO PUMP MOTOR (TOP PORT) | | |
| REF | 29869 | 3/4-16 O-RING X 3/8 TUBE ELBOW |
| 1 | AX6-6FJ9L-6FJ-31 | HYDRAULIC HOSE ASSEMBLY 3/8 X 31" LONG |
| REF | 22029 | 3/8 TUBE X 7/8-14 O-RING ADAPTER |
| 7. PUMP MOTOR (BOTTOM PORT) TO HYDRAULIC VALVE (TOP PORT) | | |
| REF | 22029 | 3/8 TUBE X 7/8-14 O-RING ADAPTER |
| 1 | AX6-6FJ-8FJ9-15 | HYDRAULIC HOSE ASSEMBLY 3/8 X 15" LONG |
| REF | 29919 | 9/16-18 O-RING X 1/2 TUBE ADAPTER |

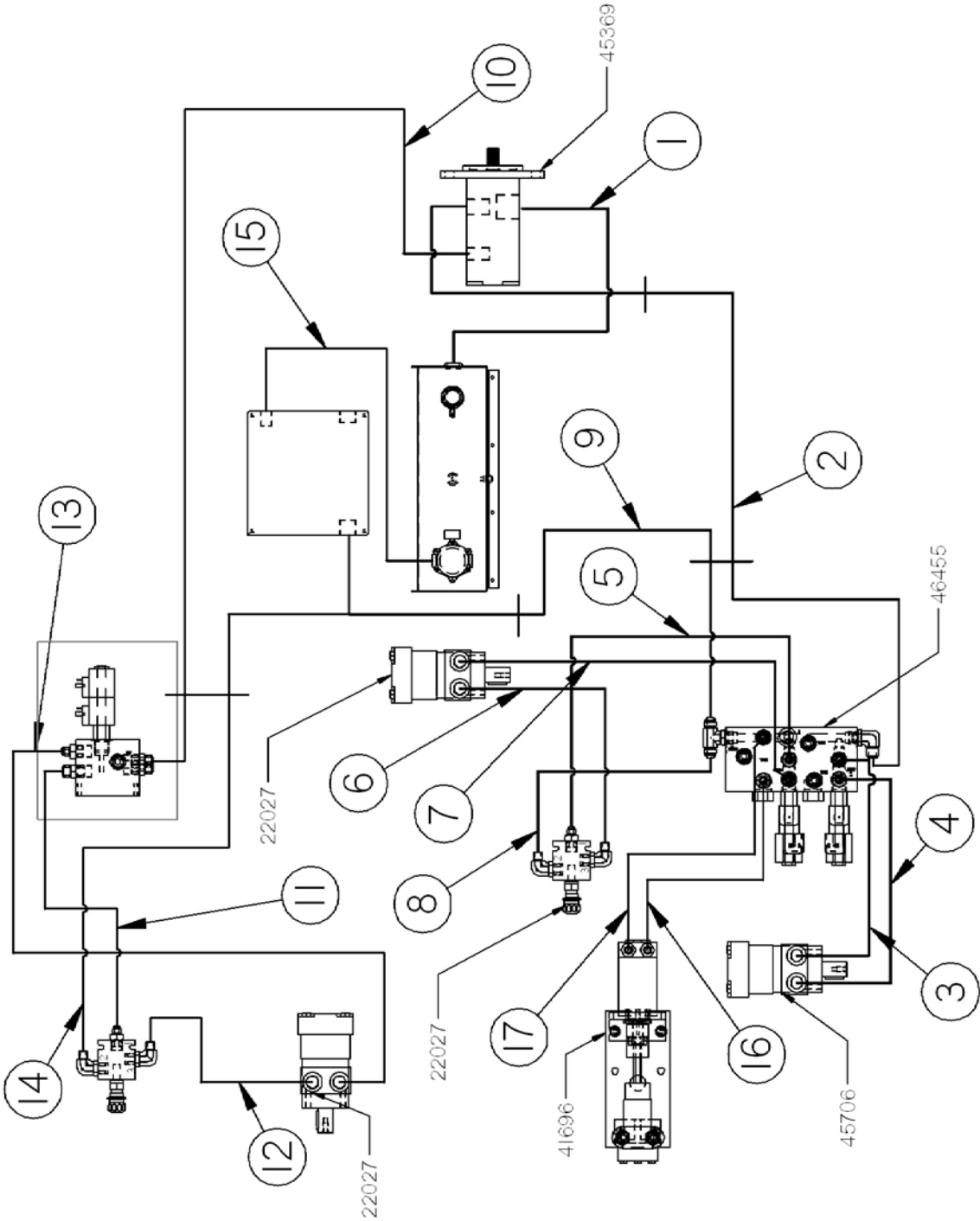
HYDRAULIC DIAGRAM



HYDRAULIC DIAGRAM

| 8. FLOW CONTROL #2 PORT TO HYDRAULIC VALVE TANK PORT | | |
|---|-------------------|--|
| REF | 29869 | 3/4-16 O-RING X 3/8" TUBE ELBOW |
| 1 | AX6-6FJ-8FJ-44 | HYDRAULIC HOSE ASSEMBLY 3/8 X 44" LONG |
| REF | 29976 | 3/4-16 O-RING BRANCH TEE |
| 9. HYDRAULIC VALVE TANK PORT TO HYDRAULIC TANK | | |
| REF | 29976 | 3/4-16 O-RING BRANCH TEE |
| 1 | AX8-8FJ-10FJ-27 | HYDRAULIC HOSE ASSEMBLY 1/2 X 27" LONG |
| REF | 29805 | 7/8-14 BULKHEAD UNION |
| REF | 29807 | 7/8-14 NUT |
| REF | 46276 | TUBE, HYDRAULIC RETURN |
| REF | 29805 | 7/8-14 BULKHEAD UNION |
| REF | 29807 | 7/8-14 NUT |
| 1 | AX10-10FJ-12FJ-39 | HYDRAULIC HOSE ASSEMBLY 5/8 X 39" LONG |
| REF | 29900 | 3/4 SWIVEL NUT BRANCH TEE |
| 10. HYDRAULIC PUMP PRESSURE TO HYD. VALVE "P" PORT | | |
| REF | 29842 | 1 1/16-12 O-RING X 5/8 TUBE ELBOW |
| 1 | AX10-10FJ-10FJ-25 | HOSE ASSEMBLY 5/8 X 25" LONG |
| REF | 29805 | 7/8-14 BULKHEAD UNION |
| REF | 29807 | 7/8-14 NUT |
| REF | 46435 | TUBE, HYDRAULIC PRESSURE |
| REF | 29805 | 7/8-14 BULKHEAD UNION |
| REF | 29807 | 7/8-14 NUT |
| 1 | AX10-10FJ-10FJ-25 | HOSE ASSEMBLY 5/8 X 25" LONG |
| REF | 29897 | 3/4-16 O-RING X 1/2 TUBE ADAPTER |
| 11. HYDRAULIC VALVE "A" PORT TO FLOW CONTROL #1 PORT | | |
| REF | 29897 | 3/4-16 O-RING X 1/2 TUBE ADAPTER |
| 1 | AX6-6FJ-8FJ-26 | HOSE ASSEMBLY 3/8 X 26" LONG |
| REF | 29869 | 3/4-16 O-RING X 3/8 TUBE ADAPTER |
| 12. FLOW CONTROL #3 PORT TO PUMP MOTOR CURB PORT | | |
| REF | 29869 | 3/4-16 O-RING X 3/8 TUBE ADAPTER |
| 1 | AX6-6FJ9-8FJ-31 | HOSE ASSEMBLY 3/8 X 31" LONG |
| REF | 22029 | 7/8-14 X 3/8 TUBE ADAPTER |
| 13. PUMP MOTOR DRIVERS SIDE PORT TO HYDRAULIC VALVE "B" PORT | | |
| REF | 22029 | 7/8-14 X 3/8 TUBE ADAPTER |
| 1 | AX6-6FJ9-6FJ-22 | HOSE ASSEMBLY 3/8 X 22" LONG |
| REF | 29998 | 3/4-16 O-RING X 3/8 TUBE ADAPTER |

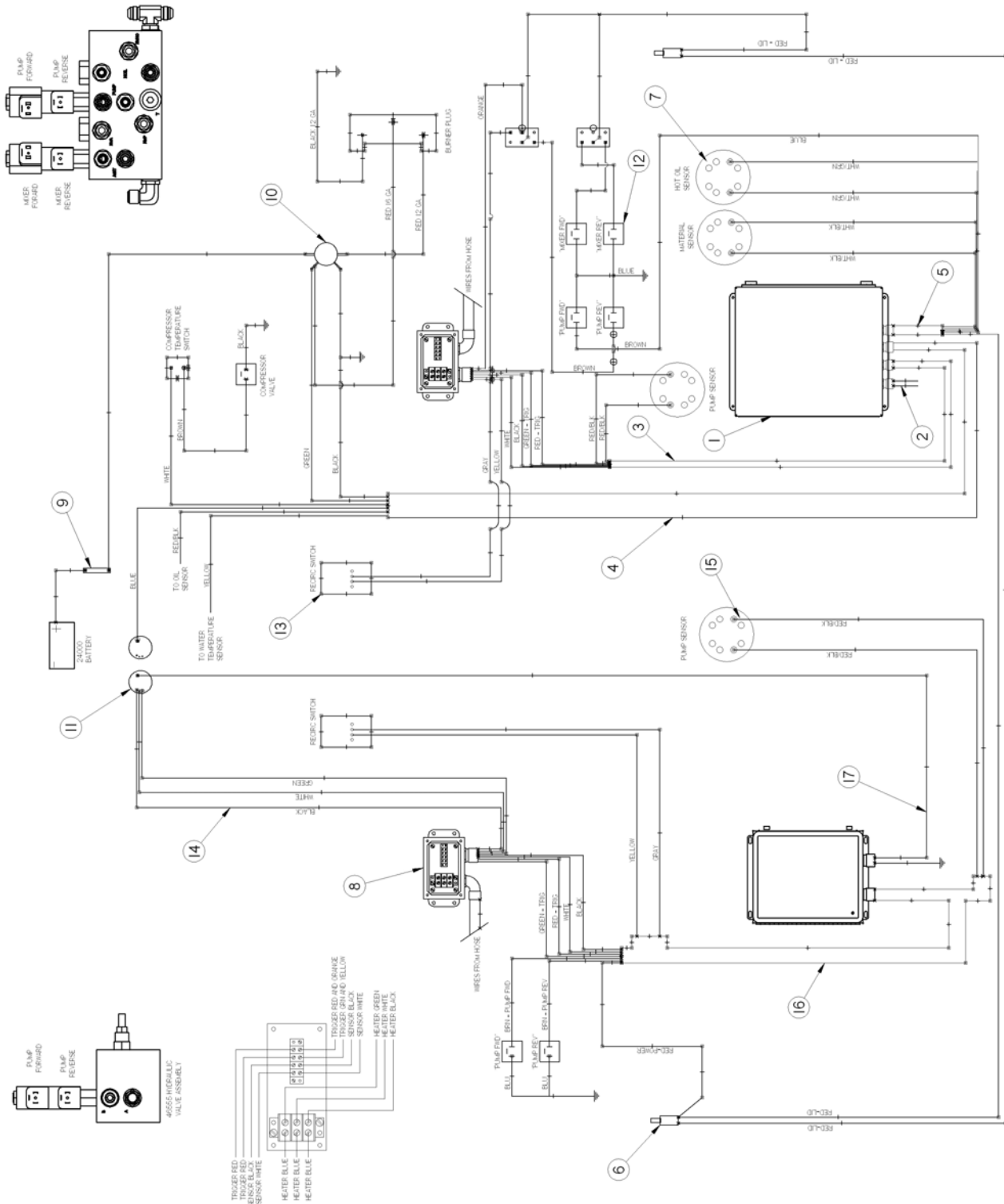
HYDRAULIC DIAGRAM



HYDRAULIC DIAGRAM

| 14. FLOW CONTROL #2 PORT TO HYDRAULIC OIL COOLER | | |
|---|--------------------|--|
| REF | 29869 | 3/4-16 O-RING X 3/8 TUBE ADAPTER |
| 1 | AX8-6FJ-10FJ-44 | HYDRAULIC HOSE ASSEMBLY 1/2 X 44" LONG |
| REF | 29933 | 7/8-14 O-RING RUN TEE |
| REF | 29805 | 7/8-14 BULKHEAD UNION |
| REF | 29807 | 7/8-14 NUT |
| REF | 46436 | TUBE, HYDRAULIC RETURN |
| REF | 29805 | 7/8-14 BULKHEAD UNION |
| REF | 29807 | 7/8-14 NUT |
| 1 | AX10-10FJ-12FJ9-38 | HYDRAULIC HOSE ASSEMBLY 5/8 X 38" LONG |
| REF | 29900 | 1 1/16-12 SWIVEL NUT BRANCH TEE |
| 15. HYDRAULIC OIL COOLER TO HYDRAULIC TANK | | |
| REF | 29916 | 1 1/16-12 O-RING X 3/4 TUBE ADAPTER |
| 1 | AX12-12FJ-12FJ-24 | HOSE ASSEMBLY 3/4 X 24" LONG |
| REF | 29929 | 1 5/16-12 O-RING X 3/4 TUBE ADAPTER |
| 16. HYDRAULIC VALVE TO HOT OIL PUMP | | |
| REF | 29919 | 9/16-18 O-RING X 1/2 TUBE ADAPTER |
| 1 | AX6-6FJ-6FJ9-20 | HOSE ASSEMBLY 3/8 X 20" LONG |
| REF | 22029 | 7/8-14 X 3/8 TUBE ADAPTER |
| 17. HOT OIL PUMP TO HYDRAULIC VALVE | | |
| REF | 22029 | 7/8-14 X 3/8 TUBE ADAPTER |
| 1 | AX6-6FJ-8FJ9-22 | HOSE ASSEMBLY 3/8 X 22" LONG |
| REF | 40311 | 9/16-18 O-RING X 3/8 TUBE ADAPTER |

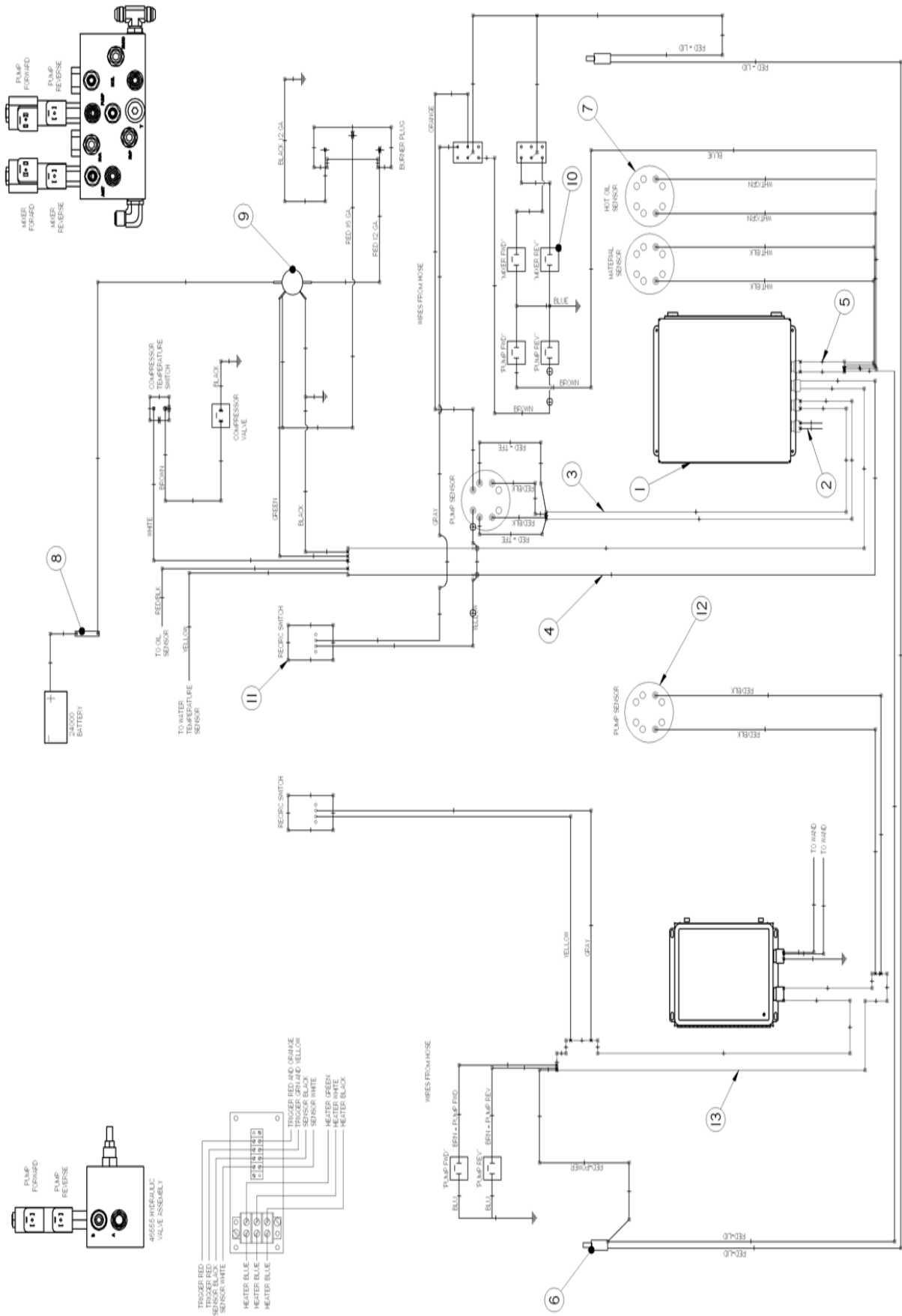
ELECTRICAL SCHEMATIC - ELECTRIC HOSE



ELECTRICAL SCHEMATIC - ELECTRIC HOSE

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|------------------------------------|
| 1 | 46017 | 1 | CONTROL BOX |
| 2 | 44978 | 1 | WIRING HARNESS, ENGINE |
| 3 | 43949 | 1 | CABLE ASSY,, TRIGGER |
| 3a | 43958 | - | CABLE, REPLACEMENT TRIG - STD HOSE |
| 4 | 43954 | 1 | CABLE ASSY., ENGINE |
| 5 | 43953 | 1 | CABLE ASSY.,SENSOR |
| 6 | 39608 | 2 | LID SWITCH |
| 7 | 43465 | 2 | SENSOR, RTD |
| 8 | 44027 | 2 | JUNCTION BOX, HOSE |
| 9 | 31512 | 1 | CIRCUIT BREAKER |
| 10 | 39602 | 1 | SOLENOID, FRAME |
| 11 | 43612 | 1 | GENERATOR |
| 12 | 43948 | 1 | CABLE ASSY., VALVE |
| 13 | 46083 | 2 | LIMIT SWITCH, RECIRC |
| 14 | 43947 | 2 | CABLE ASSY., HOSE |
| 15 | 55120 | 2 | SENSOR, PUMP |
| 16 | 43974 | 1 | CABLE ASSY., SENSOR |
| 17 | 43958 | 1 | CABLE ASSY., TRIGGER |

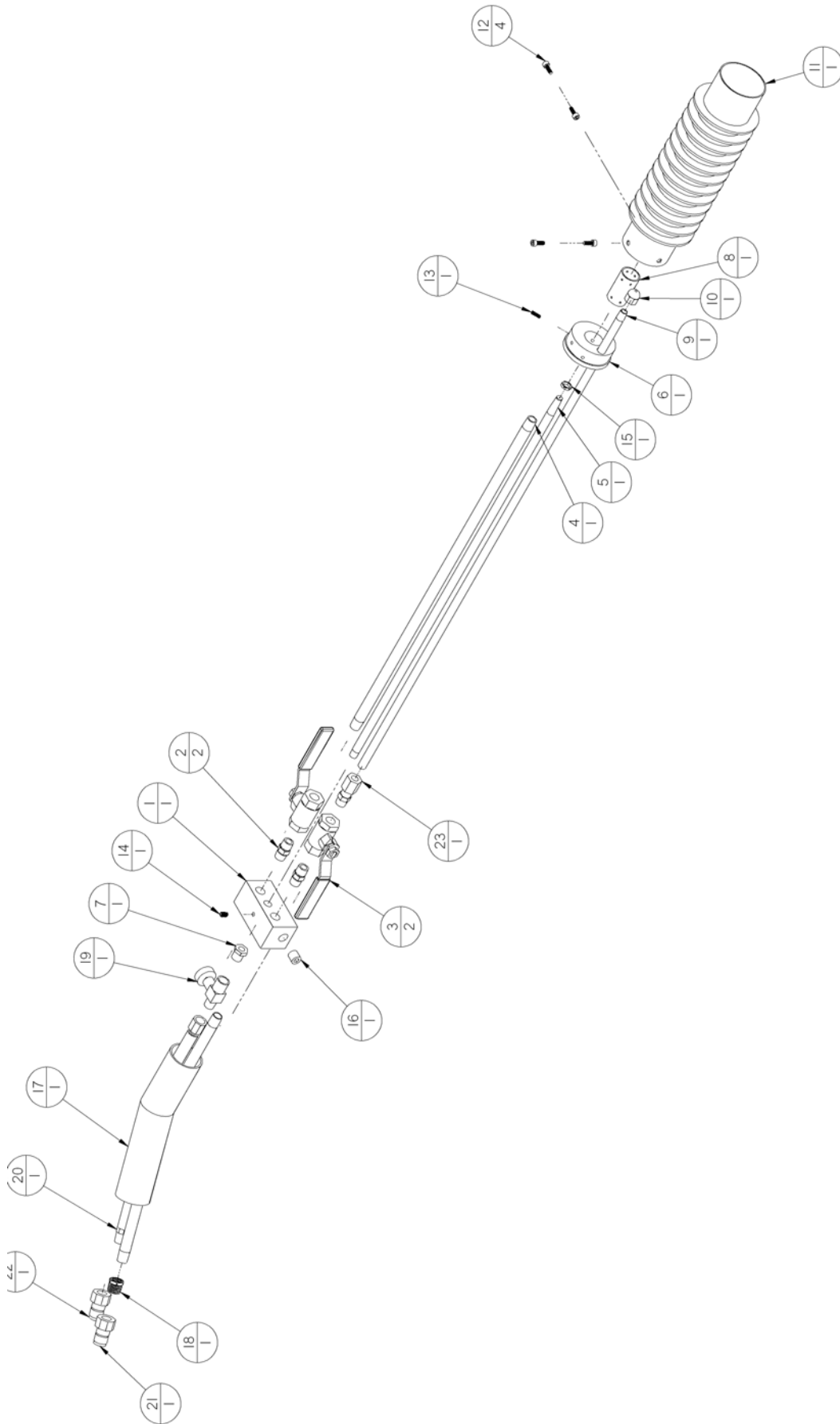
ELECTRICAL SCHEMATIC - STANDARD HOSE



ELECTRICAL SCHEMATIC - STANDARD HOSE

| ITEM | PART NUMBER | QTY | DESCRIPTION |
|------|-------------|-----|------------------------------------|
| 1 | 46017 | 1 | CONTROL BOX |
| 2 | 44978 | 1 | WIRING HARNESS, ENGINE |
| 3 | 43949 | 1 | CABLE ASSY,, TRIGGER |
| 3a | 43958 | - | CABLE, REPLACEMENT TRIG - STD HOSE |
| 4 | 43954 | 1 | CABLE ASSY,, ENGINE |
| 5 | 43953 | 1 | CABLE ASSY,,SENSOR |
| 6 | 39608 | 2 | LID SWITCH |
| 7 | 43465 | 2 | SENSOR, RTD |
| 8 | 31512 | 1 | CIRCUIT BREAKER |
| 9 | 39602 | 1 | SOLENOID, FRAME |
| 10 | 43948 | 1 | CABLE ASSY,, VALVE |
| 11 | 46083 | 2 | LIMIT SWITCH, RECIRC |
| 12 | 55120 | 2 | SENSOR, PUMP |
| 13 | 43974 | 1 | CABLE ASSY,, SENSOR |
| 14 | 43958 | 1 | CABLE ASSY,, TRIGGER |

HOT AIR LANCE (OPTION)



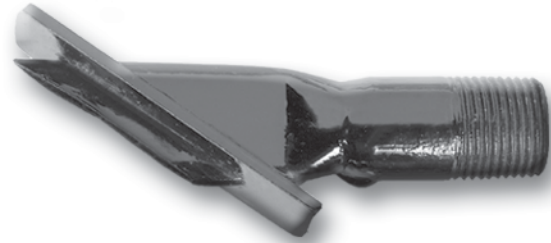
HOT AIR LANCE (OPTION)

| ITEM | PART NUMBER | QTY. | DESCRIPTION |
|------|-------------|------|---|
| 1 | 45651 | 1 | MIXING BLOCK |
| 2 | 51401 | 2 | NIPPLE, 1/4 NPT HEX |
| 3 | 29195 | 2 | VALVE, 1/4" BALL |
| 4 | 45656 | 1 | AIR MIXER TUBE |
| 5 | 45658 | 1 | PROPANE TUBE W / ORFICE |
| 6 | 45652 | 1 | BURNER BASE |
| 7 | 28340 | 1 | BUSHING, 1/4 X 1/8 REDUCER |
| 8 | 45654 | 1 | PRIMARY BURNER TUBE |
| 9 | 45657 | 1 | AIR LANCE TUBE |
| 10 | 45668 | 1 | AIR ORFICE "A" - .125" |
| 11 | 45653 | 1 | MAIN BURNER TUBE |
| 12 | 45670 | 4 | SCREW, #10-32 X 1/2" ALLEN HD. |
| 13 | 45672 | 1 | SCREW, #10-32 X 1/2" ALLEN SET |
| 14 | 45671 | 1 | SCREW, 1/4-20 X 3/8" ALLEN SET |
| 15 | 45669 | 1 | NUT, 1/8-27 JAM |
| 16 | 27990 | 1 | PLUG, 1/4" COUNTERSUNK |
| 17 | 45655 | 1 | HANDLE ASSEMBLY |
| 18 | 45663 | 1 | BUSHING, 3/8 NPT X 1/4 NPT REDUCER |
| 19 | 45659 | 1 | VALVE, NEEDLE |
| 20 | 45675 | 1 | HOSE ASSY., PROPANE |
| 21 | 45679 | 1 | COUPLING, 1/4FPT X M |
| 22 | 45681 | 1 | COUPLING, 1/4 NPT X FM |
| 23 | 45664 | 1 | FITTING, 1/4 NPT X 3/8 TUBE FERULE LOCK |

TOOLS AND ACCESSORIES



Crafcro Applicator Disk
27162 - 3" Disk Assembly
27163 - 4" Disk Assembly
27164 - 6" Disk Assembly



Crafcro Sealing Foot / Protruded
27159 - 1/4" Protruding
27160 - 3/8" Protuding



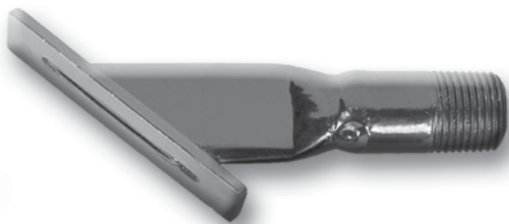
Crafcro Joint Sealing Tip
27146 - 1/4" Sealing Tip
27147 - 3/8" Sealing Tip



Crafcro Swivel Disk Applicator
27120 - 3" Swivel Applicator
27130 - 4" Swivel Applicator



Crafcro Round Sealing Tip
27170 - 3/8" Sealing Tip
27171 - 1/2" Sealing Tip



Crafcro Sealing Foot / Flushr
27154 - 1/4" Flush
27155 - 3/8" Flush



Crafcro Cold Air Lance - 46648

TOOLS AND ACCESSORIES



Crafcro Heavy Duty Squeegee with Aluminum Handle - 27199

27195 - Replacement Blade

Crafcro Heavy Duty Squeegee with Aluminum Handle - 27245

27241 - Replacement Blade



Crafcro Pour Pot with Wheels - 40200



Super Shot Drip Stopper

Use with 50270 Duckbill

27114 - Tip Adapter

27115 - Shroud, Tip Adapter



Crafcro Hand Held Pour Pot - 40201

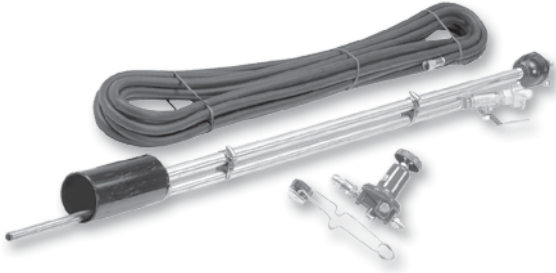


Crafcro Duckbill - 50270



Crafcro Heat Lance - 31370

TOOLS AND ACCESSORIES



Crafcro Heat Lance with Regulator and Attachments - 32259



Crafcro Hand Torch w/ 20ft. Hose - 25012

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