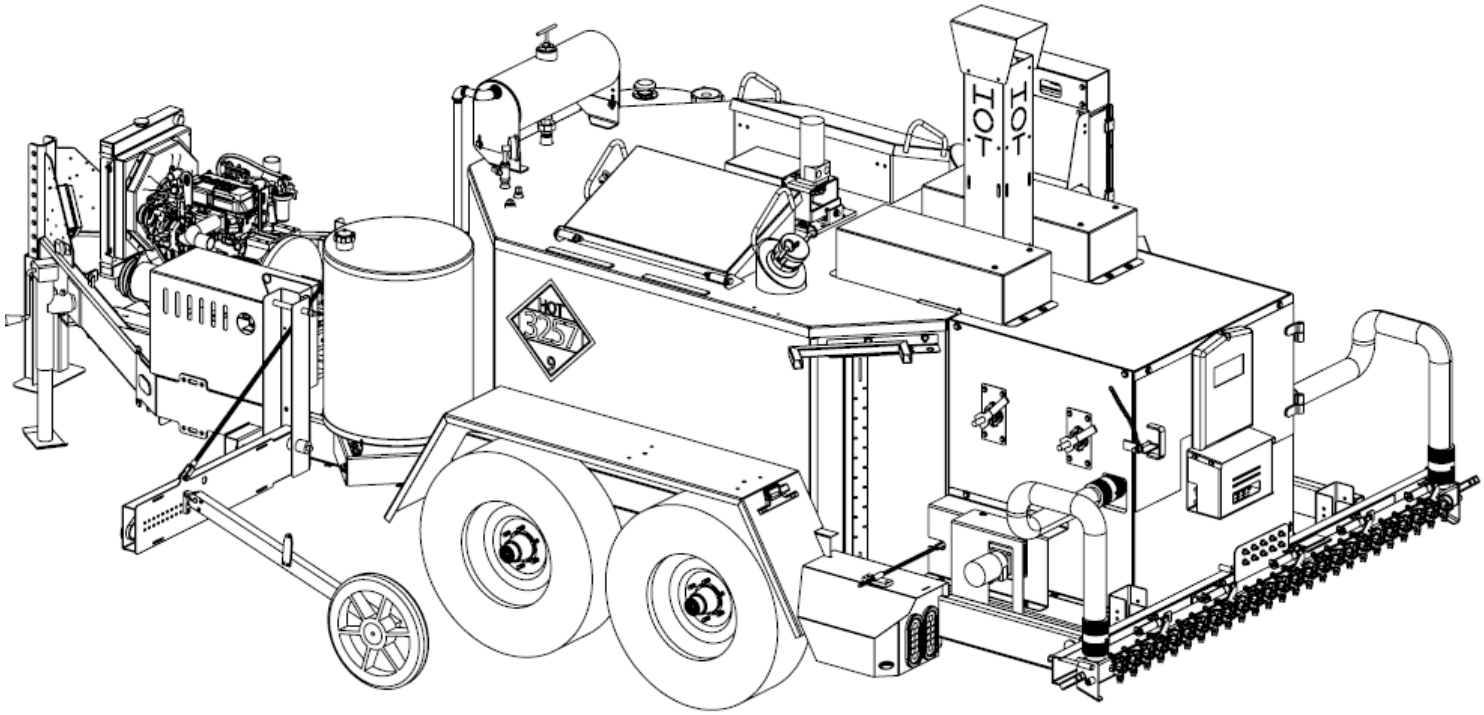
Linear Joint Seal Melter Applicator Machine

Owner/Operator Manual



MA4

CIMLINE.COM
2601 Niagara Lane · Plymouth, MN 55447 · (763) 557-1982 · (877) 841-0848 · Fax (763) 557-1971
Part # 302-000-000 Rev F 5/23/23

Shipping Papers and Information

In addition to this operators manual, a packet containing IMPORTANT INFORMATION has been enclosed with your CIMLINE MA4 Melter.

The following *Manufacturer's Documents* are included for the following parts:

a) Engine
b) Material Pump
c) Burner

TABLE OF CONTENTS:

MAINTENANCE AND TROUBLESHOOTING:

PARTS AND ASSEMBLY DIAGRAMS:

IMPORTANT: This manual contains the basic information required to operate, maintain and repair the CIMLINE Melter you have purchased. The use of this manual insures accurate adjustments, operation, basic maintenance and proper lubrication of your equipment. Please keep a copy with the machine at all times.

Melter Serial Number: _____

Engine Manufacturer: _____

Model Number: _____

Engine Model (H.P.): _____

Pump Number: _____

CONTACTING CIMLINE

At Cimline, impressing the customer is one of our core values. We want to make sure you are covered for any general or technical questions you may have on your new CIMLINE equipment. Please use the following information to get the support you need if this manual does not provide the answers you are looking for.

Cimline Dealer Network:

Your local dealer is always your first point of contact when looking for parts, maintenance, technical support, warranty information or answers to your questions. No one should know you and your business better than your local dealer, and they should always be the first call you make when looking for answers to your questions.

CIMLINE Local Dealer Name: _____

CIMLINE Local Dealer Phone Number: _____

CIMLINE Sales:

Toll Free: (877) 841-0848 • Telephone: 763-694-2665 • Fax: 866-557-1971
Corporate Headquarters: 2601 Niagara Lane N, Plymouth, Minnesota 55447
www.cimline.com

Any parts orders or service problems relating to CIMLINE equipment should be directed to your local dealer FIRST.

CIMLINE Customer Care and Technical Service:

CIMLINE Technical Service is available Monday - Friday during normal business hours.
Toll Free: (877) 841-0848 • Telephone: 763-694-2665 • Fax: 866-553-7765
www.cimline.com • Email: customercareorders@plymouthind.com

CIMLINE Parts and Warranty Items:

Toll Free: (800) 328-3874 • Telephone: 763-694-2638 • Fax: 866-553-7765
www.cimline.com • Email: customercareorders@plymouthind.com

Personal Safety

OPERATOR MUST READ AND UNDERSTAND ENTIRE OPERATORS MANUAL BEFORE PROCEEDING.
THIS PAGE ONLY PROVIDES AN OVERVIEW OF SAFETY INFORMATION

⚠ WARNING **The melter operates at elevated temperature which can cause burns.** Operator and anyone working in close proximity to hot materials must always wear protective clothing.

Required clothing includes:

Gloves with wristlets • Heavy leather boots or shoes • Face shield • Long sleeve shirt with sleeves rolled down and cuffs buttoned • Long pants with no cuffs

GENERAL OPERATION SAFETY:

- Perform a DOT pre-trip inspection before towing.
- Never go under trailer with out first stabilizing trailer.
- Never touch material expelled by melter while still hot.
- Do not operate without safety cover on hose.
- Never leave machine unattended while it is running.
- Keep material door closed at all times except when adding material.
- Always use pin with swivel jack.
- Never use a damaged swivel jack.
- Never stand on any part of the machine.
- Load melter from ground level.
- Do not touch exhaust stacks or mufflers.

Signal Words in Manual:

The signal words **DANGER, WARNING** and **CAUTION**, are used to identify levels of hazard seriousness.

⚠ DANGER **DANGER!** Indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING **WARNING!** Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION **CAUTION!** Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE **NOTICE:** Is used to address practices not related to personal injury.

Trailer Safety

GENERAL SAFETY CONSIDERATIONS:

Operating this machine requires workers to perform work behind the trailer, it is critical to perform the work safely. Communication between the tow vehicle driver and worker is critical. Worker and tow vehicle driver must stay in communication, use an audible device or visual signals to communicate. A worker must never ride on the trailer or position him or herself between the tow vehicle and trailer when the tow vehicle is running. Tow vehicle driver must always be aware of workers position.

Only use a tow vehicle that is equipped with an electronic brake control system and has the appropriate towing capacity. The best means for determining the vehicle's towing capacity is to read the vehicle owner's manual. The owner's manual will provide detailed instructions and limitations, usually accompanied by tips for safe towing. If the owner's manual has been misplaced, most manufacturers provide free downloadable copies on their website. Towing with an undersized tow vehicle can cause the trailer to tow improperly, potentially causing loss of control. Overloading can also cause unintended failures to tow vehicle.

The weight of your trailer listed in this manual is for the base model without any additional accessories or the weight of the sealant material. The weight of your trailer will vary, weigh your machine to determining your Gross Vehicle Weight (GVW). Scales are sometimes available to use at state highway weigh stations, refuse transfer stations and commercial truck stops.

TRAILER STABILIZATION PROCEDURE:

⚠ WARNING **Going under the trailer puts a person at risk of severe injury or death. Follow the procedure below to stabilize trailer before going under the trailer.**

METHOD #1 HITCH TO VEHICLE:
Park both the tow vehicle and trailer on a flat level surface. Place tow vehicle in park and remove keys.

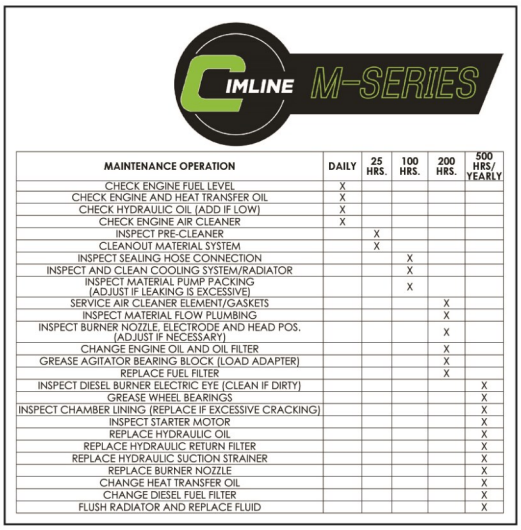
METHOD #2 UNHITCHED:
Park trailer on a level surface. Place wheel blocks in front of and behind wheels on both sides of the trailer. Inspect your swivel jack thoroughly for damage or abnormal wear, especially if it was subjected to abnormal load or shock. [*If damaged do not use, replace swivel jack*.] Turn the swivel jack to the vertical position and pin in place. Use the swivel jack to decouple trailer from tow vehicle. After raising the hitch coupler, crib, block, or otherwise secure the trailer at once.

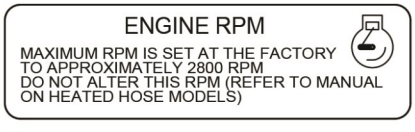
⚠ WARNING

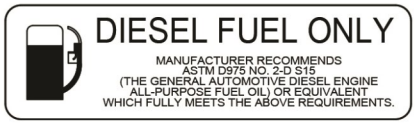
BREATHING DIESEL ENGINE EXHAUST EXPOSES YOU TO CHEMICALS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. ALWAYS START AND OPERATE THE ENGINE IN A WELL-VENTILATED AREA. IF IN AN ENCLOSED AREA, VENT THE EXHAUST TO THE OUTSIDE. DO NOT MODIFY OR TAMPER WITH THE EXHAUST SYSTEM. DO NOT IDLE THE ENGINE EXCEPT AS NECESSARY. FOR MORE INFORMATION GO TO; **WWW.P65WARNINGS.CA.GOV/DIESEL.**

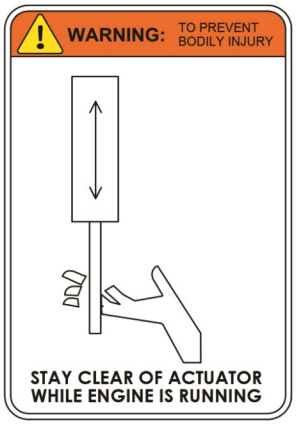
Replacement Labels

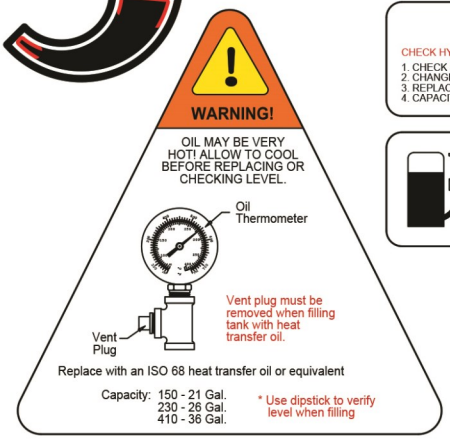
Inspect your labels and replace any that are damaged.
Contact your dealer to order replacement labels.











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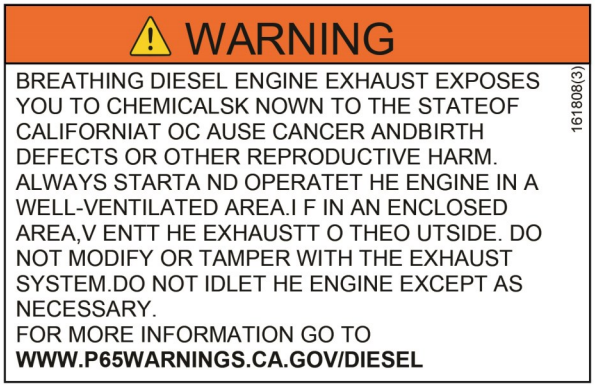

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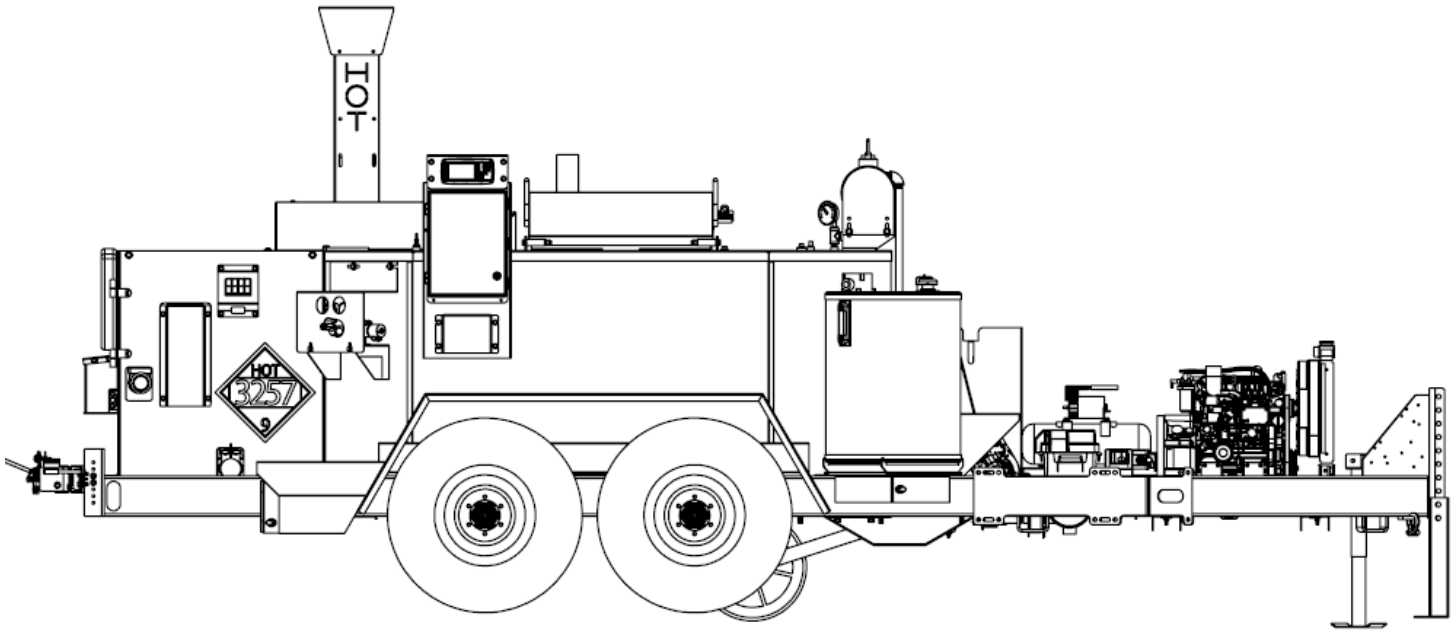
MA4 Weight and Dimensions

WEIGHT AND DIMENSIONS ARE FOR BASE UNIT WITHOUT OPTIONS.
WEIGHT LISTED DOES NOT INCLUDE MATERIAL WEIGHT.
WIDTH LISTED IS IN THE TRANSPORT MODE WITH GUIDE WHEEL UP.



HEIGHT	WIDTH	LENGTH	
90 INCHES (229 cm)	87 INCHES (221 cm)	211 INCHES (536 cm)	MA4 BASE WEIGHT : 6800 POUNDS (3084kg)

Sealant Material Tank Size is 410 Gallons

⚠ WARNING

To maintain safe operation of trailer while in transport, do not fill tank more than 75% of total tank capacity. Approximately 307 gallons on the MA4.

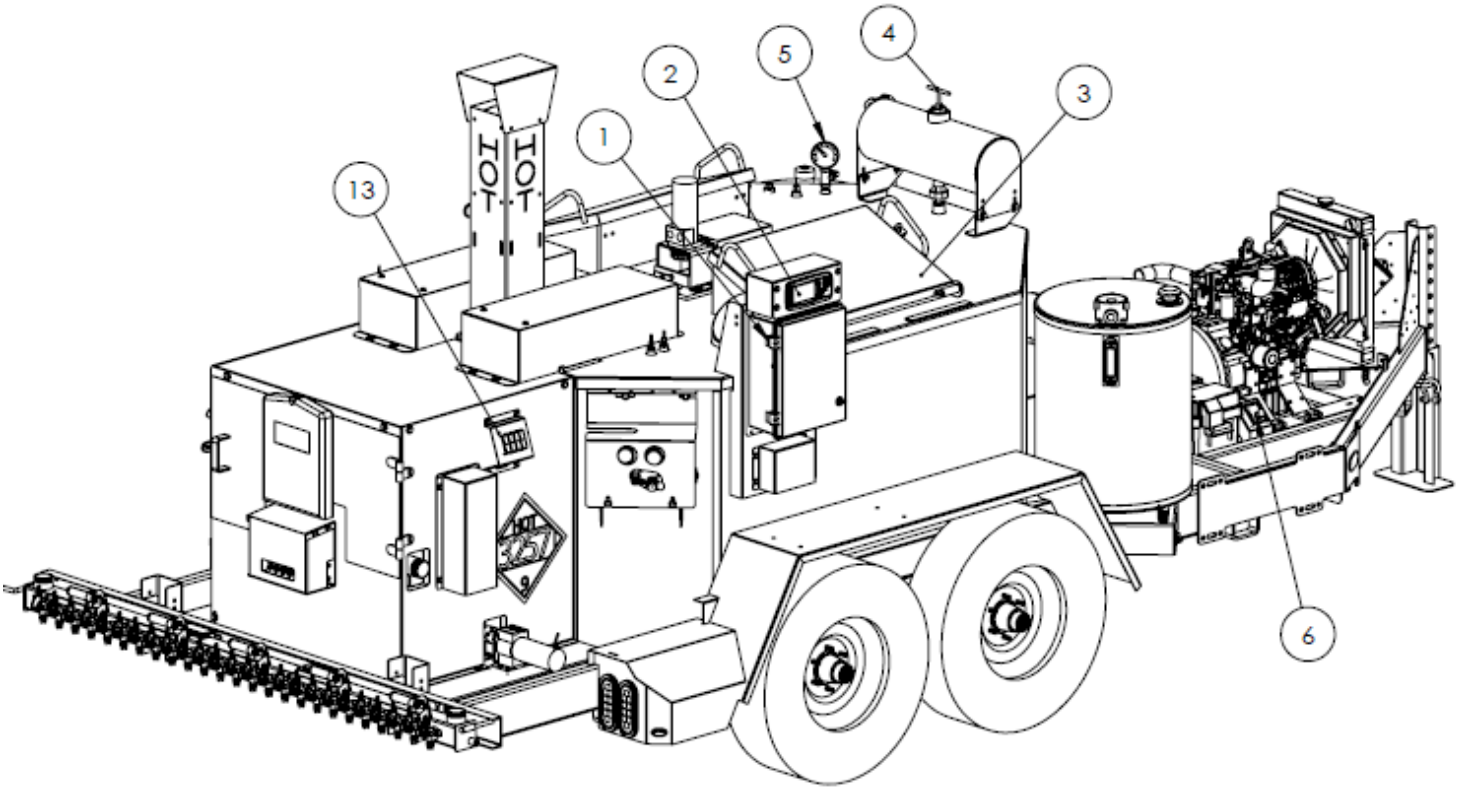
Maximum Safe Operational Sealant Material Tank Capacity is 307 Gallons

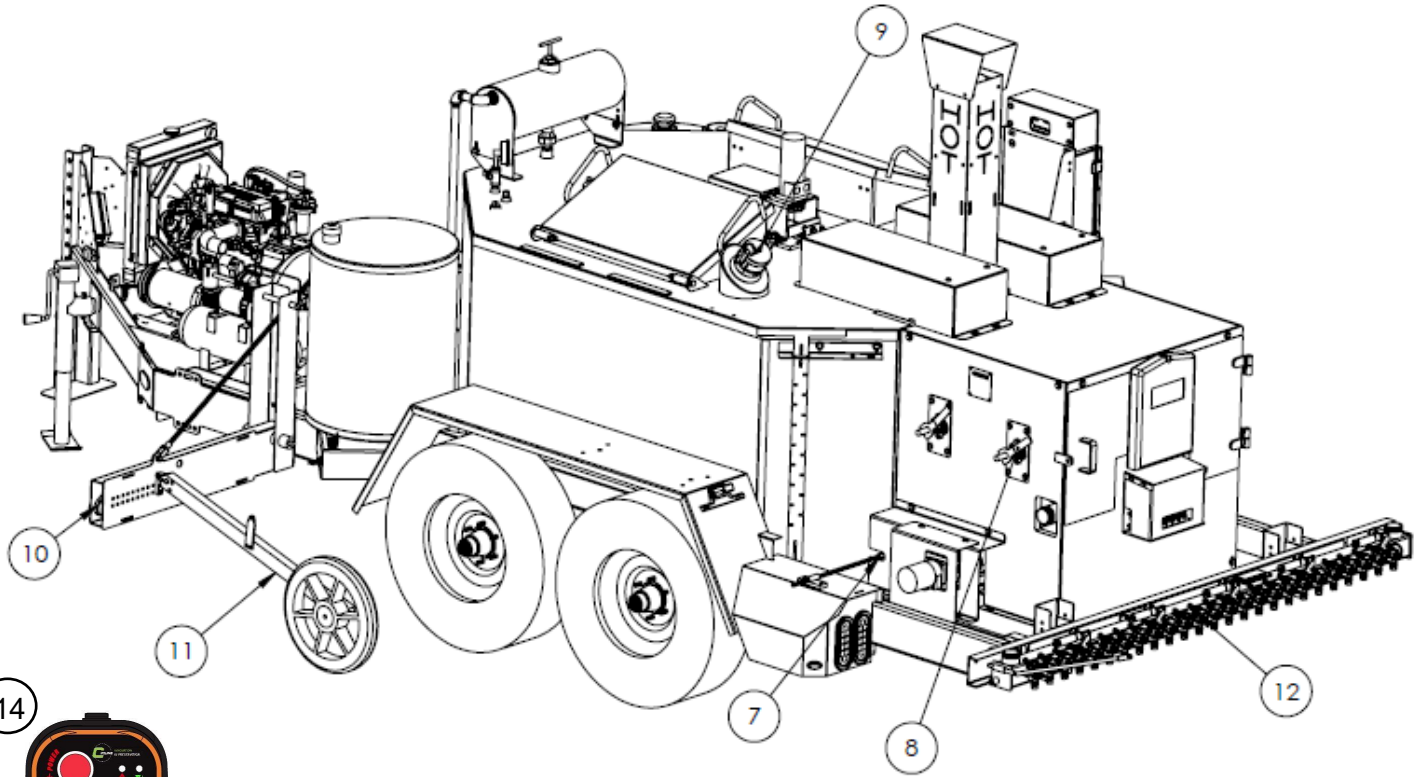
NOTICE

A sealant material depth gauge is included to assist in monitoring the sealant material level in the MA4.

Product specification may change without notice.
Images contained in this manual may differ from the actual product.

MA4 Feature Overview





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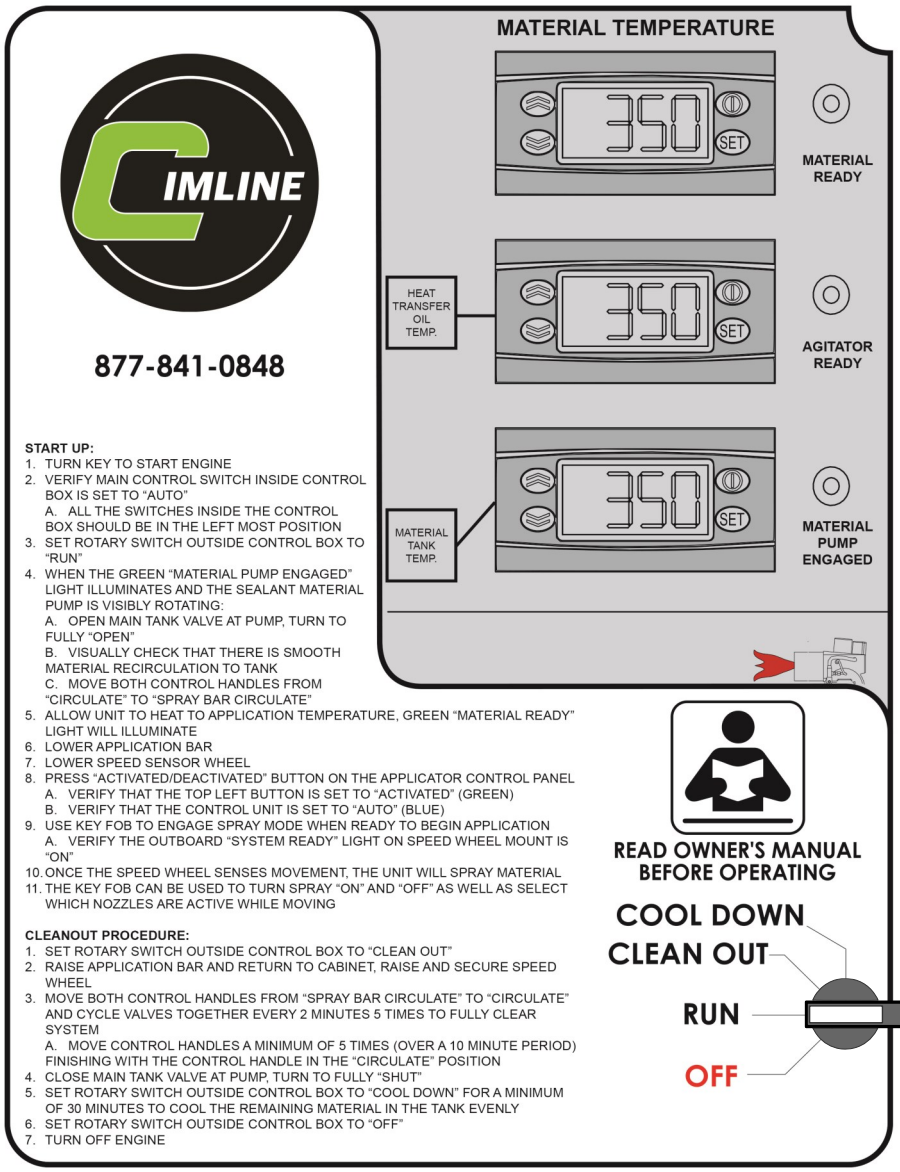
MA4 Feature Overview

NOTE: This general outline will familiarize you with this machine dependent on model, location and style and may vary with options installed. Read through the entire manual before putting this machine into operation.

1) **Main Control Panel:** The main control panel is used to control the primary functions of the melter, including simple automated user controls for Off / Run / Clean Out / Cool Down as well as manual control of the sealant material pump direction and tank agitator. You can also monitor or adjust the temperature of the sealant material and heat transfer oil on the control sub panel. See page 10 for more information on the main control panel.
2) **MA4 Applicator Electronic Control Display:** This computerized panel will allow you to set your application rate and calibrate the output rate of the sealant material through the application bar. See page 11 for more information on the electronic control unit.
3) **Loading Door:** Place the sealant material block or biscuit on the open door to load the melting tank. See page 14 for more information on safely loading sealant material into the melter.
4) **Heat Transfer Oil Level Dipstick:** Allows you to monitor the amount of heat transfer oil in the melter oil tank. See page 25 for more information on using the heat transfer oil dipstick.
5) **Heat Transfer Oil Temperature Gauge:** Displays the heat transfer oil temperature.
6) **Ignition Switch:** Engine key “Start”/ “On” / “Off” and also displays engine running hours, glow plug status, alternator charge, engine oil pressure and engine coolant warnings.
7) **Main Tank Valve:** “Open” / “Shut” allows sealant material to enter pump from sealant material tank.
8) **Control Handles (Qty. 2):** Controls flow from “Circulation” re-circulation back to sealant material tank and “Spray Bar Circulate” circulation through application bar and back to sealant material tank.
9) **Bulk Loading Plug:** This 3 inch Cam and Groove fitting allows for liquefied bulk sealant material to be pumped directly into the MA4 sealant material tank from an external source.
10) **Control Lights:** These lights are visible to the driver and indicate when the system is ready to begin application and that the vehicle is driving an appropriate speed for the application rate. See page 16 for more information on the control lights.
11) **Ground Speed Encoding Wheel:** This sensor folds up / down for storage and reports trailer speed to the computerized control system. The control system communicates with the pump to apply the appropriate amount of sealant material based on the speed reported by this wheel. See page 16 for more information on the ground speed encoding wheel.
12) **Application Bar:** The application bar moves along a bearing track to each side of the machine. When the control valves are opened to “Spray Bar Circulate” hot sealant material circulates through the application bar until the system is activated and senses movement, dispensing sealant material as directed by the control system.
13) **Tip Control Keypad:** You can manually control and engage the application tips from this keypad (or with the key fob remote). See page 20 for more information on the tip control keypad.
14) **Key Fob Remote Transmitter:** The MA4 comes with 1 wireless remote to activate the application of sealant material from the application bar. The key fob remote transmitter also can control which of the 5 spray tips are actively applying sealant material. Note: Only one remote can be actively powered on at a time. See page 16 for more information on the key fob remote transmitter. See page 20 for information on pairing the key fob remote transmitter.

MA4 Control Panels and Their Functions



MAIN CONTROL PANEL:

The Main Control Panel is used to operate the melter control system. Controls located on the outer cover are for operating in AUTO mode only.

OFF: Shuts down power to the control panel, the sealant material pump, agitator and burner.

RUN: Allows the preprogrammed controllers to turn on the pump, agitator, and burner.

CLEAN OUT: Shuts down the burner and reverses pump flow direction to clean out material from the spray bar and internal plumbing returning the sealant material to the material tank

COOL DOWN: - Shuts down the burner and sealant material pump and turns the agitator only. This allows the material to cool down more consistently, extending the life of the material remaining in the tank.

Inside the Main Control Panel box is a Sub Control Panel.

See pages 12-13 for detailed explanation of its use.

MA4 Control Panels and Their Functions

MA4 APPLICATOR ELECTRONIC CONTROL DISPLAY:

The MA4 Applicator Electronic Control Display is used to control the application rate of the sealant material that is being applied. System status, spray bar position, material readiness, rate of flow and pump RPM are all controlled by this computer control panel. Please note; If certain conditions are not met, the function will be unusable (Gray). Some examples of conditions that are not met are: Spray bar is in stored position, material is not up to application temp, etc.

***ACTIVATED*:** Pressing the top left button (#1) on the Applicator Control Panel will switch between "ACTIVATED" (Green) and "DEACTIVATED" (Red). Once the unit is activated, it will wait until the ground speed encoding wheel registers a speed to start applying sealant material.

START: Pressing the second button on the left (#2) will switch between "START" (Green) and "STOP" (Red). This is typically turned on and off by using the key fob remote transmitter.

AUTO: Pressing the third button on the left (#3) will switch from "AUTO" (Blue) and "MANUAL" (Yellow). In the auto mode, the unit will control how much sealant material is applied by the speed wheel as it moves across the ground. In the manual mode, the sealant material application will be controlled by the pump speed that is set by the application rate.

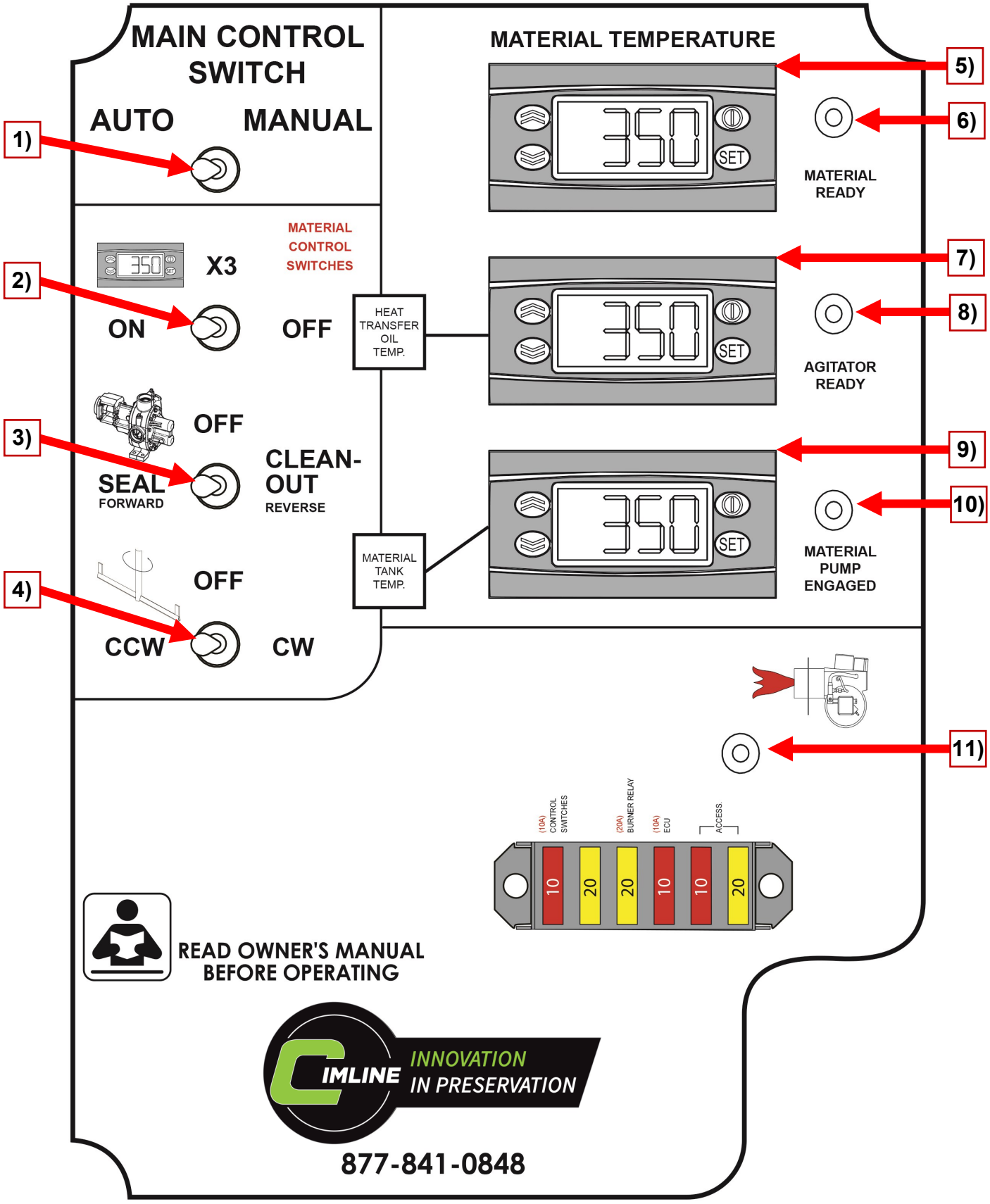
NOTICE

Using the MA4 Applicator Electronic Control in "Manual" mode is only intended for use by trained, experienced operators.

APPLICATION RATE: Pressing the top right button (#4) will highlight the "APPLICATION RATE" function (Purple) and allow the dial knob to adjust the sealant material application rate. The sealant material application rate is measured based on a pounds per linear foot measurement. Pressing the button again will deselect the function (Gray) and the application rate is automatically calculated based on the speed of the vehicle as reported by the ground speed encoding wheel.

TRIM: Pressing the second button on the right (#5) will highlight the "TRIM" function (Purple) and allow the dial knob to adjust the trim setting. The trim control compensates for a pump that is running slower due to wear and will speed up the pump a certain % amount. Pressing the button again will deselect the function (Gray). This feature is only usable while in the auto mode.

MA4 Manual Sub Control Panel and Its Functions



MA4 Manual Sub Control Panel and Its Functions

NOTICE

CIMLINE recommends using the Main Control Panel in "AUTO" control mode. "MANUAL" mode is provided for trouble shooting and trained advanced/experienced users.

1) **MAIN CONTROL SWITCH**:
   Auto: (left position) Machine will operate from the systems preconfigured program using the rotary switch control located on the outside front cover.
   Off: (center position) Power to all systems will be off and burner, pump and agitator will stop.
   Manual: (right position) Main rotary switch on front cover is no longer active. The three switches below for temperature control, pump and agitator must be used to control the melter's operations.
2) **TEMPERATURE CONTROLLER ON / OFF SWITCH:** When this switch is on, the three digital controllers to the right will be energized and they will be controlling the diesel burner and activate the hydraulics for agitator motor and sealant material pump.
3) **MATERIAL PUMP:**
   Seal (Forward): When this switch is on "Seal (Forward)" the pump will be rotating with sealant material recirculating back to sealant material tank. When key fob remote switch is activated, sealant material will dispense out of the spray tips on the application bar.
   Off: When the switch is "Off", the pump will not be rotating.
   Clean-out (Reverse) Switch: When the switch is on "Clean-out", the pump will be rotating in the reverse direction and will be drawing back any sealant material in the plumbing or the application bar system back to the sealant material tank.
4) **AGITATOR CCW / OFF / CW SWITCH:** This switch controls the rotation of the agitator from counter-clockwise (CCW) or clockwise (CW). If the switch is in the center position, the agitator will not rotate.
5) **SEALANT TEMPERATURE CONTROLLER:** The control system on your CIMLINE melter has been factory set to run the most common types of sealant materials. See page 19 to override or change settings.
6) **MATERIAL READY LIGHT (Green):** This LED light indicates that the sealant material has reached the preset temperature if the unit is running in the auto mode.
7) **HEAT TRANSFER OIL CONTROLLER:** The control system on you CIMLINE melter has been factory set to not exceed the OEM heat transfer oil limits for maximum temperature. It is advised to only use heat transfer oil from CIMLINE. See Page 22 for heat transfer oil information and specifications.
8) **AGITATOR READY LIGHT (Green):** This LED light indicates that the heat transfer oil has reached the preset temperature and if the unit is running in the auto mode, the hydraulic circuit for the agitator will be activated. If enough sealant material has melted the agitator should be turning.
9) **MATERIAL TANK TEMPERATURE CONTROLLER:** The control system on your CIMLINE melter has been factory set to engage the sealant material pump early enough to get a faster start up. See page 19 to override or change settings.
10) **PUMP READY LIGHT (Green):** This LED light indicates that the sealant material inside the pump has reached the preset temperature and if the unit is running in the auto mode, the hydraulic circuit for the sealant material pump will be activated. If enough sealant material has melted the pump should be turning and sealant material should be circulating through the system and back into the top of the sealant material tank.
11) **DIESEL BURNER LIGHT (Yellow):** This LED light indicates that the material and heat transfer oil temperature control are demanding that the diesel burner circuit is turned on.

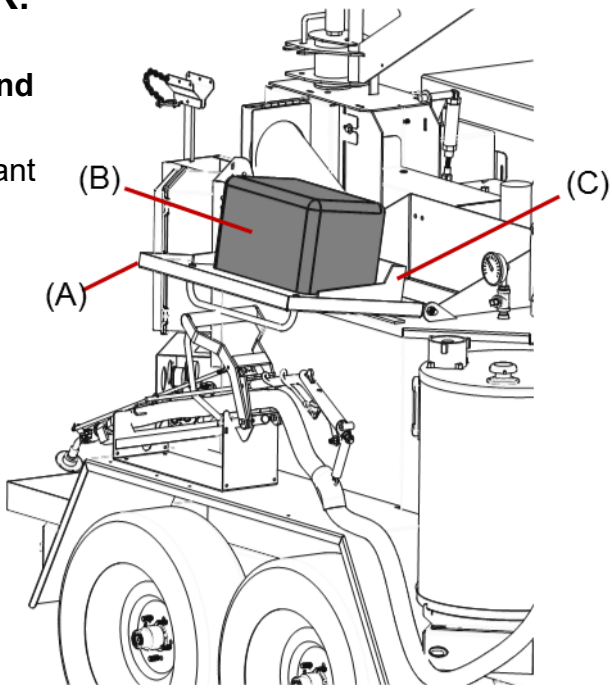
MA4 Start Up Procedure

LOAD FRESH SEALANT MATERIAL INTO TANK:

All sealant material must be clean. Keep all foreign matter out of melting tank to avoid damage to pump and systems.

1) Open the material door (A) and place the block of sealant material (B) on the open door against the holder (C).

2) Push door to the closed position.



⚠ WARNING

TO PREVENT CONTACT WITH HOT SEALANT DO NOT DROP MATERIAL INTO THE MELTER WITH EITHER OR BOTH DOORS OPEN.

LOADING OPERATOR MUST WEAR ALL PROTECTIVE CLOTHING COVERED ON PAGE 4.

LOAD MATERIAL FROM GROUND ONLY. NEVER CLIMB ON THE TRAILER TO LOAD.

1. START ENGINE:

A) Turn key on engine control to **" 1".**

B) Allow 3-5 seconds to heat glow plugs (Flashing green light will turn to solid green).

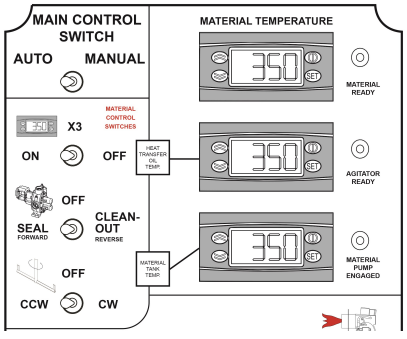
C) Turn key to **" 2".**

D) Release when engine starts.

2. VERIFY SWITCHES ON CONTROL PANEL:

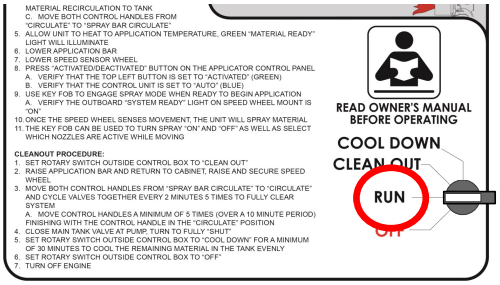
A) Verify main control switch inside control box is set to "AUTO".

B) Verify ALL the switches inside the control box are in their left most position.



3. POWER UP CONTROL PANEL:

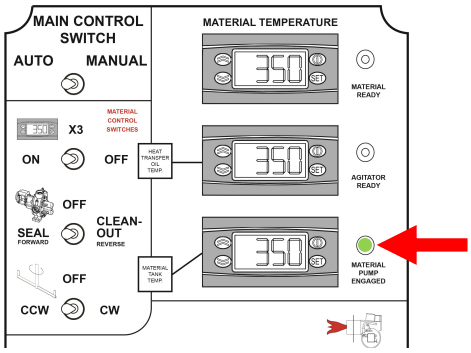
A) Set control panel rotary switch on front (outside) of control box to the "RUN" position.

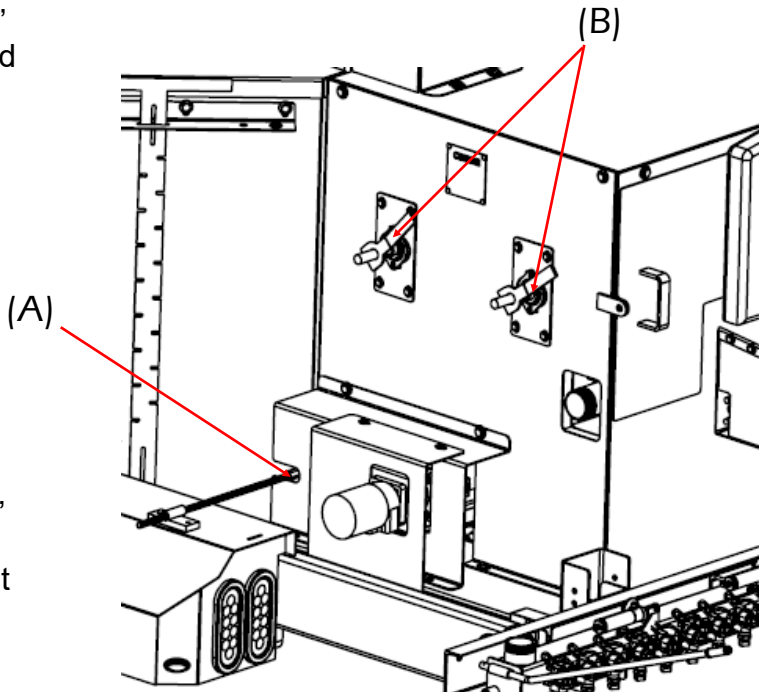


MA4 Start Up Procedure

4. PREPARE PUMP FOR SEALANT MATERIAL CIRCULATION:

When the green “MATERIAL PUMP ENGAGED” light illuminates the sealant material pump should be visibly rotating:





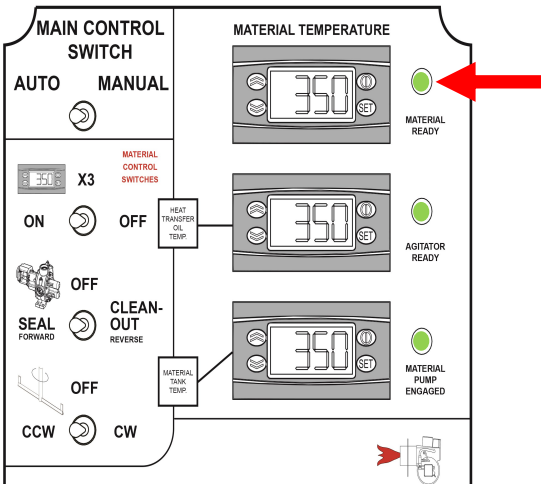
A) Open the main tank valve (A) at the pump, turn to fully “OPEN”.

B) Visually check that there is smooth sealant material recirculating into the top of the sealant material tank.

C) Move both control handles (B) from “CIRCULATE to “SPRAY BAR CIRCULATE”.

5. ALLOW UNIT TO HEAT SEALANT MATERIAL TO CORRECT APPLICATION TEMPERATURE:

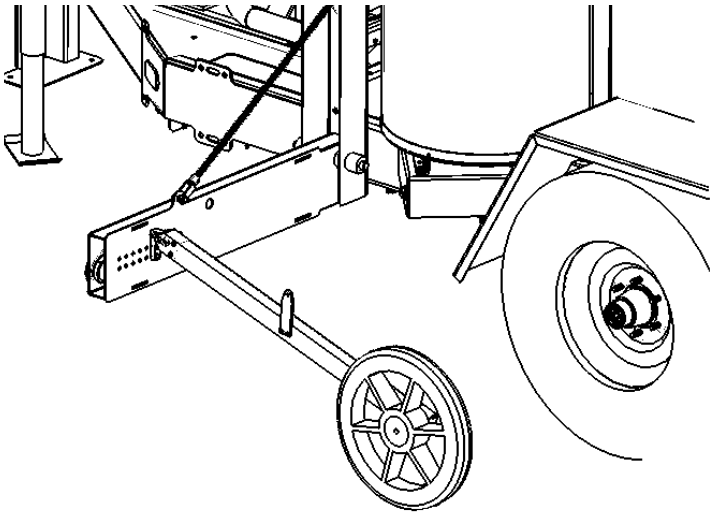
The green “MATERIAL READY” light will illuminate when the correct sealant material temperature is reached in the tank.



6. LOWER THE SPEED SENSOR WHEEL:

Lower and secure the ground speed encoding wheel.

Ensure compressor has built up proper pressure (100 PSI>).



MA4 Start Up Procedure

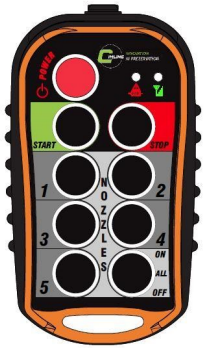
7. ACTIVATE THE ELECTRONIC CONTROL DISPLAY:

Press the “ACTIVATED/DEACTIVATED” button on the computerized applicator control panel.

A) Verify the top left button is set to “ACTIVATED” and the light next to the button is illuminated green.

B) Verify the control unit is set to “AUTO” and the light next to that button is illuminated blue.

8. KEY FOB REMOTE TRANSMITTER SPRAY CONTROL:



Use key fob remote transmitter to engage spray mode and control which nozzles are active when ready to begin application of sealant material through the application spray bar. NOTE: ONLY ONE REMOTE CAN BE USED AT A TIME. See page 20 for information on pairing the key fob remote transmitter.

A) Power on the key fob remote transmitter using the “POWER ON / OFF” button at the top of the remote.

B) When the key fob remote transmitter powers on, you should see the signal strength light illuminate green indicating that the unit is on and communicating with the computerized control panel.

C) Use the “START” (green) and “STOP” (red) buttons to begin and end application of sealant material through the application spray bar.

D) The buttons numbered “1” through “5” control which spray nozzles are active on the application spray bar while applying sealant material. Pressing a numbered button will activate and turn on a particular nozzle bank.

MPORTANT: To turn off a particular nozzle while in application mode, you must press the “STOP” button momentarily to reset the hydraulics and halt application, then press the “START” button again to continue application with the new nozzle settings.

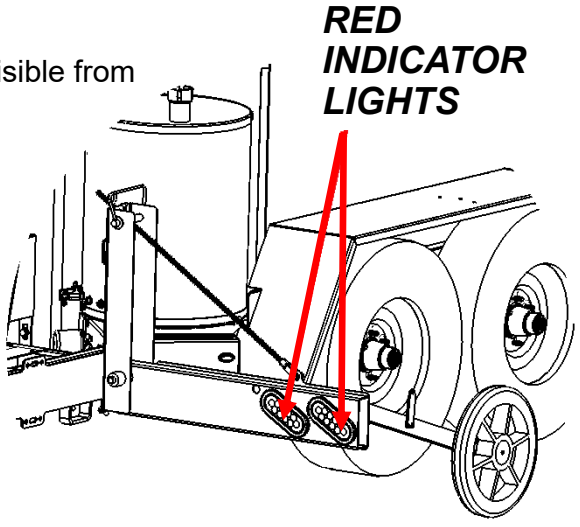
E) The red light at the top of the key fob remote transmitter will indicate when the battery is low and requires recharging.

9. GROUND SPEED ENCODING WHEEL:

The ground speed encoding wheel has two red lights that are visible from the tow vehicle.

A) The outboard “SYSTEM READY (SOLID)” light will illuminate bright red and indicates when the computerized control unit senses that the key fob remote is calling for the application spray bar nozzles to be “ON” and applying sealant.

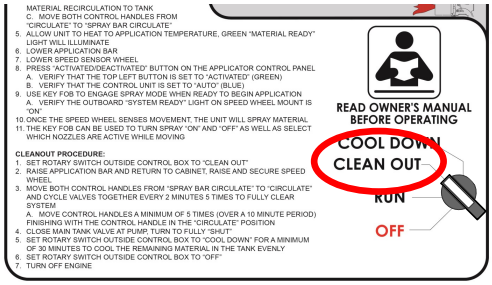
B) The inboard “CORRECT SPEED (SOLID)” light will illuminate bright red when the unit is traveling at an appropriate speed for the application rate programed. The light will flash slowly if the unit is traveling too slow, and it will flash quickly if the unit is traveling too fast for the sealant material application rate.



MA4 Clean Out/Shut Down Procedure

11. SET ROTARY SWITCH OUTSIDE CONTROL BOX TO “CLEAN OUT”:

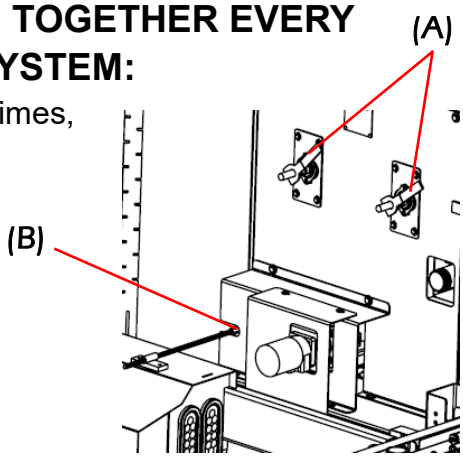
The “Clean Out” function on the control box will reverse the sealant material pump and begin to evacuate the spray bar and internal plumbing of a majority of the sealant material and return it back to the tank. The entire procedure (steps 12-18) should be followed and all steps properly executed. Following this process fully will increase start up efficiency on the next job.



12. RAISE SPEED WHEEL AND SECURE.

13. MOVE BOTH CONTROL HANDLES FROM “SPRAY BAR CIRCULATE” TO CIRCULATE” AND CYCLE BOTH VALVES TOGETHER EVERY 2 MINUTES 5 TIMES TO FULLY CLEAR SYSTEM:

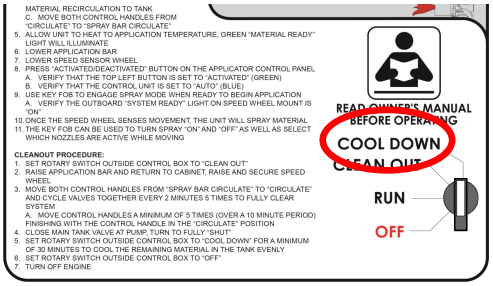
A) Move BOTH control handles (A) a minimum of 5 times, every 2 minutes over a 10 minute period finishing With both control handles in the “Circulate” position.



14. CLOSE MAIN TANK VALVE (B) AT PUMP, TURN TO FULLY “SHUT”.

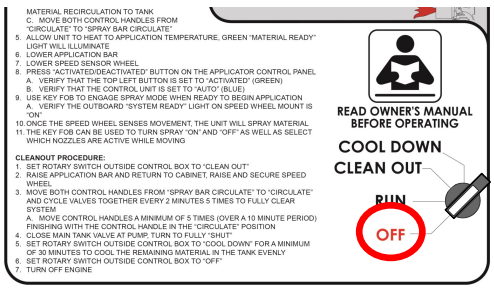
15. SET ROTARY SWITCH OUTSIDE CONTROL BOX TO “COOL DOWN”:

The “Cool Down” function on the control box will shut down all functions on the MA4 except the sealant material agitator. The cool down step should be run for a minimum of 30 minutes. Following this process will allow the sealant material to more evenly cool down and increase longevity of the material re-maining in the tank.



16. SET ROTARY SWITCH OUTSIDE CONTROL BOX TO “OFF”.

17. TURN OFF ENGINE.

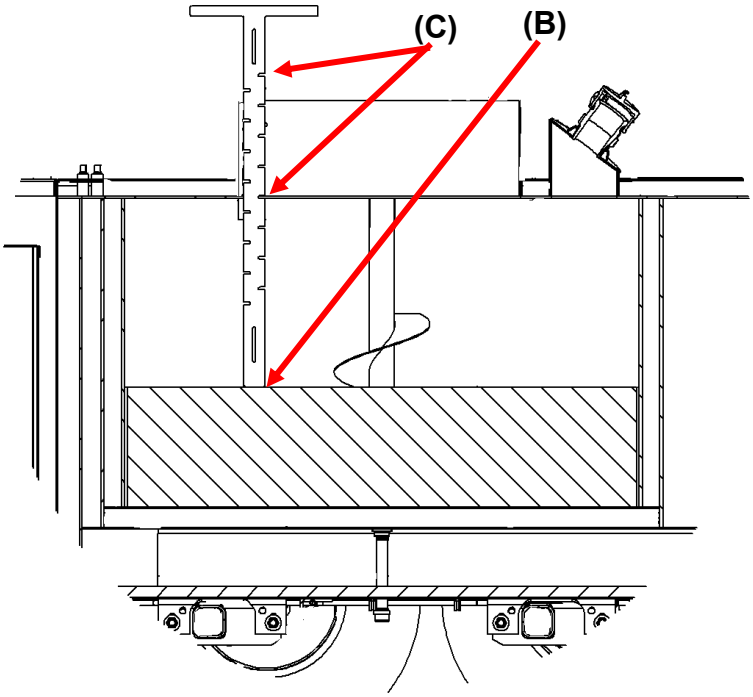


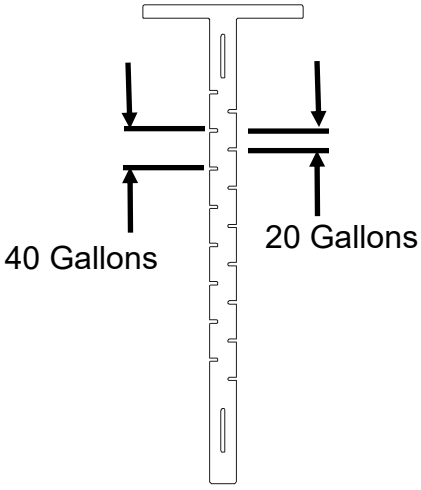
MA4 Sealant Material Tank Capacity

The amount of sealant material can be estimated by measuring the depth of sealant material in the tank with the included depth gauge.

MA4 MATERIAL CAPACITY 410 GALLONS
Maximum safe operational sealant material tank capacity is 307 gallons.

⚠WARNING ***To maintain safe operation of trailer while in transport, do not fill tank more than 75% of total tank capacity. Approximately 307 gallons on the MA4.***





TO ESTIMATE THE AMOUNT OF MATERIAL LEFT IN THE MA4 TANK:

A) Remove the depth gauge plate from the cabinet.
B) Open the material door and vertically place the depth gauge just barely touching the top of the sealant material (B).
C) Count the number of slots showing from the top of the gauge down to the top of the material tank ceiling. Count only the slots that are ABOVE the tank ceiling (C).
D) Multiply each slot shown above the material tank ceiling by 20 gallons, and that is approximately what you have left in the tank.

Example: The above drawing shows the gauge is exactly on the 9th slot from the top. So, 8 slots are above the tank. 8 x 20 = 160. There is approximately 160 gallons of sealant material left in the tank.

MA4 Automatic Temperature Control Settings

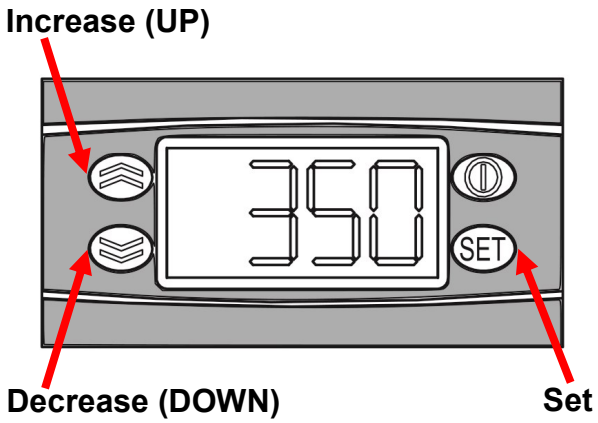
MODIFYING SEALANT TEMPERATURE CONTROL SETTINGS:

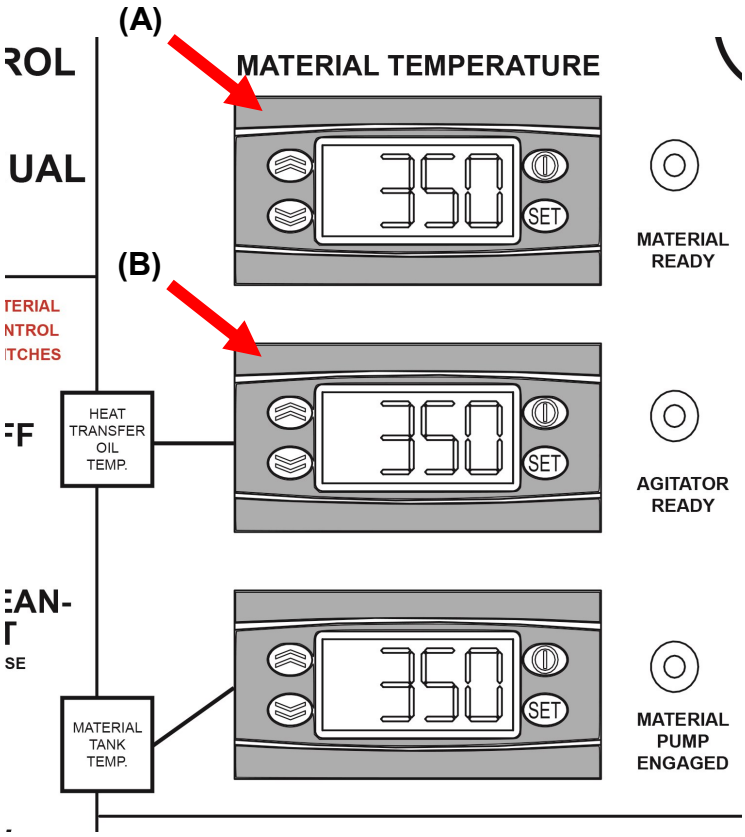
NOTICE

Modifying any of the MA4 Applicator Temperature Controls is only intended to be done by trained, experienced operators.

The Sealant Temperature Control (A) on your CIMLINE melter applicator has been factory set to run the most common types of sealants. These sealants have an application temperature of 325° F (163°C). With some sealants, it may require a change to the controller to achieve the appropriate application temperature. To achieve this, open the control box and alter the Sealant Temperature Controller (top controller) by following the directions below.

1) Press the “SET” button twice.
2) “SP1” (Set Point 1) is displayed.
3) Press the “SET” button.
4) Current material temperature setting is Displayed (factory default is 325°F (163°C).
5) Use the “Up / Down” arrow buttons to change to the desired temperature.
6) Press the “SET” button.
7) Let the controller time out. The controller will now be changed and the updates will be saved.





OTHER MELTER NOTES:

On a new CIMLINE Melter Applicator or a unit that has been idle for some time, it is recommended that you slowly raise the oil temperature to 250ºF (121°C) and hold there for approximately 20 to 30 minutes. This will help evaporate any water condensation that may be in the oil chamber.

To do this it will be necessary to temporarily change the heat transfer oil temperature setting.

The heat transfer oil control (B) on your CIMLINE melter has been factory set to 550° F (288°C). To temporarily change the max temperature for evaporating condensation follow the same process as above and apply to the heat transfer oil temperature controller (B). Run the melter applicator machine maintaining the 250°F (121°C) heat transfer oil temperature for 20 to 30 minutes. Follow the instructions again to return the heat transfer oil temperature controller back to the factory setting of 550°F (288°C).

⚠ WARNING

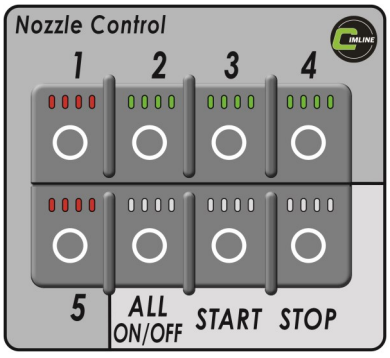
Operating the heat transfer oil controller at temperatures higher than the factory recommended 550°F (288°C) can risk death or serious injury, equipment damage and will shortening the life of the oil.

MA4 Key Fob Remote Transmitter Pairing

SYNCHRONIZING KEY FOB REMOTE TRANSMITTER AND RECEIVER:

1. Start with the power on the MA4 off (engine key in the “OFF” position).
2. Press and hold the key fob remote “POWER” button for 10 seconds until both LED’s flash together, then release. This signifies that the transmitter is in teach mode.
3. Turn the MA4 engine key “ON”. The LED lights on the key fob remote will stop flashing after a few seconds. Synchronizing is complete. You can confirm that the key fob remote is communicating with the electronic control unit by observing the “Wi-Fi” icon on it’s display changing from red in color to blue.

USING THE TIP CONTROLER:



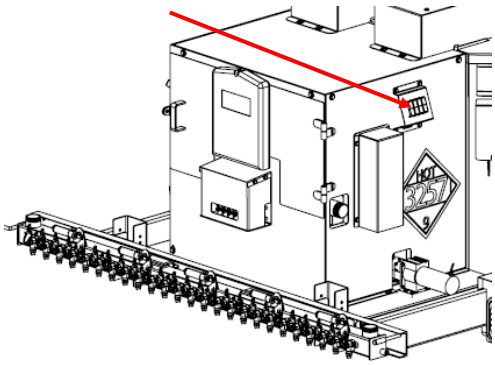
While the key fob remote transmitter is intended to be used from inside the truck, the tip control panel is convenient to an operator working near the back of the MA4 trailer. It is important to know that one can override input from the other, so communication is crucial between crew members when starting and stopping application.

A) Use the “START” and “STOP” buttons to begin and end application of sealant material through the application spray bar.

B) The buttons numbered “1” through “5” (green/red lights) control which spray banks are active on the application spray bar while applying sealant material.

C) Pressing a numbered button will activate and turn on (green light) or off (red light) a particular nozzle bank. Turning a nozzle “ON” can be done “on-the-fly” while in application mode.

D) ***IMPORTANT:*** Due to the pneumatic pressure system, to turn “OFF” a particular nozzle while in application mode you must press the “STOP” button momentarily to reset the hydraulics and halt application, then press the “START” button again to continue application with the new nozzle setting.



⚠ WARNING

Crew communication is crucial to safety when applying hot sealant material. Severe injury can occur if the unit is activated

MA4 Fluid and Components Specifications

ENGINE:

The operation and life of the engine depends on you and your operators. Do not start engine until the engine pre-check is complete. The engine pre-check consists of checking the oil, the fuel level, the hydraulic oil level and the air filter. For more details about your engine please refer to the engine operator maintenance manual and warranty provided with your sealant melter applicator.

NOTICE

When breaking in a new sealant melter applicator, CIMLINE recommends running the engine for one hour with no load prior to actual use on the job.

AIR CLEANER:

Due to the dusty conditions that can be created by road work, it is essential to check the engine air cleaner element daily. Remove element and shake out the accumulated dust and dirt. Wipe out dirt from inside cover and from housing. Reference engine manual for washing instructions. CIMLINE recommends stocking replacement filters.

ENGINE OIL:

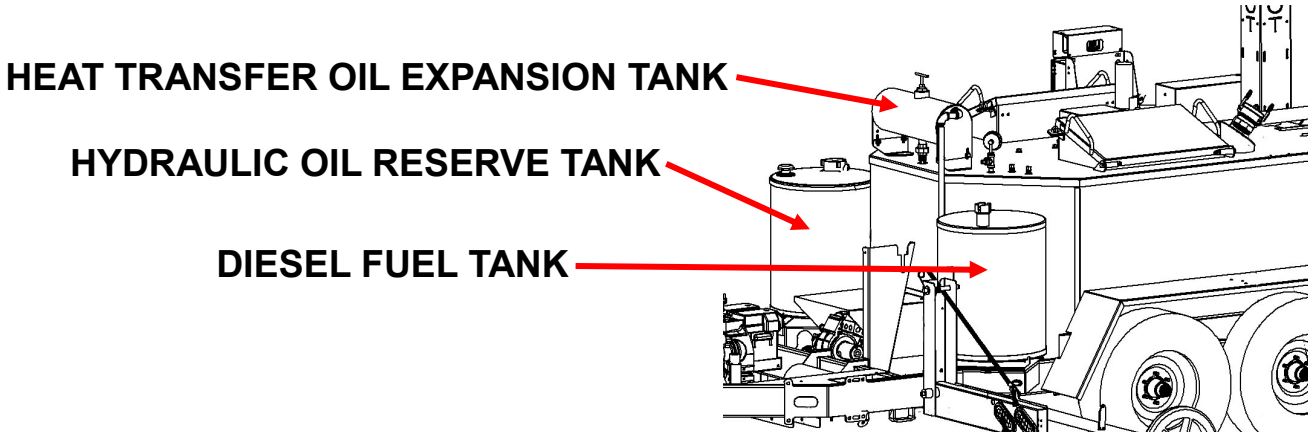
Use high quality detergent oil of API (American Petroleum Institute) service class CF or higher grade. Select the viscosity based on the air temperature at the time of operation. Reference your engine manual for other recommendations.

Hydraulic Reserve Capacity	33 Gallons (125L)
Hydraulic Oil Type	Conoco MV32 or equivalent
Diesel Fuel Capacity	33 Gallons (125L)
Diesel Fuel Type	ASTM D975 No.2
Heat Transfer Oil Type	See specification on page 22
Heat Transfer Oil Capacity (MA4)	36 Gallons (136L)
Material Pump Drive Relief Setting	1100 PSI (76 Bar)
Agitation Drive Relief Setting	800 PSI (55 Bar)

NOTICE

Only the oils specified, or equal, may be used in this system (Always check your local and state regulations before disposal).

These are petroleum based products. CIMLINE recommends that you do not mix oil brands. Mixing any oils (Engine oil, transmission fluid, etc.) adversely affects each manufacturers formula.



MA4 Heat Transfer Oil Specification

ISO GRADE 68 HEAT TRANSFER OIL SPECIFICATION:

To insure maximum safety and performance, CIMLINE recommends you purchase your oil through CIMLINE directly. CIMLINE heat transfer oil can be ordered in 5 or 30 gallon (19L and 114L) bulk quantities and is also included when ordering a CIMLINE maintenance kit part #409186 (M4 & MA4).

There are many different types of heat transfer oils on the international marketplace. It is critical that you use the proper oil to prevent poor performance, oil flashing, or auto-ignition. To conform to most government bids and to supply a readily available product, ISO Grade 68 heat transfer oil specifications listed should be the same as the table to the right.

ISO Viscosity Grade	68
API Gravity	30.7
Viscosity cSt @ 40° C°	68
Flash Point, COC, F°	420° F
Pour Point, F°	10° F

NOTICE

Using oil that does not meet CIMLINE heat transfer oil specification is cause for a voided warranty.

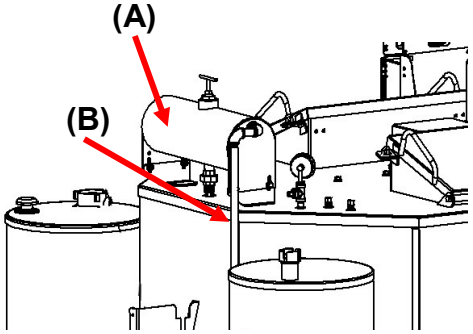
REFERENCE INFORMATION:

GENERAL DESCRIPTION - Due to the extremely high temperatures experienced in these applications, the oil must provide excellent thermal stability to resist oxidation, while also providing good resistance to carbon deposits (coking). CIMLINE heat transfer oil is fully formulated to provide long service in closed low pressure heat transfer systems such as asphalt processing plants and sealant material melter's working at temperatures up to 550°F. Low volatility control enables operation in closed high temperature, low pressure systems. Excellent conductivity provides rapid heating and cooling properties in various operations while maintain longer life.

ISO GRADE - Is a viscosity index (ability to flow/thickness). An ISO Grade 68 oil can be an engine oil, hydraulic oil, etc. The manufacturer uses different additives to make the oil conform to different applications. **YOU MUST CLARIFY WITH THE SUPPLIER** that the oil is to be used in a heat transfer system to avoid any potential problems. The correct and recommended oil is available from CIMLINE in 5 and 30 gallon (19L and 114L) containers for ship-out.

FLASH POINT - Test in which a container of oil is heated until an open flame will flash when passed over the fumes.

NOTE: CIMLINE melter applicators use an expansion tank (A). When the oil heats up and expands, it flows into the expansion tank. The expansion tank is cooler since it is not part of the oil jacketed heating system and is surrounded by outside airflow. The only exposure the hot oil has to the atmosphere is through a 3/4" vent/overflow pipe (B). This is done so the oil in the oil jacketed tank can run at higher than the flash point temperatures. Only the lower temperature oil fumes are exposed to the atmosphere.



MA4 Maintenance And Troubleshooting

MAINTENANCE AND TROUBLESHOOTING:

MA4 Maintenance Schedule

Maintenance Schedule / Operation	Every Day	Every 25 Hrs.	Every 100 Hrs.	Every 200 Hrs.	Every 500 Hrs. or Yearly	Manual Page Number
Check engine fuel level (add if low)	X					21
Check engine oil and heat transfer oil (add if low)	X					21/25
Check hydraulic oil (add if low)	X					21/28
Check engine air cleaner	X					51
Inspect and clean engine air pre-cleaner		X				-
Clean out sealant material system		X				17
Inspect and clean engine cooling system/radiator			X			-
Inspect sealant material pump packing (adjust if leaking is excessive)			X			26
Service engine air cleaner element/gaskets				X		51
Inspect sealant material flow plumbing				X		27
Inspect tank burner nozzle, electrode & head position (adjust if necessary)				X		32/47
Change engine oil and oil filter				X		21/51
Grease agitator bearing block (load adapter)				X		58
Replace engine fuel filter				X		50/54
Inspect diesel tank burner electric eye (clean if dirty)					X	46/47
Grease trailer wheel bearings					X	-
Inspect tank burner chamber lining insulation (replace if excessive cracking)					X	34/45
Inspect engine starting motor					X	-
Replace hydraulic oil					X	28-29
Replace hydraulic return filter					X	28-29
Replace hydraulic suction strainer					X	28-29
Replace tank burner nozzle					X	32/47
Change heat transfer oil					X	22/25
Change diesel tank fuel filter					X	54
Flush engine radiator and replace fluid					X	-

MA4 Maintenance - Changing The Heat Transfer Oil

HEAT TRANSFER OIL LONGEVITY:

The regular interval for changing heat transfer oil is once annually or every 500 hours. If the time frame between heat transfer oil changes is not known a significant difference in temperature from the digital oil controller readout and the analog gauge may mean the oil has reached it's service life and is due to be changed. Oil that is not changed regularly can cause numerous problems including; slow start-up times, incorrect controller temperature readings, oil crystalizing inside the vessel and damage to the heat sensing probes.

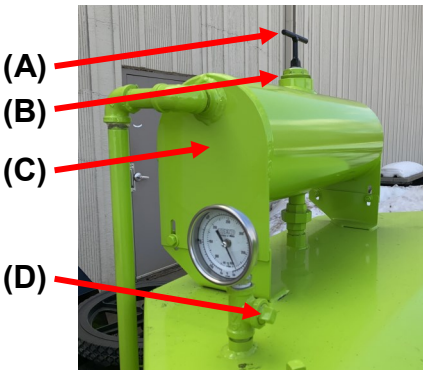
DANGER **Going under the trailer puts a person at risk of serious injury or death. Follow procedure in the manual to stabilize trailer before going under the trailer.**

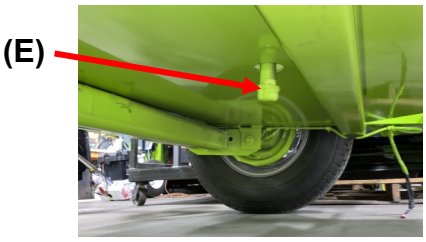
WARNING **The melter operates at elevated temperatures which can cause burns. Be sure the heat transfer oil is cool before performing maintenance.**

NOTICE **Using oil that does not meet CIMLINE Heat Transfer Oil specification is cause for a voided warranty.**

CHANGING/REPLACEMENT OF HEAT TRANSFER OIL:

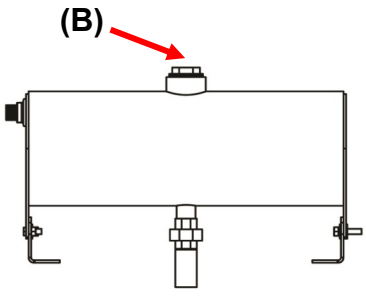
1) Remove the dipstick (A) and the larger hex head cap (B) on the top of the expansion tank (C).
2) Remove the fill and drain breather plug (D) at the base of the analog temperature gauge to vent the vessel when draining and filling heat transfer oil.
3) Drain from the bottom of the vessel (under the trailer) through the 3/4" pipe cap (E), or by suction through the hex head cap on the top of the expansion tank (B).
4) Replace the 3/4" drain plug (E) and refill with the correct amount of heat transfer oil (36 Gallons) by pouring through the hex head cap (B).
5) Replace the hex head cap, the fill and drain breather plug, and check for the proper heat transfer oil level using the dip-stick.

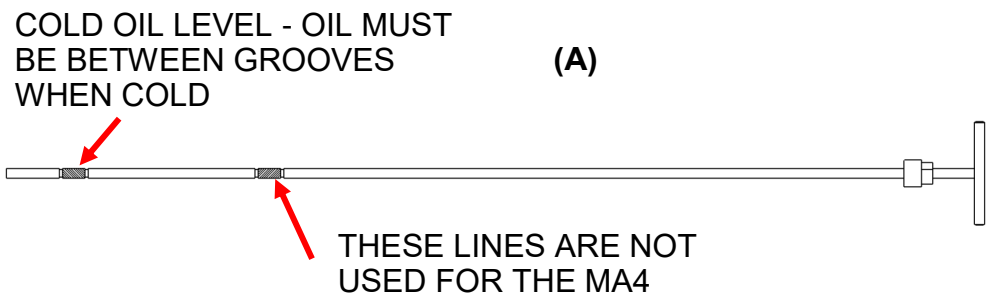




CHECKING HEAT TRANSFER OIL LEVEL:

NOTE: Use dipstick (A) as provided for checking heat transfer oil level when cold.





NOTICE ***Do not operate machine when heat transfer oil is below the marking line or significant damage to machine can occur.***

MA4 Maintenance - Sealant Material Pump

SEALANT MATERIAL PUMP:

Examine the packing around the drive shaft for leakage. (A) Slight leakage (about 1 drip per minute) is necessary and is a normal condition for packing and allows for expansion and proper seating of the pump shaft. If leakage is excessive follow tightening instructions below.

TIGHTENING SEALANT MATERIAL PUMP PACKING:

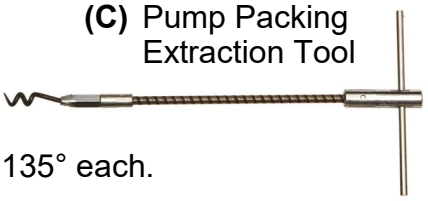
With machine warmed up and material pump running, tighten the 2 lock nuts (B) evenly by only a half turn each. Allow pump to flow for a minute and examine for leakage. If leaking continues repeat in half turn increments until excessive leaking stops. The pump will leak about 1 drip per minute when adjusted properly - this is normal.

The material pump is sealed by a series of compressible fibrous braded graphite packing rings, If tightening does not reduce the leaking, replace these packing rings. Contact your CIMLINE dealer for packing ring kit and follow the instructions below to replace.

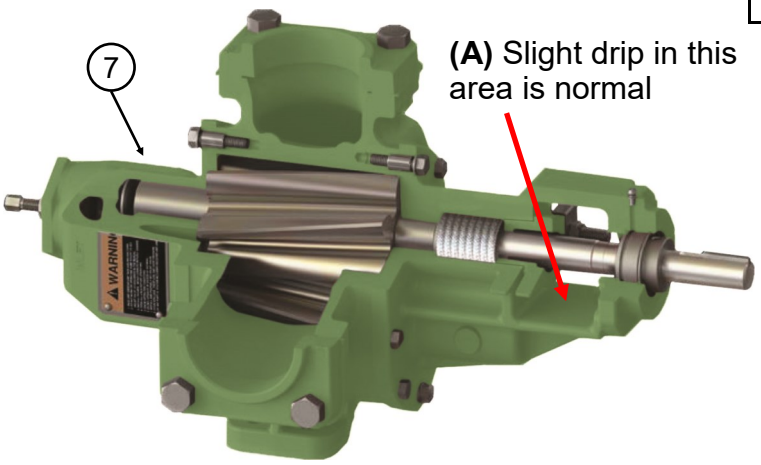
MATERIAL PUMP PACKING REPLACEMENT:

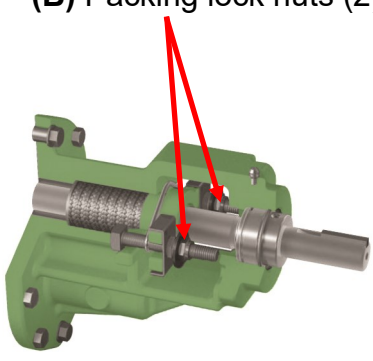
1) Remove the locknuts, packing gland clips, spring clip and square head bolts.
2) Slide the packing gland back as far as possible on the shaft.
3) Using a packing extractor tool (C) remove as much of the old packing as possible.
4) Clean the shaft and adjacent parts.
5) Examine the shaft, if excessively worn or scored the pump may need to be replaced.
6) Install new the 8 new packing rings, offsetting the open ends by 135° each.
7) Reassemble the components
8) Draw up evenly on the packing gland to assure proper seating of the packing and then loosen locknuts about 1/2 turn
9) NOTE: DO NOT COCK THE PACKING GLAND. THIS MAY CAUSE BINDING OR EXCESSIVE HEATING OF THE SHAFT
10) Run in the pump for several minutes and observe the leakage as explained above.

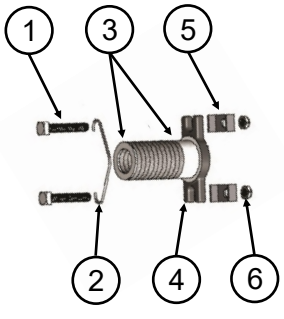
(C) Pump Packing Extraction Tool



#	Part #	Description
1	120554	Square Head Bolt (2 Qty)
2	155148	Spring Clip
3	120541	Packing Rings (8 Qty)
4	120525	Packing Gland
5	120526	Packing Gland Clips (2 Qty)
6	100495	Locknuts (2 Qty)
7	156699	Material Pump



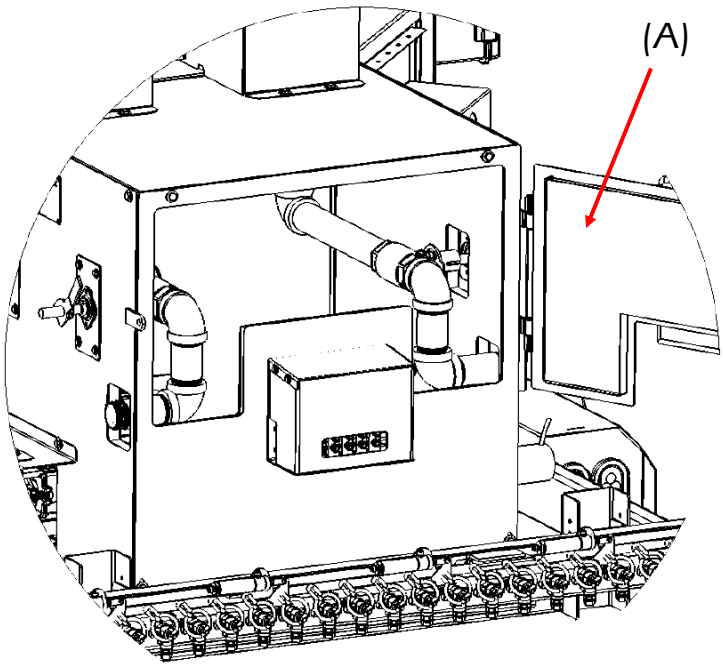




MA4 Maintenance - Sealant Material Plumbing

Material Plumbing

Its important to check the torque of the nuts on the plumbing flanges, check the torque of the nuts after the initial 8 hours of run time, then every 200 hours after that.

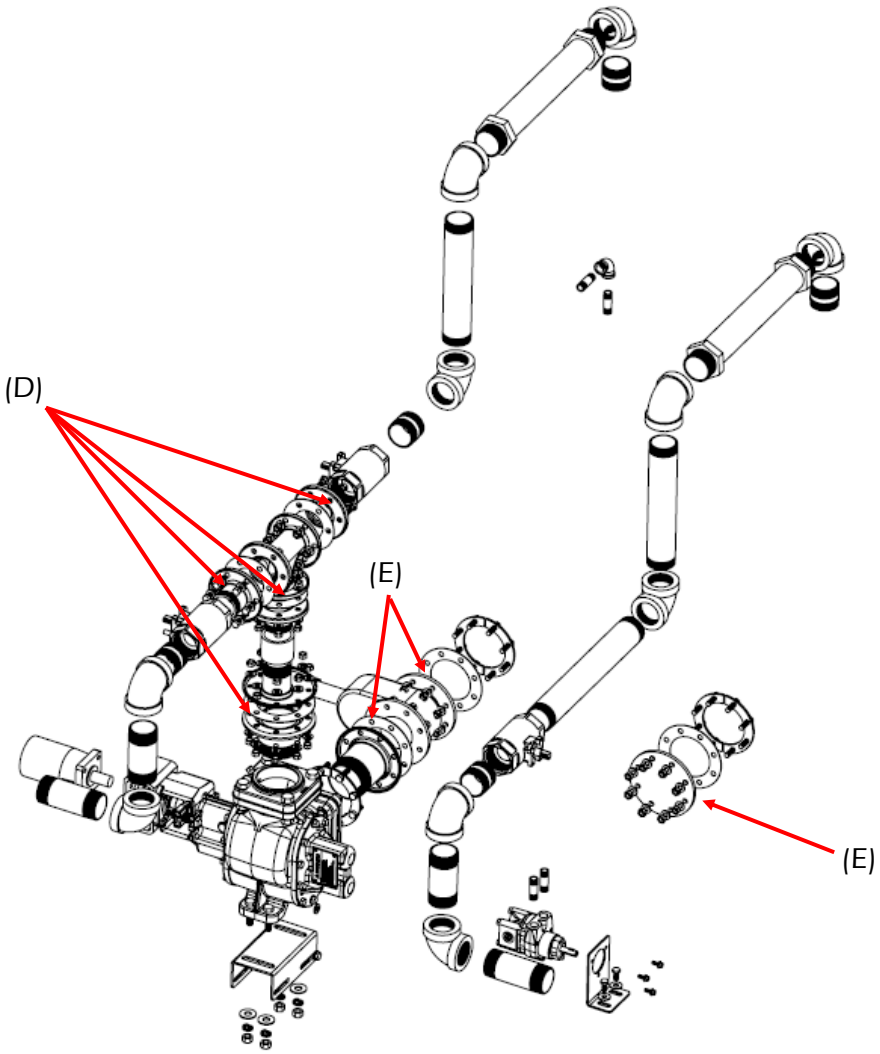


Accessing Plumbing

A) Open rear cabinet door (A).

Use a torque wrench with an extension and check the 6 nuts from each of the upper flanges (D).
Set torque to 40 ft./pounds.

Use a torque wrench with an extension and check the 8 nuts on the lower pump flanges (E).
These need to be set to 40 ft/.pounds.



MA4 Maintenance - Hydraulic Oil Servicing

HYDRAULIC OIL LONGEVITY:

The regular interval for changing hydraulic oil, replacing the return filter and recirculation strainer is once annually or every 500 hours. Hydraulic oil that is not changed regularly can cause numerous problems including; poor or sluggish control operation, incorrect pressure readings and damage to the hydraulic actuators and pumps.

The operation and life of the hydraulic system depends on you and your operators. Do not start engine until the engine pre-check is complete which should include the inspection of hydraulic oil level and the overall hydraulic system.

HYDRAULIC OIL:

Use high quality Conoco MV32 or equivalent hydraulic oil. CIMLINE recommends that you do not mix oil brands. Mixing any oils (Engine oil, hydraulic oil, etc.) adversely affects each manufacturers formula. The maximum capacity of the hydraulic reserve tank is 33 gallons (125L).

HYDRAULIC OIL CAPACITY:

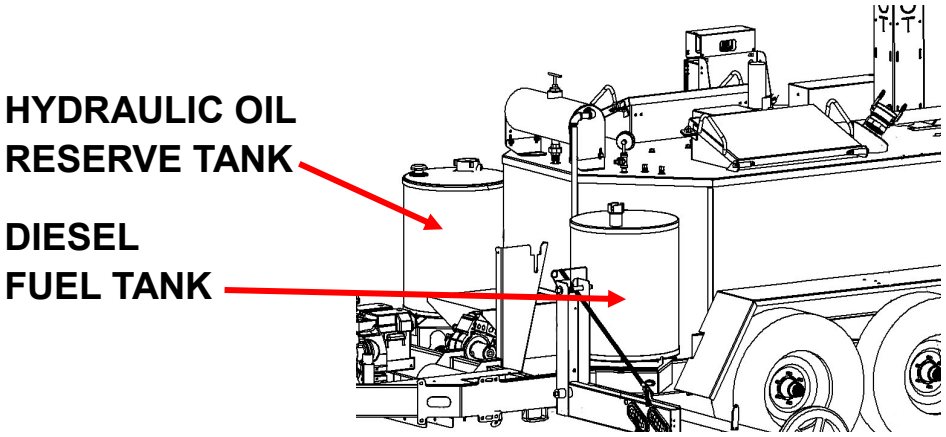
The maximum capacity of the hydraulic tank is 33 gallons, but the actual fill level of hydraulic oil is between 27 and 28 gallons. Do not fill the tank higher than the top level of the site gauge (G) on the tank. Normal operating capacity of the hydraulic oil should be around the top 3/4 on the site gauge.

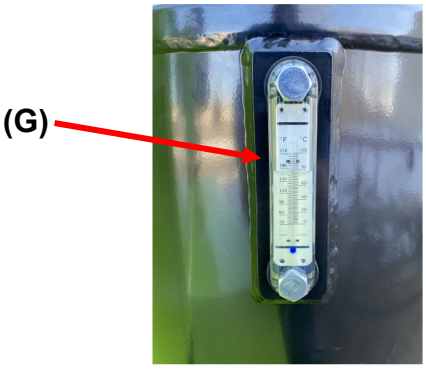
⚠ DANGER **Going under the trailer puts a person at risk of serious injury or death. Follow procedure in the manual to stabilize trailer before going under the trailer.**

⚠ WARNING **The melter operates at elevated temperatures which can cause burns. Be sure the hydraulic oil is cool before performing maintenance.**

NOTICE **Using oil that does not meet CIMLINE Hydraulic Oil specification is cause for a voided warranty.**

#	PART #	DESCRIPTION
A-D	172127	Return Filter Assembly (Non-Compressor)
C	170407	Element - Return Filter (Non-Compressor)
E	172186	Suction Strainer
G	171631	Hydraulic Tank Sight Gauge



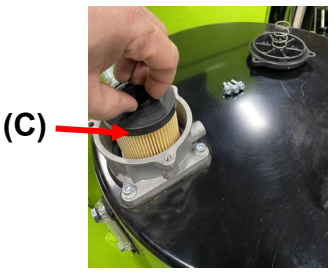


MA4 Maintenance - Hydraulic Oil Servicing

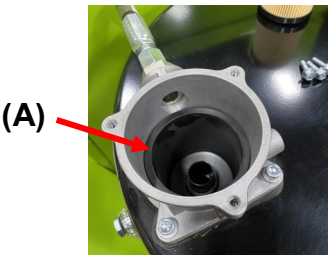
SERVICING THE HYDRAULIC OIL:

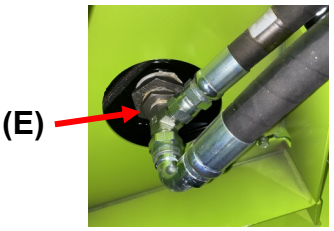
1) At the top of the hydraulic tank, loosen the three bolts holding the hydraulic return filter assembly cap (D) on the filter assembly base . NOTE - the cap is spring loaded so be ready for the cap to “pop up” as the bolts are removed! Be careful to not lose the large o-ring that seals the cap to the filter assembly itself.
2) Pull out the return filter cartridge and inspect for metal shavings and/or unusual debris.
3) Remove the return filter cup (A) while being careful not to lose the o-ring (B) that seals the cup to the inside of the return filter assembly, it can easily fall back into the tank if you do not capture it as you lift out the filter cup.
4) Disconnect the hydraulic lines at the base of the tank and capture the hydraulic oil in an appropriate container. Be prepared to capture nearly 30 gallons of fluid while the reservoir tank drains.

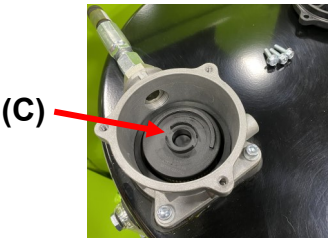
⚠ WARNING **The melter operates at elevated temperatures which can cause burns. Be sure the hydraulic oil is cool before performing maintenance.**



5) Unscrew and remove the suction strainer (E) from the bottom of the tank and replace with Cimline part number 172186.
6) Apply pipe thread tape and an appropriate amount of thread sealant to the threads of the suction strainer (E) and any other pipe threads in this assembly. The hydraulic JIC compression type connections do not require thread tape or sealant.
7) Tighten all the components of the suction strainer (E) and related hydraulic connections and leak test them before filling the tank completely with hydraulic oil.
8) Reassemble the return filter assembly in reverse of the disassembly instructions being careful to not drop the filter cup o-ring (B) into the tank while replacing the filter cup (A) into the return filter base.
9) Place a new filter cartridge (C), Cimline part number 170407, into the filter cup (A) and seat properly all the way into the cup.
10) Replace the filter cap (D) back onto the return filter assembly base. Be careful to seat the large o-ring in the cap properly (F) in order to seal the cap on the base. Alternate tightening the three lid screws to evenly seat the lid and not pinch or distort the o-ring.
11) Fill the tank using high quality Conoco MV32 or equivalent hydraulic oil. The maximum capacity of the hydraulic tank is 33 gallons, but the actual fill level of hydraulic oil is between 27 and 28 gallons. Do not fill the tank higher than the top level of the site gauge (G) on the tank. Normal operating capacity of the hydraulic oil should be around the top 3/4 on the site gauge window.







NOTICE **Using oil that does not meet CIMLINE hydraulic oil specification is cause for a voided warranty.**

MA4 Maintenance - Tank Burner

TANK BURNER:

Have your equipment inspected at regular intervals by a qualified service agency to assure continued proper operation. The burner should be adjusted using dedicated combustion test equipment. Failure to properly set the burner could result in inefficient operation, equipment damage and/or conditions that could potentially cause severe personal injury, death or substantial property damage.

⚠ WARNING **Professional Service Required: Incorrect installation, adjustment, and use of this burner could result in severe personal injury, death, or substantial property damage.**

OWNER SERVICE AND MAINTENANCE

Daily:

Check the area around your burner/equipment to make sure:

A. Nothing is blocking the burner inlet air openings.
B. Air ventilation openings are clean and unobstructed and the exhaust is not crusted.
C. No combustible materials are stored near the equipment.

Beckett Corp. ADC 12V Tank Burner

Capacity: Firing rate 0.75 - 2.50 GPH, Input 105,000 - 350,000 Btu/h

Fuel: (USA) No.1 or No.2 diesel fuel

Electrical: Power Supply 13.5Vdc, Operating load w/igniter on 15amps, w/ igniter off 8-10amps

Pump: Outlet pressure 140psi

Regular Service/Maintenance:

A. The following components/assemblies should be checked/adjusted/replaced on a regular basis. See page 47 for more information and the tank burner parts exploded view .
B. Replace the diesel fuel supply line filter. The line filter cartridge must be replaced to avoid contamination of the pump and nozzle.
C. Inspect the diesel supply system. All fittings should be leak-tight.
D. Verify the nozzle is the one originally specified by CIMLINE and always replace the nozzle with one having the exact specifications from CIMLINE.
E. Clean and inspect the electrodes for damage, replacing any that are cracked or chipped.
F. Check electrode tip settings. Replace electrodes if tips are rounded.
G. Inspect the igniter spring contacts. Clean or replace if corroded.
H. Clean the cad cell (electric eye), if applicable.
I. Inspect all gaskets including the igniter base plate gasket. Replace any that are damaged or missing.
J. Clean the blower wheel, air inlet, air guide, retention head and static plate of any dirt, asphalt or other material.
K. Check motor current. The amp draw should not exceed the nameplate rating. Check all wiring for loose connections or damaged insulation.
L. Check the pump pressure and cutoff function.
M. Check ignition system for proper operation.
N. Inspect the exhaust system for soot accumulation or other restriction.

Extended Down Time:

If the equipment will be stored for an extended period of time, insure that the fuel tank is full and add a fuel stabilizer to the tank.

MA4 Maintenance - Tank Burner

TANK BURNER TROUBLESHOOTING:

Oil burners that are designed for use on road maintenance equipment are built to take temperature extremes, vibration, and rough handling. When performing the following troubleshooting steps, we assume that the oil burner motor and ignition transformer operate continuously and the oil solenoid valve, which controls oil flow, is cycled by the equipment controls. We also assume that there is power to the burner and fuel in the tank.

Symptom	Possible Cause
Fuel Not Igniting	**If the burner is not igniting, the burner motor, drive coupling, and fuel pump are operating and fuel is flowing to the nozzle through the solenoid valve, check the following possibilities.** Check the air shutter adjustment. If it is opened too far, the flow of air may prevent the arc from reaching the fuel spray. This may appear as a white vapor exhaust from the heater. The ignition system may have failed to supply an adequate arc to ignite the fuel. Check the battery and charging system to insure a continuous supply of 11 to 16 volts DC (15 amps). Check the electrodes for wear and damage. Insure that the electrodes are adjusted properly.
No Flame	**If there is no flame, the burner motor and igniter operate continuously and the oil solenoid valve is functional, check the following possibilities.** Check for a plugged fuel nozzle. If the coil on the solenoid valve is actuating, insure the valve is opening and closing properly. Check for sufficient fuel pressure. Pressure is 140 psig with valve energized. Check the pump pressure. Check for air in fuel lines. Check burner for broken motor coupling. If the coupling is broken check pump rotation prior to replacing the coupling. Check for contaminated fuel and/or partially plugged fuel filter.
Motor Not Operating	**If the blower motor is not operating, check the following possibilities.** Check voltage at the motor to insure that switches and relays, in line with the motor, are operating properly. Check pump and motor shaft operation. They should work freely without binding.
No Fuel Spray	**If the blower motor is operating, there is fuel in the tank, but oil does not spray out the end of the nozzle, check the following possibilities.** Check for a broken or stripped coupling between the pump and the motor. Check the pump output for fuel. Check operation of the fuel valve. Check for a plugged fuel nozzle. Check for air in the fuel line. Check for fuel contamination or plugged filter.
Fluctuation Or No Pump Pressure	**If the pump pressure, as determined by a pressure gauge, is erratic or does not exist, check the following possibilities.** Check motor rotational speed. Low rpm can cause erratic or no pump pressure. Check for a broken or worn motor coupling. Check that the pump turns freely. Check for air leaks in the lines. Check for fuel froth at the bleed point. Check voltage at the motor. Check for fuel contamination or partially plugged filter.
Slow Motor Rotation	**If the blower motor is not operating at the rpm's listed on the nameplate, check the following.** Check the supply voltage to the motor. Check for free operation of the motor shaft and pump assembly.

MA4 Maintenance - Tank Burner

Igniter Maintenance:

The igniter assembly does not require any adjustments beyond making sure the springs and the burner electrode rods make solid contact when the igniter is in the closed position. The sealing surfaces of the gaskets should be checked and replaced at the first signs of any damage or deterioration. Clean any dirt or residue from the porcelain bushings, springs, and baseplate.

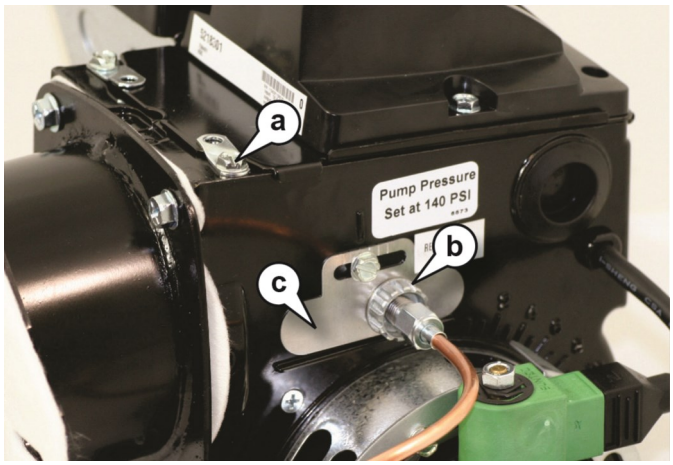
The simplest way to check igniter operation is by supplying voltage to the input and checking to see whether an arc is produced. Check by either looking or listening to see if there is an arc across the electrodes while the burner is running and the igniter is energized.

The igniter must be grounded to the burner before checking the following. To check the igniter, ensure all power to the burner is off and use an ohmmeter to check the resistance between the two springs. The meter should read between .480 - .580 ohm.

The igniter should be replaced if the meter indicates an open circuit, or the spring-to-spring resistance exceeds the .480 - .580 ohm range by more than 10%.

Servicing Nozzle Assembly:

A. Before proceeding, turn off power to the burner.
B. Disconnect the diesel fuel connector tube from the nozzle line.
C. Loosen the two screws securing the igniter retaining clips (a) and rotate both clips to release the igniter baseplate. Then tilt the igniter back on its hinge.
D. Remove the splined nut (b).
E. Remove the nozzle line assembly from the burner, being careful not to damage the electrodes or insulators while handling. To ease removal of short assemblies, it may be necessary to loosen the escutcheon plate (c). Reset to the edge of the label.



F. To replace the nozzle assembly, reverse the above steps.

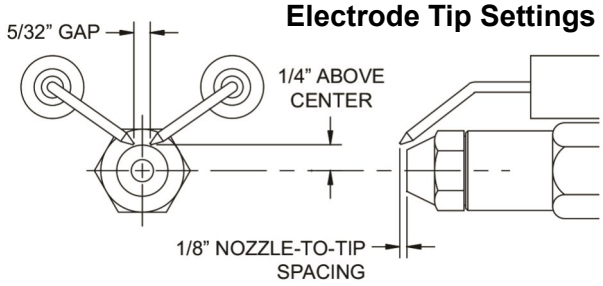
Replacing The Burner Nozzle:

A. Use rubber gloves and avoid touching the new nozzle with your bare fingers. The oils in your skin can adversely affect the operation of the new nozzle.
B. Remove the plastic cover protecting the nozzle adapter threads.
C. Place a 3/4” open-end wrench on the nozzle adapter. Insert the nozzle into the adapter and finger tighten with your gloved hand. Finish tightening with a 5/8” open-end wrench.
D. Verify that the electrode tip settings comply with the diagram below.

Check/Adjust Electrodes:

A. Check the electrode tip settings.
B. Adjust if necessary to comply with the dimensions shown.
C. To adjust, loosen the electrode clamp screw and slide/rotate electrodes as necessary.
D. Securely tighten the clamp screw when finished.

Electrode Tip Settings



MA4 Maintenance - Tank Burner

Primary Controller:

The Beckett ADC tank burner motor is used to drive the blower and pump. The rotational speed of the motor is determined by the voltage supplied and the load placed on the motor. Pump pressure and air settings are the main factors affecting the motor load. The ignition transformer converts battery DC voltage into a high voltage spark to ignite the fuel. The pump and solenoid valve are used to control the flow of fuel from the reservoir to the nozzle.

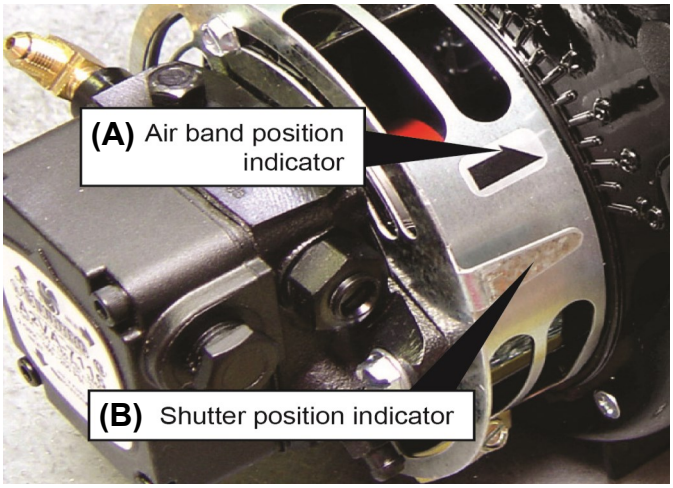
The tank burner has a control circuit to reduce current draw on the charging system by turning the igniter off after a flame has been established. This circuit controls ignition transformer operation based on a signal from a light sensing cad cell (electric eye). When light hits the cell the control will sense a decrease in resistance across the sensor. As long as sufficient light is reaching the cell eye, the igniter will remain off. If light is removed from the sensor, the igniter will turn on until light is again sensed by the cad cell.

Air Supply Set-up:

The tank burner is set up properly from the factory.

Air Band Position (A) should be set to 8.5

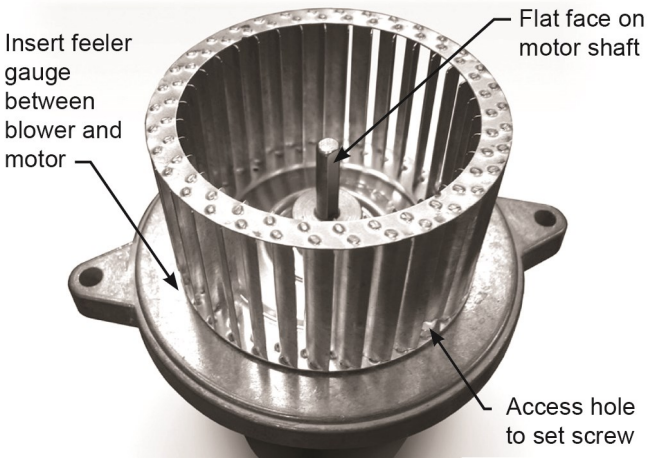
Shutter Position (B) should be set to 10



Motor, Blower Wheel and Coupling Replacement:

See page 47 for the tank burner parts exploded view

A. Before servicing, turn off and/or disconnect all power to the burner.
B. Disconnect the burner motor wires.
C. Remove the bolts securing the motor to the burner housing.
D. Remove the motor, coupling, and blower wheel.
E. Loosen the set screw on the blower wheel to slide the existing wheel off the shaft.
F. Slide the new blower wheel onto the old shaft and/or slide the old blower wheel onto the new motor shaft.
G. Place a .030” (1/32” ± 1/64”) feeler gauge between the blower wheel and the motor housing.
H. Slide the blower wheel toward the motor until it contacts the feeler gauge.
I. Rotate the blower wheel until the setscrew is centered on the flat of the motor shaft. Tighten the setscrew to secure the wheel.
J. Slide the motor coupling on the motor shaft, then install the motor on the burner housing. Ensure that the motor coupling fits between the motor shaft and the pump shaft inside the housing. Tighten the motor retaining screws. Reconnect the wires.



MA4 Maintenance - Tank Burner

Tank Burner Chamber Lining:

After initial 200 hours of operation, the chamber lining must be inspected. Cracks in lining may occur and should be regularly inspected and monitored. If cracks expand excessively a new lining kit should be ordered to replace worn lining.

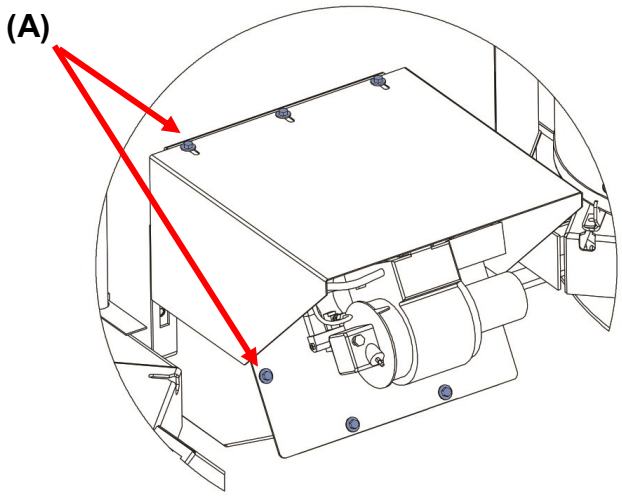
NOTICE

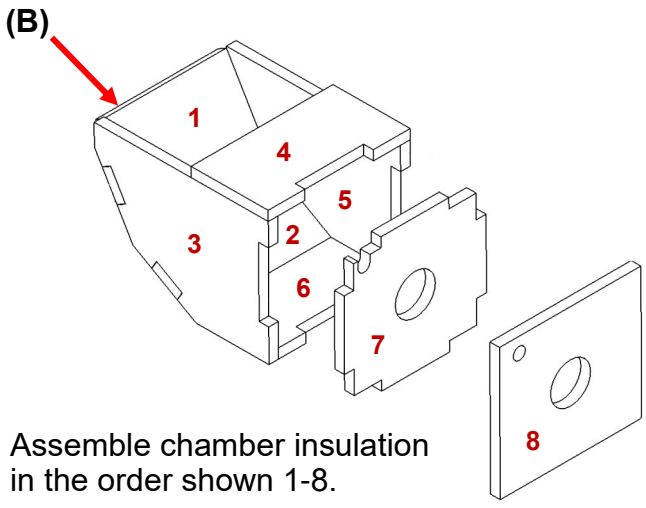
Do not run machine if cracks are wide enough to allow flame to contact the metal combustion chamber walls or if any piece has broken loose. Do not attempt to repair cracks.

⚠ CAUTION

Contact with lining may cause skin or eye irritation, wear long sleeve shirt, gloves, and goggles when inspecting lining.

Remove tank burner mount bolts **(A)** and pull out burner and mount. Inspect lining **(B)** for excessive cracking. If cracks exceed guidelines, contact your CIMLINE dealer to purchase a replacement PN# 403400 Burner Chamber Lining Kit.





Assemble chamber insulation in the order shown 1-8.

MA4 Trouble Shooting Guide

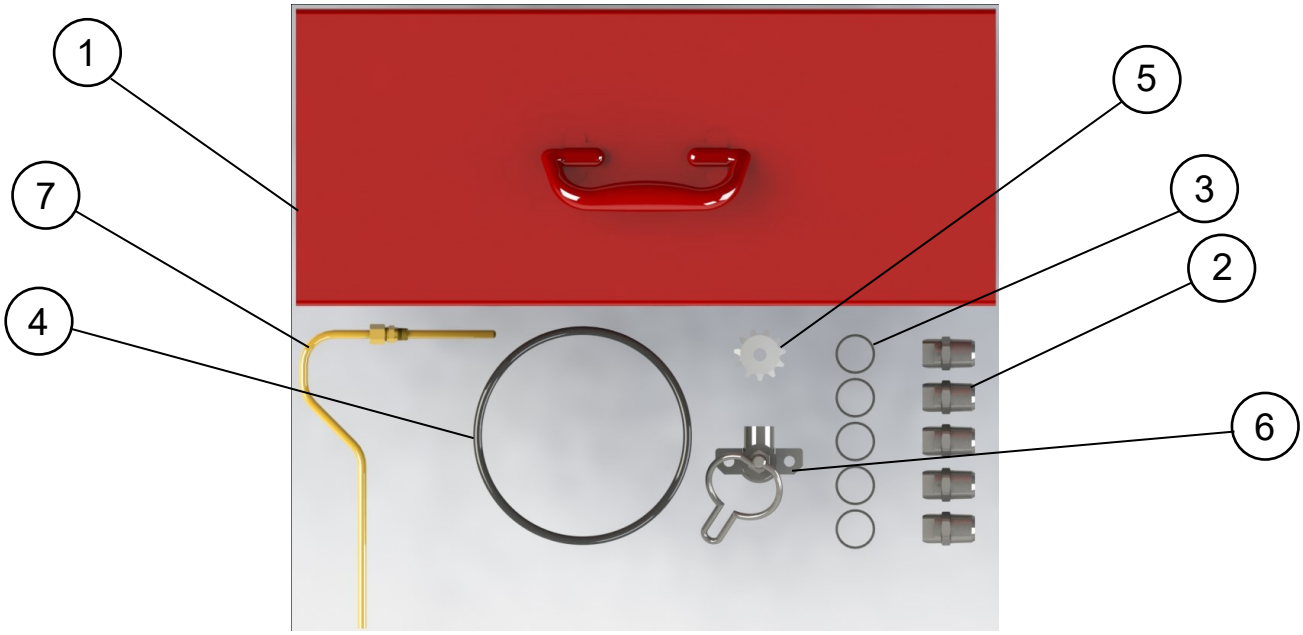
Problem	Cause	Solution
Burner will not ignite	Fuse burned out	Check 20A fuse at sub control panel
	Burner relay inoperative	Check for 12VDC at relay
	Primary control fuse	Check control switch fuse
	Thermocouple(s) inoperative	Replace thermocouple(s)
Agitator will not rotate	Fuse burned out	Check 10A control switch fuse
	Sealant material not hot enough	Allow material to heat longer
	Too many biscuits added at one time	Continue heat up and reverse agitation to break biscuits free
	Low hydraulic oil level	Check hydraulic oil Level
	Worn agitator motor	Replace agitator Motor
Material pump will not rotate	Fuse burned out	Check 10A control switch fuse
	Sealant material not hot enough	Allow material to heat longer
	Too much cold material left in lines from previous use	Heat plumbing and valve to melt material
	Low hydraulic level	Check hydraulic oil level
	Foreign object lodged in line	Locate/remove foreign object
	Pump worn or damaged	Confirm pump switch on control panel is in “SEAL” forward position
Material pump rotates but does not pump material	Pump rotating in wrong direction	Reverse pump switch
	Pump inlet line plugged	Check sealant tank grid and lines for obstruction
	Too much cold material left in lines from previous use	Heat plumbing and valve to melt material
	Pump worn or damaged	Replace pump
Sealant heat up time slow	Burner orifice clogged	Remove orifice and clean/replace
	Heat transfer oil is worn out	Check oil level. Replace if necessary
	Too much old material on tank walls	Clean material tank
Material recirculates but will not flow through sealing nozzles.	Sealing nozzle valve not completely closing or worn out	Realign valve or replace
	Actuator not turning valve	Realign valve or replace

MA4 Melter Applicator Service Parts Kits (Optional)

MA4 Spare Parts Kit Part #302-178-000

#	PART #	DESCRIPTION	QTY.
1	403527	Tool Box Assembly	1
2	156405	Spray Tip, 1/2 NPT 95-60	5
3	302-328-000	O-Ring MA4 Spay Valve	5
4	155351	Tubing-Air .25” Plastic	15 FT

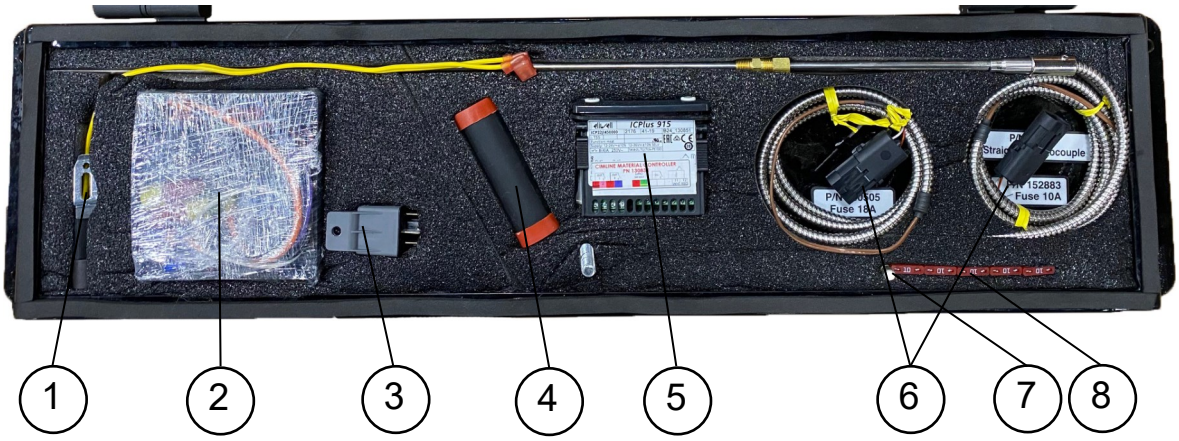
#	PART #	DESCRIPTION	QTY.
5	111904	Sprocket No 35 11 Tooth	1
6	302-275-000	MA4 Spray Valve	1
7	156326	Thermocouple Bent	1



M-Series Melter Spare Parts Kit Part #404695

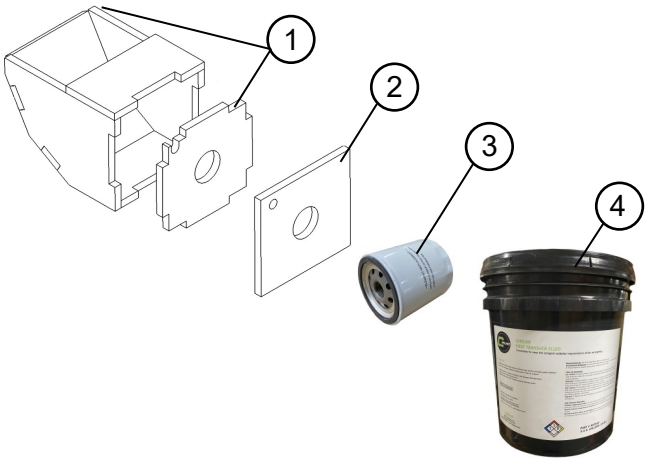
#	PART #	DESCRIPTION	QTY.
1	152105	Electric Eye	1
2	200352	Burner Primary Control	1
3	130113	12V/30A Relay (Hose & Burner)	1
4	152399	Burner Coupling	1

#	PART #	DESCRIPTION	QTY.
5	130384	Material Controller	1
6	130097	Thermocouple	2
7	130505	240V/18A Ceramic Fuse	1
8	152883	12V/10A Blade Fuse (Qty 5)	5



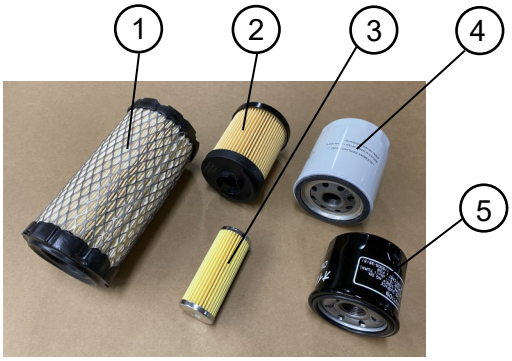
MA4 Melter Applicator Service Parts Kits (Optional)

MA4 Maintenance Kit Part #409186



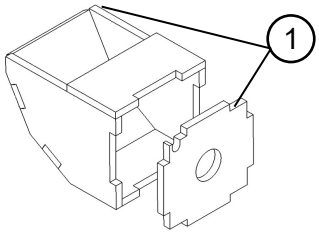
#	Part #	Description
1	403400	Burner Chamber Lining Kit
2	152487	Heat Chamber Insulation
3	170169	3” Fuel Filter
4	403910	5gal Heat Transfer Oil (8 Qty)

MA4 Engine/Hydraulic Fluids Service Kit Part #406597



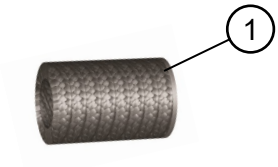
#	Part #	Description
1	111111	Engine Air Filter Element
2	170407	Hydraulic Return Filter Element
3	111457	Engine Fuel Filter Element
4	170169	3” Fuel Tank Filter
1	111337	Engine Oil Filter

MA4 Burner Chamber Lining Kit Part #403400



#	Part #	Description
1	403400	Burner Chamber Lining Kit

MA4 Pump Packing Set Kit Part #120541

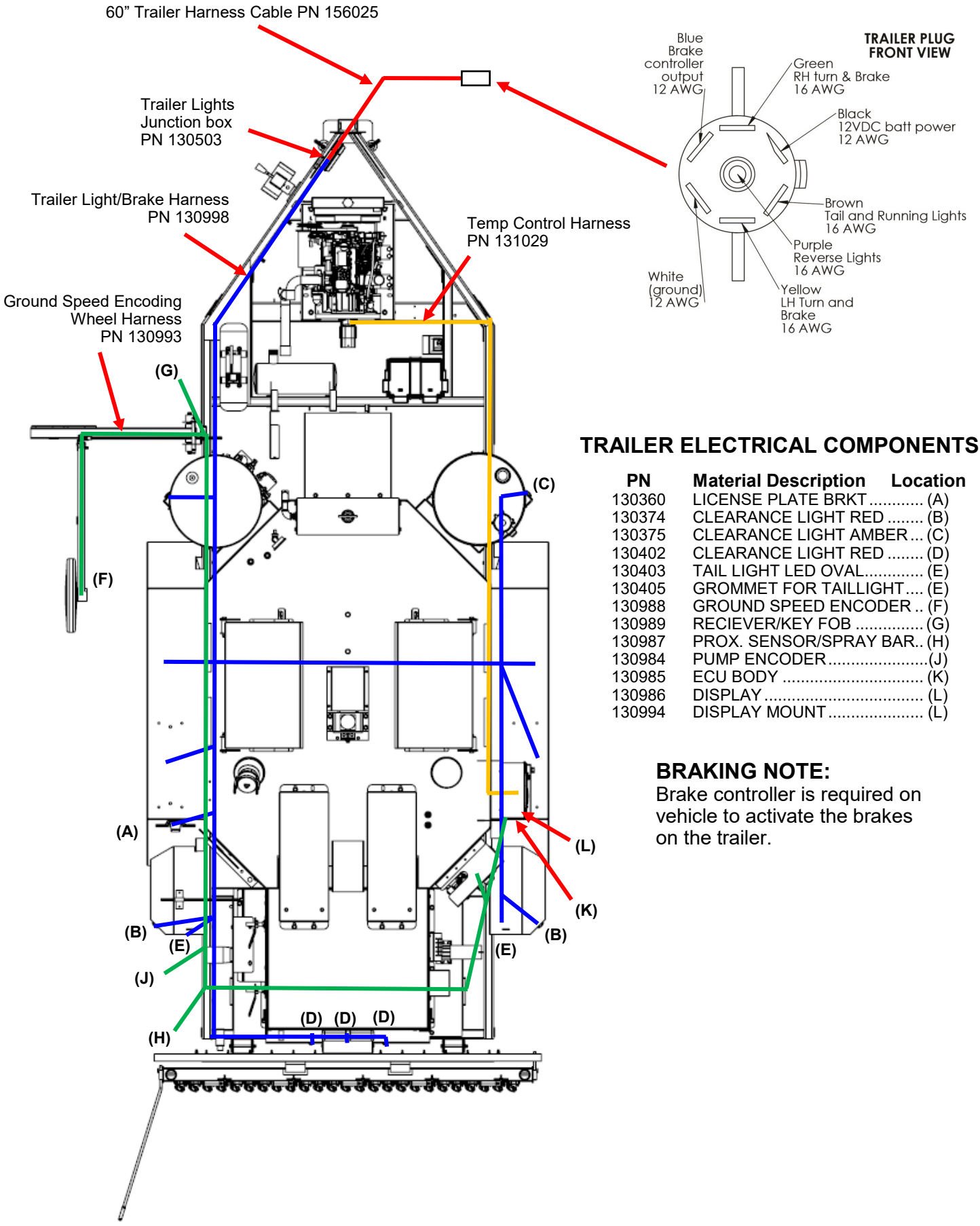


#	Part #	Description
1	120541	Pump Packing Set

MA4 Parts and Assembly Diagrams

PARTS AND ASSEMBLY DIAGRAMS:

MA4 Trailer Wiring Diagram and Parts



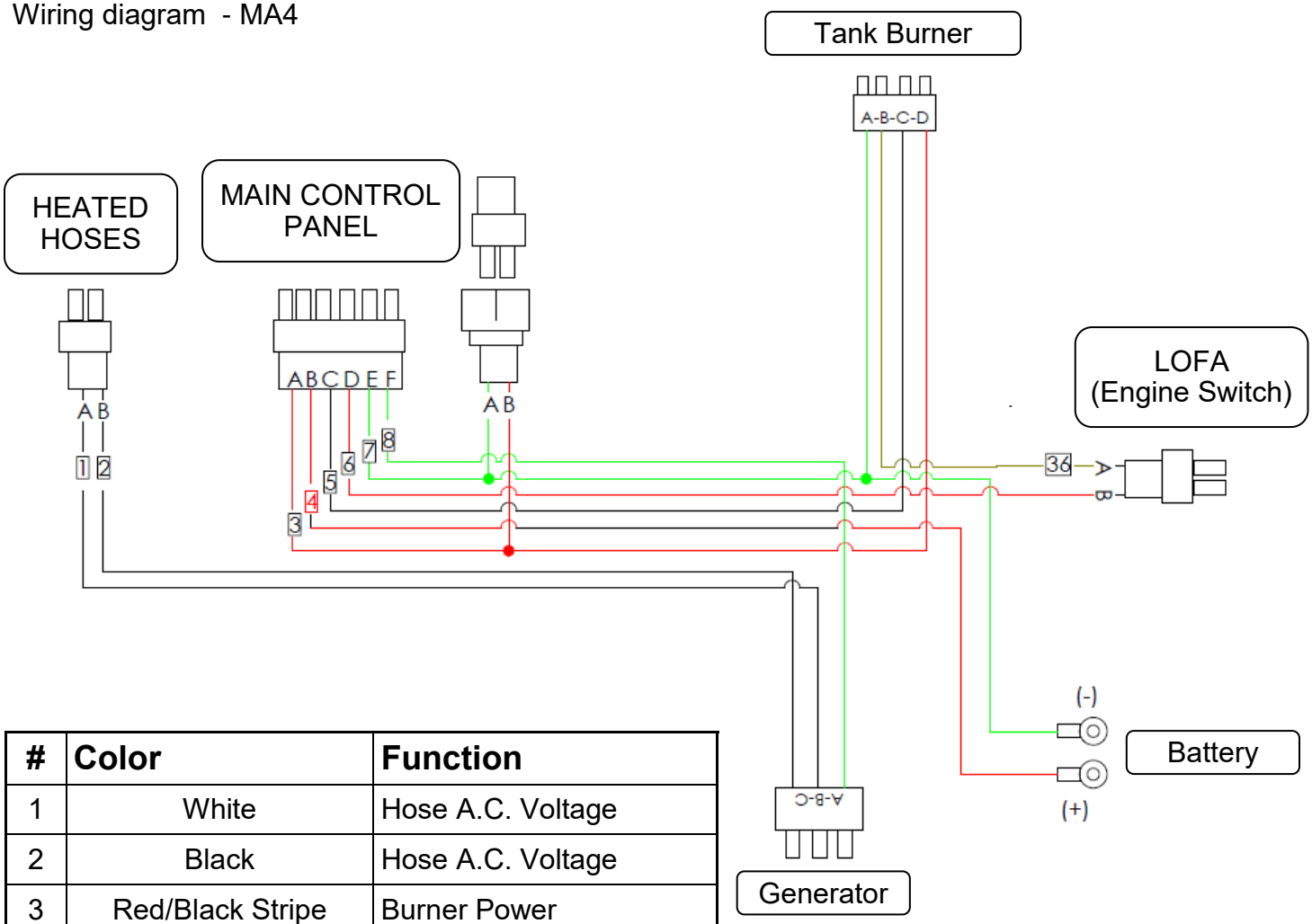
TRAILER ELECTRICAL COMPONENTS:

PN	Material Description	Location
130360	LICENSE PLATE BRKT	(A)
130374	CLEARANCE LIGHT RED	(B)
130375	CLEARANCE LIGHT AMBER	(C)
130402	CLEARANCE LIGHT RED	(D)
130403	TAIL LIGHT LED OVAL	(E)
130405	GROMMET FOR TAILLIGHT	(E)
130988	GROUND SPEED ENCODER	(F)
130989	RECIEVER/KEY FOB	(G)
130987	PROX. SENSOR/SPRAY BAR	(H)
130984	PUMP ENCODER	(J)
130985	ECU BODY	(K)
130986	DISPLAY	(L)
130994	DISPLAY MOUNT	(L)

BRAKING NOTE:
Brake controller is required on vehicle to activate the brakes on the trailer.

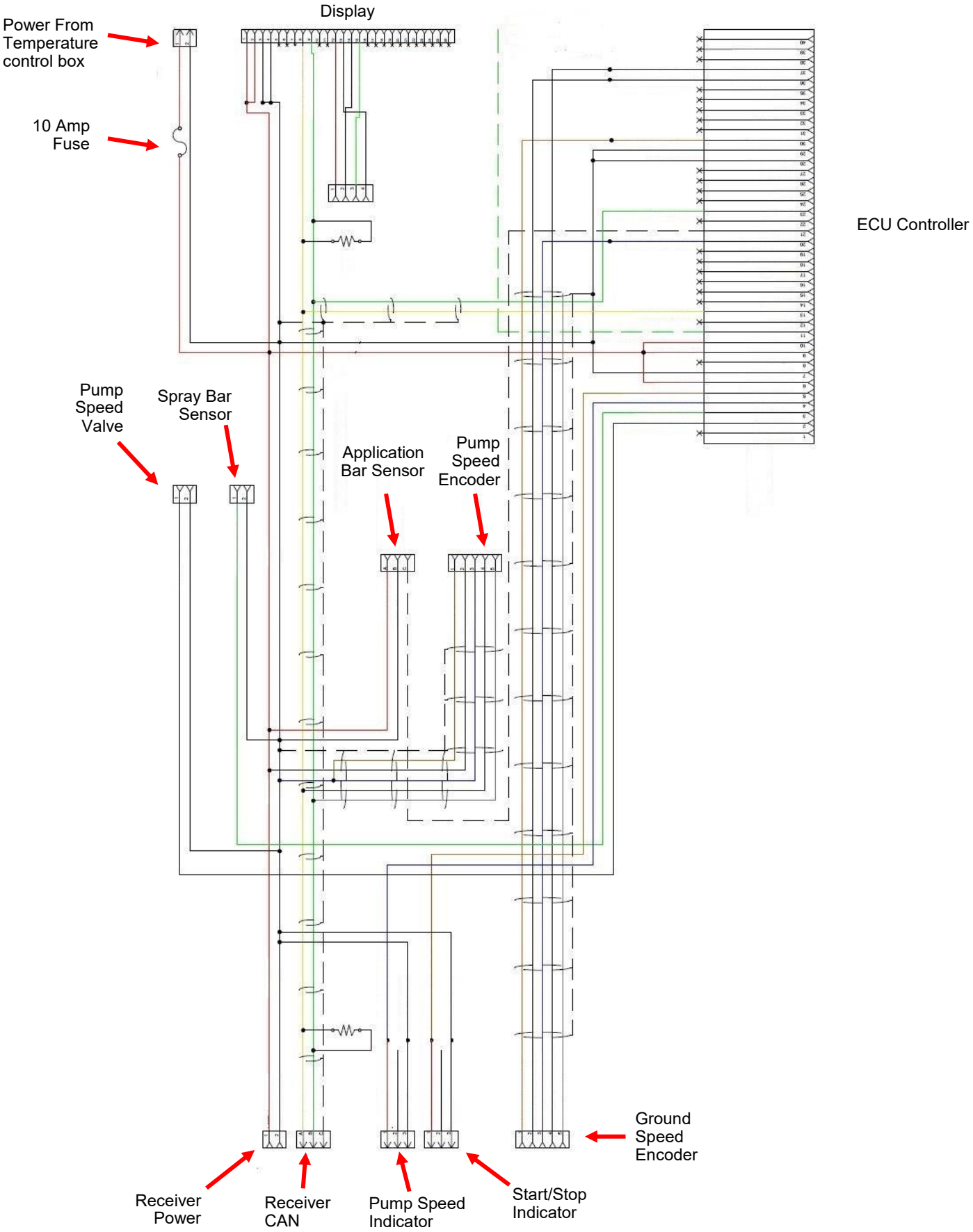
MA4 Main Wiring Harness Diagram

Melter Component Harness - PN 131029
Wiring diagram - MA4

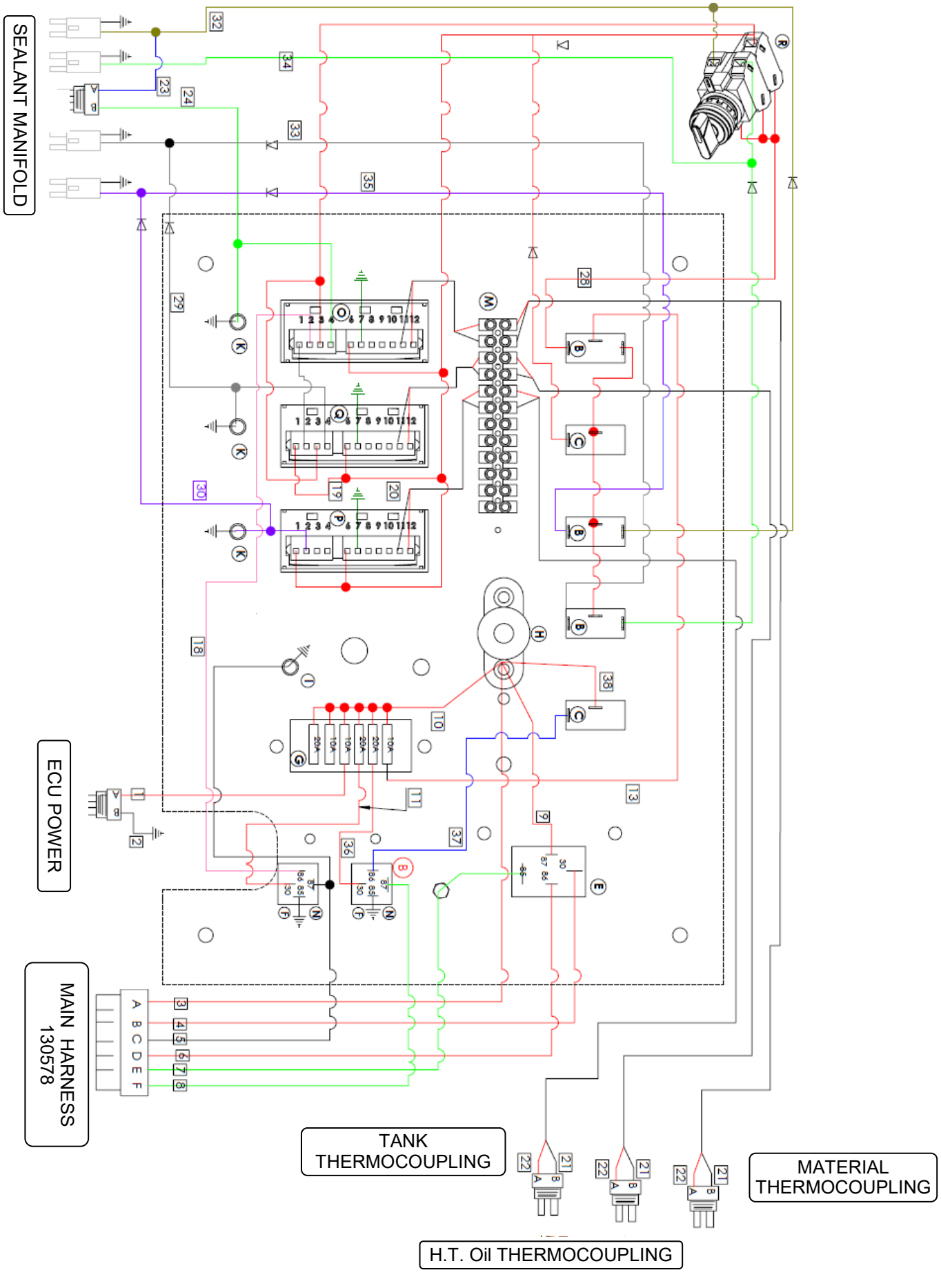


#	Color	Function
1	White	Hose A.C. Voltage
2	Black	Hose A.C. Voltage
3	Red/Black Stripe	Burner Power
4	Red	Battery (+)
5	White	Burner Enable
6	Red	Micro Panel Acc. Input
7	Green/Yellow Stripe	Battery (-)
8	Green	Generator Excite
36	Brown	Burner Reader

MA4 Spray Control Wiring Diagram



MA4 Control Panel Wiring Diagram

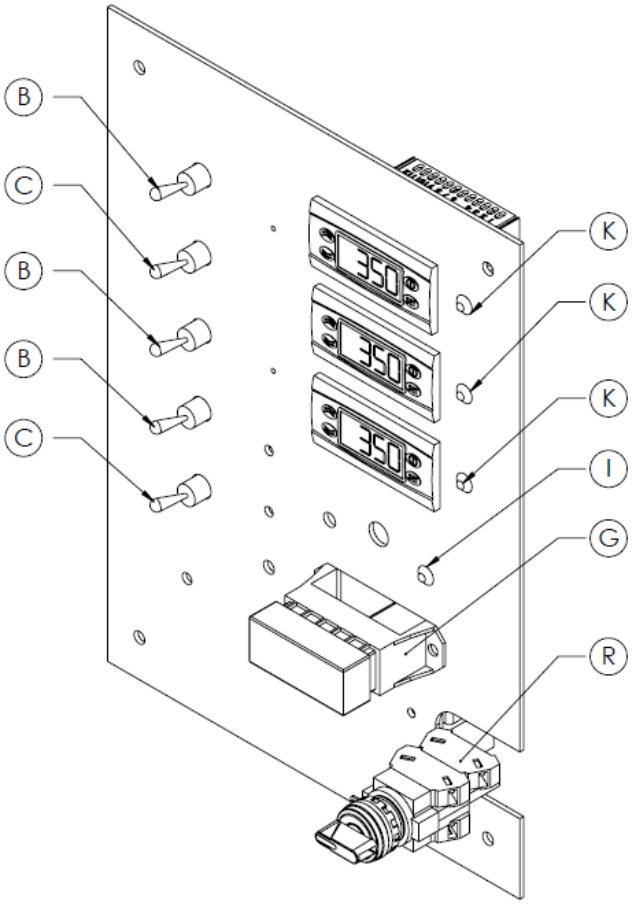


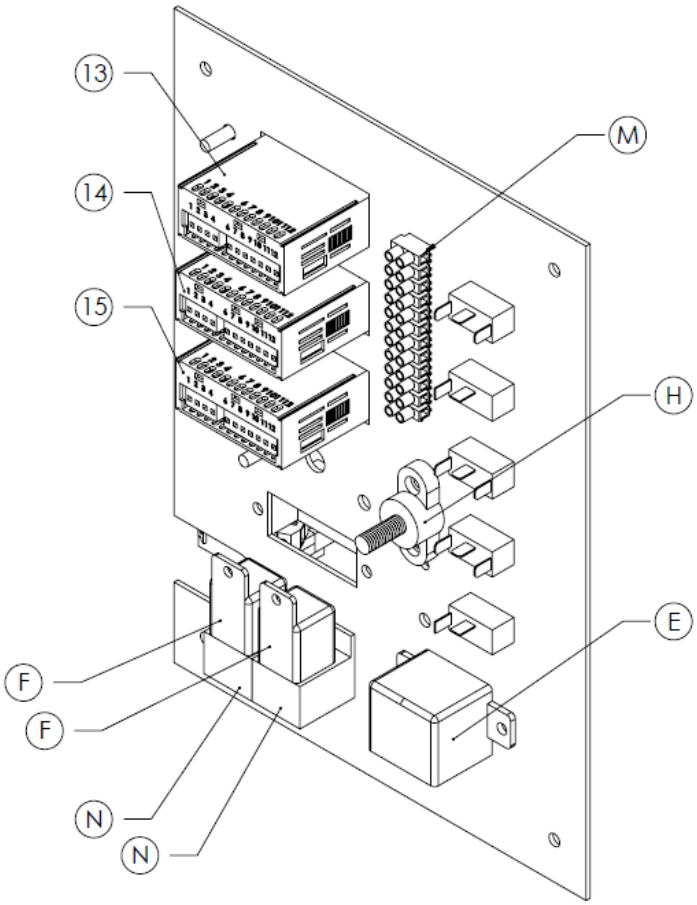
MA4 Control Panel Wiring Diagram

Number	Color	Function	AWG Wire Gauge
1	Red	MA4 Flow Controller Power	16
2	Green/Yellow Stripe	MA4 Flow Controller Ground	16
3	Red/Black Stripe	Burner Power	14
4	Red	Battery (+)	12
5	White	Burner Enable	16
6	Red	Micro Panel Accessory Input	16
7	Green/Yellow Stripe	Battery (-)	12
8	Green	Generator Excite	16
9	Red	Accs. Relay Output	16
10	Red	Relay Panel Lug to Fuse	16
11	Red	Fuse to Relay	16
12	Red	Fuse to Burner Relay	16
13	Red	Fuse to Terminal Strip	16
14	Red	Terminal Strip to Hose Controller and Controller Strip	16
15	Yellow	Hose Controller to Relay	16
16	Yellow/Black Stripe	Hose Controller to Hose Light	16
17	Green/Yellow Stripe	Ground (ALL GROUND SYMBOLS ON DRAWING)	16
18	Pink	Matl. Controller to Burner Relay	16
19	White Sensor Wire	Controller to Terminal Strip	Sensor Wire
20	Red Sensor Wire	Controller to Terminal Strip	Sensor Wire
21	White Sensor Wire	Terminal Strip to Hose	Sensor Wire
22	Red Sensor Wire	Terminal Strip to Hose	Sensor Wire
23	Blue/White Stripe	Clean Out	16
24	Green/White Stripe	Material Temp Ready	16
28	Red	Manifold Switch to Rotary	16
29	Gray	Oil Controller to Agitator Manifold	16
30	Purple	Matl. Controller to Pump Manifold	16
31	Gray	Oil Controller to Matl. Controller	16
32	Tan	Manifold to Switch	16
33	Gray	Manifold to Agitator Switch	16
34	Green	Manifold to Rotary Switch #3	16
35	Purple	Manifold to Pump Switch	16
36	Red	Hose Relay to Fuse	16
37	Blue	Relay to Switch	16
38	Red	Switch to Relay Panel to Lug	16

MA4 Control Panel Parts

#	Part #	Description
B	130227	Toggle Switch
C	130122	Toggle Switch
E	130222	12V 75A Relay
F	130113	12V 30A Relay
G		Fuse Block
H		Lug
I		Yellow LED
K		Green LED
M		Terminal Strip
N	153870	Relay Base
R	130883	Selector Switch
13	130834	Material Controller
14	130835	Oil Controller
15	130836	Heated Hose Controller

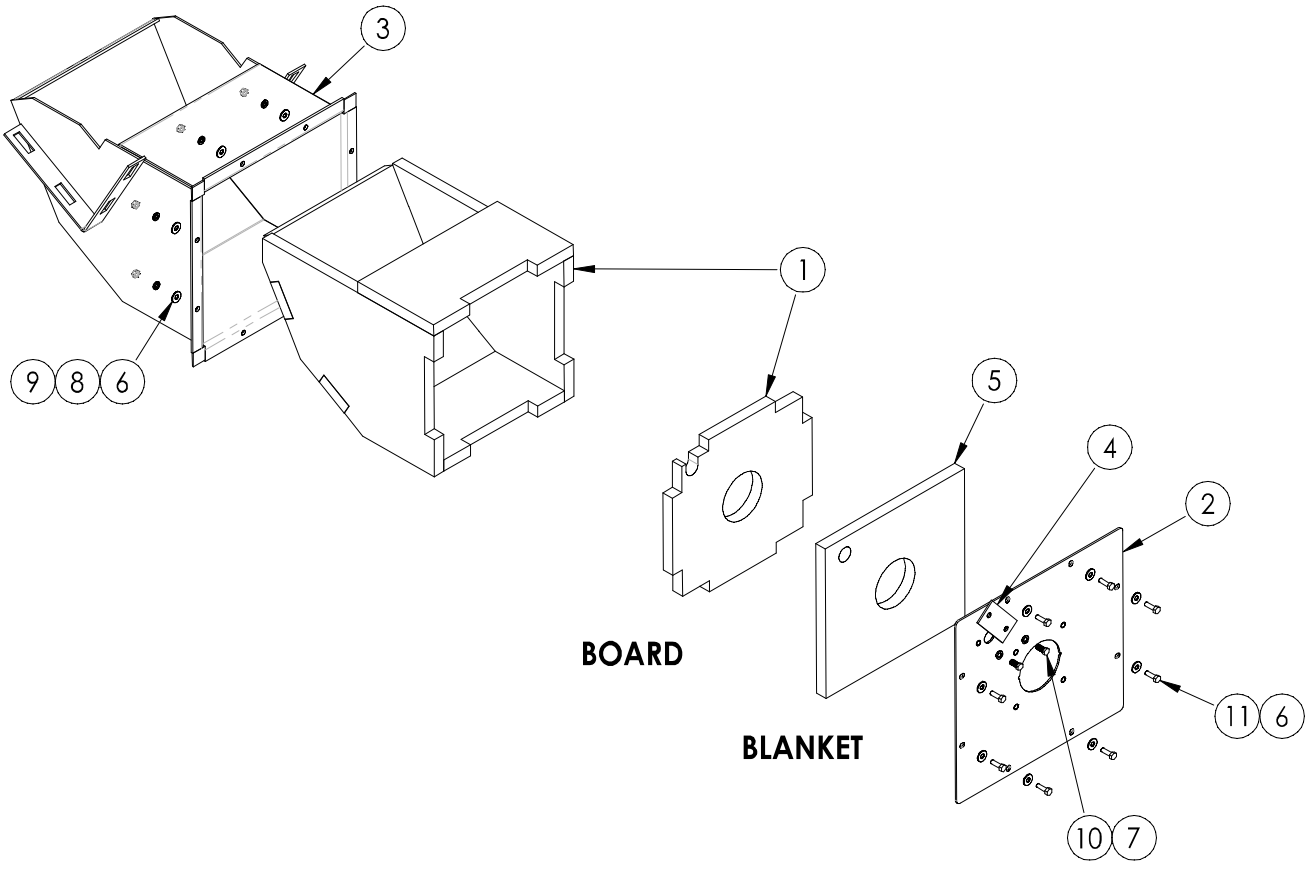




Combustion Chamber Parts

COMPLETE ASSEMBLY (ITEMS 1-11) - Part #404518

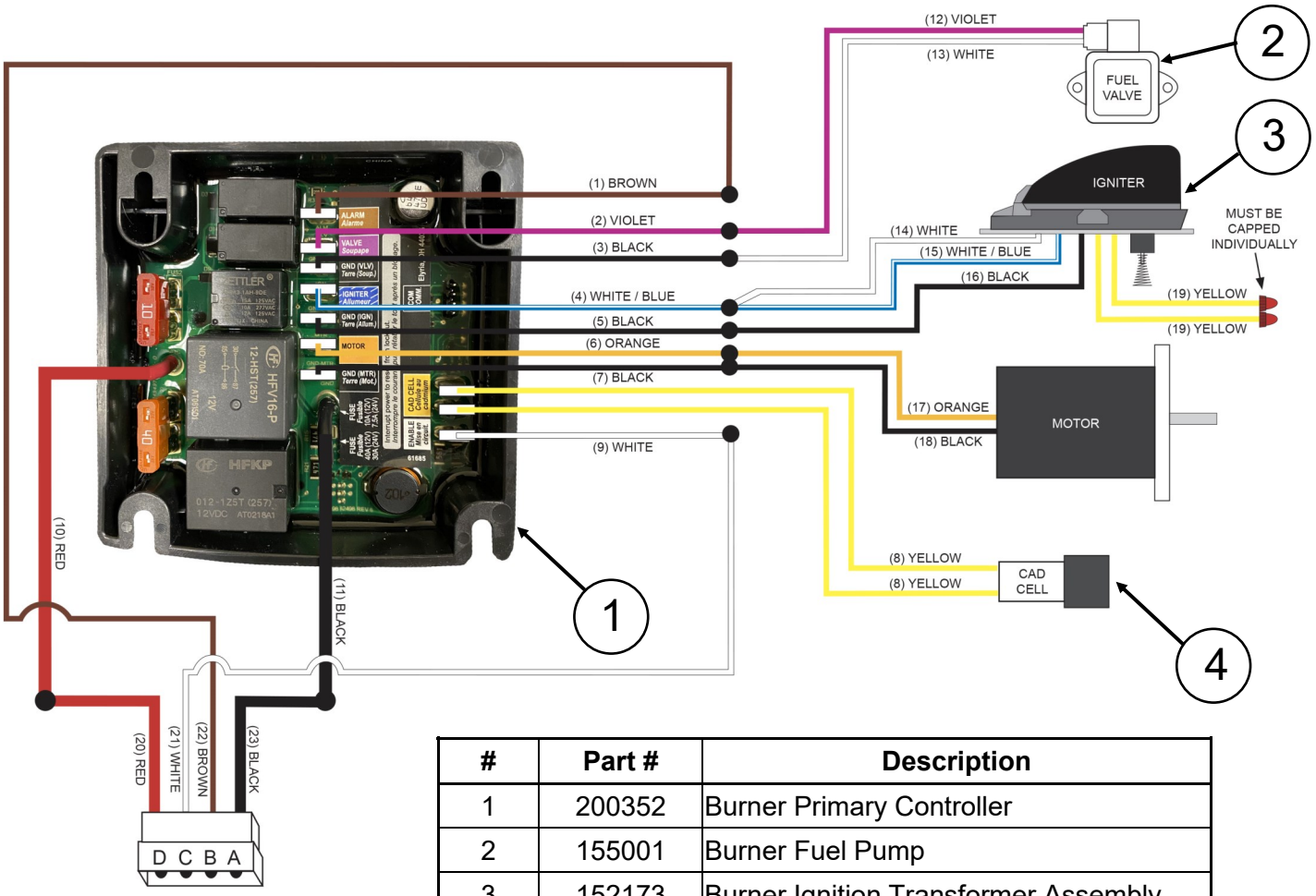
#	PART #	DESCRIPTION	QTY.
1	403400	Chamber Lining Kit	1
2	402898	Burner Mount	1
3	402893	Heat Chamber Skin	1
4	417041	Inspection Cover	1
5	152487	Insulation Heat Chamber	1
6	100125	Washer-Flat .31	16
7	100093	Washer - Split Lock .38	2
8	100092	Washer - Split Lock .31	8
9	100068	Nut - Hex .31	8
10	100015	Bolt - Hex 3/8 - 16 X 3/4	2
11	100006	HHCS .31 X 1.0	8



Tank Burner Internal Wiring Diagram

#	COLOR	DESCRIPTION
1	Brown	Alarm To Controller
2	Violet	Fuel Valve To Controller
3	Black	Fuel Valve Ground To Controller
4	Wht/Blu	Igniter To Controller
5	Black	Igniter Ground To Controller
6	Orange	Motor To Controller
7	Black	Motor Ground To Controller
8	Yellow	Cad Cell To Controller (x2)
9	White	Control Circuit Enable To Controller
10	Red	12V (+) Input To Controller
11	Black	Ground (-) To Controller

#	COLOR	DESCRIPTION
12	Violet	Fuel Valve Input Lead
13	White	Fuel Valve Ground Lead
14	White	Secondary Igniter Input Lead
15	Wht/Blu	Primary Igniter Input Lead
16	Black	Igniter Ground Lead
17	Orange	Motor Input Lead
18	Black	Motor Ground Lead
19	Yellow	Not Used (Capped Individually) X2
20	Red	12V (+) Power (Wiring Harness)
21	White	Burner Enable (Wiring Harness)
22	Brown	LOFA Alarm (Wiring Harness)
23	Black	Ground From Relay (Wiring Harness)



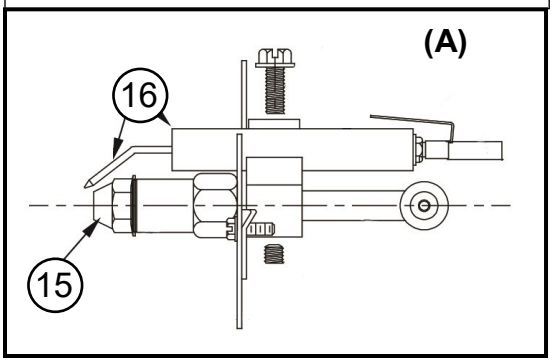
#	Part #	Description
1	200352	Burner Primary Controller
2	155001	Burner Fuel Pump
3	152173	Burner Ignition Transformer Assembly
4	152105	Burner Cad Cell (Electric Eye)

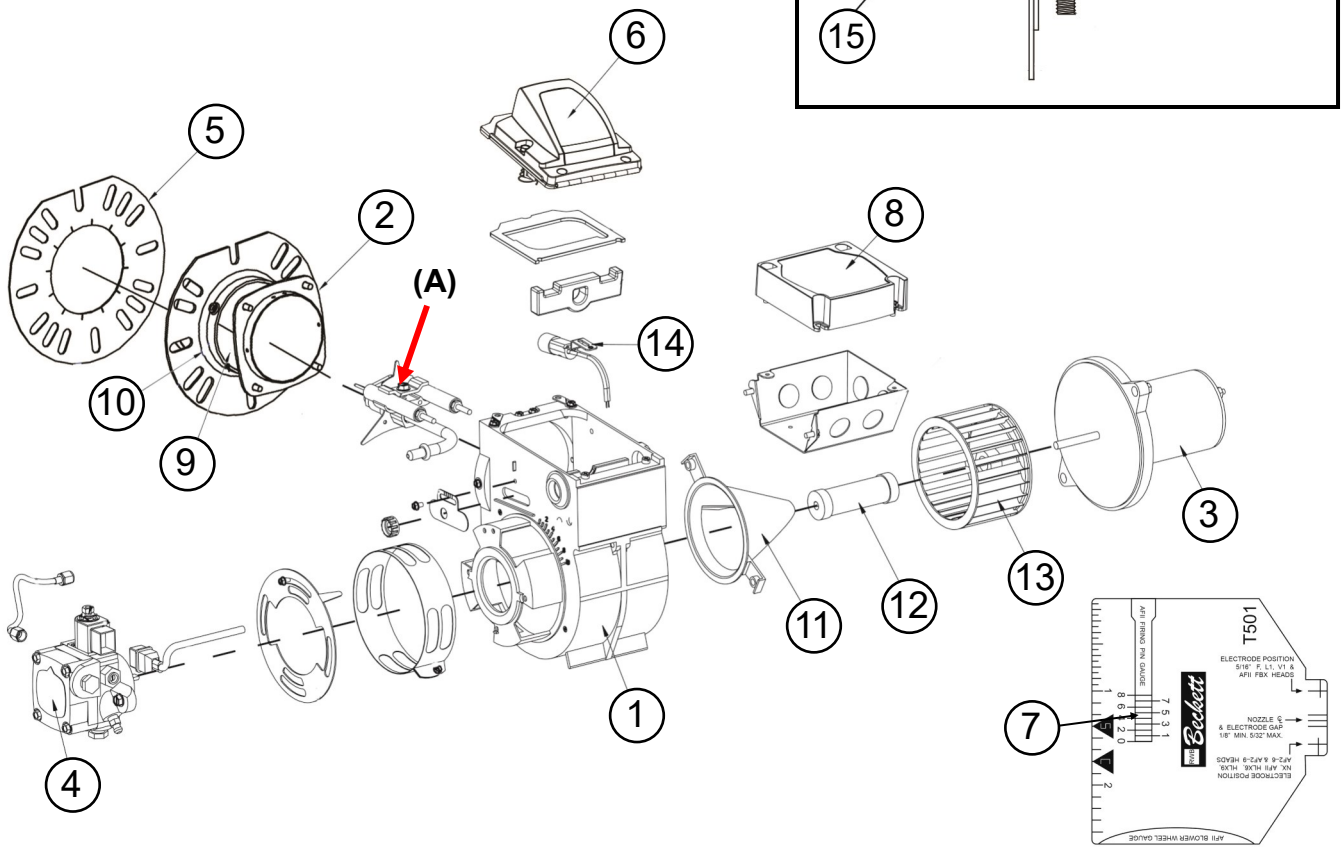
Tank Burner Parts

#	PART #	DESCRIPTION
1	404388	Tank Burner, Complete
2	153505	Square Plate, Gasket
3	152191	Tank Burner Motor (Items #12 & #13)
4	155001	Fuel Pump
5	152128	Gasket, Burner Flange
6	152173	Ignition Transformer Assembly
7	152668	Nozzle / Electrode Set Gauge
8	200352	Primary Control Assembly
9	120443	Air Tube
10	153446	Burner Head Tube

#	PART #	DESCRIPTION
11	152398	Air Inlet Guide
12	152399	Coupling
13	152466	Blower Wheel
14	152105	Cad Cell (Electric Eye) Assembly
15	152305	Nozzle Tip **M1 & C1** 1.75gph x 90B
15	152204	Nozzle Tip **M2** 2.00gph x 90B
15	152445	Nozzle Tip **M4 & MA4** 2.25gph x 90B
16	152106	Electrode Rod Assembly
*	130166	Fuel Pressure Gauge
		* - Not Shown

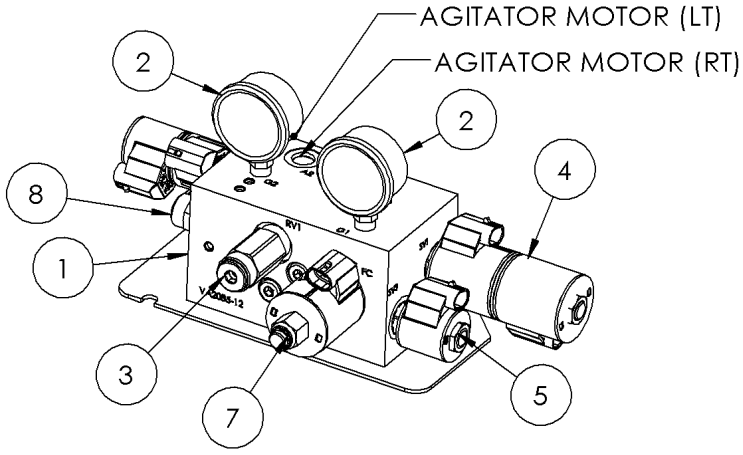
Complete Burner Nozzle Line Assembly - Part #155328

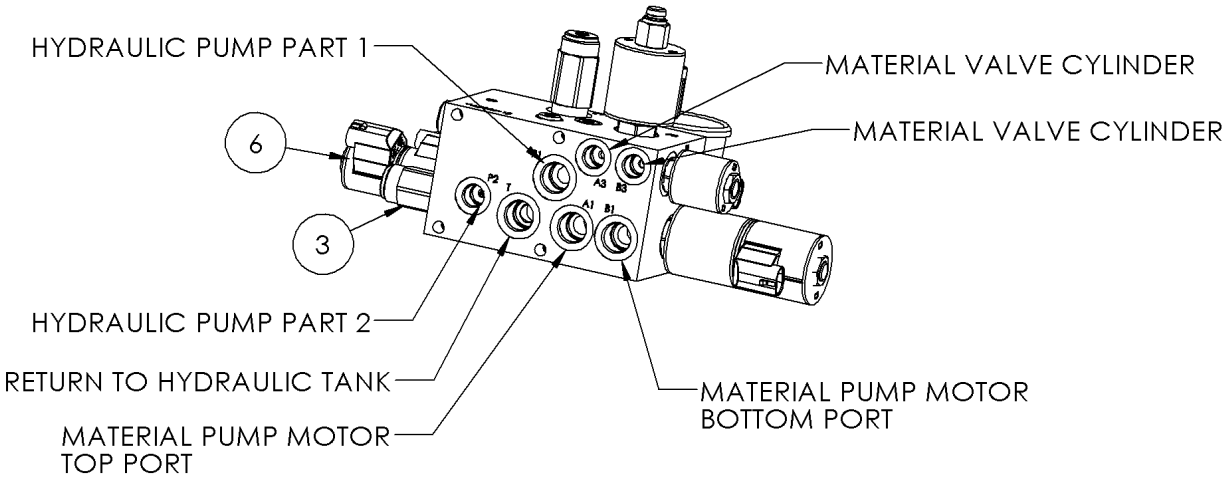




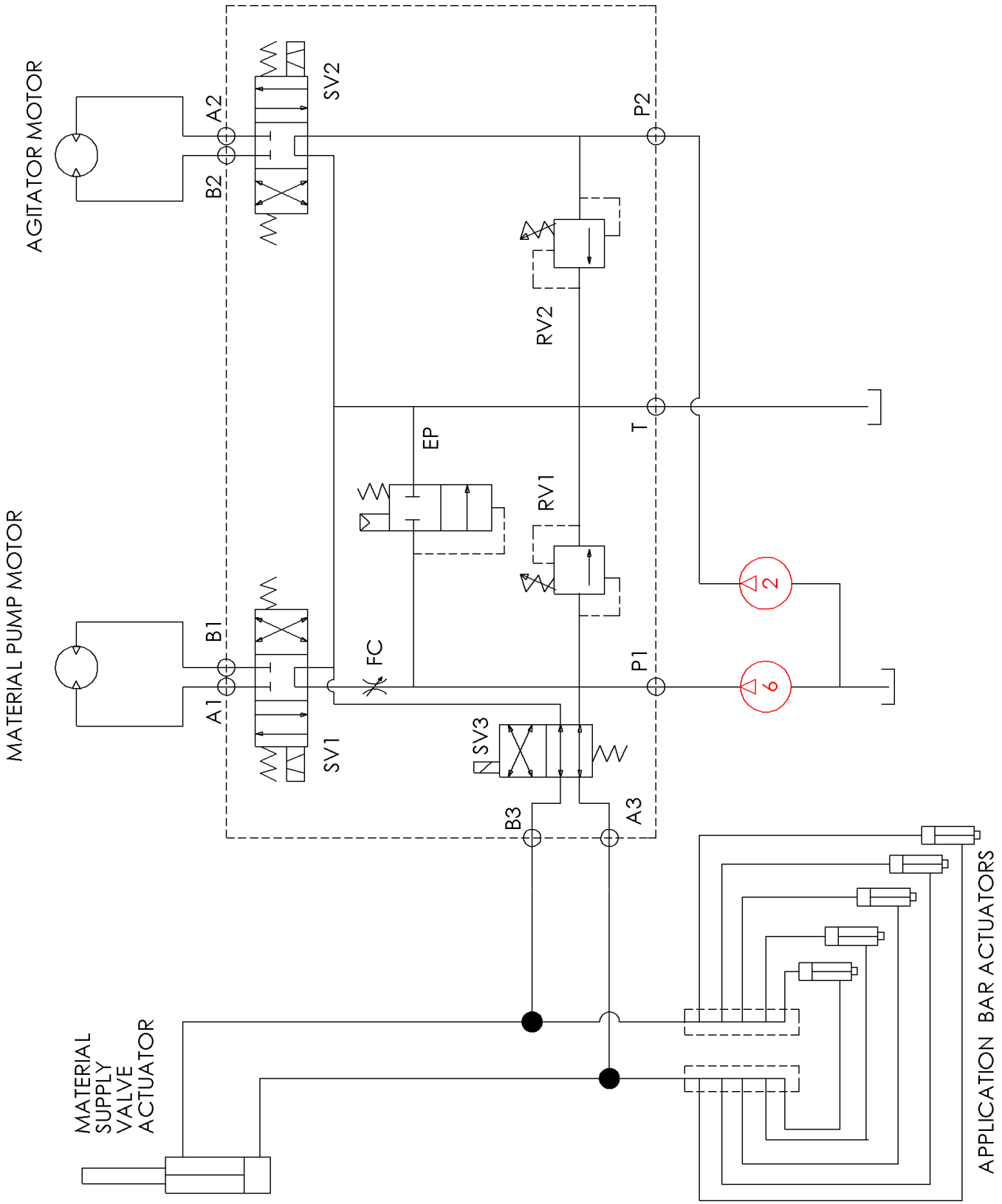
MA4 Hydraulic Manifold Parts

#	Part #	Description
1	172732	Hydraulic Manifold
2	171597	Gauge
3	172580	Relief Valve (Set at 1200 PSI)
4	172226	Spool and Coil Kit for Material Pump
	172224	Spool for Material Pump
	172225	Coil for Material Pump (2 Required)
5	172589	Spool and Coil Kit for Spray Actuators
	172557	Spool for Spray Actuators
	172585	Coil for Spray Actuators
6	172583	Spool and Coil Kit for Agitator
	172584	Spool for Agitator
	172585	Coil for Agitator (2 Required)
7	172665	Control Valve
	172668	Coil for Proportional Valve
8	172666	Compensator Valve





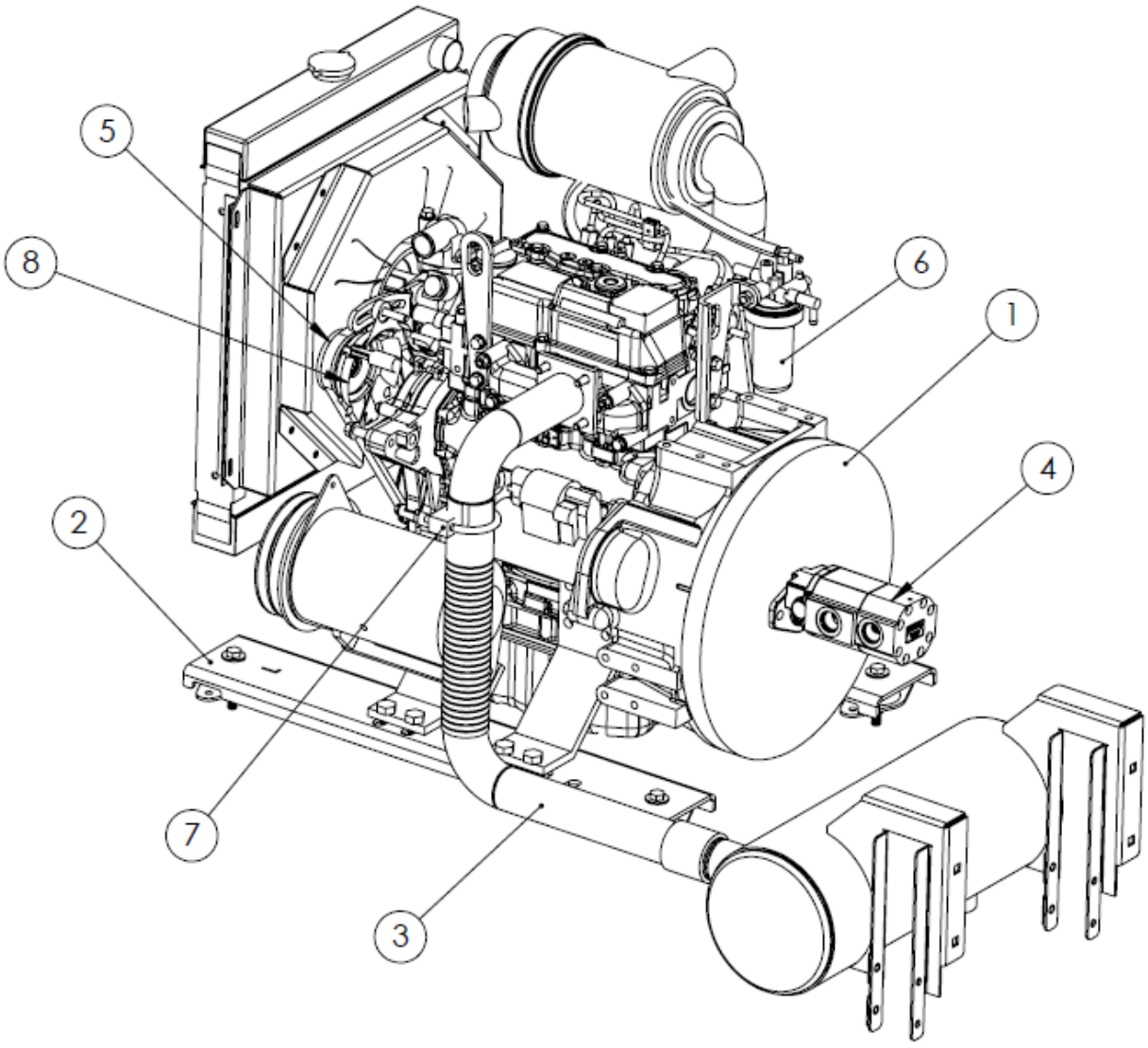
MA4 Hydraulic Schematic



MA4 Diesel Engine Components

See the included engine manual for additional engine component diagrams and information.

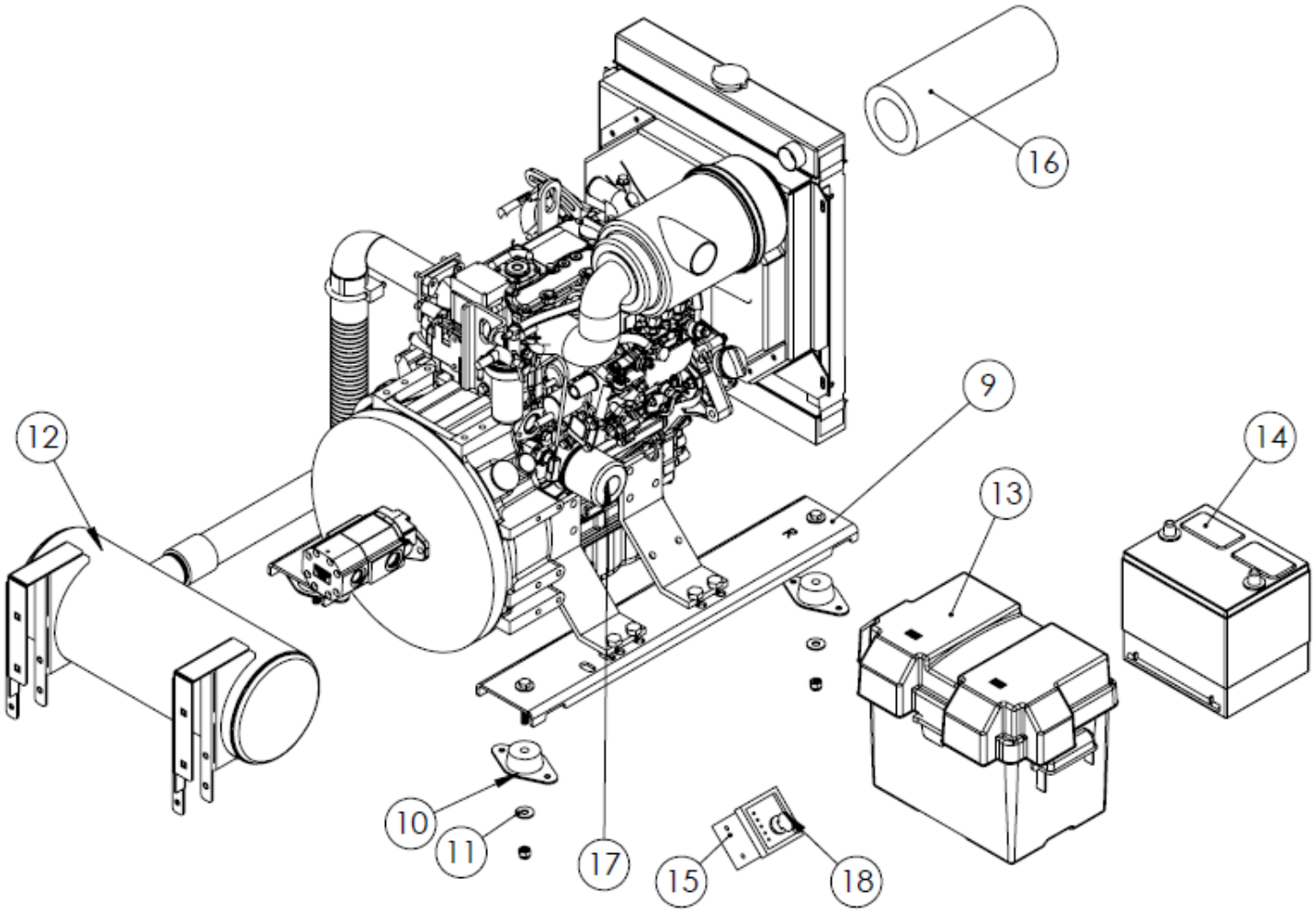
#	PART #	DESCRIPTION
1	111887	Engine
2	425244	Plate, Engine Mount LH
3	156678	Flexible Exhaust
4	156057	Hydraulic Pump(s)
5	111372	Fan Belt
6	111457	Fuel Filter
7	100512	Muffler Clamp
8	-	60A Alternator



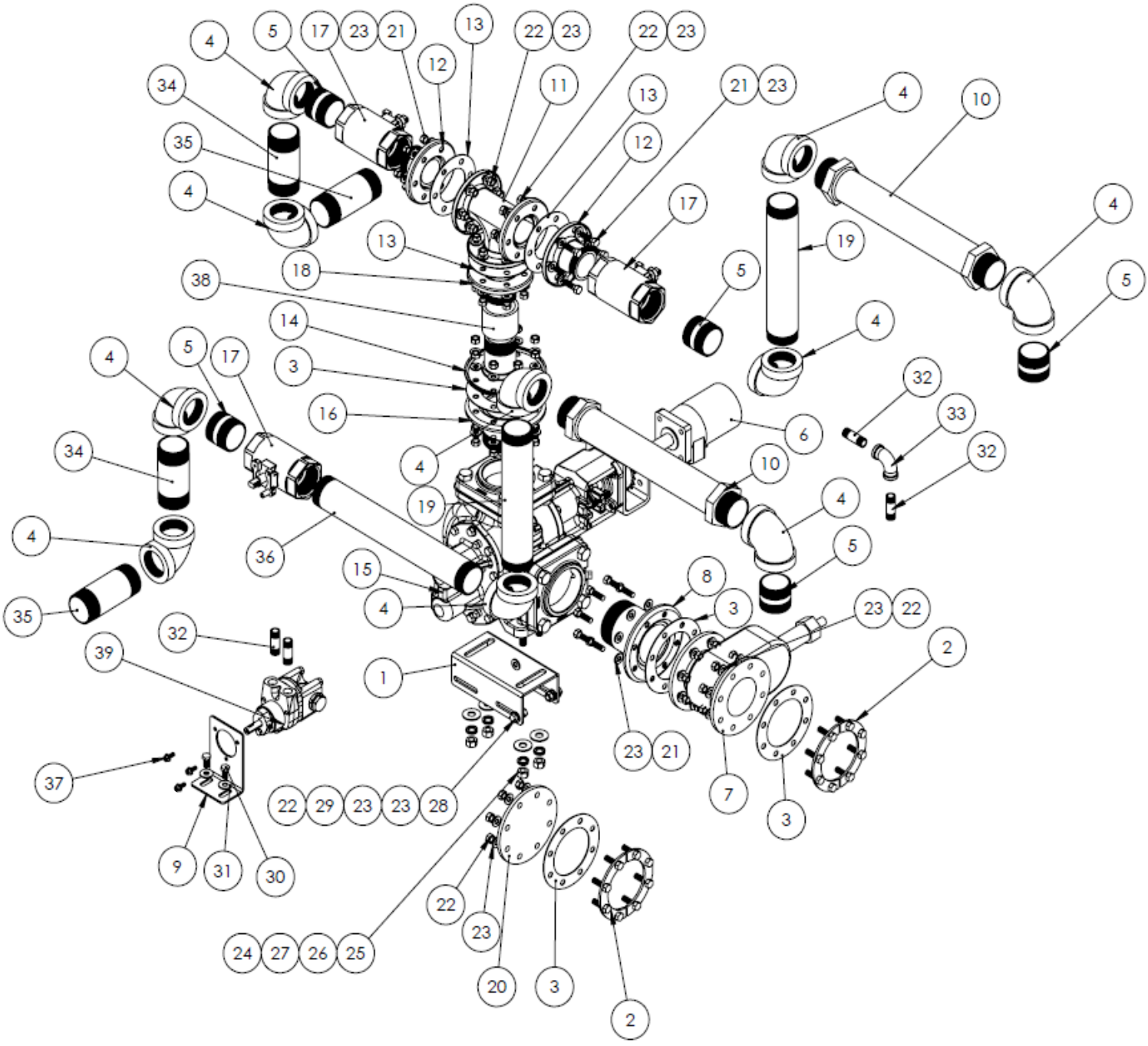
MA4 Diesel Engine Components

See the included engine manual for additional engine component diagrams and information.

#	PART #	DESCRIPTION
9	422167	Plate, Engine Mount RH
10	152047	Rubber Isolator
11	100126	Washer - Flat .38
12	409037	Exhaust Weld
13	200543	Battery Box
14	150212	Battery 26/26R-50-Wet
15	111108	LOFA Control Switch
16	111111	Air Filter
17	111337	Oil Filter
18	155266	Ignition Key



MA4 Sealant Material Plumbing Parts

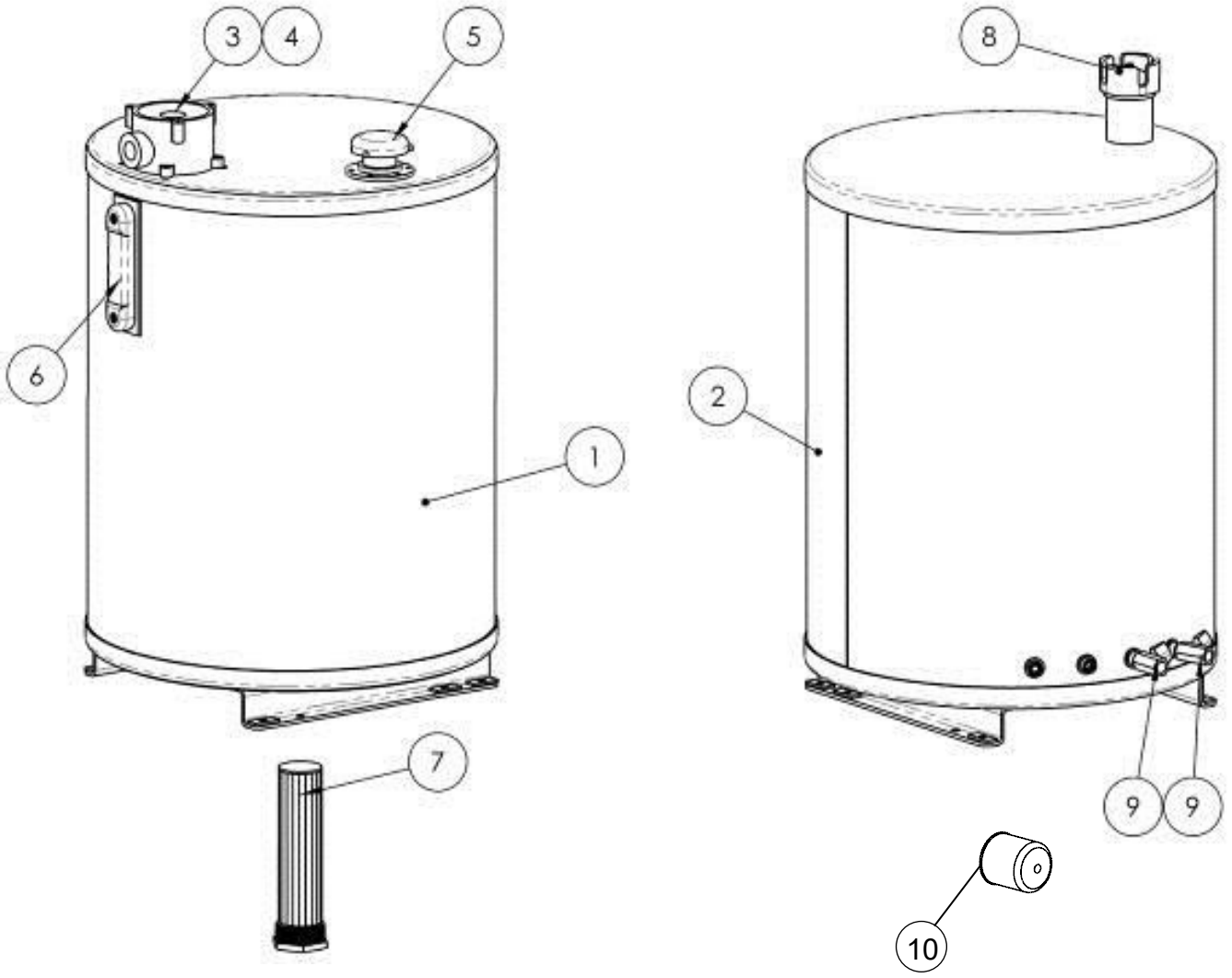


MA4 Sealant Material Plumbing Parts

#	PART #	DESCRIPTION
1	422053	PUMP Plate
2	409484	Flange Support Weld
3	152127	3” Gasket
4	120598	Pipe Elbow
5	120396	Close Nipple
6	170469	Pump Drive Motor
7	120498	3” Gate Valve
8	302-255-000	Material Output Weld
9	302-258-000	HTO Pump Mount
10	156702	Flex Tube
11	156299	Tee Weld
12	409031	Flange Weld
13	152126	2” Gasket
14	302-257-000	Valve Inlet Flange Weld
15	200676	Material Pump
16	302-256-000	Pump Outlet Weld
17	120932	Ball Valve
18	405574	Flange Weld
19	120599	2” x 12 Pipe Nipple
20	121126	3” Blind Flange
21	100017	3/8 x 1.25 Bolt
22	100069	3/8 Nut
23	100211	3/8 SAE Washer
24	100034	1/2 x 2” Bolt
25	100071	1/2-13 Nut
26	100095	1/2” Lock Washer
27	100457	1/2” Washer
28	100016	3/8 x 1” Bolt
29	100093	3/8” Lock Washer
30	100015	3/8-16 x 3/4” Bolt
31	100126	3/8” washer
32	120007	3/8 x 3” Pipe Nipple
33	120051	3/8” Pipe Elbow
34	120622	2” x 5” Pipe Nipple
35	121135	2” x 5/5” Pipe Nipple
36	120637	2” x 16 Pipe Nipple
37	101315	.25” x .63” Shoulder Nolt
38	120169	2” Pipe Coupling
39	156700	HTO Pump

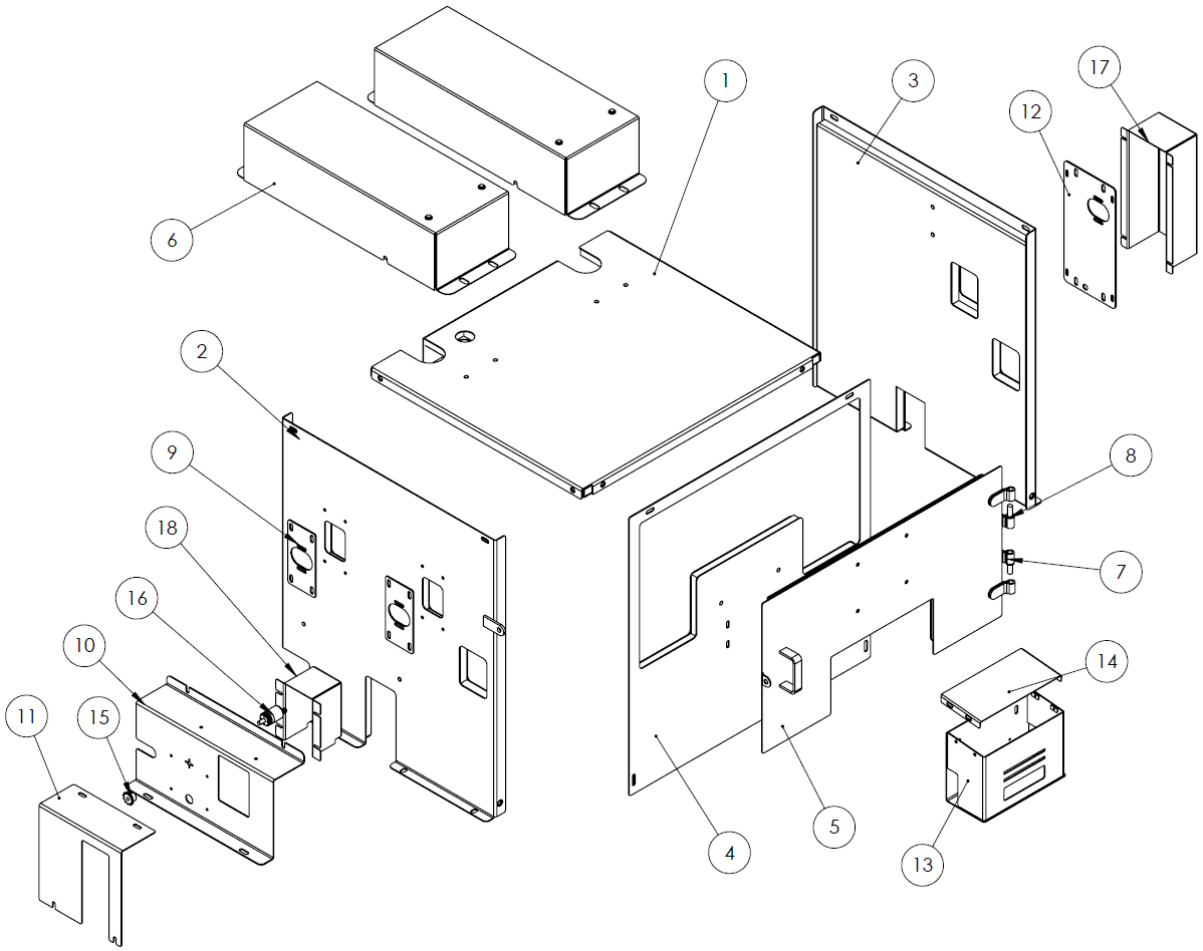
MA4 Hydraulic Reservoir and Diesel Tank Parts

#	PART #	DESCRIPTION
1	172618	Hydraulic Tank
2	172619	Diesel Tank
3	172127	Return Filter Assembly (Non-Compressor)
4	170407	Element - Return Filter (Non-Compressor)
5	152044	Filler Cap Assembly
6	171631	Sight Gauge
7	172186	Suction Strainer
8	155396	Fuel Gauge / Cap
9	120743	Fuel Shut-off Valve
10	170169	Fuel filter

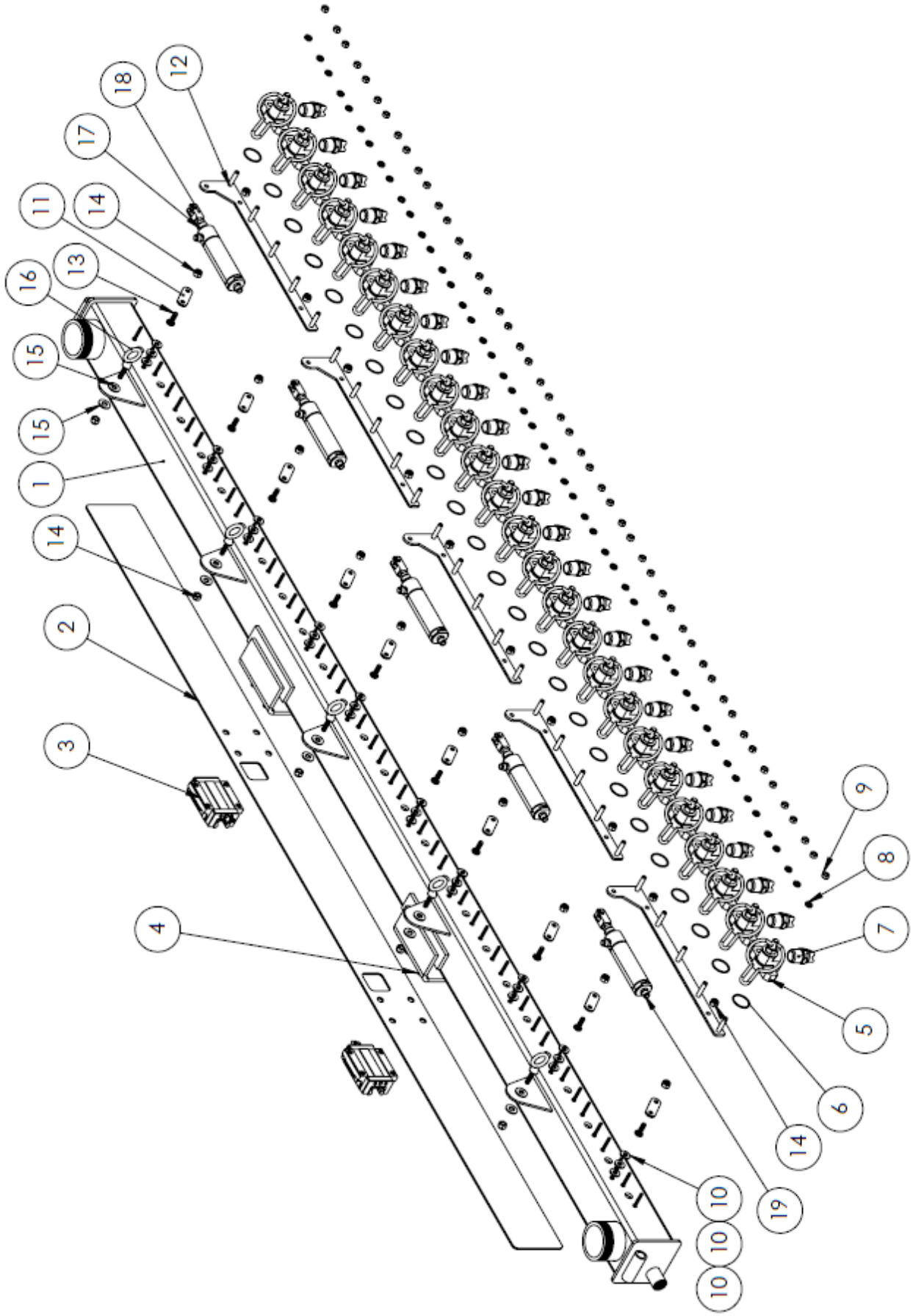


MA4 Rear Cabinet Parts

#	PART #	DESCRIPTION
1	300-294-004	Cabinet Top
2	302-288-004	Cabinet Driver Side
3	302-291-004	Cabinet Passenger Side
4	302-297-004	Cabinet Front
5	302-300-004	Cabinet Door
6	302-303-004	Return Cabinet
7	200627	Hinge, RH
8	200628	Hinge, LH
9	302-074-004	Plate - Bearing
10	302-285-004	Encoder Plate
11	302-287-004	Encoder Guard
12	302-312-004	Bearing Plate Weld
13	302-335-004	Manifold Protection Enclosure
14	302-338-004	Manifold Cover
15	111904	Sprocket 10mm
16	130984	Pump Encoder
17	302-313-004	Bearing Plate Cover
18	302-368-004	Encoder Protection Plate



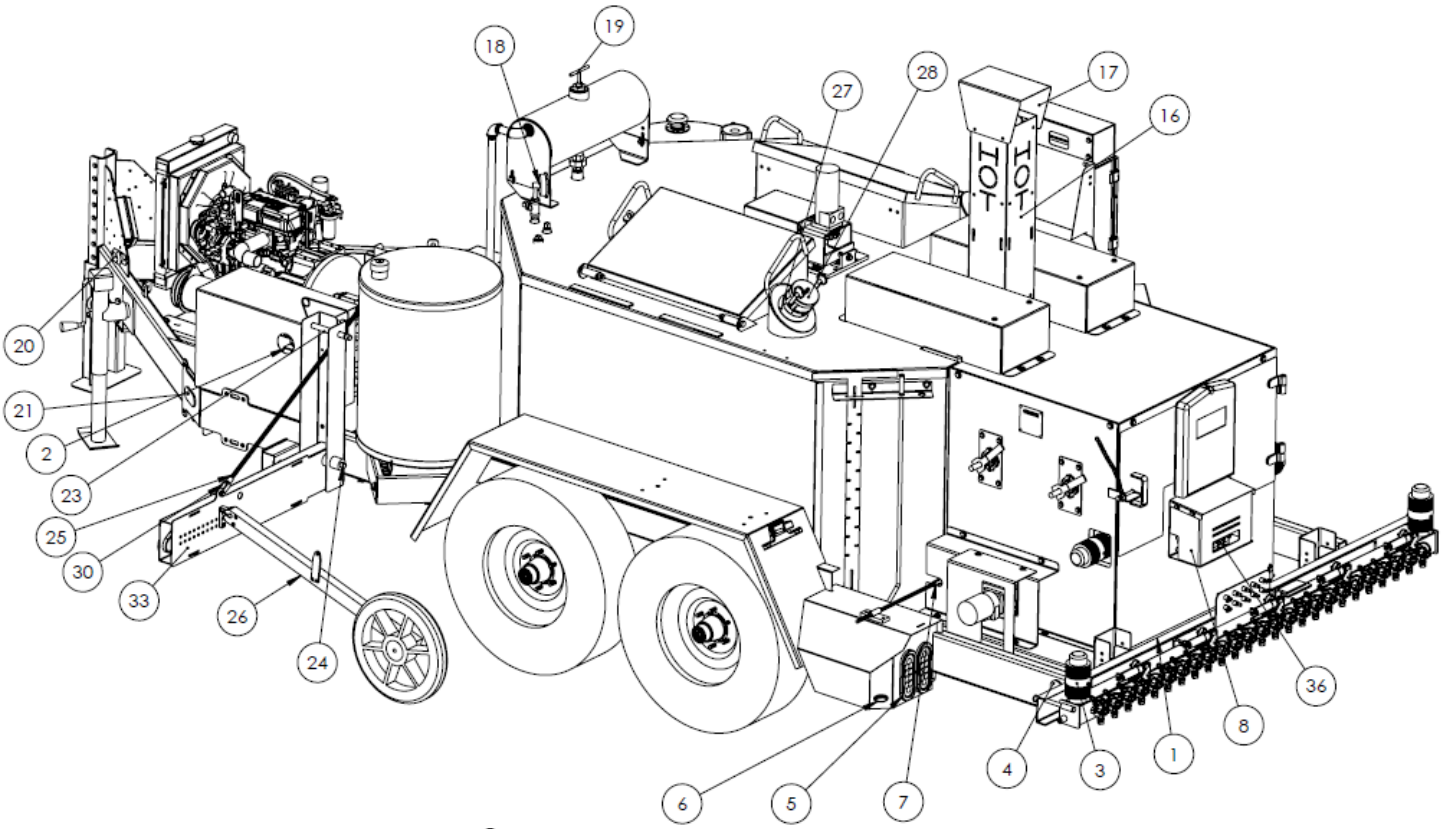
MA4 Application Bar Parts

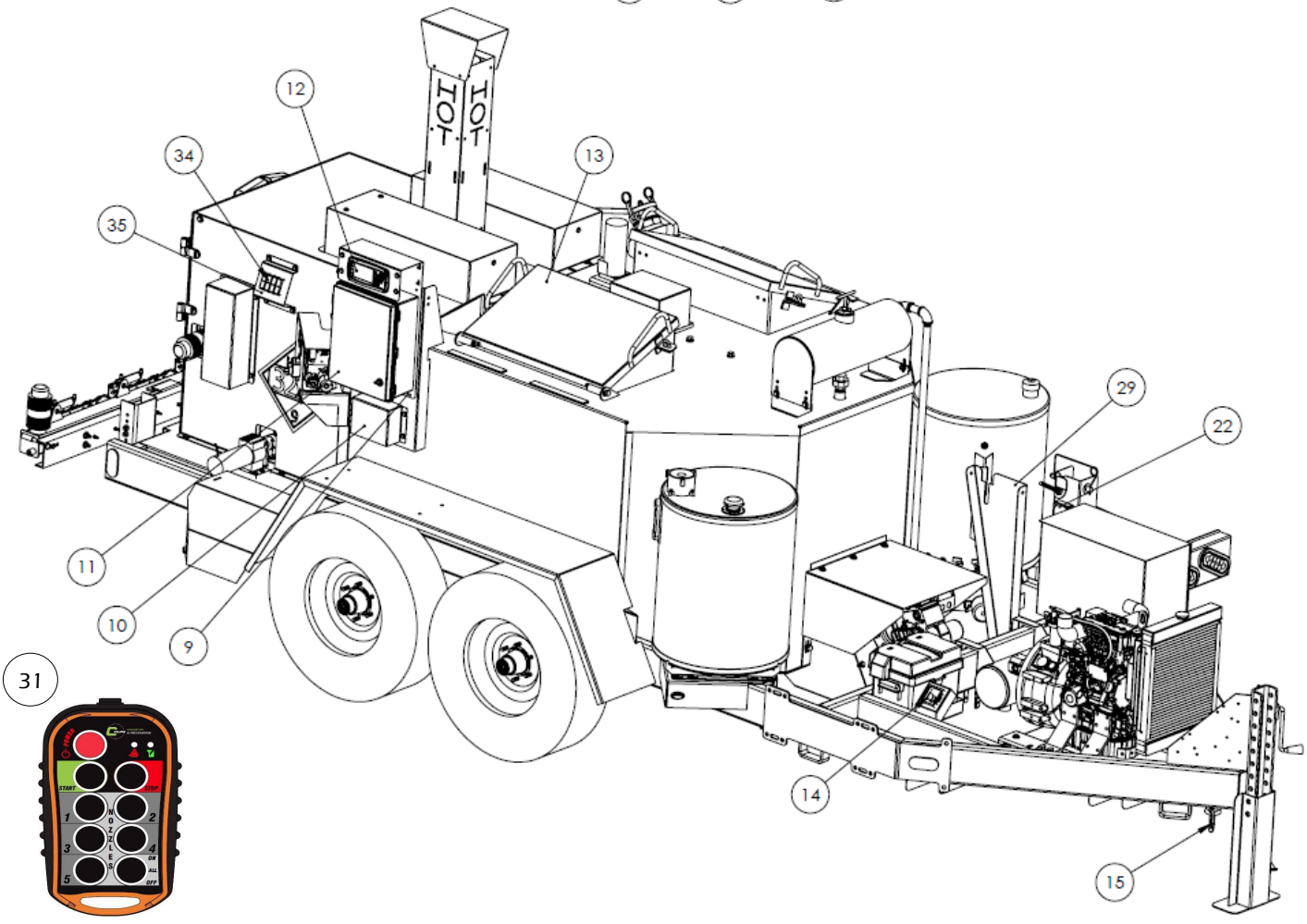


MA4 Application Bar Parts

#	PART #	DESCRIPTION
1	302-268-000	Application Bar Weld
2	302-274-004	Slide Protection Plate
3	302-282-000	Ball Bearing Carriage
4	101320	M8 x 20 Bolt
5	302-275-000	Spray Valve
6	302-328-000	Spray Valve O-Ring
7	156287	Spray Tip
8	100203	1/4” Lock Washer
9	100206	1/4” Nut
10	100204	1/4” SAE Washer
11	302-277-000	Pivot Arm
12	302-276-000	Engagement Arm
13	101318	1/4” Pan Head Screw
14	100939	1/4” Lock Nut
15	100124	1/4” Washer
16	101319	Eyebolt
17	302-326-000	Pneumatic Cylinder
18	156703	Clevis Kit
19	172724	1/8” NPT Push Connect Fitting

MA4 Miscellaneous Components and Parts





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MA4 Miscellaneous Components and Parts

#	PART #	DESCRIPTION
1	130402	Clearance Light Red
2	156704	Compressor
3	121194	Live Swivel
4	150214	Red Reflector
5A	130405	Grommet For Tail light
5B	130403	Tail Light LED Oval
6	130374	Clearance Light Red
7	120498	Gate Valve
8	302-335-004	Manifold Protection
9	302-309-004	Plate - Control Mount
10	302-347-000	MA4-D ECU
11	130995	Control Box MA4
12	302-346-000	MA4-D Display
13	409807	Loading Door
14	111108	LOFA Control
15	152664	Anchor Shackle
16	429336	Side Plate
17	429335	Plate - Cap
18	130130	24" Thermometer
19	404341	Dipstick
20	130050	Breakaway Switch
21	150215	Amber Reflector
22	130989	Transmitter / Receiver
23	156288	Lock Pin
24	302-085-601	Outrigger Rod
25	302-084-601	Outrigger Pin
26	130988	Ground Speed Encoder
27	121140	Camlock Hose Coupling
28	121139	Camlock Cover
29	302-099-004	Plate - Wheel Support
30	130990	Clevis
31	130996	Remote Key Fob
32	302-078-004	Tower Weld
33	302-081-004	Outrigger Weld
34	131206	Tip Control Keypad
35	302-225-004	Keypad Mount
36	302-332-000	Pneumatic Manifold

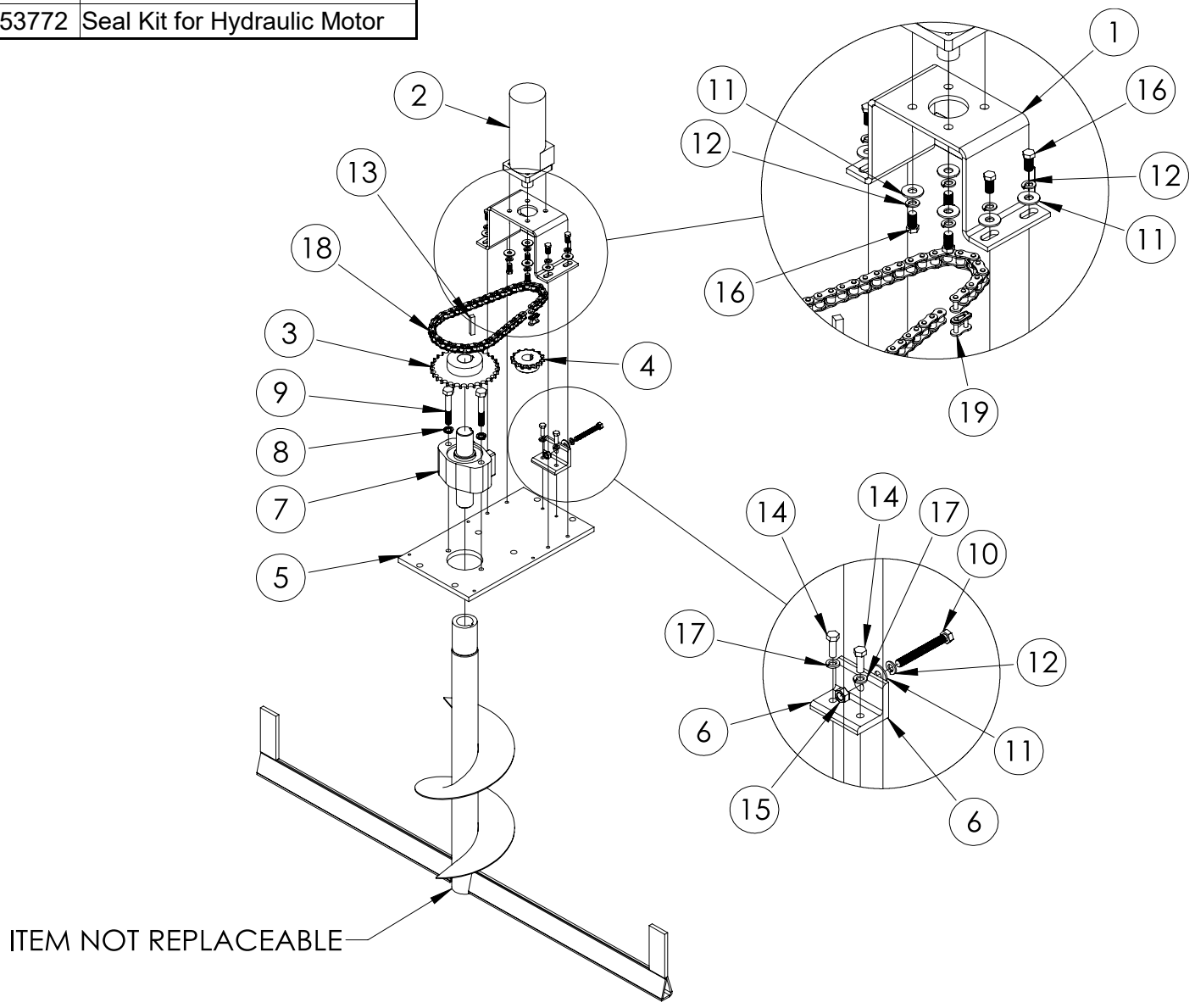
MA4 Agitation System Parts

#	PART #	DESCRIPTION	QTY.
1	404327	Motor Mount	1
2	170602	Motor - 45 CU IN	1
3	111087	Sprocket	1
4	111088	Sprocket	1
5	420169	Plate - Agitator	1
6	420171	Adjustment Angle	1
7	171173	Load Adapter	1
8	100095	Washer - Split-lock 1/2"	2
9	100039	HHCS 1/2 X 3-1/2	2
10	100295	HHCS 3/8 X 3 FL THD	1

#	PART #	DESCRIPTION	QTY.
11	100126	Washer - Flat .38	9
12	100093	Washer - Split-lock .38	9
13	110294	Key .38 X 2.00 LG	1
14	100006	HHCS .31 X 1.0	2
15	100069	Nut - Hex .38	1
16	100015	Bolt, Hex 3/8-16 X 3/4	8
17	100092	Washer - Split-lock .31	2
18	110488	Chain No. 50 X 68 Links	1
19	110190	Link - Master No. 50	1

MAINTENANCE KIT:

PART #	DESCRIPTION
153772	Seal Kit for Hydraulic Motor



Melter Applicator Optional Accessories Available

Sealing Tips

2.5" Swivel

4.5" Swivel

1/8" & 1/4" Concrete

Sealing Shoe

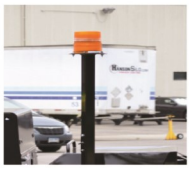
2.5" Fixed

4.5" Fixed

L & R Lap Joint

Select additional options for convenience and operation such as sealing tips, sealing wands, lighting options and many more. See your local distributor for a complete listing.

Lighting and Safety Options



☐ Single
☐ Dual

☐ Arrow Bd.

☐ Fire Ext.

Machine Operational Options

☐ Standard
☐ Insulated

☐ Agitator Stop

☐ Draw Off

☐ Air Blow Out

Other Options

☐ Powered

☐ Hitch Ext.
Included with conveyor option

☐ Tool Box

☐ Mounted Spare

Cimline Sales:

Toll Free: (877) 841-0848 • Telephone: 763-694-2665

Corporate Headquarters:
2601 Niagara Lane N, Plymouth, Minnesota 55447

www.cimline.com

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EQUIPMENT WARRANTY

2601 Niagara Lane N,
Plymouth, MN 55447
(877) 841-0848
Tel: 763-694-2665
Fax: 763-553-1093
cimline.com

Cimline, Inc. warrants its equipment, to the original purchaser only, against defects in material or workmanship based on normal use of service. Except as provided herein, no agent, dealer, employee or any other person is authorized to give any warranties of any nature outside of this agreement on behalf of Cimline, inc.

Cimline Equipment is warranted for one year / 1000 hours of use and includes/excludes the following:

Includes; basic frame and tanks, steel fabricated parts, hydraulic and burner control system.

Excludes; the engine, air compressor, battery, and tires as these items are covered by their respective manufacturer and all warranty for these items should be directed to their local authorized distributor/dealer.

Warranty period; begins at the date unit is first placed in service, or shipped from the factory. Upon sale or rental of the equipment by the distributor or Cimline, the provided warranty card should be mailed within 14 days stating date the unit is placed in service thus beginning the warranty period.

In the absence of any warranty card on file, the warranty period begins from date of shipment from factory.

Warranty for material pumps, electric heated hoses or heated hose with heated wands, are pro-rated using the following scale:

Days	Hours	Warranty Coverage
365 (1 year)	500	100%

Any warranty claims on parts may require a return for evaluation. Specifically, heated wands with heated hose, standard heated hoses, and material pumps will require an appropriate Return Merchandise Authorization (RMA) from Cimline Customer Care and that the item be returned for evaluation with that RMA for any warranty claim to be considered. For electric heated hose with heated wand claims; the defective hose and wand must be returned as a pair to the Cimline factory for Inspection, unless the heated wand has a serial number on the handle, than It can ship back alone. All other components must be returned only at the request of Cimline Customer Service.

Replacement parts are warranted for a period of 60 days from factory invoice, with the exception of the replacement material pumps, heated hoses and heated hoses with heated wands, which use the above scale for pro-rated coverage. For replacement parts that are purchased from distributor stock, the 60-day period will commence from the date of distributor to end user invoice. A copy of the invoice will be required as proof of in service date. If invoice is not provided, policy will revert back to the original factory invoice date.

Warranty does not apply to defects caused by improper or unreasonable use, including but not limited to damage (including freight damage), accidents, failure to provide reasonable maintenance or faulty repair made by others. Furthermore, warranty is void if the product or any of its components are modified or altered in any way or if aftermarket (NON-OEM) parts have been used during the warranty period. In the event of freight damage, a claim must be filed by the purchaser with the freight carrier.

Our responsibility under this warranty is limited to replacement or repair (at Cimline's discretion) of such part or parts, as inspection shall disclose to have been defective, to be performed at Cimline Inc. factory at Plymouth, MN or at a facility designated by Cimline.

In no event shall Cimline Pavement Maintenance Group be liable for incidental or consequential damages of any kind whatsoever. Downtime, overhead and performance penalties are not recognized at any time as part of warranty coverage. Reasonable labor, travel, and diagnostic time will be reviewed for reimbursement. The use of aftermarket (NON-OEM) parts will result in denial of the claim. Mileage will be reimbursed at a rate of $0.80 (80 cents) per mile (domestic 48 states), and no more than one round trip per claim. Shop Labor will be reimbursed at a max rate of $80/hour. Parts freight will be reimbursed at a "UPS REGULAR" rate only for stock items, and for non-stock items will be reimbursed at a "UPS BLUE" rate.

All warranty claims must be processed through the factory authorized Cimline dealer that was the original distributor of your Cimline Equipment or OEM Parts. All claim notices to Cimline pursuant to this limited warranty must be made by completing a Cimline Warranty Claim Form which should be Emailed to: customercareorders@plymouthind.com

No exceptions will be made to this warranty unless agreed to in writing by the Cimline Director.

This warranty is in lieu of all other warranties expressed or implied, and such other warranties are hereby disclaimed including any warranty of merchantability and fitness for a particular purpose.

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