

# Crack Pro Mastic Machine

250 & 300

OWNERS MANUAL



**SealMaster®**



Pavement Products & Equipment

PO Box 2277 • Sandusky, Ohio 44870 • 419-626-4375

[sealmaster.net](http://sealmaster.net)

# CRACK PRO® MASTIC MACHINE

## Owner's Manual

Version 3.6

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| Version | Date  | Changes                        | Approval |
|---------|-------|--------------------------------|----------|
| 1.0     | 8/20  | Original Issue                 | DS       |
| 2.0     | 10/20 | Control Box & Tool Box         | JG       |
| 2.1     | 12/20 | Oil Filter & Head with Gauge   | JG       |
| 2.2     | 3/21  | Beckett Info. & Tires          | JG       |
| 2.3     | 12/21 | Temperature Control Box        | JG       |
| 2.4     | 1/22  | Change Engine Oil – Note       | JG       |
| 2.5     | 4/22  | Added Paint Page               | JG       |
| 2.6     | 5/22  | Breakaway Kit Change           | JG       |
| 2.7     | 6/22  | Added P50137B018               | JG       |
| 2.8     | 7/22  | Bleed Burner Fuel Pump         | DS       |
| 2.9     | 7/22  | See Burner Chart               | JG       |
| 3.0     | 9/22  | Added Set Engine Speed         | JG       |
| 3.1     | 4/23  | Burner Box Items & Grease Note | JG       |
| 3.2     | 4/23  | Control Box Items              | JG       |
| 3.3     | 7/23  | Material Tank Buildup Note     | JG       |
| 3.4     | 10/23 | Picture / List Sequence        | JG       |
| 3.5     | 1/24  | Added P693A040                 | JG       |
| 3.6     | 5/24  | Item 48 Change P601A061        | JG       |

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# ThorWorks Industries, Inc.

Purchased by \_\_\_\_\_ Model NO. \_\_\_\_\_  
Company Name \_\_\_\_\_ Serial NO. \_\_\_\_\_  
Address \_\_\_\_\_ Acceptance Date \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

## CORRESPONDENCE

All Correspondence regarding this equipment, as well as general correspondence should be addressed to:

ThorWorks Industries, Inc.

PO Box 2277

Sandusky, OH 44870

In referring to the equipment, kindly state the Model Number, Serial Number and any part number involved



## SealMaster28® LIMITED WARRANTY

SealMaster warrants that its products are of quality material and workmanship. SealMaster agrees to replace, within a period of one (1) year from date of delivery, or at its option, repair, without charge, any part of their manufacture which proved defective. The repair or replacement will be free of charge F.O.B. Sandusky, Ohio, providing the damaged part or parts are returned, freight prepaid, to SealMaster and investigation shows such repair or replacement is made necessary by an inherent defect of material or workmanship.

It is hereby understood that engines, motors, pumps, or other components purchased by SealMaster for use on its equipment are not warranted by SealMaster and are sold only with the standard warranty of the manufacturer of that component.

SealMaster will make no allowances for repairs or alterations completed by outside sources unless authorization is in writing and approved by an authorized SealMaster representative.

Any claims for defective material or workmanship must be made prior to the expiration of thirty (30) days from the date failure occurs, and in all cases prior to the expiration of the warranty period of one (1) year. It is the intent of this paragraph to limit SealMaster's liability solely to the cost of replacement parts, F.O.B. factory, or at the option of SealMaster to repair of the defective part or parts. No allowances for damages, lost time, or any other claim will be recognized.

This warranty is null and void if other than genuine SealMaster parts are used.

SealMaster is constantly striving to improve their products. Changes in design and improvement will be made whenever the manufacturer believes the efficiency of the product will be improved, without incurring any obligation to incorporate such improvements in any machines which have been shipped or are in service.

In an effort to continue to improve product quality, SealMaster reserves the right to change specifications without notice.

Any modification or alteration of this machine without prior approval of the manufacturer may void this warranty.

## SAFETY PRECAUTIONS AND CAUTIONS

### PRECAUTIONS

- **Always** wear **eye** and **ear** protection, **long sleeve shirt**, **face shield**, and **gloves**.



- Be aware of all **CAUTION, WARNING, and DANGER** signs on the unit.
- The high operating temperatures of your machine and materials require special training and maintenance of your equipment.
- Read and follow these operating instructions to every detail.
- Make sure the operator is familiar with the units' operation.

### CAUTIONS

- Keep hands, feet, and clothing away from moving parts.
- Do not operate the machine without all guards in place.
- Never fill the fuel tank with a lit burner.
- **WARNING!** When checking oil levels, **never check when HOT!**
- **WARNING!** When the burner is on DO NOT exceed 10 mph while towing, or damage to the burner or machine may occur.

# SAFETY PRECAUTIONS AND CAUTIONS

## FIRST AID

### FIRST AID FOR MOLTEN ASPHALT CEMENT BURNS

#### In the event of a MOLTEN ASPHALT CEMENT BURN:

COOL the asphalt cement and affected parts of the body immediately.

Methods of cooling (in order of preference):

1. Completely submerge affected area in ice water;
2. Completely submerge affected area in tap water;
3. Place affected area under running water.

### DO NOT DELAY

Use any available water, cooler than body temperature, while arranging for better cooling.

**CAUTION: DO NOT** apply ice directly to affected area.

LEAVE cooled asphalt cement on affected area.

Proceed with the following:

**MINOR ASPHALT CEMENT BURNS**—at first opportunity get victim to physician.

Includes:

Injury to small areas of fairly insensitive flesh involving a small quantity of asphalt cement.



**SERIOUS ASPHALT CEMENT BURNS**—as soon as possible get victim to:

Hospital  
Clinic  
Physician's Office

Includes:

Injury to the head, face, or extremities;  
Injury when large amounts of asphalt cement are involved;  
Evidence of nausea or faintness.



#### TREATMENT FOR SHOCK

In the event shock occurs, do the following:

1. Keep victim lying down and quiet.
2. Keep victim covered with a blanket or something similar to keep body temperature at normal, 98°F (37°C).
3. Keep victim's head lower than feet to promote blood supply to head and chest.



**DO NOT ATTEMPT TO REMOVE THE ASPHALT CEMENT**

with products containing solvents or ammonia.

Natural separation will occur in about 48-72 hours.

If necessary, for early removal, soak bandage in mineral oil and place over affected area for 2 to 3 hours.



#### NATIONAL ASPHALT PAVEMENT ASSOCIATION

5100 Forbes Boulevard, Lanham, MD 20706-4407  
Phone: (301)731-4748 • Toll-free: 888-468-6499 • Fax: (301)731-4621  
[www.hotmix.org](http://www.hotmix.org)



## **SAFETY PRECAUTIONS AND CAUTIONS**

### **CHECK IT OUT**

Know what protective devices your machine is equipped with and see that each item is securely in place and operating condition.

For example:

1. Warning Decals
2. Guards
3. Material hose connections and protective sleeve
4. Grounding wires

### **KNOW YOUR MACHINE**

Have all of the repairs been made that you reported? The most minor malfunction could be the result of more serious trouble.

### **FIRE PREVENTION**

Avoid fire hazards such as:

1. Always stop the engine when refueling, do not refuel while smoking or when near an open flame or sparks.
2. Always wipe up any spills immediately.
3. Batteries produce explosive gases, keep open flame or sparks away.
4. Remove all trash or debris from the machine, make sure that oily rags or other flammable materials are not stored in or on the machine.
5. Check for fuel, engine oil, and hydraulic leaks, replace worn or damaged hoses.
6. Inspect electrical wiring for worn or damaged insulation, replace as needed.

### **WARNING: LETHAL FUMES!**

Engine and burner exhaust gases contain carbon monoxide. Carbon monoxide is odorless, colorless and can cause death if inhaled. Avoid inhaling exhaust fumes, and never run the burner or engine in an enclosed building or confined area. Symptoms of poisoning are:

1. Dizziness
2. Headache
3. Weakness, Sleepiness and Vomiting

# SAFETY PRECAUTIONS AND CAUTIONS

## DRESS FOR SAFETY

When operating your equipment always wear the following:

1. Long pants
2. Long-sleeved shirt
3. Heat resistant gloves
4. Eye protection (face shield is preferred)
5. Work shoes
6. Safety Vest

## WARNING: MOVING PARTS

- Keep hands, feet, hair, and clothing away from all moving parts.
- Never operate the machine with covers, shrouds, or guards removed.
- Do not wear loose or dangling clothing or jewelry near the equipment. It could become caught and possibly cause serious injury or death.

## LEARN TO BE SAFE

1. **STUDY THE OPERATORS MANUAL** and other pertinent information furnished with the equipment. Learn your machines operating and maintenance characteristics, capacities, and limitations.
2. Learn the location and function of all controls, indicators, and warning devices.
3. Be familiar with the safety devices on your machine.
4. Learn to recognize the machines warning and safety signals, they will alert you to conditions that may make it hazardous to continue operating.
5. Carefully read and follow all safety signs and instructions on the machine.
6. Keep safety signs and instructions in good condition, replace missing or damaged signs immediately.
7. Do not open the tank lid and put your head directly over the opening. Besides not being good to breathe, there may be enough oxygen introduced into the tank to cause the sealant to self-ignite.

## **SAFETY PRECAUTIONS AND CAUTIONS**

### **WALK AROUND INSPECTION**

Before each day, walk around the machine and inspect for leaks, loose or missing parts, damaged parts, or parts out of adjustment. Perform all recommended daily maintenance.

### **TRAFFIC CONTROL**

Proper traffic control is your responsibility.

### **REMEMBER:**

**ONLY YOU CAN PREVENT INJURY TO YOURSELF AND OTHERS!**

**SAFETY IS YOUR RESPONSIBILITY!**

# **CRACK PRO® MASTIC MACHINE**

## **PRE-OPERATION INSTRUCTIONS**

### **CHECKLIST**

#### **THE ENTIRE UNIT SHOULD BE CHECKED**

Even though your machine is ready for operation when you receive it, certain items should be checked before putting it to use.

If you have any questions about the operation of this machine discontinue operation of the machine and call the factory immediately.  
(419-626-4375)

The most important items to check are listed below:

- Check nuts, set screws, and bolts to assure that no loosening occurred during shipment.
- Check to be sure the HTO vent pipe is clear and open for venting. Located on the HTO expansion tank.
- Check wheel lug nuts, torque 100FT/LBS. after the first 100 miles of travel.
- Never operate machines unattended.
- Never exceed the heat transfer oil limit of 500°F when operating.
- Close tank lid before transporting.

# CRACK PRO® MASTIC MACHINE

## PRE-OPERATION INSTRUCTIONS

### CAUTIONS

Caution should be used when loading blocks to prevent possible splashes of hot material. Set a material block (one at a time) on the lid. Close the lid allowing the block to drop into the material tank.

- Do not breathe joint sealing material fumes.
- Do not exceed 10 mph when towing with the burner on.
- Do not operate the machine in the rain.
- Do not pressure wash the burner area in front of the machine.
- Do not work on the machine while it is in operation.
- Do not work on the machine when heat transfer oil has been heated over 90°F.

**Never expose the material tank to an open flame.**

### CLOTHING

Proper clothing should be worn at **all** times.

- long sleeve shirt
- face shield
- high-temperature gloves
- long pants

# CRACK PRO® MASTIC MACHINE

## PRE-OPERATION INSTRUCTIONS

### THINGS TO KNOW

Everyone who uses or works on this machine should receive this information.

- Never apply these products when wet.
- The digital temperature control box houses 12 volts dc.

### Important information for all Crack-Pro Mastic machine owners



### Engine speed is set at 2500 RPM

These are instructions on how to set the Mastic Machine engine speed to 2,500 RPM. The picture shows the actual distance between the throttle arm and the black metal linkage mount. If your engine is not set the same as the photo, please loosen the linkage jam nuts with two - 7/16" wrenches and set the distance to match the photo. The actual distance should be **4 - 7/8"** from the black metal mount to the outside tip of the aluminum-colored turnbuckle.

If you have any questions please call, nearest SealMaster™ location.

# CRACK PRO® MASTIC MACHINE

## OPERATING INSTRUCTIONS

### FLUID SPECIFICATIONS

#### Diesel engine crankcase oil:

The break-in oil should be changed after the first 50 hours of operation.

Oil change intervals:

| Temperature          | Oil type         | Interval              |
|----------------------|------------------|-----------------------|
| Above 77°F           | SAE 30 or 10w-30 | with filter 100 hours |
| Between 32°F to 77°F | SAE 20 or 10w-30 | with filter 100 hours |
| 32°F or below        | SAE 10 or 10w-30 | with filter 100 hours |

#### Hydraulic oil:

- The hydraulic system should be drained, cleaned, and refilled every two years.
- If the oil becomes contaminated at any time, flush the system immediately. The oil filter should be changed yearly.
- The system capacity is 30 gallons.

Change the hydraulic oil filter after the first 20 hours of operation.

The factory-installed oil meets the following specifications:

#### Grade 68

**Viscosity @ 100°F SUS 306**

**Approximate SAE grade 20W**

**Factory-installed oil: COMMERCIAL AW Hydraulic Oil**

**See enclosed MSDS**

# CRACK PRO® MASTIC MACHINE

## OPERATING INSTRUCTIONS

### FLUID SPECIFICATIONS

#### Heat Transfer Oil:

Heat transfer oil is specially formulated to withstand high temperatures and many heating and cooling cycles. The normal life cycle is one to two years, depending on how much the machine is used.

**Never leave the oil in the machine for more than two years.**

The procedure for checking the oil level is to **ALWAYS CHECK IT COLD**.

Located on the expansion tank is an oil level dipstick, there is a mark on the dipstick to designate the full point. When adding oil, it is necessary to remove the oil thermometer from the top rear curbside corner. Install a funnel here, and check with the dipstick.

#### Heat Transfer Oil Gallons per Tank:

| Tank Size | Gallons |
|-----------|---------|
| 250       | 30      |
| 300       | 37      |

**DO NOT OVERFILL, FILL 4" FROM TOP. OVER FILLING WILL CAUSE OIL TO COME OUT THE OVERFLOW VENT PIPE AND ONTO THE GROUND WHEN THE MACHINE IS BEING HEATED**

Oil coming out of the vent pipe means one of two reasons, overfilling or moisture is present in the oil jacket.

**Immediately shut off the burner if this happens. Let the machine cool completely.**

**Water in the oil is extremely dangerous. Never heat the machine if water is present. Drain and replace.**

The factory-installed oil meets the following specifications:

|   |                               |
|---|-------------------------------|
| <b>Name</b>                                 | <b>Industrial turbine oil</b> |
| <b>Flashpoint</b>                           | <b>&gt;392°F</b>              |
| <b>Auto-ignition temp.</b>                  | <b>&gt;500°F</b>              |
| <b>Factory-installed oil: Turbine XL 68</b> | <b>See enclosed MSDS</b>      |



# CRACK PRO® MASTIC MACHINE

## MACHINE MAINTENANCE

### TROUBLE SHOOTING GUIDE

| PROBLEM                                | POSSIBLE CAUSES/SOLUTIONS  |
|--|--|
| DIESEL BURNER<br>HAS LOW OPERATING PSI | PUMP WORN / CHECK AND REPLACE                                    |
|  | FUEL LINE PLUGGED / CLEAN OR REPLACE                             |
|  | PUMP COUPLER BROKEN / REPLACE COUPLER                            |
|  | BURNER MOTOR WORN / REPLACE MOTOR                                |
| BURNER<br>DOES NOT LIGHT               | <b>AIR IN PUMP / BLEED THE BURNER FUEL PUMP- SEE BURNER PAGE</b> |
|  | ELECTRODES WORN AT TIPS / REPLACE ELECTRODES                     |
|  | ELECTRODES SPACING INCORRECT/ RESET SPACING                      |
|  | CAD CELL DIRTY / CLEAN GLASS LENS                                |
|  | WATER IN FUEL / REPLACE FUEL & FILTER                            |
|  | BURNER IN LOCKOUT / REMOVE NEGATIVE CABLE & REATTACH             |
|  | FUEL NOZZLE PLUGGED / REFER TO OWNER'S MANUAL                    |
|  | AIR SHUTTER MOVED / REFER TO OWNER'S MANUAL                      |
|  | FUEL FILTER PLUGGED / CLEAN AS NEEDED                            |
|  | TRANSFORMER WORN / REPLACE TRANSFORMER                           |
|  | PRIMARY CONTROL FAILED / REPLACE PRIMARY CONTROL                 |
|  | FUEL SOLENOID FAILED / REPLACE SOLENOID                          |
|  | NO POWER FROM CONTROLLER / TRACE WIRES                           |
|  | HI-TEMP LIGHT IS ON / PUSH RESET                                 |

See oil burner trouble shooting guide for step by step instructions

# CRACK PRO® MASTIC MACHINE

## MACHINE MAINTENANCE

### TROUBLE SHOOTING GUIDE

| PROBLEM  | POSSIBLE CAUSES/SOLUTIONS                               |
|--|---|
| <b>ENGINE<br/>ISSUES</b>                                     | <b>OIL SPECIFICATIONS</b> / REFER TO OWNER'S MANUAL     |
|  | <b>OPERATING INSTRUCTIONS</b> / REFER TO OWNER'S MANUAL |
|  | DEAD <b>BATTERY</b> / REPLACE BATTERY                   |
|  | LOW ON <b>FUEL</b> / FILL FUEL TANK                     |
|  | PLUGGED <b>FUEL LINE</b> / CLEAN FUEL SYSTEM            |
|  | PLUGGED <b>FILTER</b> / CHANGE FILTER                   |
| <b>(HTO) HEATED TRANSFER OIL<br/>COMING OUT OF VENT PIPE</b> | OVERHEATED <b>HTO</b> / CHECK TEMPERATURE CONTROL       |
|  | MOISTURE IN <b>HTO</b> TANK / DRAIN AND REPLACE         |
|  | <b>HTO</b> PAST OPERATING LIFE / DRAIN AND REPLACE      |
| <b>HYDRAULIC SYSTEM<br/>NOT WORKING</b>                      | LOW <b>OIL</b> LEVEL / CHECK LEVEL AND FILL             |
|  | <b>HYDRAULIC PUMP</b> WORN / REPLACE PUMP               |
|  | <b>FILTER</b> PLUGGED / REPLACE FILTER                  |
|  | <b>TANK VALVE</b> CLOSED / OPEN VALVE                   |
|  | KINKED <b>HOSE</b> / REPLACE HOSE                       |
| <b>AGITATOR<br/>DOES NOT ROTATE</b>                          | NO POWER AT <b>12V VDC COIL</b> / CHECK WIRING & FUSE   |
|  | BROKEN <b>DRIVE COUPLER</b> / REPLACE COUPLER           |
|  | BROKEN <b>DRIVE MOTOR</b> / REPLACE MOTOR               |
|  | NOT WORKING <b>LID SWITCH</b> / CHECK LID SWITCH        |
|  | <b>HYDRAULIC CARTRIDGE</b> / REPAIR OR REPLACE          |

**ENGINE – NOTE: ENGINE SERIAL NUMBER WILL BE NEEDED TO RESOLVE ANY ISSUES**

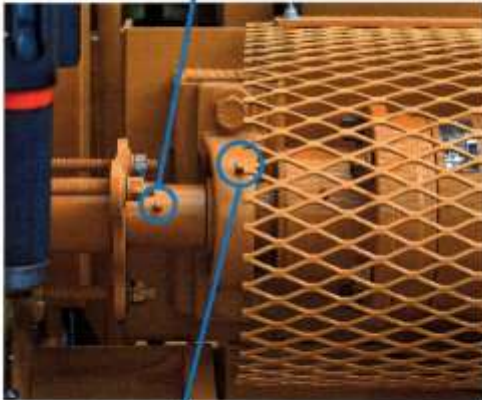
# CRACK PRO® MASTIC MACHINE

## MACHINE MAINTENANCE

### MAINTENANCE SCHEDULE

#### IMPORTANT

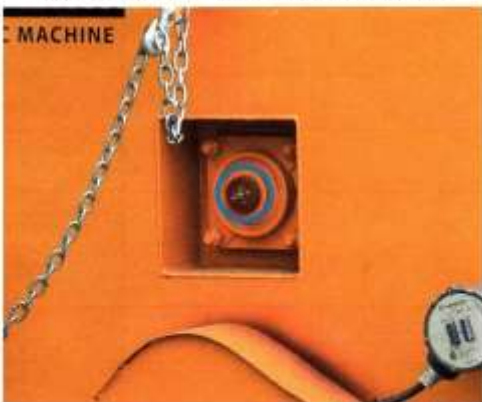
Grease this shaft Daily with 5 pumps of high-temp 625° rated NLGI #2 Grease



The bearing is to be greased every 600 hrs with 3 pumps of the high-temp grease.

#### IMPORTANT

Grease this shaft Daily with 5 pumps of high-temp 625° rated NLGI #2 Grease



# CRACK PRO® MASTIC MACHINE

## MACHINE MAINTENANCE

### MAINTENANCE SCHEDULE

Follow maintenance procedures listed on the **engine** and **burner** manuals.

| MAINTAIN                       | 8 HRS | 1 WEEK | 1 MONTH | 6 MONTHS | 1 YEAR | 2 YEARS |
|--------------------------------|-------|--------|---------|----------|--------|---------|
| CHECK ENGINE OIL LEVELS        | ✓     |        |         |          |        |         |
| CHECK HYDRAULIC OIL LEVELS     | ✓     |        |         |          |        |         |
| CHECK DIESEL FUEL LEVELS       | ✓     |        |         |          |        |         |
| CHECK HTO LEVELS               |       | ✓      |         |          |        |         |
| CHECK IGNITORS                 |       |        |         |          |        | ✓       |
| CHECK HITCH BOLTS              |       |        |         | ✓        |        |         |
| CHECK BRAKES                   |       |        |         |          |        | ✓       |
| CHECK LUG NUTS                 |       |        |         | ✓        |        |         |
| CHANGE ENGINE OIL *1           |       |        |         |          |        |         |
| CHANGE HTO                     |       |        |         |          | ✓      |         |
| CHANGE HYDRAULIC OIL *2        |       |        |         |          |        | ✓       |
| CHANGE HYDRAULIC OIL FILTER    |       |        |         |          | ✓      |         |
| CHANGE DIESEL FILTER           |       |        |         |          | ✓      |         |
| CHANGE PRIMARY CONTROL         |       |        |         |          | ✓      |         |
| CHANGE SOLENOID                |       |        |         |          | ✓      |         |
| CHANGE NOZZLE                  |       |        |         |          | ✓      |         |
| DRAIN WATER FROM DIESEL FILTER |       |        | ✓       |          |        |         |
| CHECK BREAKAWAY BOX BATTERY    | ✓     |        |         |          |        |         |
| CHECK TIRE PRESSURE            |       |        |         | ✓        |        |         |
| PACK WHEEL BEARINGS            |       |        |         |          |        | ✓       |
| INSPECT ALL HOSES              | ✓     |        |         |          |        |         |

**\*1 CHANGE ENGINE OIL- OIL SPECIFICATIONS / REFER TO ENGINE MANUAL**

602 Kubota Recommends 50hrs Initial Start / every 100hrs After

**\*2 Use a good quality AW68 hydraulic oil with a rating of 352 SUS @100 F.**

**Do not use** a 150 rated hydraulic oil as it is too light.

# Indol<sup>®</sup> and Indol<sup>®</sup> (Ultra Clean\*)

## Anti-Wear Hydraulic Oil

### Typical Application/ Recommendations

- Denison HF-0, HF-1, HF-2
- Cincinnati Lamb P-68, P-69, P-70
- Eaton Vickers I-286-S, M2950-S (35VQ25)
- Rexroth, Parker Hannifin
- Marzocchi, Racine S
- DIN 51524-2, GM LS-2, AFNOR 48-603
- U.S. Steel 126, 127, 136
- ASTM D-665, Rust Test A&B: Pass
- ASTM D-943 Oxidation Test: 6,000+Hrs

### Typical Customer

#### Owners and operators of:

- Mobile/Industrial Hydraulic Systems
- Electric Utility Maintenance Equipment
- Enclosed Gear Sets
- Circulating Systems
- Air Compressors and Vacuum Pumps
- Injection Molding Machines
- General Lubrication

### Typical Properties

| ISO Viscosity Grade        | MV-32     | 22        | 32        | 46        | 68        | 100      | 150       | 220       | 460      |
|----------------------------|-----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|----------|
| Approximate SAE Grade      | (5W-20)   | (5W)      | (10W)     | (20W)     | (20)      | (30)     | (40)      | (50)      | --       |
| Viscosity @ 100°C, cSt     | 6.6       | 4.4       | 5.5       | 6.9       | 8.8       | 11.4     | 15.6      | 19.3      | 30.5     |
| SUS                        | 46.5      | 40.6      | 44.3      | 48.5      | 55.1      | 63.2     | 76.4      | 93.0      | 145      |
| @ 40°C, cSt                | 33.3      | 22.1      | 32.4      | 46.5      | 69.0      | 101.1    | 152.3     | 220.2     | 461.3    |
| SUS                        | 156       | 106       | 150       | 215       | 313       | 456      | 686       | 992       | 2136     |
| Viscosity Index            | 158       | 108       | 106       | 104       | 100       | 99       | 105       | 99        | 95       |
| Pour Point, °C / °F        | -48/-54   | -42/-44   | -42/-44   | -39/-38   | -36/-33   | -27/-17  | -30 / -22 | -21/-6    | -3/27    |
| API Gravity / lbs./gal.    | 32.3/7.19 | 33.4/7.15 | 32.1 /7.2 | 31.2/7.24 | 30.6/7.27 | 30.1/7.2 | 29.5/7.32 | 28.8/7.35 | 25.7/7.5 |
| Flash Point, °F            | 400       | 400       | 420       | 440       | 460       | 480      | 500       | 540       | 560      |
| Dielectric Strength, KV    | 40*       | 40*       | 40*       | 40*       | 40*       |          |           |           |          |
| Indol (Ultra Clean) series | Yes*      | Yes*      | Yes*      | Yes*      | Yes*      |          |           |           |          |

\*This Dielectric Strength and Ultra clean specification are only found in the above products that are in new sealed drums, totes, and 2½-gallon containers from CHS Lube manufacturing plants. The drums and totes will have the ultra clean logo on them.

The typical properties listed reflect the general characteristics of the product, and are not manufacturing specifications. Normal batch-to-batch variations should be expected.

### Health & Safety

A complete safety data sheet is available by calling 1-651-355-8438 or visit [www.cenex.com](http://www.cenex.com).

# Indol<sup>®</sup> and Indol<sup>®</sup> (Ultra Clean\*)



## Anti-Wear Hydraulic Oil

### General Description

Indol<sup>®</sup> Premium Anti-wear Hydraulic Oil is exceptional quality zinc containing anti-wear hydraulic oil designed to exceed the performance requirements of major pump manufacturers.

Indol oils are specially formulated with the highest quality HCG-2 base oils having outstanding stability. The addition of a uniquely balanced additive system provides total anti-wear, oxidation, thermal, hydrolytic stability, anti-rust, demulsibility, and anti-foam performance.

The zinc anti-wear agent used in Indol oils helps minimize wear in high speed, high pressure vane and gear pumps while meeting the lubrication and requirements of the axial piston pumps having bronze and steel metallurgy. Indol oils are highly stable under thermal or oxidative stress and are exceptionally stable when in the presence of moisture.

Indol<sup>®</sup> (Ultra Clean\*) series goes through a special fine filtering process during the manufacturing of selected ISO grades. This ensures an ultra clean oil to prevent excess wear under high pressure and close manufacturing tolerances.

Indol<sup>®</sup> MV is a multi-viscosity oil formulated with an extremely shear stable viscosity modifier. It provides exceptional low temperature properties enabling performance over a wide range of start-up and operating temperatures.

### Features and Benefits

- **Oxidation Control:** Excellent oxidation and thermal stability reduces sludge and varnish providing protection of critical components while extending oil and equipment life.
- **Wear Protection:** The premium anti-wear technology provides protection that passes major hydraulic equipment manufacturers pump tests resulting in longer life.
- **Filterability:** Superior hydrolytic stability with quick water separation provides protection against filter plugging and deposits.
- **Rust and Corrosion Protection:** Reduced maintenance due to outstanding rust and corrosion prevention capabilities when moisture is present.
- **Foam Control:** A special anti-foam agent promotes the rapid break up of foam and reduces air entertainment.
- **High Viscosity Index:** The shear stability of Indol MV provides exceptional viscosity stability, resulting in consistent operation throughout wide temperature ranges and drain intervals.
- **Ultra Clean:** Indol (Ultra Clean\*) series only. Additional filtering provides ultra clean oils in selected viscosity grades for maximum system protection.
- **Reserve Quality:** Indol Premium AW hydraulic oils have the ability to maintain their high level of performance under the toughest operating and extended drain conditions.



## SAFETY DATA SHEET

### Section 1. Identification

|   |  |
|---|--|
| CHS Inc.<br>P.O. Box 64089<br>Mail station 525<br>St. Paul, MN 55164-0089 | Transportation Emergency (CHEMTREC) : 1-800-424-9300<br>Technical Information : 1-651-355-8443<br>SDS Information : 1-651-355-8445 |
| Product name : Turbine XL 22, 32, 46, 68, 100                             | SDS no. : 0190-093809  |
| Common name : Industrial turbine oil                                      | Revision date : 05/07/2015   |
| Chemical name : Lubricating oil.  | Chemical formula : Mixture   |
| Chemical family : Hydrocarbon.  |  |

#### Relevant identified uses of the substance or mixture and uses advised against

Lubricant.

### Section 2. Hazards identification

|  |  |                  |                      |
|--|--|------------------|----------------------|
| OSHA/HCS status                                | : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product. |                  |                      |
| Classification of the substance or mixture     | : Not classified.  |                  |                      |
| <b>GHS label elements</b>                      |  |                  |                      |
| Signal word                                    | : No signal word.  |                  |                      |
| Hazard statements                              | : No known significant effects or critical hazards.  |                  |                      |
| <b>Precautionary statements</b>                |  |                  |                      |
| General  | : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.  |                  |                      |
| Prevention                                     | : Not applicable.  |                  |                      |
| Response                                       | : Not applicable.  |                  |                      |
| Storage  | : Not applicable.  |                  |                      |
| Disposal                                       | : Not applicable.  |                  |                      |
| Hazards not otherwise classified (HNOC)        | : None known.  |                  |                      |
| Hazardous Material Information System (U.S.A.) | Health : 0   | Flammability : 1 | Physical hazards : 0 |
| National Fire Protection Association (U.S.A.)  | Health : 0   | Flammability : 1 | Instability : 0      |

### Section 3. Composition/information on ingredients

|                               |                          |
|-------------------------------|--------------------------|
| Substance/mixture             | : Mixture                |
| Chemical name                 | : Lubricating oil.       |
| Other means of identification | : Industrial turbine oil |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : If material comes in contact with the eyes, immediately wash the eyes with large amounts of water for 15 minutes, occasionally lifting the lower and upper lids. Get medical attention.
- Inhalation** : If person breathes in large amounts of material, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Keep the person warm and at rest. Get medical attention as soon as possible.
- Skin contact** : If the material comes in contact with the skin, wash the contaminated skin with soap and water promptly. If the material penetrates through clothing, remove the clothing and wash the skin with soap and water promptly. If irritation persists after washing, get medical attention immediately.
- Ingestion** : If material has been swallowed, do not induce vomiting. Get medical attention immediately.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following: pain or irritation, watering, redness.
- Inhalation** : Adverse symptoms may include the following: respiratory tract irritation, coughing.
- Skin contact** : Adverse symptoms may include the following: irritation, redness.
- Ingestion** : No known significant effects or critical hazards.

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use water spray to cool fire exposed surfaces and to protect personnel. Foam, dry chemical or water spray (fog) to extinguish fire.
- Unsuitable extinguishing media** : None known.
- Specific hazards arising from the chemical** : Toxic fumes gases or vapors may evolve on burning.
- Hazardous thermal decomposition products** : No specific data.
- Special protective actions for fire-fighters** : When fighting fires wear full turnout gear and self contained breathing apparatus. Water may cause splattering. Material floats on water.
- Special protective equipment for fire-fighters** : Not applicable.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : Keep unnecessary and unprotected personnel from entering. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

### Methods and materials for containment and cleaning up

- Spill** : Contain with dikes or absorbent to prevent migration to sewers/streams. Take up small spill with dry chemical absorbent, large spills may require pump or vacuum prior to absorbent. May require excavation of severely contaminated soil.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.



Turbine XL 22, 32, 46, 68, 100

Conditions for safe storage, including any incompatibilities : Do not store above the following temperature: 113°C (235.4°F). Odorous and toxic fumes may form from the decomposition of this product if stored at excessive temperatures for extended periods of time. Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Use appropriate containment to avoid environmental contamination.

### Section 8. Exposure controls/personal protection

#### Control parameters

##### Occupational exposure limits

None.

Appropriate engineering controls : Use only with adequate ventilation.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

#### Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.

Eyeface protection : Recommended: Splash goggles and a face shield, where splash hazard exists.

##### Skin protection

Hand protection : 4 - 8 hours (breakthrough time): Nitrile gloves.

Body protection : Recommended: Long sleeved coveralls.

Other skin protection : Recommended: Impervious boots.

Respiratory protection : If ventilation is inadequate, use a NIOSH-certified respirator with an organic vapor cartridge and P95 particulate filter.

### Section 9. Physical and chemical properties

#### Appearance

Physical state : Liquid.

Color : Amber.

Odor : Mild.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : Not available.

Flash point : Closed cup: >200°C (>392°F)

Flammability : Not available.

Lower and upper explosive (flammable) limits : Not available.

Relative density : 0.86 to 0.88

Evaporation rate : <1 (Butyl acetate = 1)

Solubility : Insoluble in the following materials: cold water and hot water.

Solubility in water : Insoluble

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : >260°C (>500°F)

Decomposition temperature : Not available.

SADT : Not available.

Viscosity : Not available.

Vapor pressure : <0.13 kPa (<1 mm Hg) (68°F)

Vapor density : Not available.

### Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

---

### Information on toxicological effects

#### Acute toxicity

There is no data available.

#### Irritation/Corrosion

**Skin** : There is no data available.

**Eyes** : There is no data available.

**Respiratory** : There is no data available.

#### Sensitization

**Skin** : There is no data available.

**Respiratory** : There is no data available.

#### Mutagenicity

There is no data available.

#### Carcinogenicity

There is no data available.

#### Reproductive toxicity

There is no data available.

#### Teratogenicity

There is no data available.

#### Specific target organ toxicity (single exposure)

There is no data available.

#### Specific target organ toxicity (repeated exposure)

There is no data available.

#### Aspiration hazard

There is no data available.

**Information on the likely routes of exposure** : Dermal contact. Eye contact. Inhalation. Ingestion.

## Section 12. Ecological information

---

### Toxicity

There is no data available.

#### Persistence and degradability

There is no data available.

#### Bioaccumulative potential

There is no data available.

#### Mobility in soil

**Soil/water partition coefficient ( $K_{ow}$ )** : There is no data available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

---

**Disposal methods** : Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

### Section 14. Transport information

DOT IDENTIFICATION NUMBER: Not applicable. DOT proper shipping name: Not applicable.  
 DOT Hazard Class(es): Not applicable. PG: Not applicable. DOT EMER. RESPONSE GUIDE NO.: Not applicable

### Section 15. Regulatory information

U.S. Federal regulations : TSCA 4(a) final test rules: 2-Butenedioic acid (E)-, di-C8-18-alkyl esters  
 TSCA 8(a) PAIR: 2-Butenedioic acid (E)-, di-C8-18-alkyl esters; Diphenylamine  
 TSCA 8(a) CDR Exempt/Partial exemption: Not determined  
 United States inventory (TSCA 8b): All components are listed or exempted.  
 Clean Water Act (CWA) 311: Vinyl acetate

Clean Air Act Section 602 Class I Substances : Not listed DEA List I Chemicals (Precursor Chemicals) : Not listed  
 Clean Air Act Section 602 Class II Substances : Not listed DEA List II Chemicals (Essential Chemicals) : Not listed  
 Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : Not listed

#### SARA 302/304

##### Composition/information on ingredients

| Name          | %       | EHS | SARA 302 TPQ |           | SARA 304 RQ |           |
|---------------|---------|-----|--------------|-----------|-------------|-----------|
|               |         |     | (lbs)        | (gallons) | (lbs)       | (gallons) |
| Vinyl acetate | 0 - 0.1 | Yes | 1000         | 129       | 5000        | 644.8     |

SARA 304 RQ : 1111111111.1 lbs / 504444444.4 kg [153172556.3 gal / 579821200.5 L]

#### SARA 311/312

Hazard classifications : Not applicable.

##### Composition/information on ingredients

No products were found.

#### SARA 313

: This product (does/not) contain toxic chemicals subject to the reporting requirements of SARA Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

| Product name    | CAS number | % |
|-----------------|------------|---|
| Not applicable. |            |   |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

#### State regulations

Massachusetts : None of the components are listed.  
 New York : None of the components are listed.  
 New Jersey : The following components are listed: Distillates (petroleum), hydrotreated heavy paraffinic  
 Pennsylvania : None of the components are listed.  
 California Prop. 65 : **WARNING:** This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

| Ingredient name | Cancer | Reproductive | No significant risk level | Maximum acceptable dosage level |
|-----------------|--------|--------------|---------------------------|---------------------------------|
| Vinyl acetate   | Yes    | No           | No                        | No                              |
| Ethyl acrylate  | Yes    | No           | No                        | No                              |

**Section 16. Other information****Revision date** : 05/07/2015**Revised Section(s)** : 1, 2, 16.**Supersedes** : 11/15/2013**Prepared by** : KMK Regulatory Services Inc.**Notice to reader:**

THE INFORMATION CONTAINED IN THIS SDS RELATES ONLY TO THE SPECIFIC MATERIAL IDENTIFIED. IT DOES NOT COVER USE OF THAT MATERIAL IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY PARTICULAR PROCESS. IN COMPLIANCE WITH 29 C.F.R. 1910.1200(g), CHS HAS PREPARED THIS SDS IN SEGMENTS WITH THE INTENT THAT THOSE SEGMENTS BE READ TOGETHER AS A WHOLE WITHOUT TEXTUAL OMISSIONS OR ALTERATIONS. CHS BELIEVES THE INFORMATION CONTAINED HEREIN TO BE ACCURATE, BUT MAKES NO REPRESENTATION, GUARANTEE, OR WARRANTY, EXPRESS OR IMPLIED, ABOUT THE ACCURACY, RELIABILITY, OR COMPLETENESS OF THE INFORMATION OR ABOUT THE FITNESS OF CONTENTS HEREIN FOR EITHER GENERAL OR PARTICULAR PURPOSES. PERSONS REVIEWING THIS SDS SHOULD MAKE THEIR OWN DETERMINATION AS TO THE MATERIAL'S SUITABILITY AND COMPLETENESS FOR USE IN THEIR PARTICULAR APPLICATIONS.



OUR ENERGY COMES THROUGH!

A BRAND OF The logo for CHS, consisting of the letters "CHS" in a bold, serif font, with a stylized wave or underline beneath the letters.

# CRACK PRO® MASTIC MACHINE

## OPERATING INSTRUCTIONS - DIESEL FUEL BURNER STARTUP

### CHECK LIST

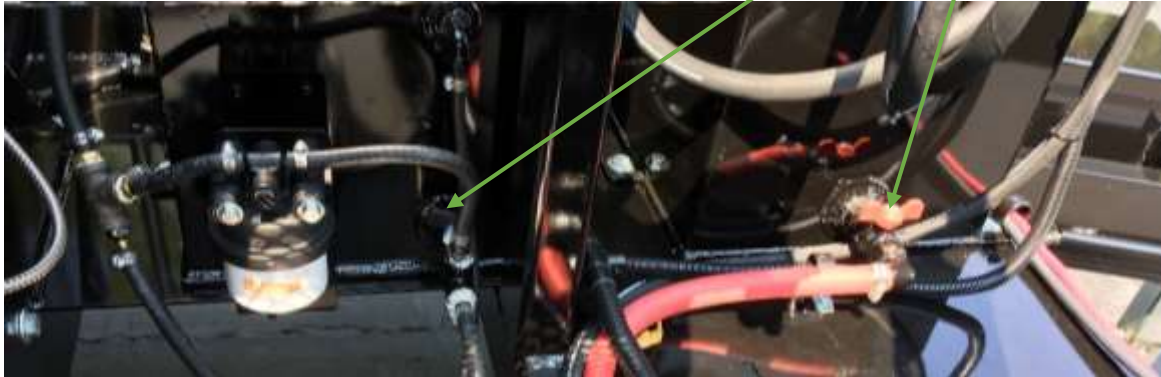
1. Check engine oil level. Follow manufacturers' guidelines as to type and frequency of changes.
2. Check hydraulic oil level. Use grade AW68 hydraulic oil.
3. Check heat transfer oil level with oil dipstick. Use a good quality grade 68 turbine oil or heat transfer oil. The heat transfer oil level must always be checked when it is **COLD**. Never attempt to check it when the oil is hot, or severe injury could occur. **NEVER CHECK WHEN HOT!**
4. Fill burner fuel tank with diesel.
5. Completely read and understand all owner's manuals before trying to operate this machine.

# CRACK PRO® MASTIC MACHINE

## OPERATING INSTRUCTIONS - DIESEL FUEL BURNER

### STARTUP

#### STARTING THE ENGINE



- Set the diesel **fuel** & motor **hydraulic** valves to the **on** position.
- Turn the **engine switch** key to **run**, 3 indicator lights will come on:
- Battery --- Preheat ---- Oil Pressure
- Wait until the preheat plug is ready, indicator light will turn **off**, then turn **engine switch** key to **start** up position.

# CRACK PRO® MASTIC MACHINE

## OPERATING INSTRUCTIONS - DIESEL FUEL BURNER

### THE TEMPERATURE CONTROL

After starting the engine:

1. Turn **on** the burner with power control switch located on the front of the digital temperature controller. The digital controllers monitor the heat transfer oil temperature, and the material temperature.
2. The controller will cycle the burner off and on as the temperature of the heat transfer oil increases and decreases. The heat from the transfer oil will be absorbed by the material in the tank.



# CRACK PRO® MASTIC MACHINE

## OPERATING INSTRUCTIONS - DIESEL FUEL BURNER

### ADDING MATERIAL

3. Starting **COLD**, put 10 to 15 blocks. If the machine is **EMPTY**, throw in 15 to 25 boxes. Wait approximately 30 minutes after oil temperature hits 500° deg. You should see the blocks melted about 50%. Add 10 boxes every 7-10 minutes until you reach approximately 90-100 boxes. This will be considered a full load depending on the specific product.
4. Be sure to empty the machine to 1/3 or lower when shutting down for the night. Leaving too much material in the machine will result in slower heat-up time the next day.

### MATERIAL TEMPERATURE

5. On the top rear Driver side, is the thermometer for Heat Transfer oil and Material. The thermometer will correspond with the digital readouts on the control box.
6. If the material temperature starts to climb over the recommended pouring temperature, open the lid, and add more blocks. Leaving the lid open will also help drop the temperature, or lower the temperature setting on the oil controller.



# CRACK PRO® MASTIC MACHINE

## OPERATING INSTRUCTIONS

### **AUTOMATIC SAFETY INTERLOCKS**

There are automatic safety interlocks that control the digital controllers for material and heat transfer temperatures. The agitator will not work until the material has reached a pre-programmed temperature on the respective digital controllers.

Once the material controller reaches the programmed temperature settings the white interlock light comes on, then the agitator will automatically start turning when engaged. Opening the lid turns off the agitator.

When adding material, open the lid and place a single block on it and push it closed. Do not add more than 4 boxes of material at a time.

**See the temperature control page for instructions on how to set the controllers.**

# CRACK PRO® MASTIC MACHINE

## OPERATING INSTRUCTIONS

### APPLICATION OF MATERIAL

7. Once the material in the tank is completely melted and the desired application temperature is reached, it is time to fill cracks.
8. The transfer oil temperature controller should be set for 500°F.
9. The material temperature controller should be set for 300°F - 400°F Depending on material. Factory set 375°

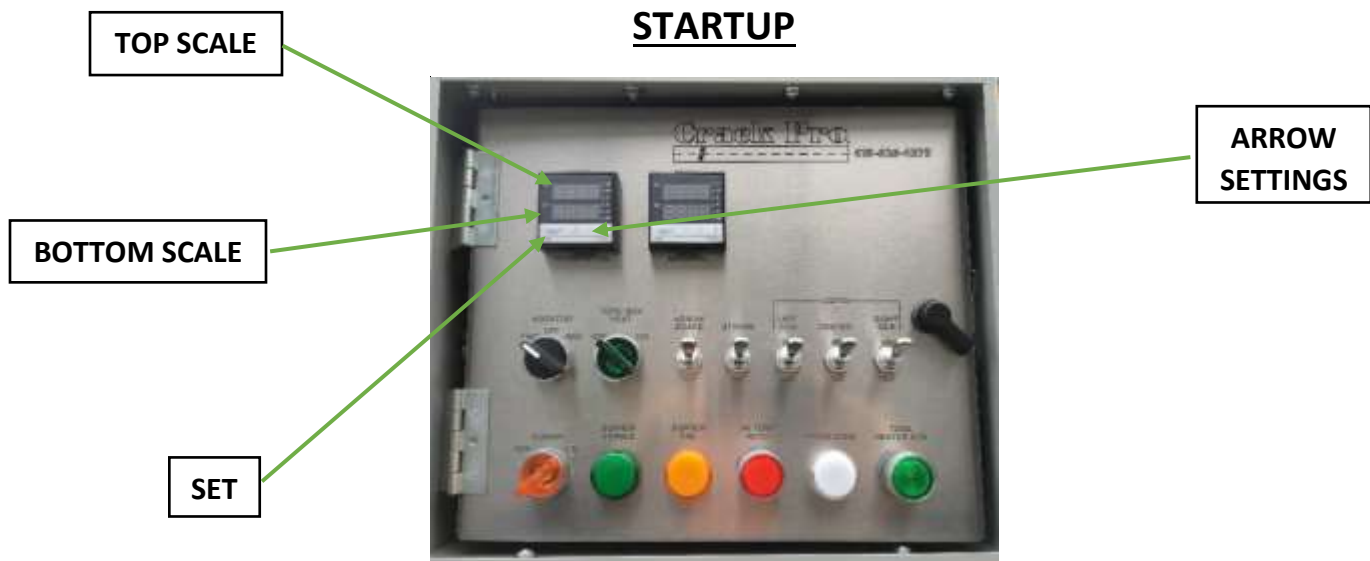
See the temperature control page for instructions on how to set the controllers.

### TOOL HEATER BOX

10. The Tool Heater Box, is equipped with a 5min. auto off timer so you don't forget to turn it off while working.
11. It also has a full on timer for the jobs that require all day tool heating.

# CRACK PRO® MASTIC MACHINE

## OPERATING INSTRUCTIONS



### SETTING TEMPERATURE CONTROL

- The top scale is the **ambient temperature** of the heat transfer oil.
- The bottom scale is the **set temperature** that you want the oil to be heated to.
- The burner shuts off when your setting is exceeded by 10°.
- It comes back on when the oil drops to 10° under your setting.
- The sequence for setting **475°** temperature is:
  - 1) Press the left arrow 4 times, then up or down for the **4**.
  - 2) Press the left arrow again, then up or down for the **7**.
  - 3) Press the left arrow again, then up or down for the **5**.
  - 4) Press **SET**.

# CRACK PRO® MASTIC MACHINE

## OPERATING INSTRUCTIONS - DIESEL FUEL BURNER

### POURING MATERIAL

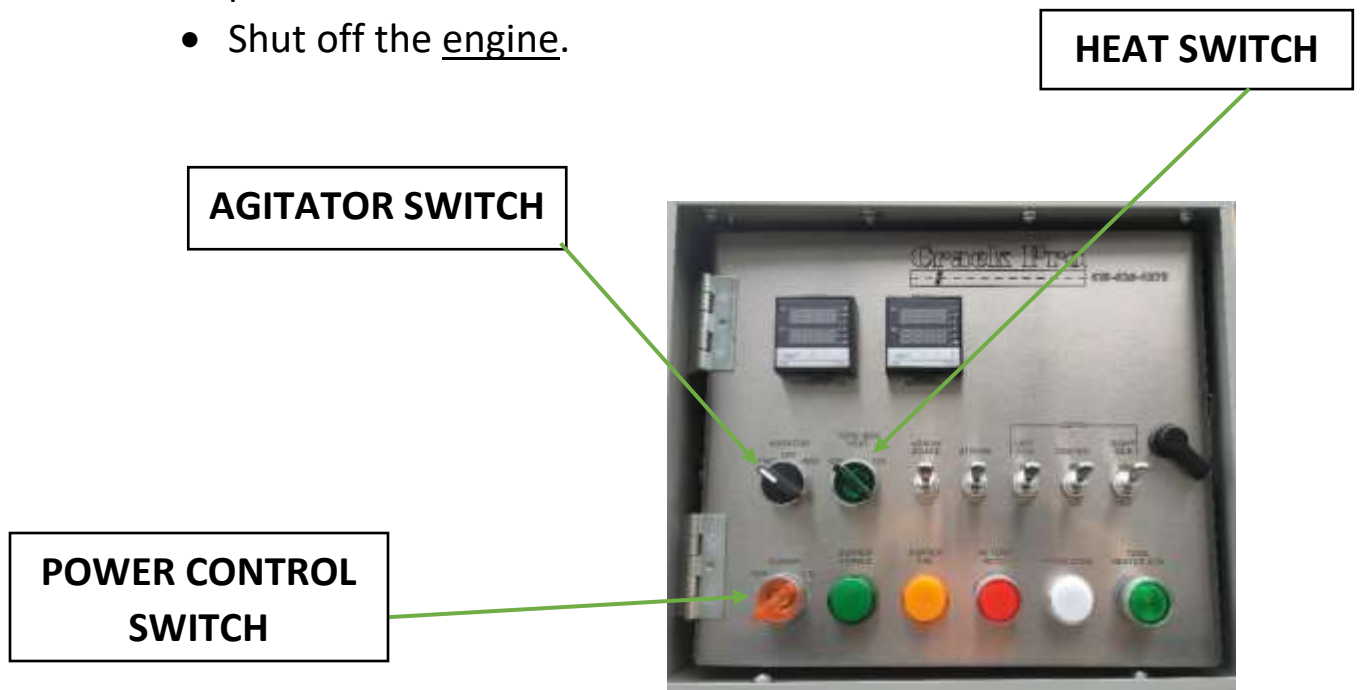
12. To open Material Discharge Valve, push down on handle, lift to close. Swing the Chute Assembly into position.

**CAUTION: ALWAYS WEAR LONG SLEEVE SHIRT, GLOVES, AND A FACE SHIELD WHEN PERFORMING THIS OPERATION!**

13. Fill the cracks with appropriate tools.

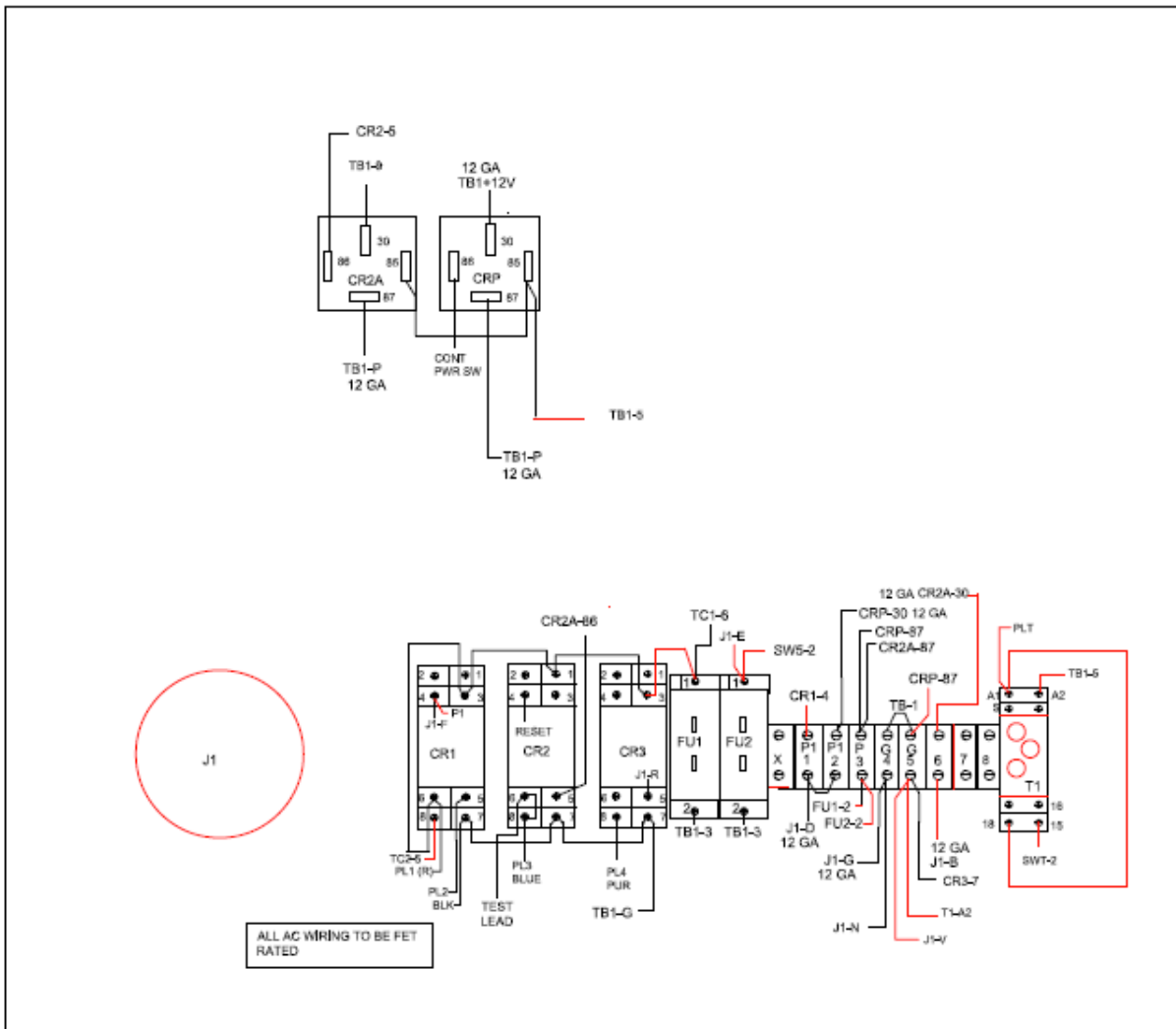
14. To stop for the day, perform the following steps:

- Leave the agitator switch on the forward position.
- Turn the power control switch & heat switch to the **off** position.
- Shut off the engine.



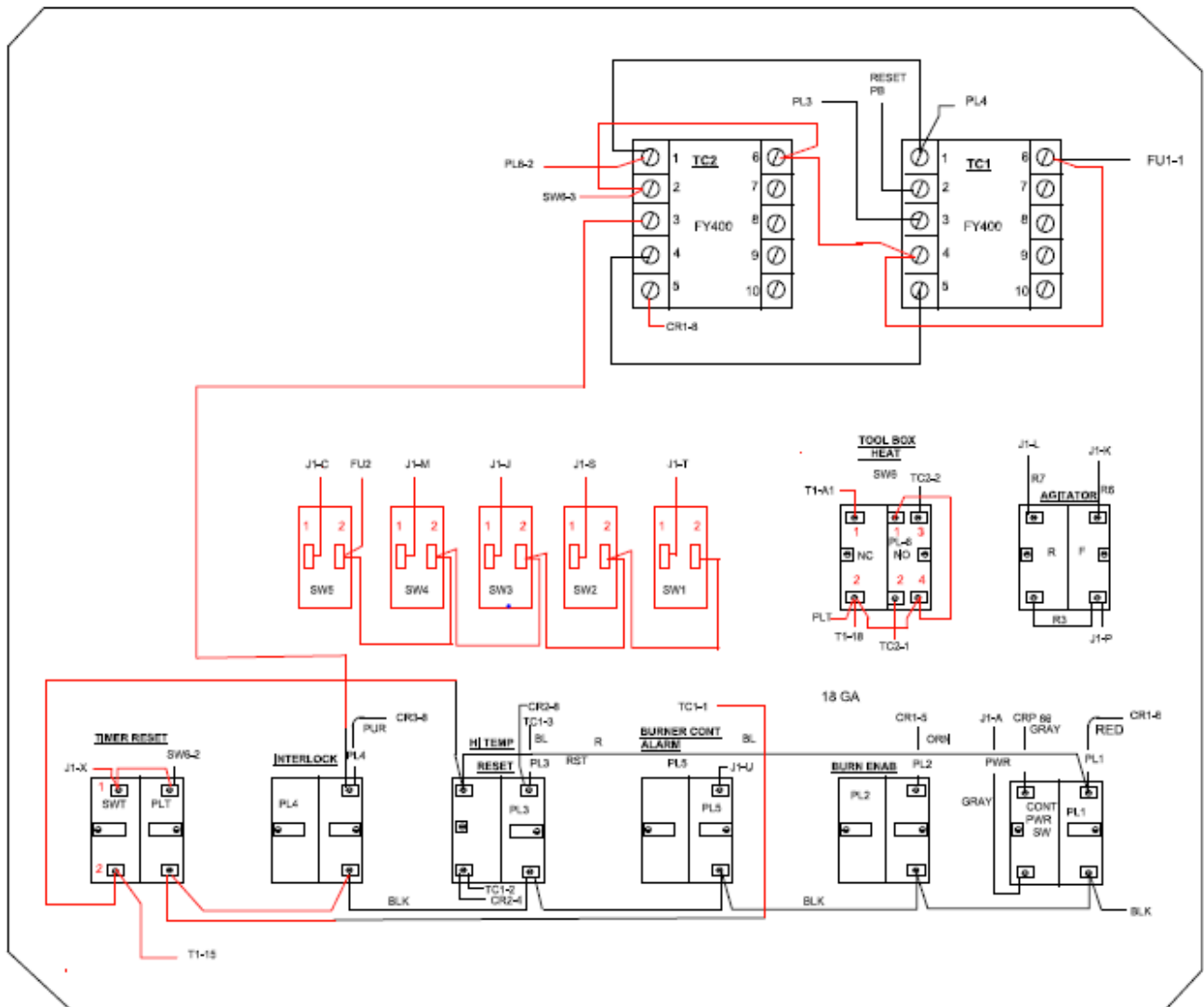
# WIRING DIAGRAMS

## TEMPERATURE CONTROL BOX

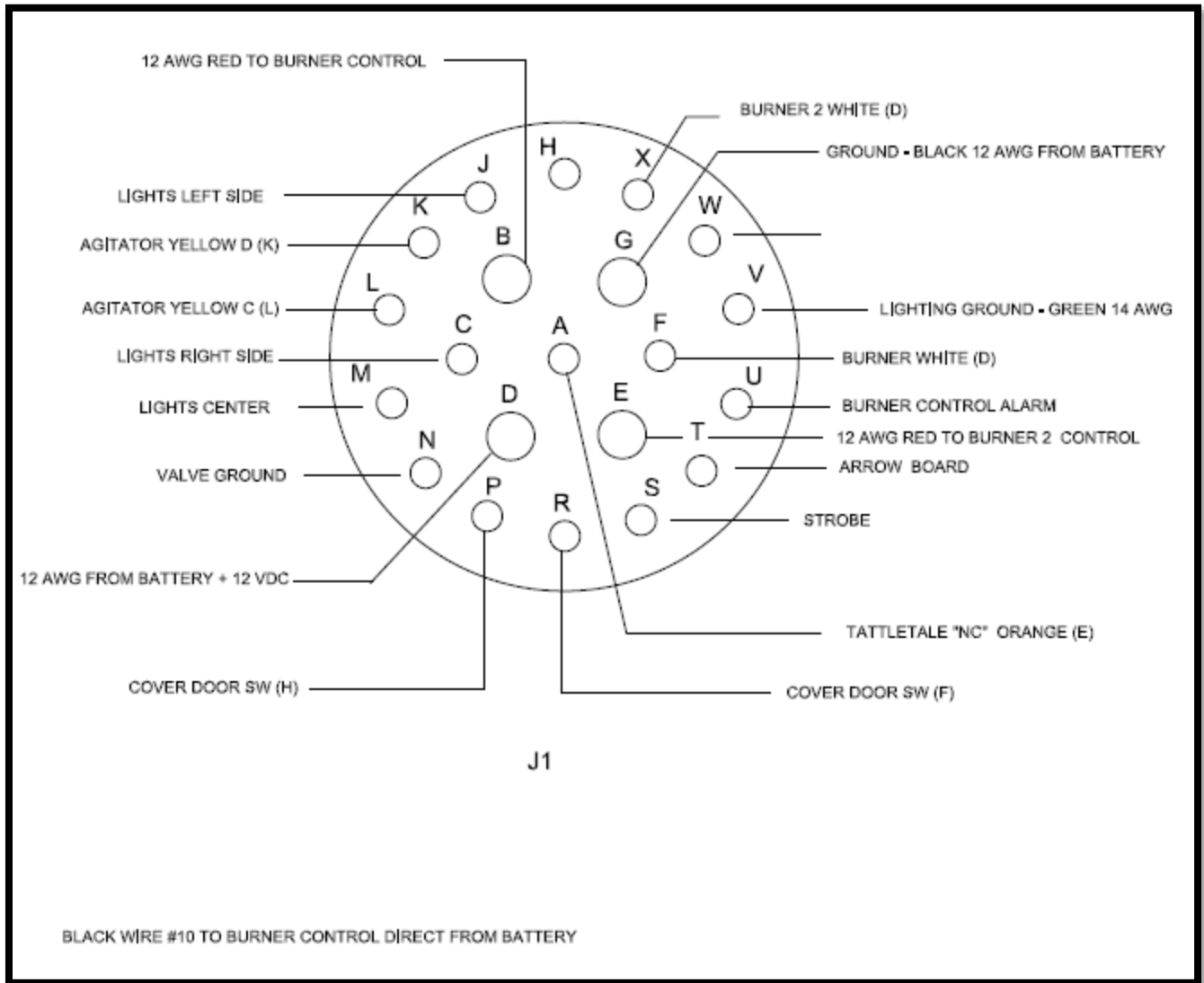


# WIRING DIAGRAMS

## TEMPERATURE CONTROL BOX

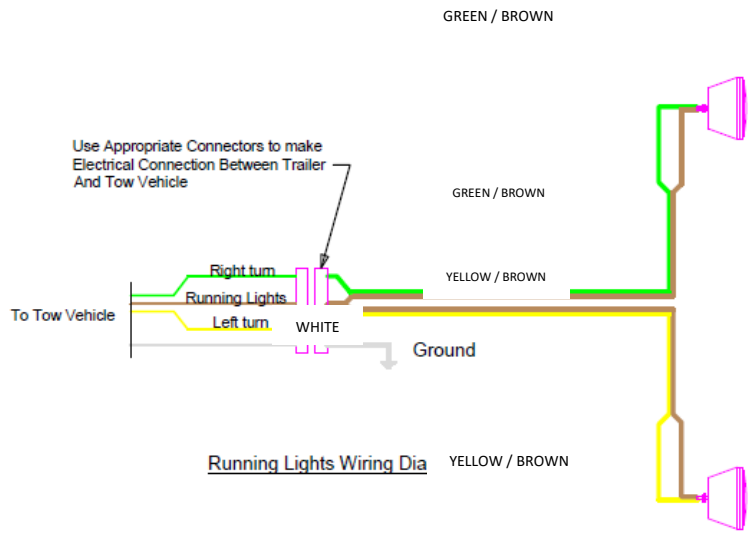
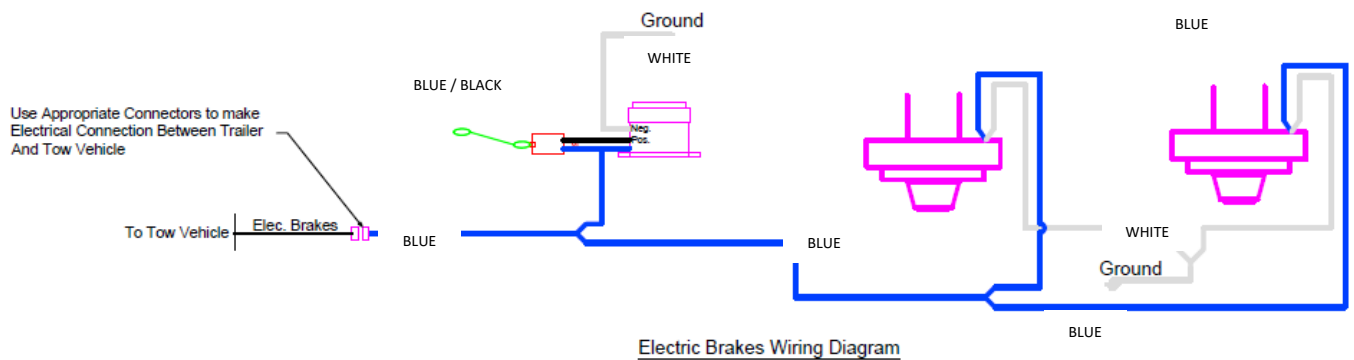


# MASTIC MACHINE CONNECTOR J1



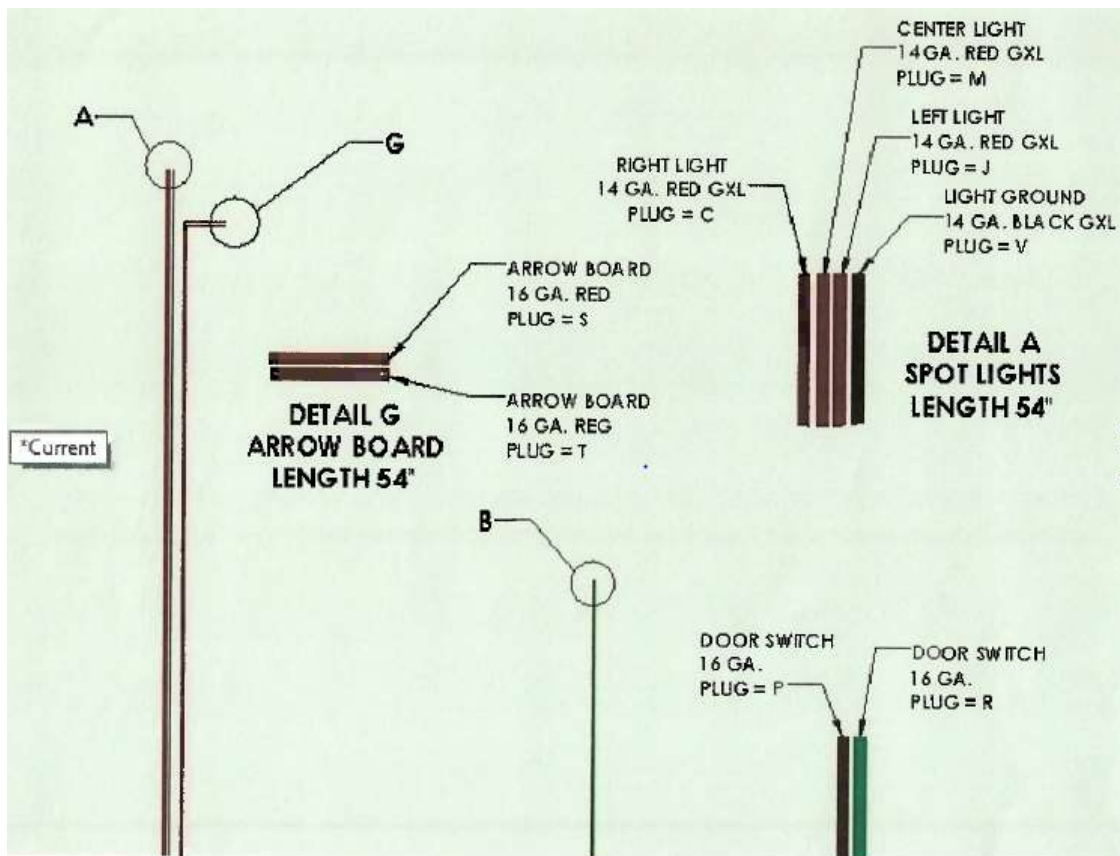
# WIRING DIAGRAMS

## ELECTRIC BRAKES AND RUNNING LIGHTS





## WIRING DIAGRAMS



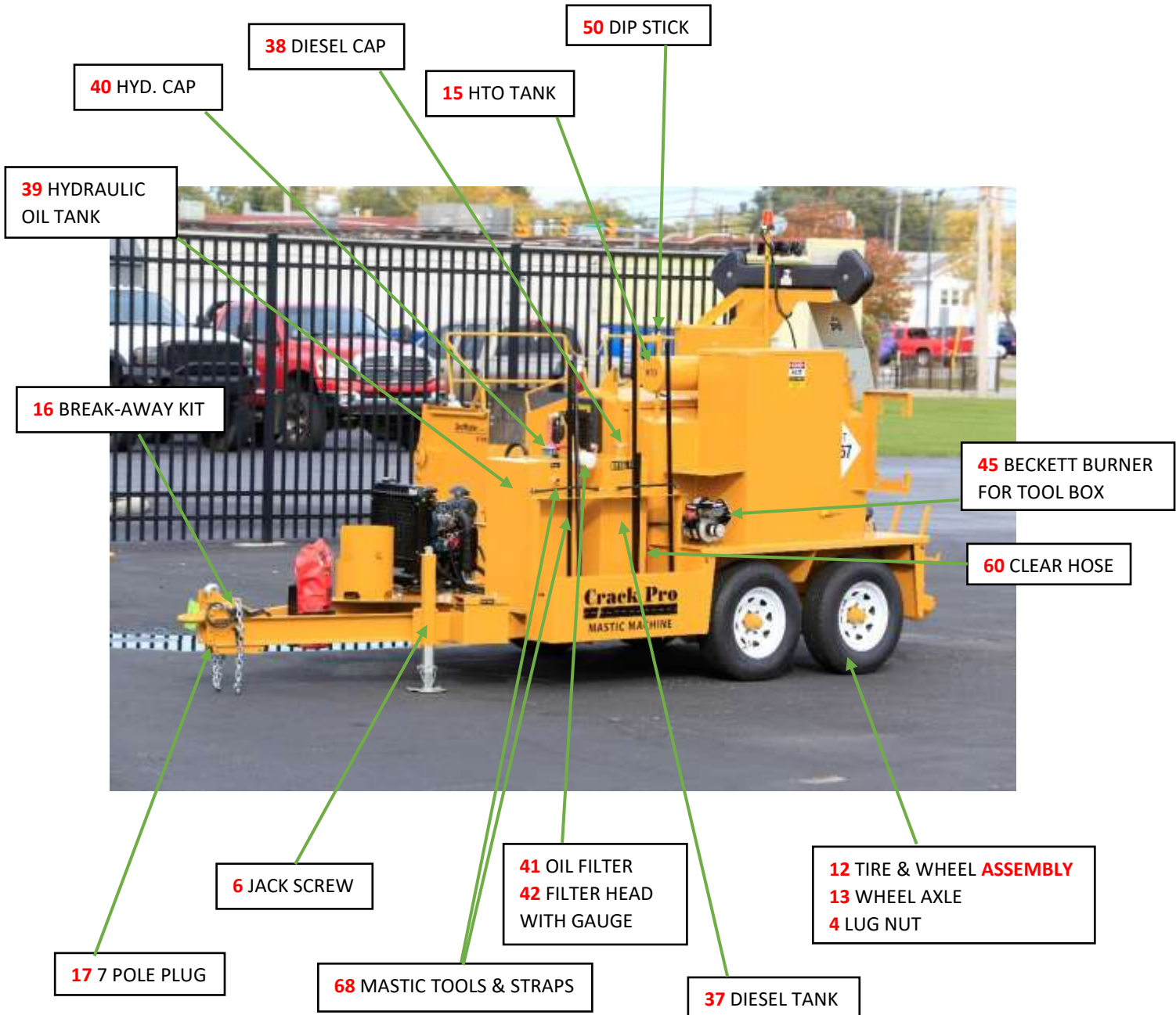
**ALL THE WIRING COMES OUT OF THE CONTROL BOX TO THE LIGHTS**

| <b>TANK CAPACITY CHART</b>                                 |  |                    |  |                    |
|--|--|--------------------|--|--------------------|
| GALLONS ARE APPROXIMATE AND MAY VARY SLIGHTLY TANK TO TANK |  |                    |  |                    |
| <b>MATERIAL DEPTH AND GALLON VOLUME</b>                    |  |                    |  |                    |
| <b>DEPTH FROM TOP TO MATERIAL</b>                          |  | <b>250 GALLONS</b> |  | <b>300 GALLONS</b> |
| INCHES   |  | GALLONS            |  | GALLONS            |
| 1  |  | 242                |  | 290                |
| 2  |  | 233                |  | 279                |
| 3  |  | 224                |  | 269                |
| 4  |  | 215                |  | 258                |
| 5  |  | 206                |  | 248                |
| 6  |  | 197                |  | 237                |
| 7  |  | 189                |  | 226                |
| 8  |  | 180                |  | 216                |
| 9  |  | 171                |  | 205                |
| 10   |  | 162                |  | 195                |
| 11   |  | 153                |  | 184                |
| 12   |  | 144                |  | 173                |
| 13   |  | 136                |  | 163                |
| 14   |  | 127                |  | 152                |
| 15   |  | 118                |  | 142                |
| 16   |  | 109                |  | 131                |
| 17   |  | 100                |  | 120                |
| 18   |  | 92                 |  | 110                |
| 19   |  | 83                 |  | 100                |
| 20   |  | 74                 |  | 89                 |
| 21   |  | 66                 |  | 79                 |
| 22   |  | 58                 |  | 70                 |
| 23   |  | 50                 |  | 60                 |
| 24   |  | 42                 |  | 51                 |
| 25   |  | 35                 |  | 42                 |
| 26   |  | 28                 |  | 34                 |
| 27   |  | 22                 |  | 26                 |
| 28   |  | 16                 |  | 19                 |
| 29   |  | 10                 |  | 12                 |
| 30   |  | 6                  |  | 7                  |
| 31   |  | 2                  |  | 2                  |
| 32   |  | 0                  |  | 0                  |

# CRACK PRO® MASTIC MACHINE

## MACHINE PICTURES AND PARTS LIST

PICTURE-1



# CRACK PRO® MASTIC MACHINE

## MACHINE PARTS LIST

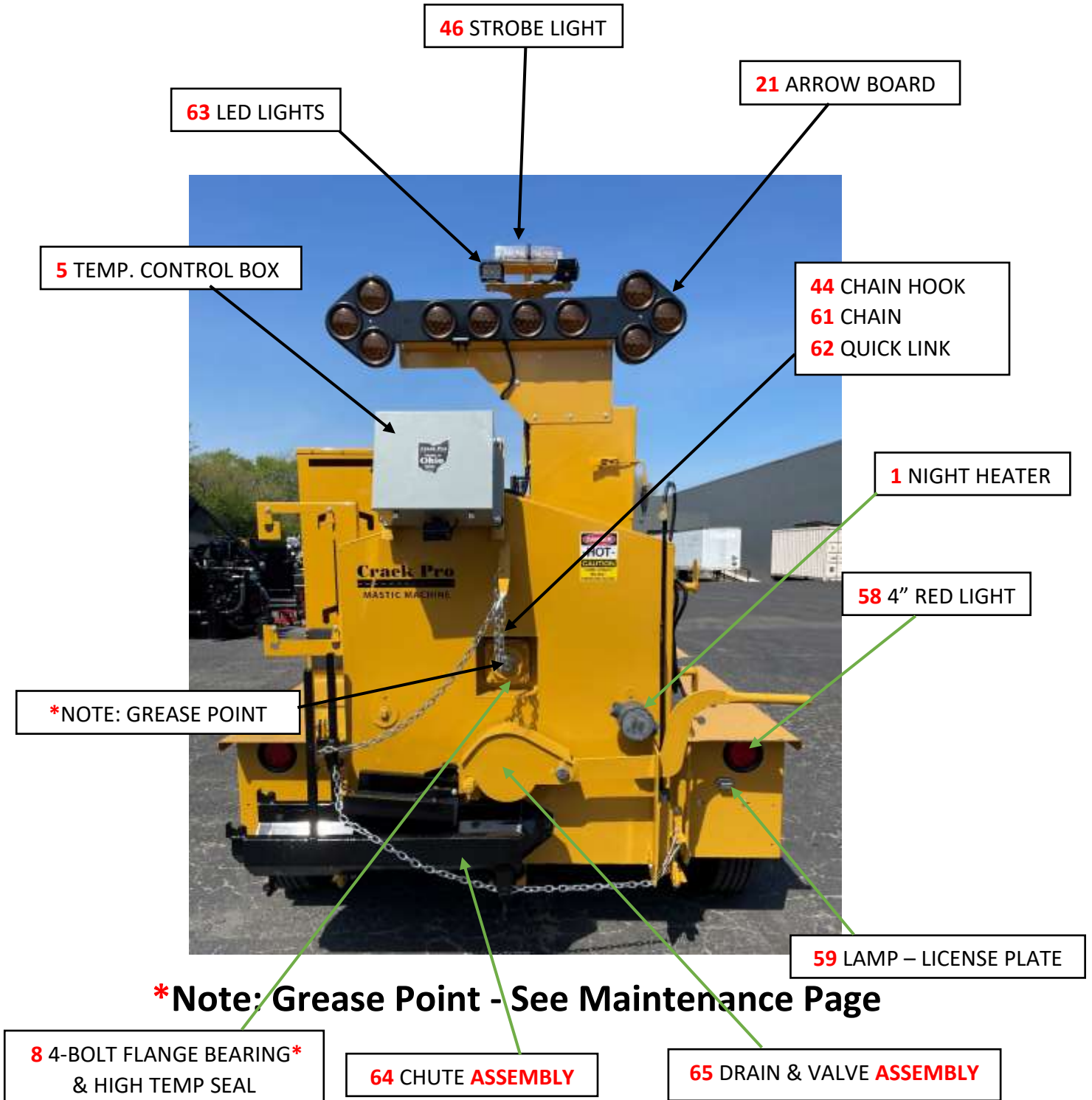
### PICTURE-1

| ITEM # | PART#       | QTY. | DESCRIPTION                              |
|--------|-------------|------|--|
| 4      | P579A003    | 24   | LUG NUT                                  |
| 6      | P551A008    | 1    | JACK SCREW                               |
| 12     | P514A022    | 4    | TIRE & WHEEL <b>ASSEMBLY - 300</b>       |
|        | P514A017    | 4    | TIRE & WHEEL <b>ASSEMBLY - 250</b>       |
| 13     | P511A044    | 2    | WHEEL AXLE                               |
| 15     | P74000B017  | 1    | HTO TANK                                 |
| 16     | P518A008    | 1    | BREAK-AWAY KIT- 4BOLT                    |
|        | P518A004    | 1    | BREAK-AWAY KIT BEFORE 10/2019            |
| 17     | P519A007    | 1    | 7 POLE PLUG                              |
| 37     | P92000G016  | 1    | DIESEL TANK                              |
| 38     | P464A003    | 1    | DIESEL CAP                               |
| 39     | P92000G005  | 1    | HYDRAULIC TANK                           |
| 40     | P1050A006   | 1    | HYDRAULIC CAP                            |
| 41     | P908A008    | 1    | OIL FILTER                               |
| 42     | P909A010    | 1    | FILTER – HEAD SMALL                      |
|        | P735A067    | 1    | GAUGE – CLOGGING INDICATOR               |
| 45     | P662A009    | 1    | BECKETT BURNER <b>ASSEMBLY - TOOLBOX</b> |
| 50     | P74000B019  | 1    | DIP STICK                                |
| 60     | P709A024    | 1    | HOSE – CLEAR 24” LONG                    |
| 68     | T1603-T1608 | 5    | MASTIC TOOLS                             |
|        | P422A001    | 2    | STRAPS                                   |

# CRACK PRO® MASTIC MACHINE

## MACHINE PICTURES AND PARTS LIST

PICTURE-2



# CRACK PRO® MASTIC MACHINE

## MACHINE PARTS LIST

### PICTURE-2

| ITEM # | PART#      | QTY. | DESCRIPTION                                       |
|--------|------------|------|---|
| 1      | P929A048   | 2    | NIGHT HEATER                                      |
| 5      | P735A065   | 1    | TEMPERATURE CONTROL BOX                           |
| 8      | P434A009   | 1    | 4-BOLT FLANGE BEARING – SMART LUBE                |
|        | P50137B018 | 1    | 2" BORE SEAL - SILICONE HIGH TEMP FOR FLANGE BRG. |
| 21     | P516A033   | 1    | ARROW BOARD                                       |
| 44     | P517A004   | 1    | 1/4 " CHAIN HOOK                                  |
| 46     | P516A035   | 1    | LIGHT –STROBE                                     |
| 58     | P467A020   | 2    | 4" ROUND LIGHT - RED                              |
| 59     | P467A010   | 1    | LAMP – LICENSE PLATE                              |
| 61     | P531A002   | 1    | CHAIN 40" LONG                                    |
| 62     | P915A003   | 2    | 3/16" QUICK LINK                                  |
| 63     | P516A032   | 4    | LED LIGHT   |
| 64     | P92000C400 | 1    | CHUTE <b>ASSEMBLY</b>                             |
| 65     | P92000C020 | 1    | DRAIN & VALVE <b>ASSEMBLY</b>                     |

# CRACK PRO® MASTIC MACHINE

## MACHINE PICTURES AND PARTS LIST

PICTURE-3



14 LID WELDMENT & HANDLE

3 DOOR SWITCH

18 3" PINTLE EYE  
19 CLEVIS HOOK  
20 CHAIN W/CLEVIS HOOK

48 HYD. PUMP

47 LED MARKER LIGHT

31 HAND TORCH ASSEMBLY  
32 VALVE - NEEDLE

27 LP GAS HOSE 6' FT.

71 GUARD

70 COVER

72 COMBUSTION CHAMBER

NOTE: SHOWN IS ASSEMBLY P74000B030 WITH ITS OWN NUMBERS ON THE DRAWING. REFER TO BOXED DESCRIPTION'S

# CRACK PRO® MASTIC MACHINE

## MACHINE PARTS LIST

PICTURE-3

| ITEM # | PART#       | QTY. | DESCRIPTION                  |
|--------|-------------|------|------------------------------|
| 3      | P442A011    | 1    | DOOR SWITCH                  |
| 14     | P74000C226  | 1    | LID WELDMENT                 |
|        | P92000C130  | 1    | HANDLE                       |
| 18     | P646A003    | 1    | 3" PINTLE EYE                |
| 19     | P517A002    | 2    | CLEVIS HOOK                  |
| 20     | P531A004    | 2    | CHAIN W/CLEVIS HOOK          |
| 27     | P669B005    | 1    | GAS HOSE ASSEMBLY 6' FEET    |
| 31     | P75000B010  | 1    | HAND TORCH <b>ASSEMBLY</b>   |
| 32     | P666A001    | 1    | VALVE – NEEDLE LP GAS 1/4"   |
| 47     | P467A024    | 4    | 3/4" AMBER LED MARKING LIGHT |
| 48     | P601A061    | 1    | PUMP – HYDRAULIC             |
| 70     | P74000B030D | 1    | COVER – BURNER BOX           |
| 71     | P74000B030E | 1    | GUARD – BURNER BOX           |
| 72     | P671A000    | 1    | COMBUSTION CHAMBER           |



# CRACK PRO® MASTIC MACHINE

## MACHINE PICTURES AND PARTS LIST

PICTURE-4

7 HYD. OIL COOLER

29 DIESEL ENGINE

49 WIRE HARNESS

66 GREASE GUN

67 HOLDER

69 THERMOCOUPLE

34 ENGINE  
CONTROL PANEL

35 IGNITION KEY  
36 IGNITION



# CRACK PRO® MASTIC MACHINE

## MACHINE PARTS LIST

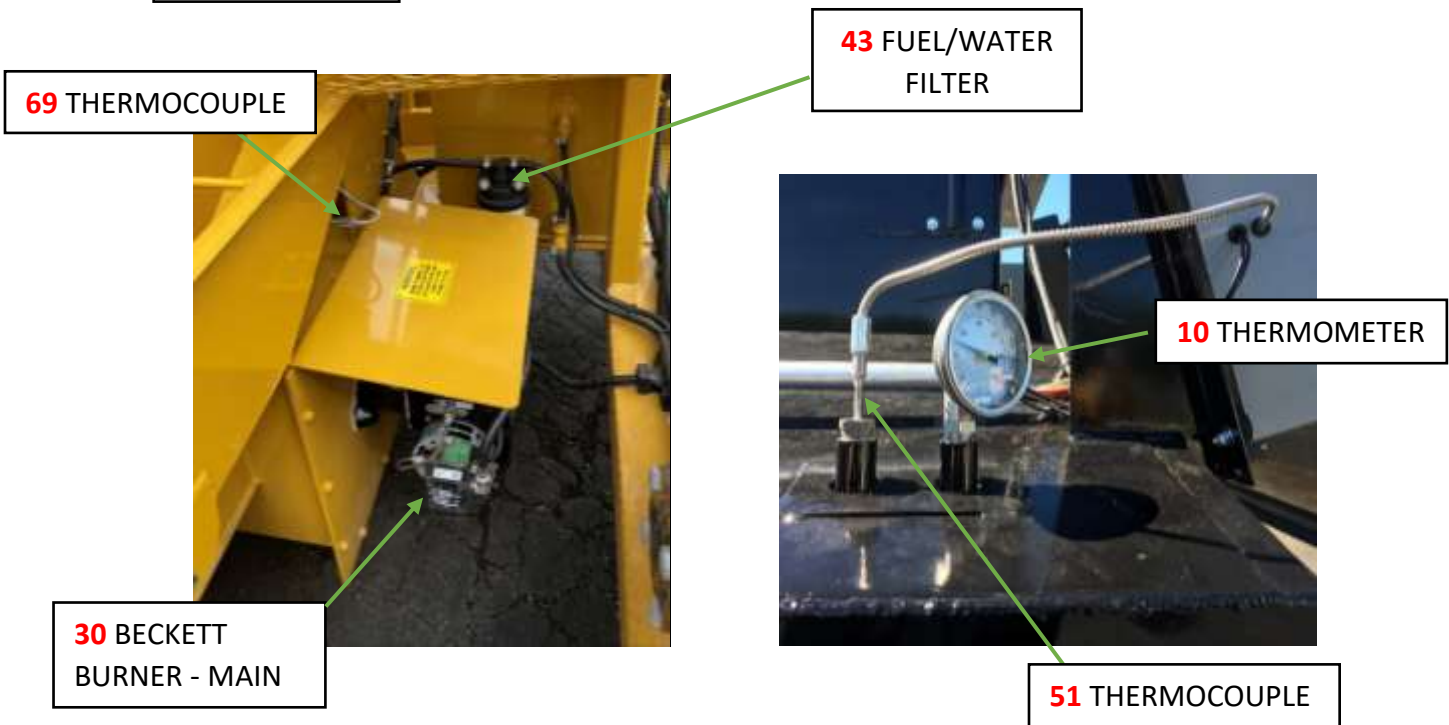
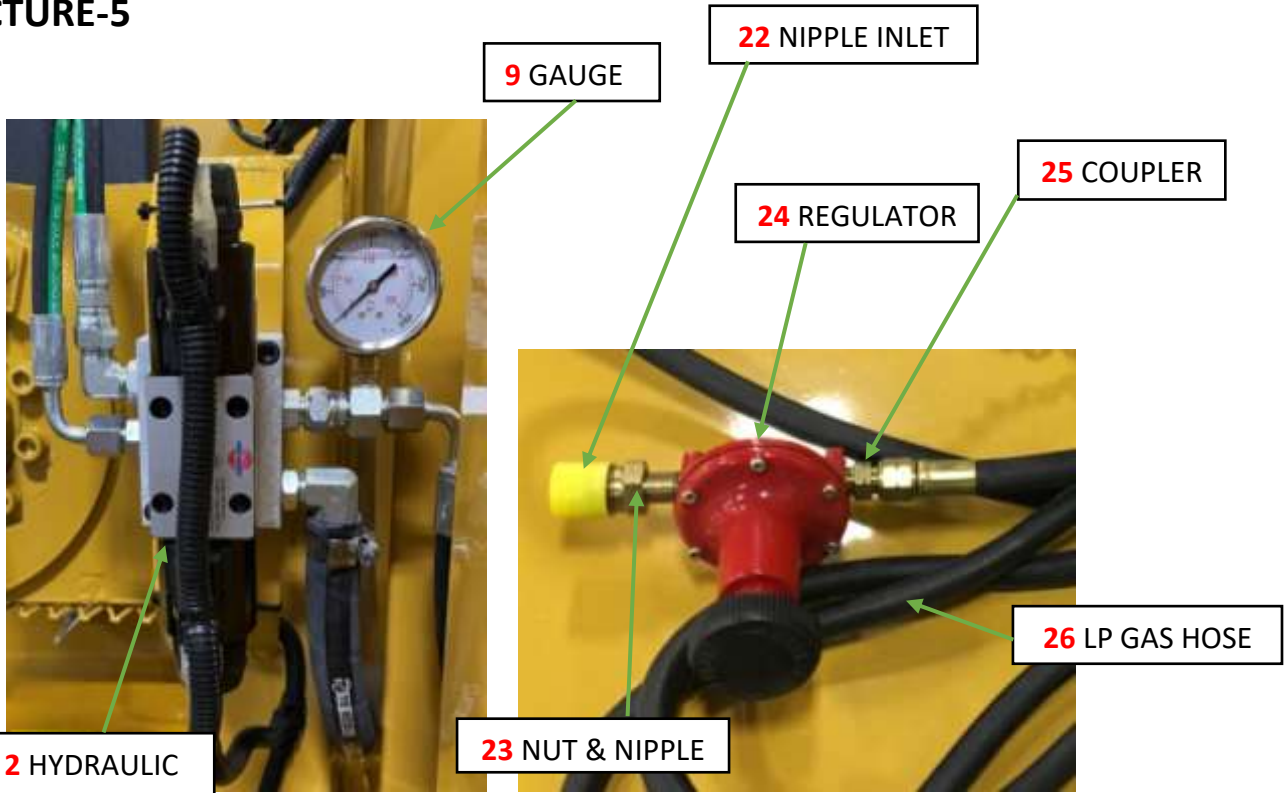
**PICTURE-4**

| <b>ITEM #</b> | <b>PART#</b>    | <b>QTY.</b> | <b>DESCRIPTION</b>               |
|---------------|-----------------|-------------|----------------------------------|
| <b>7</b>      | <b>P716A009</b> | <b>1</b>    | <b>HYDRAULIC OIL COOLER</b>      |
| <b>29</b>     | <b>P458A053</b> | <b>1</b>    | <b>ENGINE DIESEL 15HP KUBOTA</b> |
| <b>34</b>     | <b>P458B303</b> | <b>1</b>    | <b>ENGINE CONTROL PANEL</b>      |
| <b>35</b>     | <b>P458B311</b> | <b>1</b>    | <b>CONTROL PANEL – KEY</b>       |
| <b>36</b>     | <b>P458B354</b> | <b>1</b>    | <b>IGNITION SWITCH</b>           |
| <b>49</b>     | <b>P519B007</b> | <b>1</b>    | <b>WIRE –HARNESS</b>             |
| <b>66</b>     | <b>P167A001</b> | <b>1</b>    | <b>GREASE GUN 400CC</b>          |
| <b>67</b>     | <b>P167A002</b> | <b>1</b>    | <b>HOLDER-GREASE GUN</b>         |
| <b>69</b>     | <b>P679A020</b> | <b>1</b>    | <b>THERMOCOUPLE 8” LONG</b>      |

# CRACK PRO® MASTIC MACHINE

## MACHINE PICTURES AND PARTS LIST

PICTURE-5



# CRACK PRO® MASTIC MACHINE

## MACHINE PARTS LIST

PICTURE-5

| ITEM # | PART#      | QTY. | DESCRIPTION                           |
|--------|------------|------|---------------------------------------|
| 2      | P92000K001 | 1    | HYDRAULIC PARTS <b>ASSEMBLY</b>       |
| 9      | P711A008   | 1    | GAUGE- PRESSURE 0-3000                |
| 73     | P693A040   | 1    | RELIEF VALVE - DIRECT ACTING          |
| 10     | P659A008   | 1    | THERMOMETER -24" STEM                 |
| 22     | P932A001   | 1    | NIPPLE – INLET                        |
| 23     | P933A001   | 1    | NUT & NIPPLE                          |
| 24     | P735A015   | 1    | REGULATOR – HAND TORCH                |
| 25     | P935A001   | 2    | COUPLER - LP                          |
| 26     | P669A005   | 1    | GAS HOSE ASSEMBLY 10' FEET            |
| 30     | P662A009   | 1    | BECKETT BURNER <b>ASSEMBLY</b> - MAIN |
| 43     | P458B254   | 1    | FUEL/WATER FILTER                     |
| 51     | P679A017   | 1    | THERMOCOUPLE 23" LONG                 |
| 69     | P679A020   | 1    | THERMOCOUPLE 8" LONG                  |



**73** RELIEF VALVE

USE 1/4" HEX KEY TOOL AND TURN TO  
ADJUST THE **9** GAUGE TO 3000 PSI

**9** GAUGE

# CRACK PRO® MASTIC MACHINE

## MACHINE PICTURES AND PARTS LIST

**PICTURE-6**

**33** PACKING GLAND AND  
PACKING SYNTHETIC YARN 1/4"

**11** 2-3/16 PILLOW  
BLOCK BEARING

**28** HUB - AGITATOR



**53** DRIVE MOTOR

**\*NOTE: GREASE POINTS**

**55** STUD – DOUBLE END M14 X 1.5  
**57** FLANGE NUT M14 X 1.5 & LOCK WASHER

**52** PLANETARY  
DRIVE

**54** NORD – LOCK WASHER  
**56** SHCS M14 X 1.5

**\*Note: Grease Points - See Maintenance Page**

# CRACK PRO® MASTIC MACHINE

## MACHINE PARTS LIST

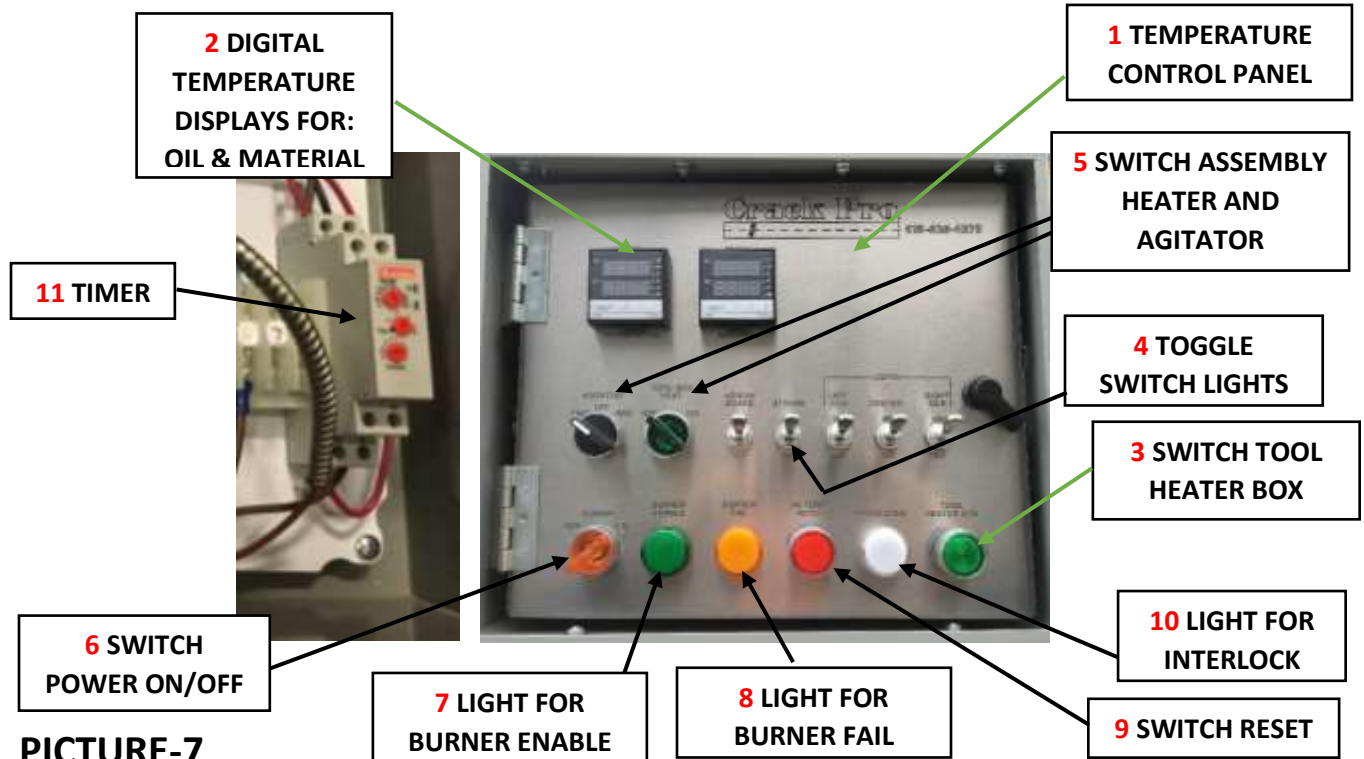
**PICTURE-6**

| ITEM # | PART#      | QTY. | DESCRIPTION                       |
|--------|------------|------|-----------------------------------|
| 11     | P435A014   | 1    | PILLOW BLOCK BEARING 2-3/16" BORE |
| 28     | P92000H002 | 1    | HUB – AGITATOR                    |
| 33     | P50138M    | 1    | PACKING GLAND                     |
|        | P638A006   | N/A  | PACKING SYNTHETIC YARN 1/4"       |
| 52     | P474A066   | 1    | WHEEL DRIVE – NO BRAKE            |
| 53     | P474A090   | 1    | DRIVE MOTOR                       |
| 54     | P1018A017  | 12   | NORD-LOCK WASHER                  |
| 55     | P513A056   | 5    | STUD – DOUBLE END M14 X 1.5       |
| 56     | P1015A018  | 12   | SOCKET HD. CAP SCREW M14 X 1.5    |
| 57     | P474B019   | 5    | FLANGE NUT M14 X 1.5              |

# CRACK PRO® MASTIC MACHINE

## MACHINE PICTURES AND PARTS LIST

### PARTS LIST FOR TEMPERATURE CONTROL BOX



PICTURE-7

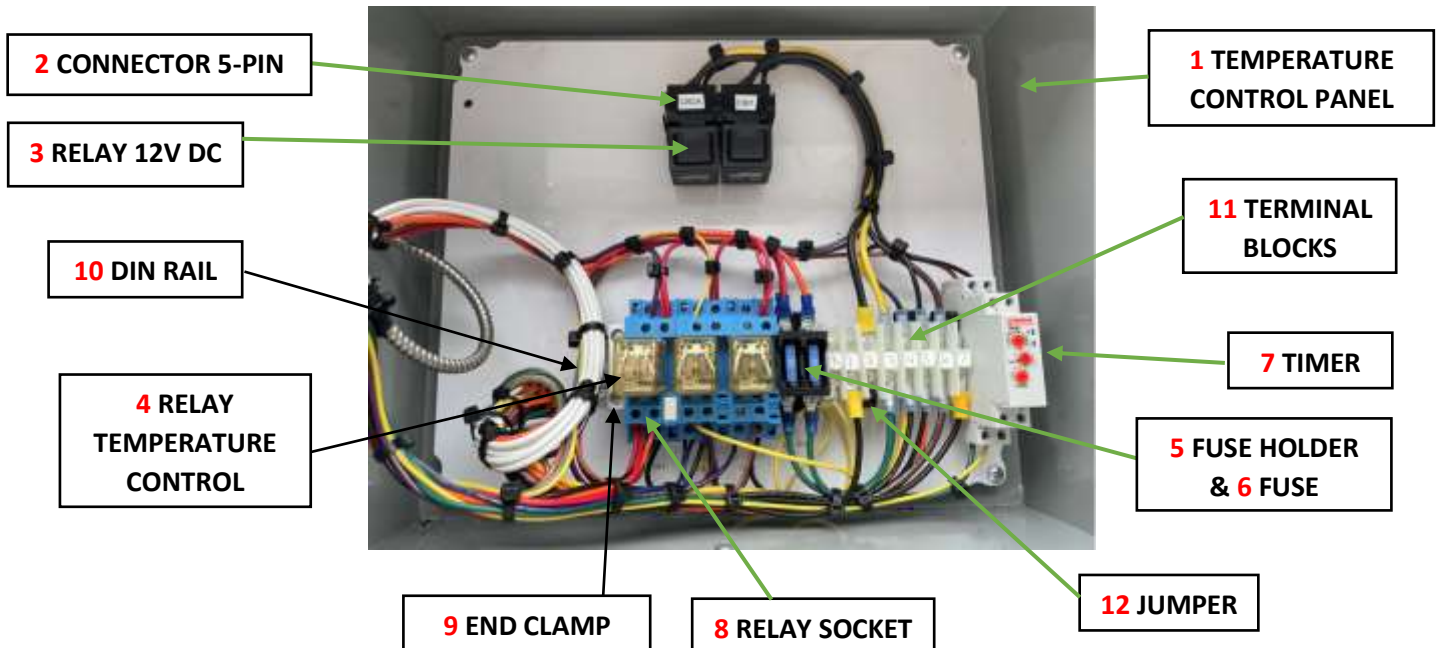
| ITEM # | PART#     | QTY. | DESCRIPTION                             |
|--------|-----------|------|---|
| 1      | P735A065  | 1    | TEMPERATURE CONTROL PANEL               |
| 2      | P735OM018 | 1    | DIGITAL TEMPERATURE DISPLAYS - OIL      |
|        | P735MM018 | 1    | DIGITAL TEMPERATURE DISPLAYS - MATERIAL |
| 3      | P735B083  | 1    | SWITCH - TOOL HEATER BOX - GREEN        |
|        | P735B022  | 1    | CONTACT BLOCK OPEN-GREEN                |
| 4      | P443A001  | 5    | TOGGLE SWITCH - LIGHTS                  |
| 5      | P735B021  | 2    | SWITCH - ASSEMBLY                       |
| 6      | P735B013  | 1    | SWITCH - ASSEMBLY                       |
| 7      | P735B012  | 1    | LIGHT- GREEN                            |
| 8      | P735B073  | 1    | LIGHT- AMBER                            |
| 9      | P735B072  | 1    | SWITCH - RED                            |
|        | P735B023  | 1    | CONTACT BLOCK CLOSED-RED                |
| 10     | P735B025  | 1    | LIGHT - WHITE                           |
| 11     | P735B082  | 1    | TIMER                                   |

# CRACK PRO® MASTIC MACHINE

## MACHINE PICTURES AND PARTS LIST

### PARTS LIST FOR TEMPERATURE CONTROL BOX

PICTURE-8



| ITEM # | PART#    | QTY. | DESCRIPTION                  |
|--------|----------|------|------------------------------|
| 1      | P735A065 | 1    | TEMPERATURE CONTROL PANEL    |
| 2      | P735B075 | 2    | CONNECTOR 5-PIN              |
| 3      | P735B015 | 2    | RELAY – 12V DC 40AMP         |
| 4      | P735B009 | 3    | RELAY- TEMPERATURE CONTROL   |
| 5      | P735B036 | 2    | FUSE HOLDER                  |
| 6      | P595A012 | 2    | FUSE 15-AMP                  |
| 7      | P735B082 | 1    | TIMER                        |
| 8      | P735B010 | 2    | RELAY SOCKET - DIN RAIL SNAP |
| 9      | P735B027 | 2    | END CLAMPS                   |
| 10     | P735B062 | 1    | DIN RAIL 35MM                |
| 11     | P735B079 | 8    | TERMINAL BLOCKS              |
| 12     | P735B054 | 1    | JUMPER 6-POLE                |

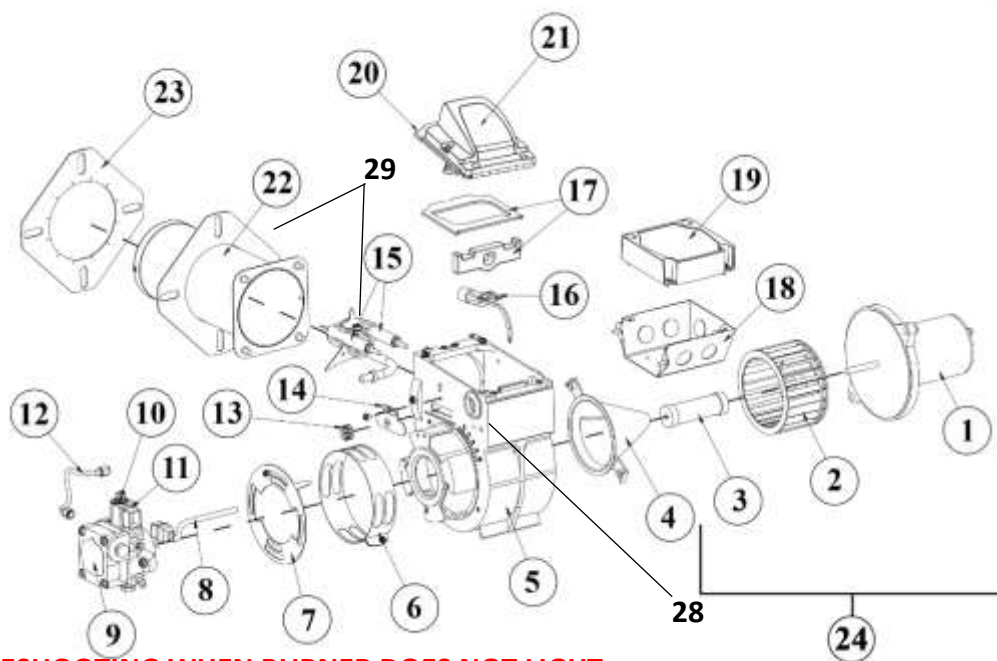


# CRACK PRO® MASTIC MACHINE

APPLIES TO ALL DIESEL FUEL BURNERS

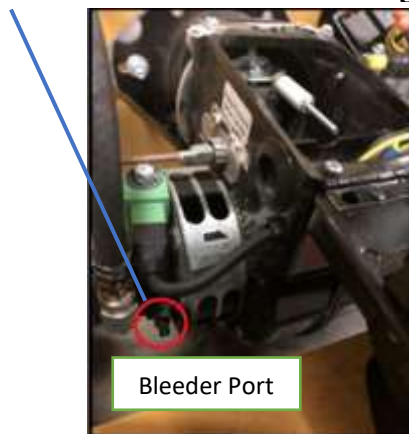
## PARTS LIST

### PICTURE – DIESEL BURNER



### NOTE FOR TROUBLESHOOTING WHEN BURNER DOES NOT LIGHT

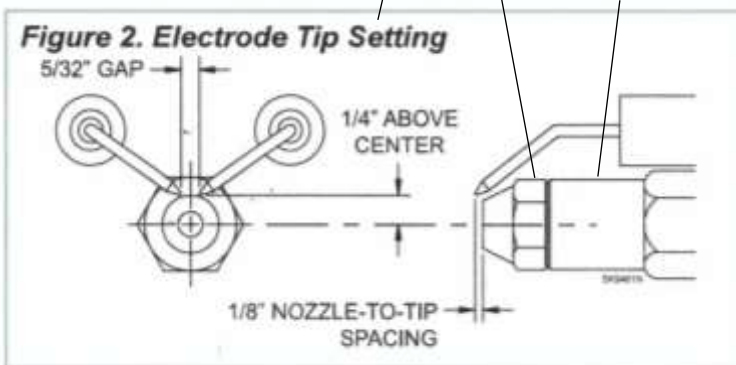
Using a 3/8" wrench, loosen the bleeder valve slightly until fuel comes out without air mixed in. Then tighten the bleeder valve.



Bleeder Port

27 USE TOOL Z-GUAGE

25 NOZZLE  
25 HEAD



CAUTION: DO NOT TOUCH NOZZLE

# CRACK PRO® MASTIC MACHINE

## PARTS LIST

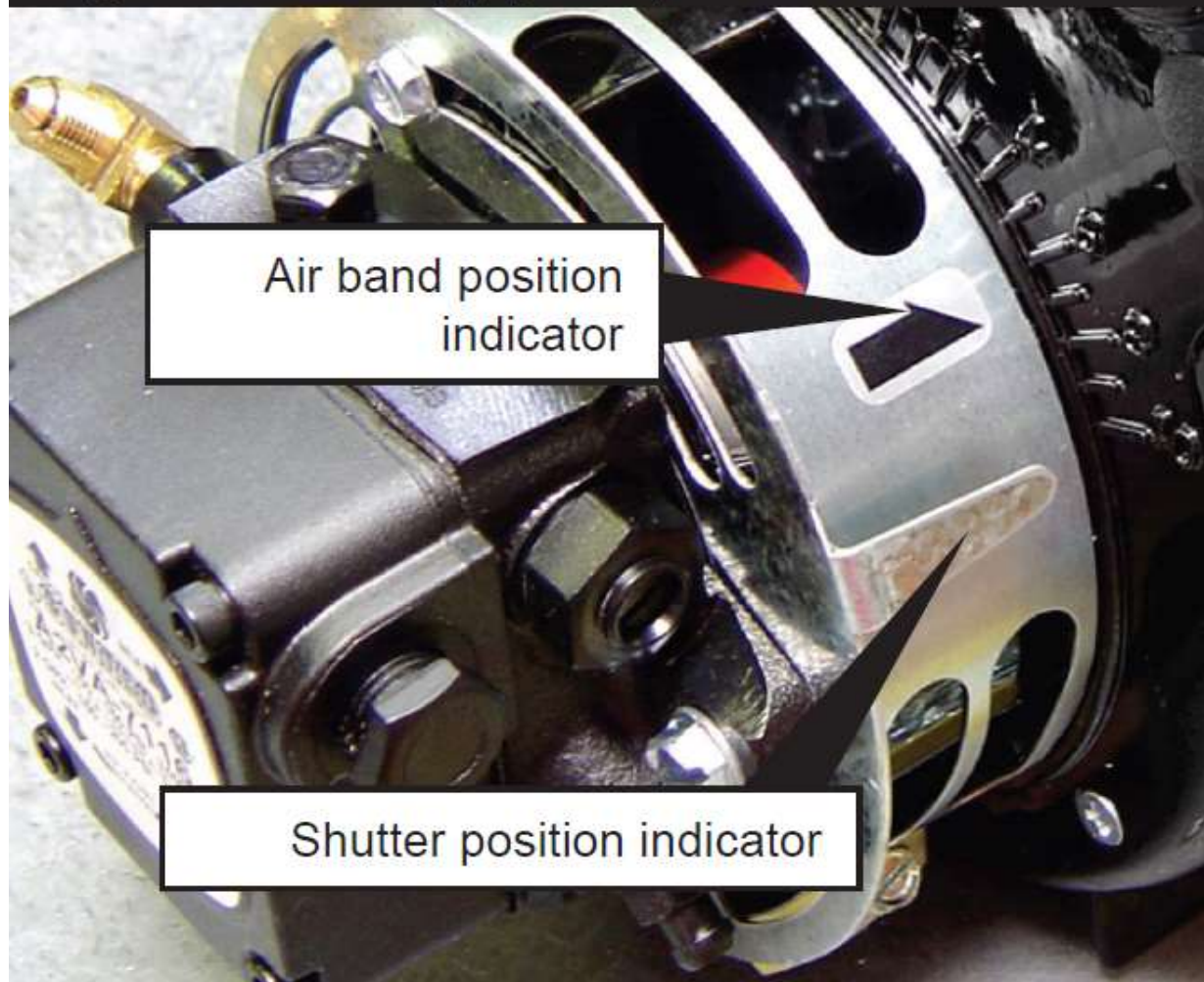
### PARTS LIST FOR DIESEL BURNER

| ITEM # | PART#    | QTY. | DESCRIPTION                                |
|--------|----------|------|--|
|        | P662A009 | 1    | COMPLETE BURNER                            |
| 1      |          | 1    | SEE ITEM 24                                |
| 2      | P662A046 | 1    | BLOWER WHEEL                               |
| 3      | P662A016 | 1    | COUPLING                                   |
| 4      | P662A022 | 1    | AIR GUIDE                                  |
| 5      | P662A048 | 1    | BURNER HOUSING                             |
| 6      | P662A047 | 1    | AIR BAND                                   |
| 7      | P662A049 | 1    | AIR SHUTTER – 8 SLOTS                      |
| 8      | P662A050 | 1    | CORD SET                                   |
| 9      | P662A051 | 1    | BURNER PUMP                                |
| 10     | P662A052 | 1    | VALVE STEM                                 |
| 11     | P662A043 | 1    | 12 VOLT COIL                               |
| 12     | P662A019 | 1    | 8" COPPER TUBING                           |
| 13     | P662A053 | 1    | SPINE NUT                                  |
| 14     | P662A054 | 1    | PLATE                                      |
| 15     | P662A018 | 1    | ELECTRODE KIT / AIR TUBE COMBINATION       |
| 16     | P662A014 | 1    | CAD CELL DETECTOR                          |
| 17     | P662A056 | 1    | IGNITER GASKET KIT                         |
| 18     |          |      | N/A  |
| 19     | P662A010 | 1    | BURNER PRIMARY CONTROL                     |
| 20     | P662A015 | 1    | IGNITOR TRANSFORMER <b>ASSEMBLY</b>        |
| 21     | P662A066 | 1    | IGNITER ONLY                               |
| 22     | P662A021 | 1    | FLANGE MOUNTING GASKET – FOR AIR TUBE      |
| 23     | P662A037 | 1    | FLANGE MOUNTING GASKET                     |
| 24     | P662A044 | 1    | MOTOR KIT W/BLOWER WHEEL & COUPLING        |
| 25     | P662A082 | 1    | NOZZLE FOR BURNER <b>ON TOOL BOX</b>       |
|        | P662A075 | 1    | HEAD FOR NOZZLE <b>ON TOOL BOX</b>         |
|        | P662A074 | 1    | NOZZLE FOR BURNER <b>ON MAIN</b>           |
|        | P662A024 | 1    | HEAD FOR NOZZLE <b>ON MAIN</b>             |
| 27     | P662A078 | 1    | Z-GAUGE                                    |
| 28     | P662A057 | 1    | PLUG – FOR BURNER HOUSING                  |
| 29     | P662A055 | 1    | AIR TUBE COMBO W/WELDED FLANGE AND GASKETS |

## CRACK PRO® MASTIC MACHINE

### BURNER INFORMATION CHART

**Figure 9. – Air supply components**



### BECKETT BURNER INFORMATION CHART

| MACHINE UNIT         | HEAD TYPE | GPH  | NOZZLE SIZE | NOZZLE # HEAD # | AIR BAND POSITION | SHUTTER POSITION |
|----------------------|-----------|------|-------------|-----------------|-------------------|------------------|
| MM250 & 300 TOOL BOX | F0        | .6   | 80A         | P662A082 / 075  | 0                 | 0                |
| MM250 MAIN BURNER    | STANDARD  | 1.65 | 90B         | P662A073 / 024  | 5                 | 7                |
| MM300 MAIN BURNER    | STANDARD  | 1.75 | 90B         | P662A074 / 024  | 5                 | 7                |

# CRACK PRO® MASTIC MACHINE

## KUBOTA DIESEL ENGINE PARTS LIST

### PARTS LIST FOR 602 DIESEL ENGINE

| ITEM # | PART#    | QTY. | DESCRIPTION                  |
|--------|----------|------|------------------------------|
| 1      | P458A053 | 1    | KUBOTA 602 DIESEL ENGINE     |
|        |          |      |                              |
|        | P458B244 |      | RADIATOR                     |
|        | P458B147 |      | FILTER-OIL                   |
|        | P458B148 |      | FILTER-AIR                   |
|        | P458B358 |      | FILTER-FUEL -INSIDE          |
|        | P458B264 |      | FILTER REPLACEMENT           |
|        | P458B203 |      | FUEL FILTER -IN LINE         |
|        | P458B254 |      | FUEL / WATER FILTER ASSEMBLY |
|        | P902A021 |      | MUFFLER                      |
|        | P458B288 |      | ALTERNATOR                   |
|        | P458B351 |      | FUEL PUMP                    |
|        | P458B230 |      | SWITCH -TEMPERATURE          |
|        | P458B224 |      | STARTER SOLENOID             |
|        | P458B356 |      | AIR FILTER COMPLETE          |
|        | P458B041 |      | SENSOR -TEMPERATURE          |
|        | P458B082 |      | SWITCH - OIL PRESSURE        |
|        | P458B228 |      | SOLENOID STOP                |
|        | P458B159 |      | FAN V-BELT                   |
|        | P458B245 |      | FAN                          |
|        | P458B336 |      | STARTER                      |

# CRACK PRO® MASTIC MACHINE

## RECOMMENDED SPARE PARTS LIST

### LIST FOR: DIESEL ENGINE

| PART#    | QTY. | DESCRIPTION                         |
|----------|------|-------------------------------------|
| P458B147 | 1    | <b>FILTER-OIL</b>                   |
| P458B148 | 1    | <b>FILTER-AIR</b>                   |
| P458B264 | 1    | <b>FILTER</b> REPLACEMENT           |
| P458B203 | 1    | FUEL <b>FILTER</b> -IN LINE         |
| P458B254 | 1    | FUEL / WATER <b>FILTER ASSEMBLY</b> |

### LIST FOR: CRACK PRO MASTIC MACHINE

| PART#      | QTY. | DESCRIPTION                 |
|------------|------|-----------------------------|
| P74000K002 |      | SPARE PARTS <b>KIT</b>      |
| P662A074   | 1    | 1.75 X 90B NOZZLE TIP       |
| P662A082   | 1    | .6 X 80A NOZZLE TIP         |
| P735B015   | 1    | RELAY – 12V DC 40 AMP       |
| P662A016   | 1    | BURNER COUPLER              |
| P662A010   | 1    | BURNER PRIMARY CONTROL      |
| P458B203   | 1    | FUEL <b>FILTER</b> -IN LINE |
| P595A012   | 2    | 15 AMP ATC FUSE (FLAT)      |
| P735B009   | 1    | RELAY- TEMPERATURE CONTROL  |
| P735MM018  | 1    | DIGITAL TEMP. CONTROLLER    |
| P662A014   | 1    | CAD CELL DETECTOR           |
| P679A017   | 1    | 23" THERMOCOUPLE            |
| P603A007   | 1    | AMMO CAN <b>KIT</b>         |
| P679A020   | 1    | 8" THERMOCOUPLE             |

### GROSS WEIGHT LIST:

| UNIT |  | GROSS WEIGHT LBS. |
|------|--|-------------------|
| 250  |  | <b>5660</b>       |
| 300  |  | <b>6160</b>       |

## MAINTENANCE AND STORAGE

### MAINTENANCE

During the lubrication stop, inspect all operating parts. Should any damage or excessive wear be evident, replace parts immediately. Straighten any parts as soon as possible. Clean and re-paint all exposed parts using touch-up kit P3020B034 **yellow** paint or touch-up kit P3020B033 **black** paint.

### STORAGE

Perform all required maintenance and lubrication procedures. Coat all shafts with grease. Clean and re-paint all exposed parts using touch-up kit P3020B034 **yellow** paint or touch-up kit P3020B033 **black** paint.

### Each touch-up kit includes:

1-pint paint can --- 1 pair of gloves --- 1 touch-up paintbrush

# MAINTENANCE AND STORAGE

## MAINTENANCE

### CRACK FILLING EQUIPMENT

#### Material Tank Buildup

Occasionally crack filling equipment will build up with burnt material around the walls and ceiling of the material tank. The buildup will be brittle and look shiny black.

If too much buildup occurs chunks can flake off and **clog your pump or hose** causing **downtime** and unnecessary **expenses**. This layer of burnt material also insulates the walls **slowing** the **heat-up time** on the material and **decreasing your production**.

The inside of all hot pour Crack filling tanks should be **inspected** while performing **yearly service**. If you have more than  $\frac{1}{4}$ " to  $\frac{1}{2}$ " build-up of material on the walls or ceiling it should be chipped out with an air chisel. The best time for cleaning is the **coolest** time of year.



FLAKES IN MATERIAL  
FROM BUILDUP



CHIPPED OUT  
MATERIAL FROM  
BUILDUP