



## **Operation Manual**

**Model: 1560**

**Covers Serial Number Range:**

**848-S-56TCG9Y2\*03848 through \_\_\_\_\_**

**Sold & Serviced By:**

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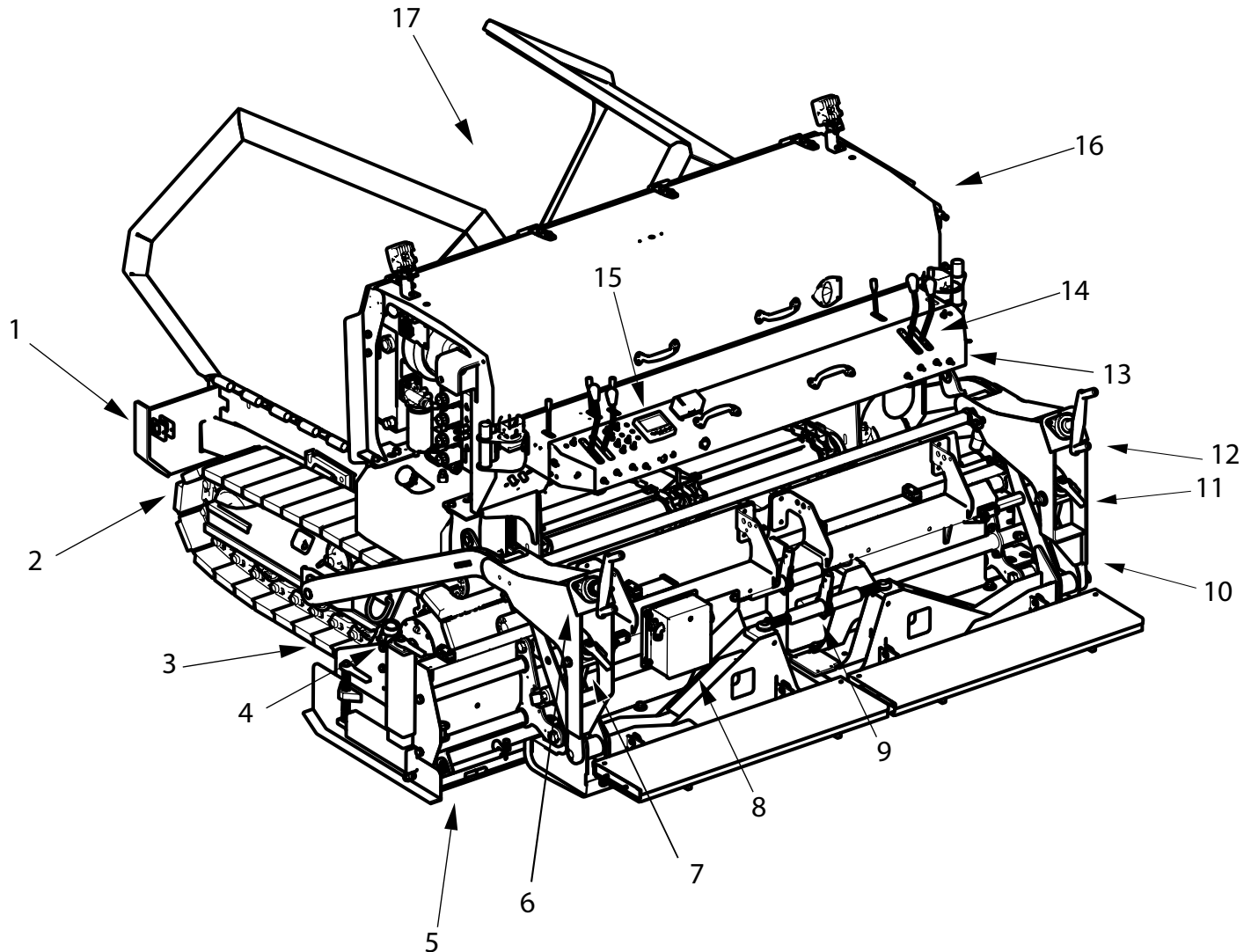
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## 1. Introduction

### 1.1 Machine Components



1. Sight Gauge Rod (both sides)
2. Front Tie Down (both sides)
3. Rear D-ring Tie Down (both sides)
4. Sonic Sensor
5. Left Extension
6. Left Mat Thickness Adjustment
7. Left Extension Match Height Adjustment
8. Screed Heat Control Box
9. Screed Crown Adjustment
10. Right Extension
11. Right Extension Match Height
12. Right Mat Thickness Adjustment

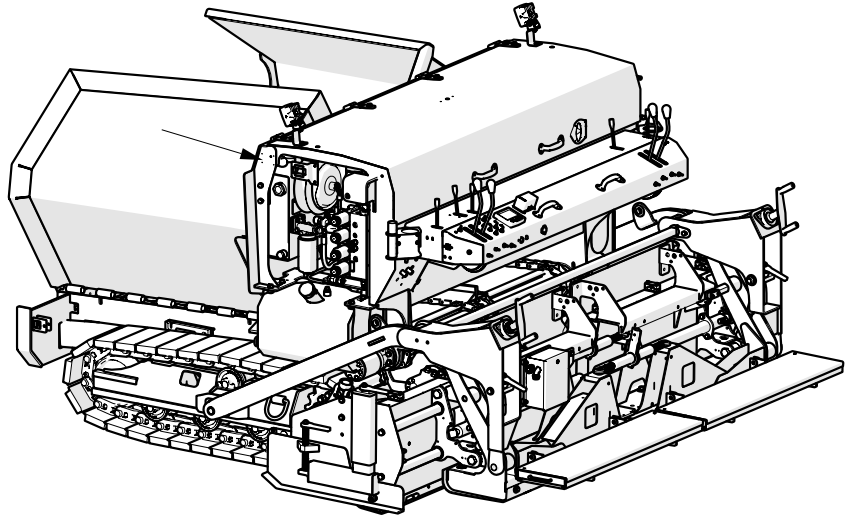
13. Dash
14. Machine Steering Levers
15. Operator Display
16. Engine Compartment
17. Hopper

## 1.2 Serial Number Plate

Serial number plate is located on the left side of the engine enclosure. record serial number and date in spaces below.

Serial Number: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_



## 2. Safety

### 2.1 General Safety Information

Operating personnel must perform service checks regularly to be sure systems are in good operating condition. If abnormal conditions are detected, inform maintenance personnel immediately.

Check all systems for proper operation. Check chassis and all components for physical damage and security of all fasteners and connectors.

#### 2.1.1 Safety Alert And Signal Words

The safety information in this manual is denoted by the safety alert symbol: This symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

 **DANGER**

Indicates a hazardous condition that will result in serious injury or death if not performed appropriately.

 **WARNING**

Indicates a hazardous condition that could result in serious injury or death if not performed appropriately.

**⚠ CAUTION**

Indicates a hazardous condition that could result in serious injury if not performed appropriately.

**NOTICE**

Indicates a situation that could result in damage to the machine or other property.

## 2.2 Operation Hazards

The following hazards are possible during the operation of the paver. All operators, maintenance and service personal, or any one working with or near the paver must be familiar all hazards.

**⚠ WARNING**

Do not operate this paver until you read and understand the instructions in the operation section of this manual.

**⚠ WARNING**

Do not operate, work on or around paver while under the influence of alcohol, drugs or if feeling ill.

**⚠ WARNING**

Explosion, fire, or property damage hazard.

Do not use starting fluid with this engine.

Use of starting fluid can cause an explosion, fire, personal injury or damage to the engine and other property.

**⚠ WARNING**

Loud noise hazard.

Prolonged exposure to loud noise can cause impairment or loss of hearing.

Operators, workers and bystanders must use ear protection while machine is in operation.

**⚠ WARNING**

Entanglement hazard.

Do not wear loose fitting clothing.

Loose fitting clothing and long hair can become entangled in moving or rotating parts. Keep all personnel clear of moving parts when engine is running or about to be started.

**Long hair must be tied back or netted.**

**Keep clear of moving components.**

**Never operate machine with open or missing guards or shields.**

**⚠ WARNING**

**Fire, burns or property damage hazard.**

**During aftertreatment regeneration, exhaust gas temperature could reach 1500°F (800°C). Exhaust system surface could exceed 1300°F (700°C) which is hot enough to ignite or melt common materials and burn the skin.**

**Exhaust and exhaust components can remain hot after engine has been stopped.**

**To avoid risk of fire, burns and property damage or personal injury, allow the exhaust system to cool before service or repairs.**

**Be sure there are no combustible materials located where they are likely to come in contact with hot exhaust or exhaust components.**

**⚠ WARNING**

**Explosion, fire, or personal injury.**

**This engine is equipped with an air intake heater.**

**Do not use starting fluid with this engine.**

**Use of starting fluid can cause an explosion, fire, personal injury or damage to the engine and other property.**

**⚠ WARNING**

**Diesel exhaust fluid (DEF) hazard.**

**In case of contact with eyes, immediately flush eyes with water. Obtain medical attention immediately.**

**In case of skin contact, wash all exposed skin area with mild soap and water, followed by warm water rinse.**

**If ingested, obtain medical attention immediately.**

**⚠ WARNING**

**Crush hazard.**

**A raised screed or partially open hopper will fall if a hydraulic line or fitting is opened, or manual override button on hydraulic valve is pressed.**

**Always fully close hopper and lower screed to ground or engage screed service locks when parking paver or preparing paver for inspections, service and maintenance.**

**NOTICE**

**Dispose of waste properly.**

**Improper disposal of waste can harm the environment.**

**Use leak proof container when draining fluids. Do not use food or beverage containers.**

**Contact your local environmental or recycling center for the proper way to recycle or dispose of waste.**

### **2.2.1 ⚠ Pressurized Fluids**

Hydraulic oil and grease injected into your skin can cause serious injury or death. Keep your hands and body away from any pressurized leak. Tighten connections before applying pressure. Never use your hand to check for leaks; use a piece of wood or cardboard. If fluid is injected into the skin, it must be surgically removed within a few hours or gangrene may result. Get immediate medical attention.

### **2.2.2 ⚠ Hazardous Chemicals**

Lubricants and coolants can be hazardous. Before operating, check the Material Safety Data Sheet (MSDS) to understand each product, safe handling procedures, and first aid measures relating to the product. Clean up spilled fluids immediately.

Do not drain or pour any fluids or lubricants on the ground. Check with local environmental agencies or recycling centers for proper disposal information.

### **2.2.3 California Proposition 65 Warnings**

**⚠ 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](http://www.P65Warnings.ca.gov/diesel).**



**⚠ WARNING**

**Batteries, battery posts, battery terminals, and related accessories can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm.**

For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## **2.2.4 Hazards From Modifying Equipment**

Do not make any alterations to your paver. Altering may cause your equipment to be unsafe and may void the manufacturers' warranty.

Always use Mauldin replacement parts.

## **2.3 Maintenance Hazards**

The following maintenance hazards are in addition to those found while operating the paver. All maintenance and service personnel must be familiar with all hazards before working on the machine.

Most accidents are caused by failure to observe basic safety rules or precautions.

An accident can often be avoided by recognizing potentially hazardous situations before an accident occurs.

**⚠ WARNING**

**Improper operation, lubrication or maintenance of this paver can be dangerous and could result in injury or death.**

**⚠ WARNING**

**Do not perform any lubrication and maintenance on this paver until you read and understand the instructions in the maintenance section of this manual.**

### **2.3.1 ⚠ Maintenance And Service**

Before performing inspections, service or maintenance:

- Park paver on firm level surface.
- Lower screed to ground or engage screed support locks.
- Fully open or close hoppers.
- Turn engine off and remove ignition key.
- Attach a Do Not Operate tag or similar warning tag to the ignition switch.
- Follow lockout/tag out procedure as defined by your company.

After performing inspections, service or maintenance, verify all guards have been installed and all safety devices are functional.

Always wear face or eye protection, safety shoes, and other protective items as required by your company.

If you must troubleshoot machine with engine running, have someone in constant visual contact who can shut off the engine or engage an Emergency Stop.

If you must service machine with an attachment raised, block up that attachment in a safe position.

### 2.3.2 ⚠ Fire Or Explosion Prevention

⚠Engine fuel can cause an explosion or fire. Do not service fuel system with engine running or near open fire. Do not weld or smoke near fuel system. Do not spill fuel or hydraulic oil on hot machine components. Clean up spilled fuel or oils immediately.

⚠Keep sparks and flames away from batteries to prevent explosion of hydrogen gas in and near a battery. Other precautions include:

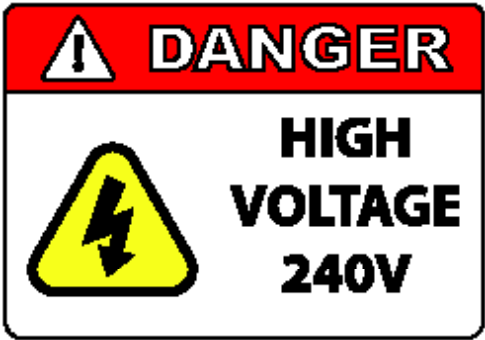

- When disconnecting battery cables, disconnect negative (-) cable first.
- When connecting battery cables, connect negative (-) cable last.
- Do not short circuit battery posts with metal items.




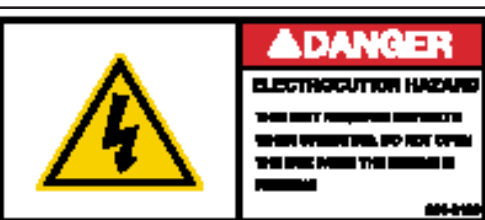


## 2.4 Safety Decals

Safety decals are located on the paver to identify operational and maintenance hazards. The safety decals are placed according to the hazard in that area of the paver. Read and understand each of the safety decals and the hazard it references. These safety messages are additional information to the safety content described in this operator's manual.

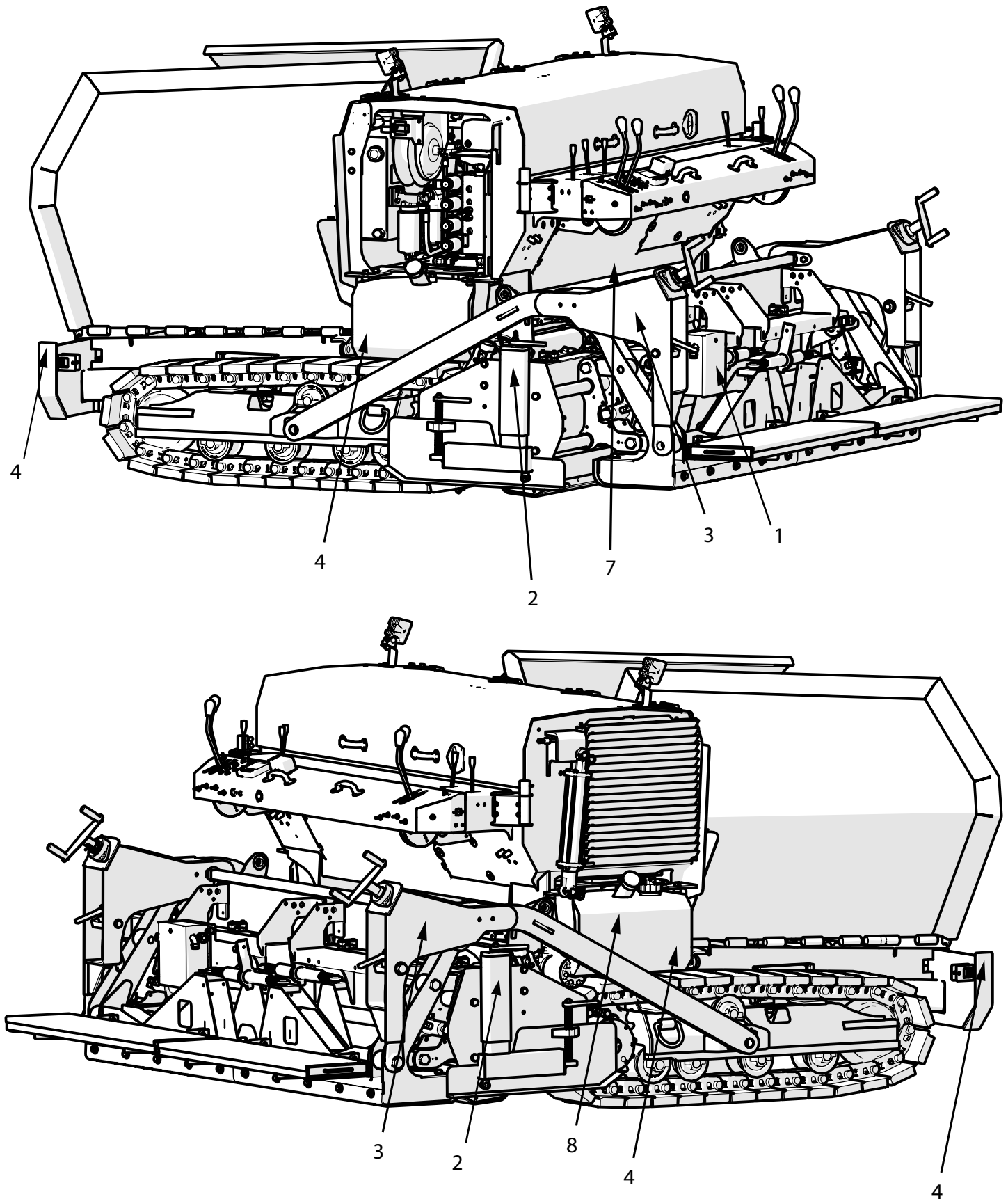
All safety decals must be legible at all times. Avoid using harsh chemicals or pressure washing. If the safety decal is no longer legible, replace it with a new one. Contact your dealer for new decals.

### 2.4.1 Safety Decals Defined

|  |  |
|--|--|
|  | <p>1 - Danger High Voltage. The generator provides 250v for screed heater operation. Avoid working on any electrical components while the engine is on.</p>                  |
|  | <p>2 - Danger Keep Clear. There are moving objects that could result in harm. Keep clear of moving objects. Failure to keep clear may result in serious injury or death.</p> |

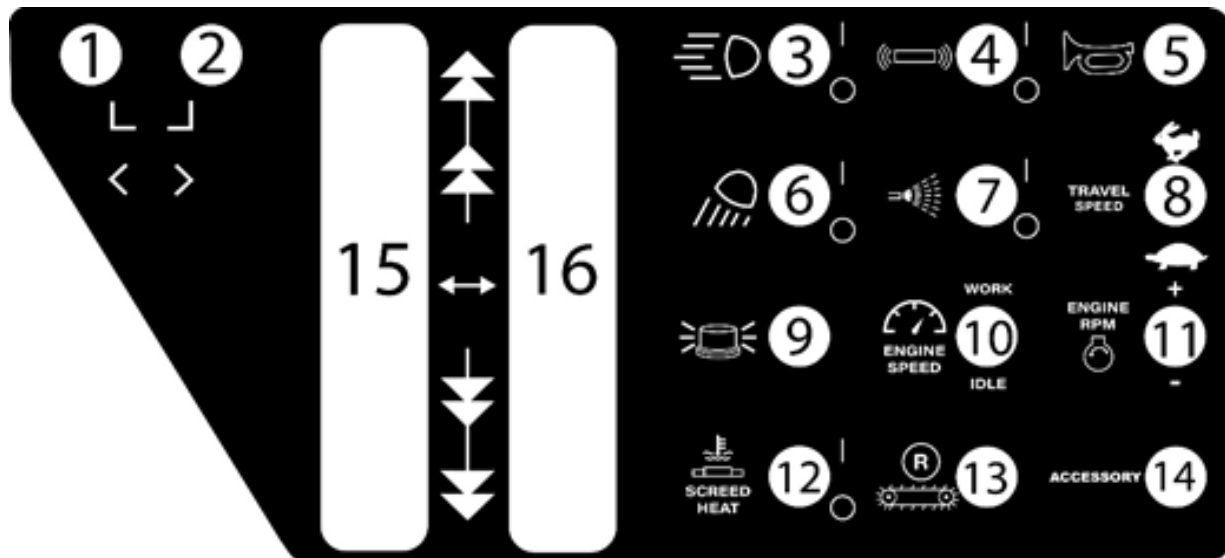
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|--|--|
|    | <p>3 - Danger Stand Back. There are moving objects that could result in harm. Stand back a safe distance to avoid harm. Failure to keep back may result in serious injury or death.</p>                    |
|    | <p>4 - Danger Crush Hazard. There are moving objects with sharp and or hard edges. Failure to observe moving parts and keep clear can and will result in serious injury.</p>                               |
|    | <p>5 - Fan Hazard. Keep away from moving fan.</p>  |
|    | <p>6 - Danger High Voltage. This machine uses 250v to operation. Avoid working on any electrical components while the engine is on.</p>  |
|   | <p>7 - Caution Moving Augers. Keep clear of moving augers. Failure to do so may result in serious injury or death. Do not stand on or near the augers at any time, even if the machine is not running.</p> |
|  | <p>8 - Danger. Fuel and or flammable fluid is present. Do not smoke or use any open flame. Decal is inside engine enclosure.</p>   |

## 2.4.2 Safety Decals on Machine

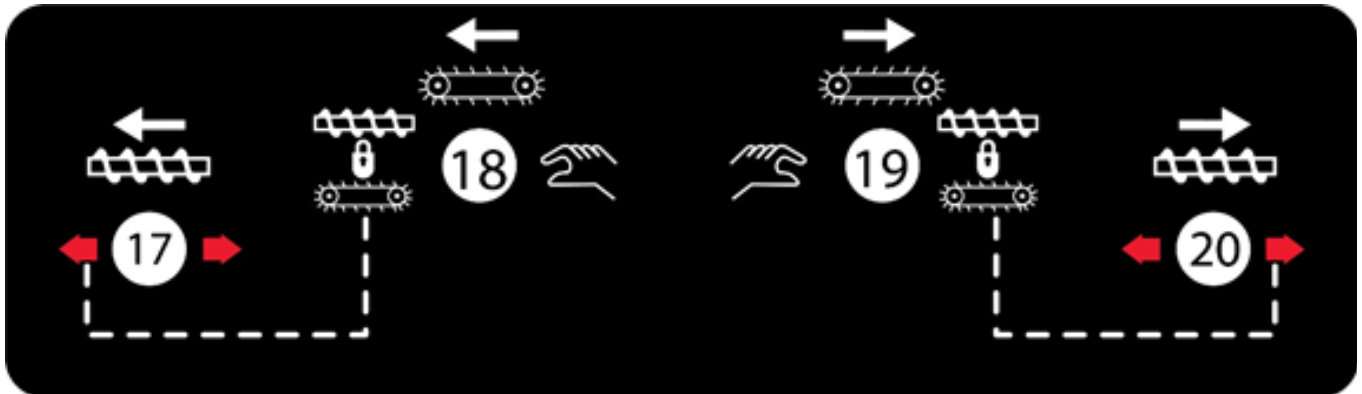


## 3 Paver Operation

### 3.1 Machine Functions Explained



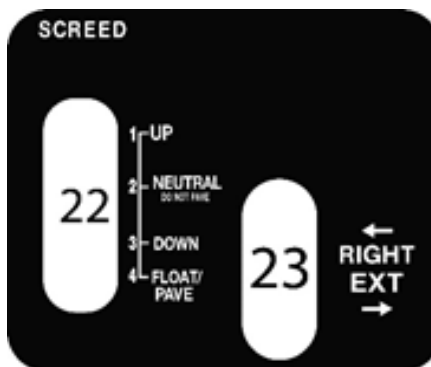
1. Hopper Open and Close. Left or Both Hoppers
2. Hopper Open and Close Right Hopper (optional)
3. Forward Hopper Lights On/off
4. Screed Vibrator On/off
5. Horn
6. Screed Lights On/Off
7. Wash down pump On/off
8. Travel speed High or Low speed. Paving and Machine loading/unloading should always be done in low speed range.
9. Beacon Light (Optional)
10. Engine Speed: this is to select a set RPM for idle or high RPM for work mode.
11. Engine RPM Adjustment: this increases or decreases the idle or work RPM a small increment.
12. Screed Heat On/off. This turns the screed heat on or off. The desired temperature is set in the digital display. See Screed Heating Section.
13. Conveyor Reverse. This reverses the conveyor direction to return material to the hopper.
14. Accessory. This is for extra options.
15. Left Drive Lever
16. Right Drive Lever



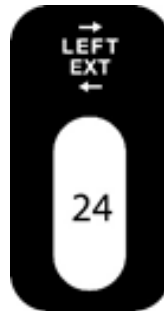
- 17. Left Auger Direction In/Out
- 18. Left Conveyor Feed AUTO/Manual
- 19. Right Conveyor Feed AUTO/Manual
- 20. Right Auger Direction In/Out



- 21. Auger Control AUTO/Manual. Auto uses the sonic sensors to determine when to turn on the feed system (augers and conveyors). The feed system will turn off once it reaches the desired head of material.



- 22. Screed Lever Up/Down. Push the Lever forward to raise the screed, pull the lever down to lower the screed. To float the screed pull the lever down passed the detent, the lever will stay and the screed will be in float mode.
- 23. Right Extension Lever. This extends and retracts the right hand screed extension.



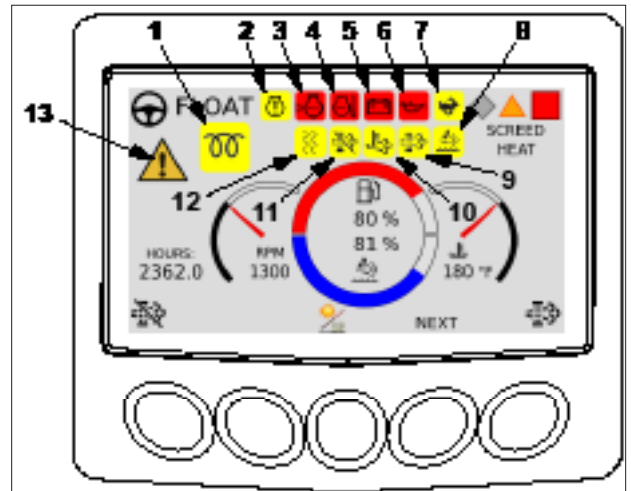
24. Left Extension Lever. This extends and retracts the left hand screed extension

## 3.2 Digital Display

This digital display indicates engine oil pressure, engine coolant temperature, battery voltage, engine speed, engine torque being used, diesel exhaust fluid tank level, diesel fuel tank level and engine hours.

### 3.2.1 Engine Warning Lamps

1. Wait to start indicator. Icon is illuminated when engine preheat is activated.
2. Engine warning code present. Warning symbol (12) will also be illuminated. Check engine codes as soon as possible.
3. Coolant level low. Indicates coolant level is too low. Stop engine immediately.
4. Coolant temperature high. Indicates coolant temperature is too high. Stop engine immediately.
5. Battery voltage low.
6. Oil temperature high. Indicates oil temperature is too high. Stop engine immediately.
7. High speed. Indicates travel switch is in high.
8. DEF tank level low.
9. Force regen. Indicates forced exhaust regen has been activate.
10. Exhaust temperature high. Indicates exhaust temperature is too high.
11. Regen inhibit. Indicates exhaust regen inhibit has been selected.
12. Screed vibration. Icon indicates vibration requested. Screed vibration only operates when paver is moving forward.
13. Warning indicator. Indicates an minor engine warning code is present. Check engine codes as soon as possible. A red stop sign indicates a serious engine code is present and engine must be stopped immediately.

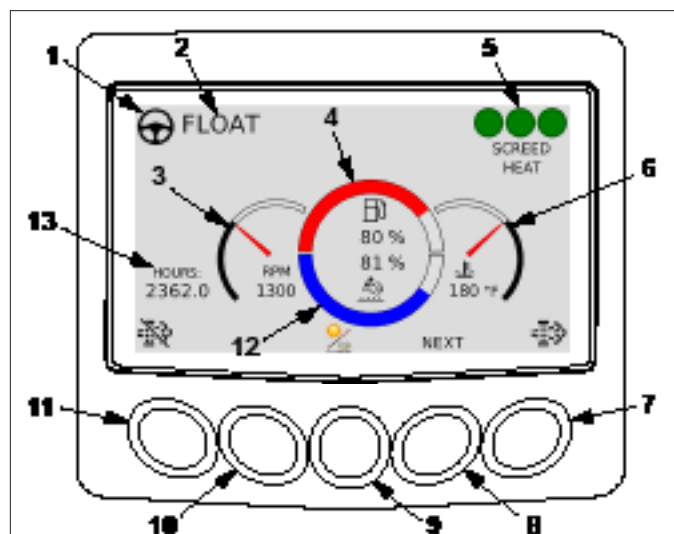


### 3.2.2 Engine Screen

1. Selected station indicator. This symbol will be displayed on operators station screen with active travel controls.
2. Screed float mode indicator. When illuminated, screed is in float mode.
3. RPM gauge.



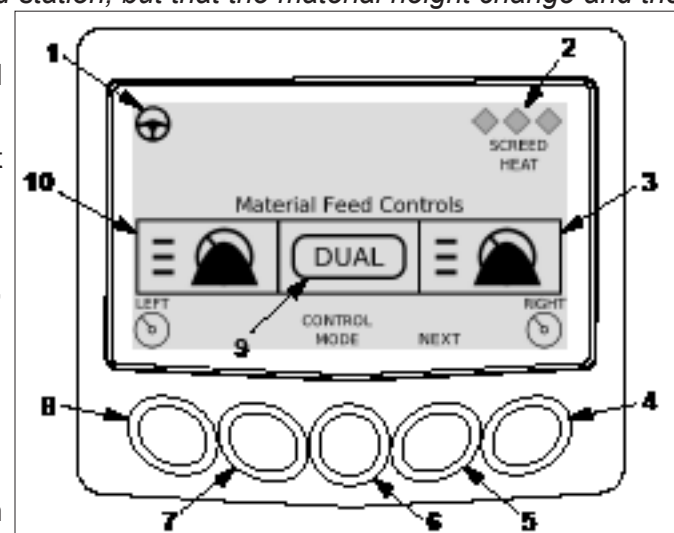
4. Fuel tank level.
5. Screed heat status. Indicates status of screed heat zones.
6. Coolant temperature gauge.
7. Force regen. Press to start exhaust regen.
8. Press to move to next screen.
9. Day/night mode.
10. Press to display engine code(s) if present.
11. Regen inhibit. Press to inhibit exhaust regen.
12. DEF tank level. (not available on 1560)
13. Machine hour meter.



### 3.2.3 Material Feed Screen

**Note:** Material feed screen can be viewed at the right hand station, but that the material height change and the dual/single can only be changed from the left hand station.

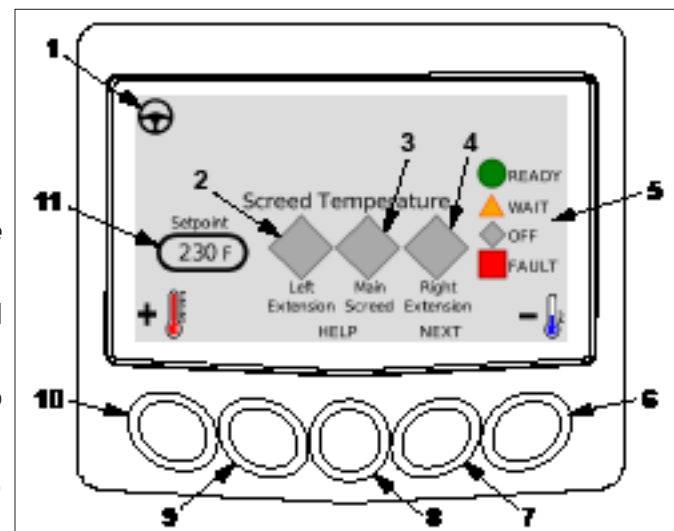
1. Selected station indicator. This symbol will be displayed on operators station screen with active travel controls.
2. Screed heat status. Indicates status of screed heat zones.
3. Right material height indicator (sonic).
4. Right side material height adjustment. Select low, medium or high.
5. Press to move to next screen.
6. Press to change feed mode. Select dual or single.
7. Press to display engine code(s) if present.
8. Left side material height adjustment. Select low, medium or high.
9. Feed control mode indicator.
10. Left material height indicator (sonic).



### 3.2.4 Screed Temperature Screen

**Note:** Screed temperature can only be changed from the left hand station.

1. Selected station indicator. This symbol will be displayed on operators station screen with active travel controls.
2. Left screed extension status. Display will show ready to pave, wait to pave, off, or fault icon.
3. Main screed status. Display will show ready to pave, wait to pave, off, or fault icon.



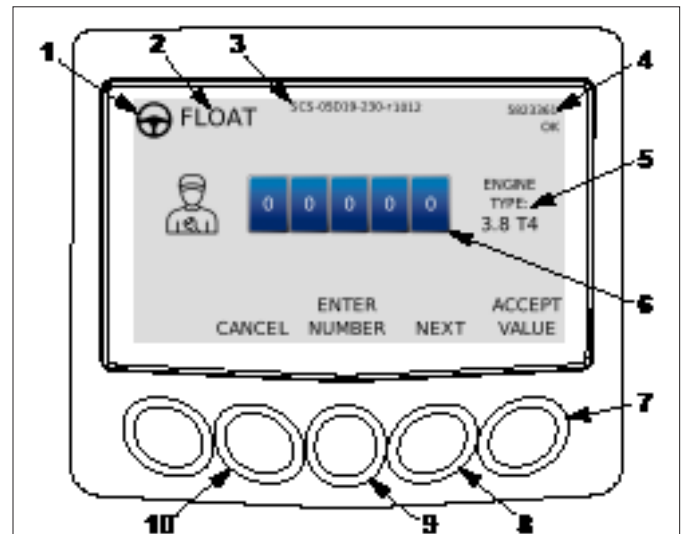


4. Right screed extension status. Display will show ready to pave, wait to pave, off, or fault icon.
5. Screed heat status icons. Press and hold help button (8) to show icons.
6. Press to lower screed temperature set point.
7. Press to move to next screen.
8. Press to show icon legend.
9. Press to display engine code(s) if present.
10. Press to raise screed temperature set point.
11. Selected screed heat setpoint. Default temperature is 230°F.

### 3.2.5 Password Screen

Password screen should only be accessed while being directed by a Mauldin Paving Products service technician.

1. Selected station indicator. This symbol will be displayed on operators station screen with active travel controls.
2. Screed float mode indicator. When illuminated, screed is in float mode.
3. Program version.
4. Display serial number.
5. Machine engine model.
6. Password input field.
7. Press to accept input field value.
8. Press to move to next screen.
9. Press to enter number in input field.
10. Press to cancel input field value.



### 3.3 Prestart Checks

Prior to starting the machine, the following procedures must be completed.

**Note:** Refer to OEM engine manual for important safety, operational and maintenance information.

1. Check engine oil level.
2. Check engine coolant level.
3. Check hydraulic oil level.
4. Check fuel and DEF levels.
5. Check wash down tank level.
6. Check around machine to verify nothing is on or under the machine.

### 3.4 Start Engine

**⚠ 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](http://www.P65Warnings.ca.gov/diesel).**

**⚠ WARNING**

**Explosion, fire, or personal injury.**

**This engine is equipped with an air intake heater. Do not use starting fluid.**

**Use of starting fluid can cause an explosion, fire, personal injury or damage to the engine and other property.**

1. Turn key switch to on position, pause light indicator should be on.
2. Turn key switch to start and release. During cooler temperatures, there may be slight delay before starter engages while engine preheat is engaged.
3. Run engine at low idle to warm up.
4. Press active station control to enable the driving/steering control on that operators station. Left hand station is the default active station. When engine is started, it will be in pause. The engine will start with a track control lever out of neutral, but you must recenter the levers and toggle pause/resume switch to begin driving.

### **3.2.2 Driving**

The paver will move forward by pushing both levers forward and will move backwards by pulling the levers back. Steering a course is accomplished by adjusting the speed of one handle relative to the other. HINT - to make driving easy, push both handles forward to desired speed, then use only one handle to fine-tune your direction.

### **3.2.3 Steering Tension**

The steer handles can be adjusted for operator preference on tension, (or drag). In a loose position the handles will spring return to neutral, this requires constant pressure on the handles by the operator. Tension can be added to the point where the handles are locked and cannot be moved. The ideal setting is somewhere in-between where the handles have enough tension to stay in the position the operator chooses, but not so stiff as to produce fatigue.

To adjust tension: loosen or tighten the nut located at the center of the aluminum discs where the handles are attached.

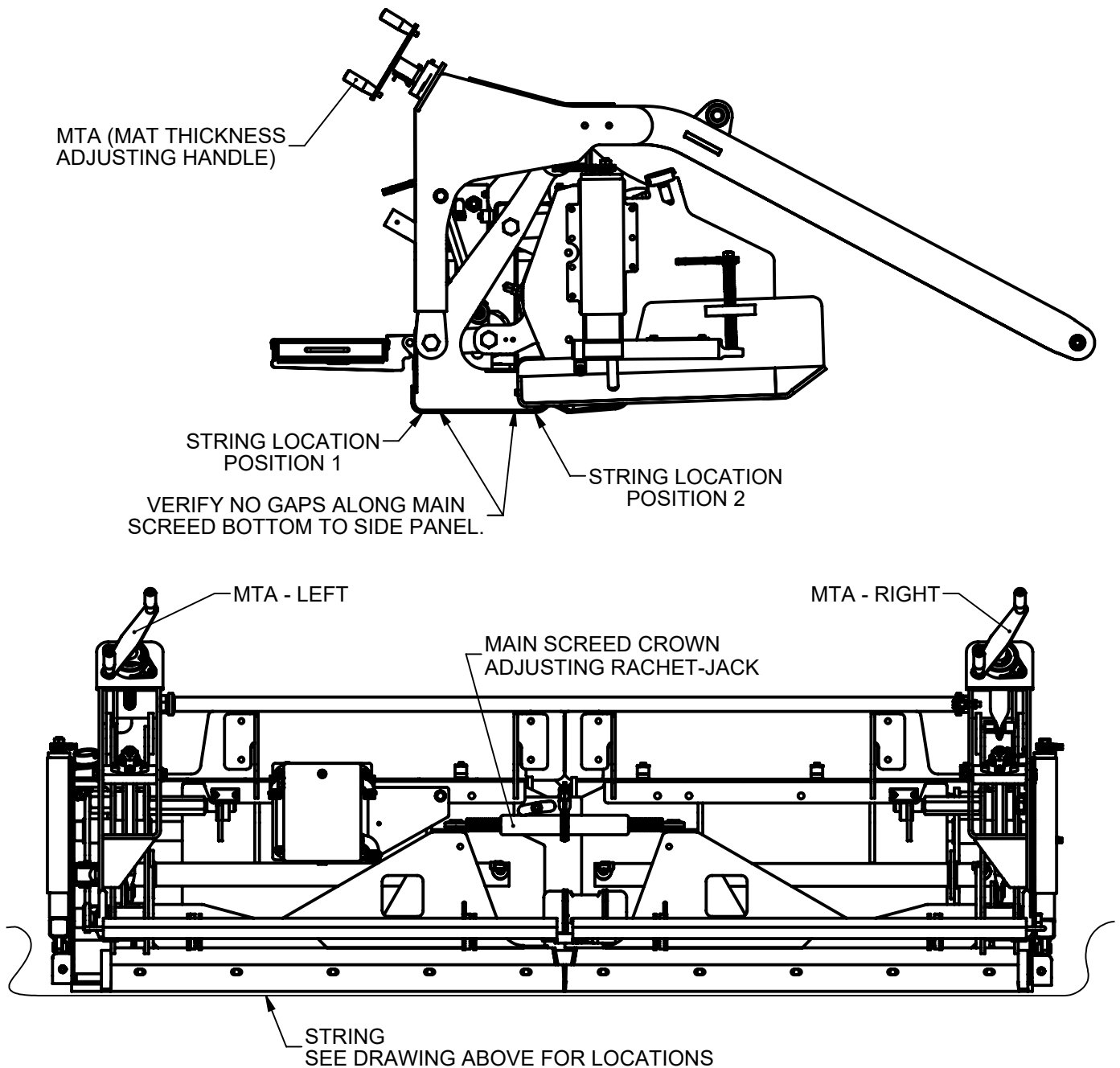
### **3.2.4 Two Speed**

**CAUTION: INJURY/OR DAMAGE MAY OCCUR:** When switching to high range, bring paver to a stop before switching. To engage from low to high flip the High range switch up.

## 4 Screed Setup

### 4.1 Initial Screed Setup

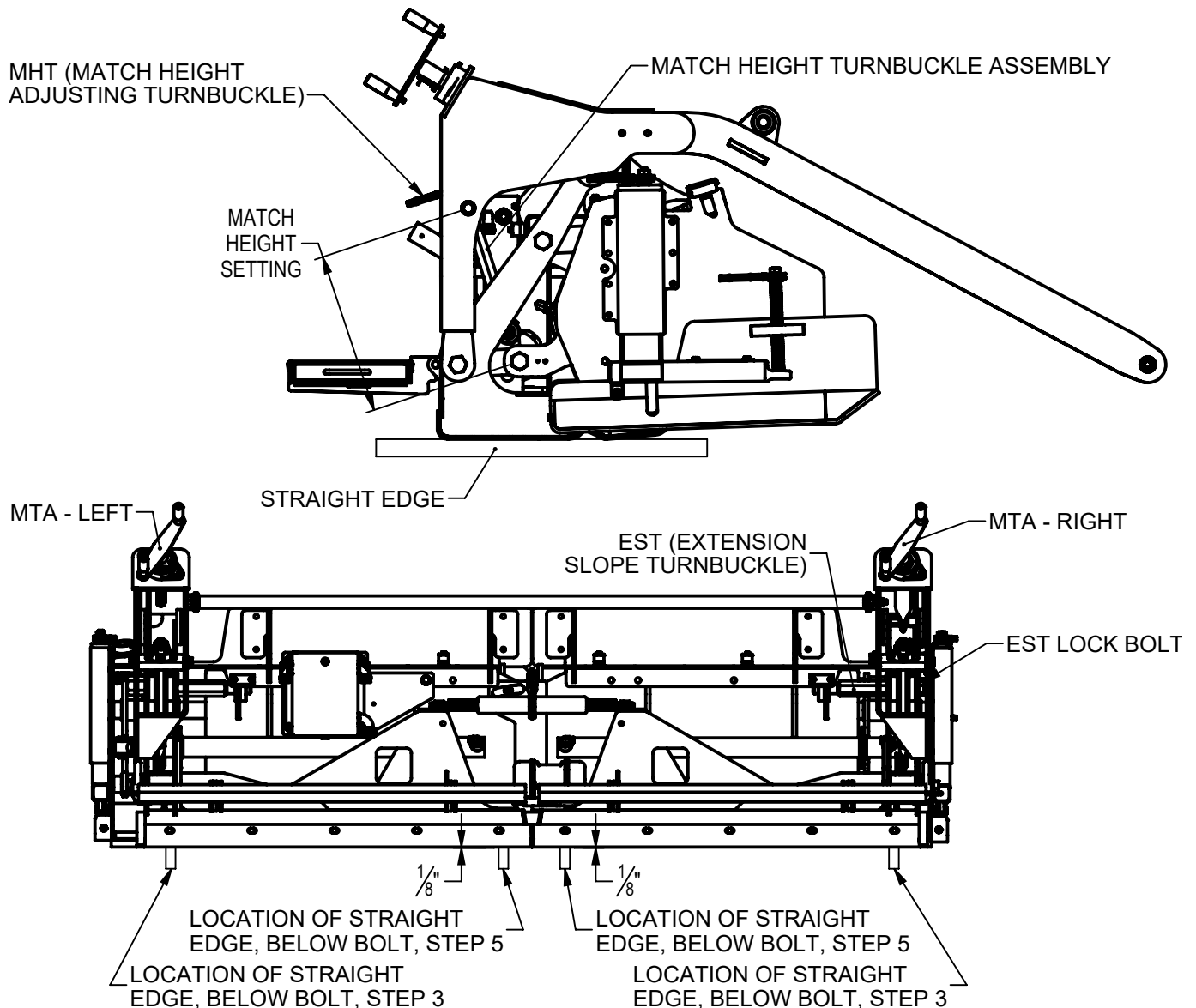
#### MAIN SCREED CROWN SETTING



#### MAIN SCREED CROWN INITIAL SETTING:

1. USING THE MTA, ADJUST HANDLES TO BE APPROXIMATELY THE SAME. THIS CAN BE DONE BY NULLING OUT THE SCREED OR MEASURING THE MTA EXPOSED THREADED RODS.
2. USE A STRING AND PLACE IT AT "POSITION 1". ADJUST REAR CROWN RATCHET-JACK UNTIL THE MIDDLE IS BARELY ABOVE THE STRING. THE STRING SHOULD NOT BE TOUCHING THE SCREED PLATE IN THE MIDDLE

## EXTENSIONS SLOPE SETTING



### EXTENSIONS INITIAL SETTING INSTRUCTIONS:

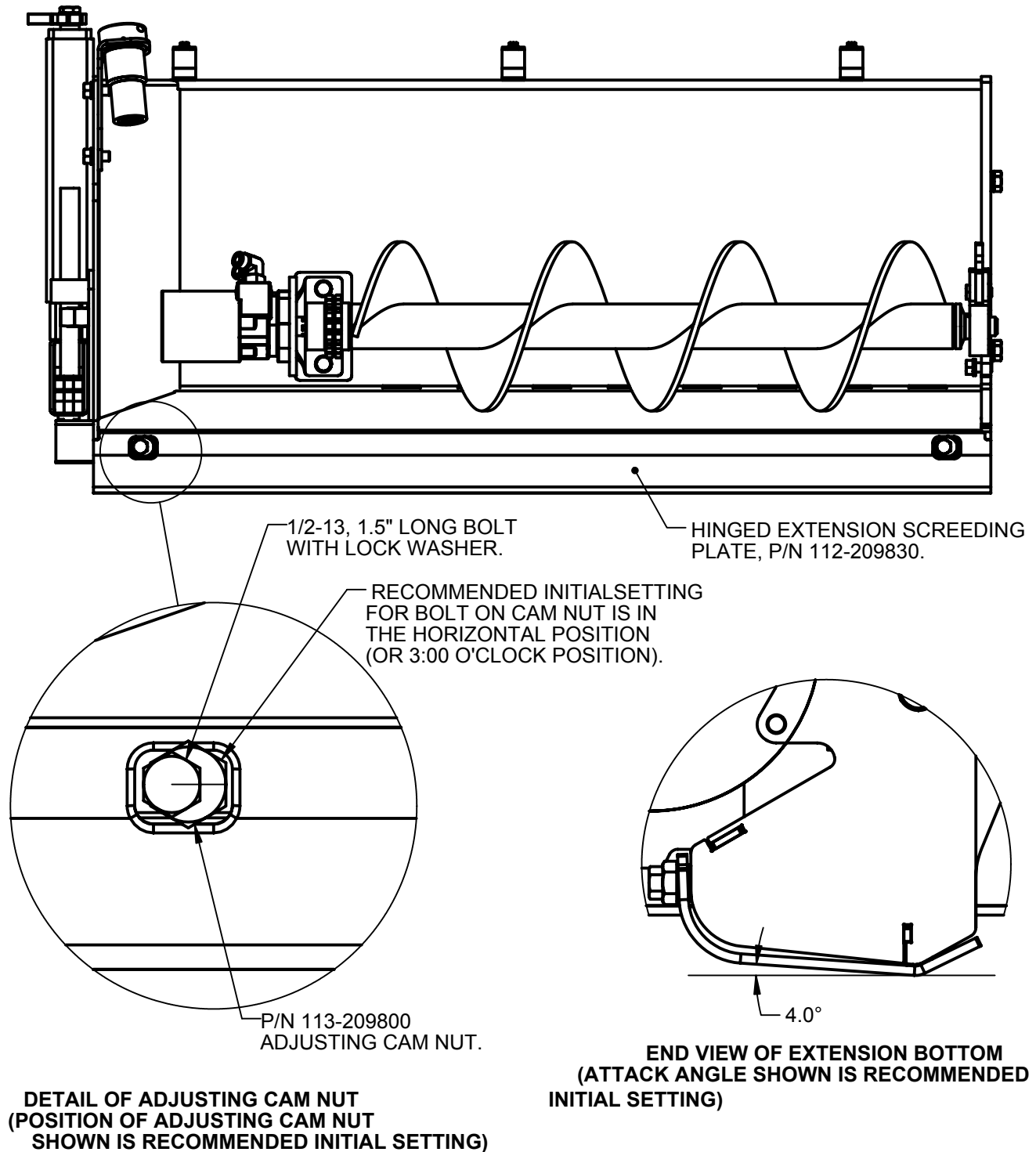
1. RETRACT BOTH EXTENSION COMPLETELY.
2. USING THE MHT, ADJUST THE MATCH HEIGHT SETTING TO 15-3/4" FOR BOTH SIDES.
3. USE THE MTA TO MOVE THE EXTENSION UP OR DOWN UNTIL THE TRAILING EDGE OF EXTENSION BOTTOM TOUCHES THE STRAIGHT EDGE. STRAIGHT EDGE MUST BE FLAT TO THE MAIN SCREED BOTTOM.
4. LOOSEN EST (EXTENSION TURNBUCKLE) LOCK BOLT.
5. ADJUST THE EST TO BRING THE EXTENSION SCREED PLATE INSIDE EDGE 1/8" BELOW THE STRAIGHT EDGE.

### PAVING ADJUSTMENT INSTRUCTIONS:

1. IF LINES APPEAR BETWEEN THE EXTENSIONS AND MAIN MATS:
  1. TO RAISE EXTENSION ASSEMBLY, USE THE MHT DECREASE THE SETTING ON THE MATCH HEIGHT TURNBUCKLE ASSEMBLY.

## 4.2 Extension Bottom Setup

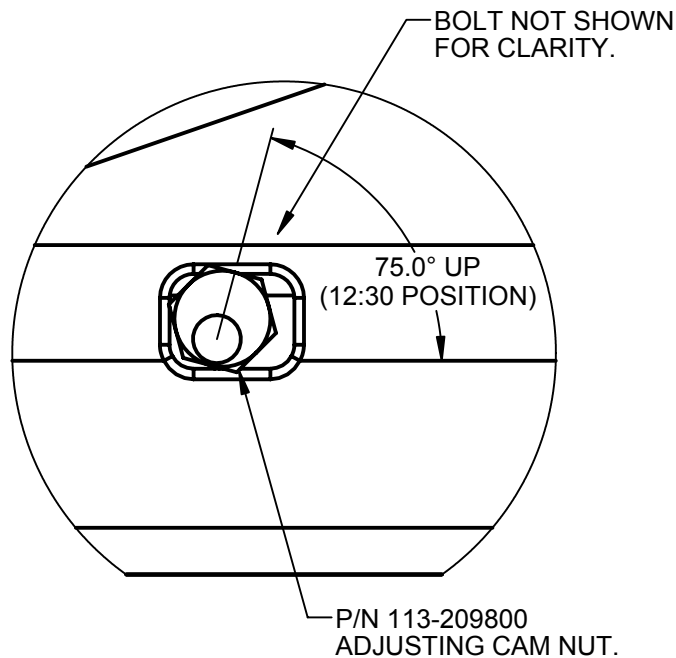
### Extension Adjustable Bottom



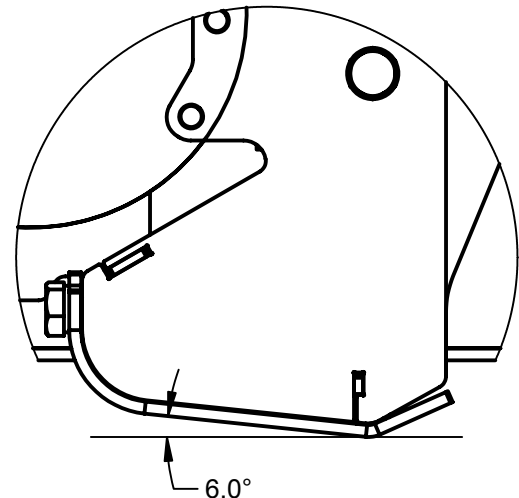
#### NOTES:

1.If adjusting the attack angle of the extension screeding plate is required, replace P/N 113-209801 with P/N 113-209800 adjusting cam nut. See the following two (2) pages for instructions to raise or lower the extension screeding plate profile to obtain seamless mat paving performance.

## Extension Adjustable Bottom



**DETAIL OF ADJUSTING NUT  
(POSITION OF ADJUSTING CAM NUT  
SHOWN IS FOR MAXIMUM ATTACK ANGLE)**



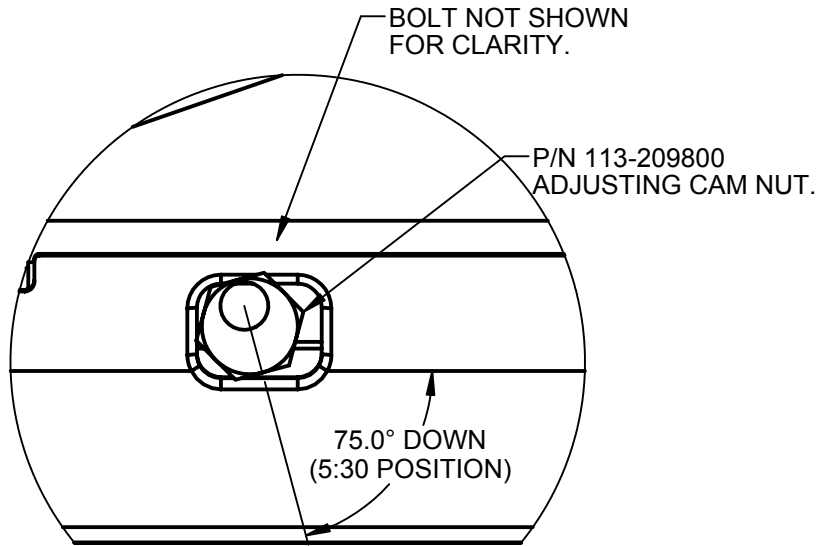
**END VIEW OF EXTENSION BOTTOM  
(ATTACK ANGLE SHOWN IS MAXIMUM)**

### NOTES:

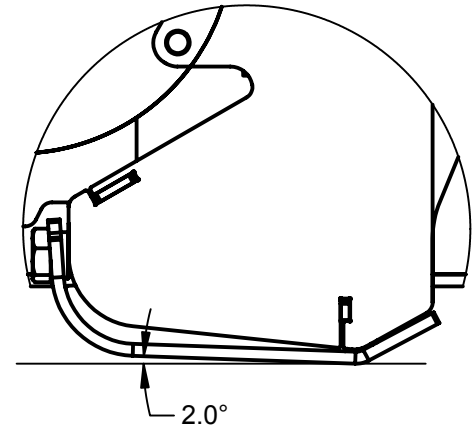
1. If the extensions are lower than the main screed at full paving widths, then increase the extension attack angle, see table below.

| Desired Attack Angle   | Angle from Horizontal | O'Clock Position       |
|------------------------|-----------------------|------------------------|
| 4.0° (Initial Setting) | 90° (Initial Setting) | 3:00 (Initial Setting) |
| 4.5°                   | 15° UP                | 2:30                   |
| 5.0°                   | 30° UP                | 2:00                   |
| 5.5°                   | 45° UP                | 1:30                   |
| 6.0°                   | 75° UP                | 12:30                  |

## Extension Adjustable Bottom



**DETAIL OF ADJUSTING CAM NUT  
(POSITION OF ADJUSTING CAM NUT  
SHOWN IS FOR MINIMUM ATTACK ANGLE)**



**END VIEW OF EXTENSION BOTTOM  
(ATTACK ANGLE SHOWN IS MINIMUM)**

### NOTES:

1. If the extensions are higher than the main screed at full paving widths, then decrease the extension attack angle, see table below.

| Desired Attack Angle   | Angle from Horizontal | O'Clock Position       |
|------------------------|-----------------------|------------------------|
| 4.0° (Initial Setting) | 90° (Initial Setting) | 3:00 (Initial Setting) |
| 3.5°                   | 15° DOWN              | 3:30                   |
| 3.0°                   | 30° DOWN              | 4:00                   |
| 2.5°                   | 45° DOWN              | 4:30                   |
| 2.0°                   | 75° DOWN              | 5:30                   |

## 5 Fluid Capacities and Recommendations

| Fluid                   | Capacity        | Recommendation          |
|-------------------------|-----------------|-------------------------|
| Engine Oil              | 8.5 Quarts      | 15w40                   |
| Hydraulic Oil           | 15.5 US Gallons | AW46 Hydraulic Oil      |
| Grease                  | As required     | N.G.L.I #2 high Temp    |
| Engine Coolant          | 2.5 US Gallons  | Extended Life 50/50 Mix |
| Diesel                  | 13 US Gallons   | Ultra Low Sulfur Diesel |
| Planetary (Final Drive) | 1 Quart         | 80w90 Gear oil          |

### 5.1 Engine Coolant

All engines are shipped from the factory with proper engine coolant and levels. Customers are responsible for filling and maintaining the engine's coolant system. The use of improper coolant mixtures in diesel engines can result in serious engine damage due to liner erosion and pitting.

### 5.2 Lubrication and Service Procedures

#### 5.2.1 Air Filters

**IMPORTANT:** Service the engine air filters only when the need is indicated by the air cleaner service indicator, (if equipped), or in accordance with the preventative maintenance decal.

Excessive service will cause premature wear.

##### 1. Engine Primary Element

- Unbuckle clips to remove element container end cap.
- Pull gently to remove main element.
- Use compressed air with an element-cleaning nozzle

**IMPORTANT:** Main element should be replaced after six cleanings or 500 hours use.

**IMPORTANT:** Do not attempt to clean element using a standard air nozzle. Do not strike element on a hard surface. Either action will damage the element.

### 5.3 Battery

#### **WARNING**

**BATTERY ELECTROLYTE IS A CAUSTIC ACID. KEEP IT AWAY FROM SKIN AND EYES.**



**CONTACT OCCURS, FLUSH THE AFFECTED AREA WITH LOTS OF WATER.**

**⚠ WARNING**

DISCONNECT GROUND CABLE FROM THE NEGATIVE BATTERY POST BEFORE ATTEMPTING TO SERVICE OR REMOVE BATTERY.

### **5.3.1 Removal**

- a. Open engine compartment and locate battery to your near left side.
- b. Disconnect ground (negative) cable from battery (-) terminal.
- c. Disconnect positive cable from battery (+) terminal.

### **5.3.2 Cleaning**

- a. Remove battery, following correct procedures.
- b. Thoroughly clean terminals with a battery-cleaning tool.
- c. Mix a paste solution of baking soda and water and apply to battery and terminals.
- d. Rinse battery and paver area near battery liberally with water.

### **5.3.3 Installation**

- a. Clean battery, following correct procedures.
- b. Be certain battery area is clean and clear of debris.
- c. Install battery and connect positive (+) cable to terminal.

**⚠ WARNING**

**DO NOT CONNECT NEGATIVE (GROUND) TERMINAL FIRST. ARCING CAN OCCUR, POSSIBLY CAUSING SEVERE BURNS AND/OR BATTERY EXPLOSION.**

- d. Connect negative (-) terminal.
- e. Close engine compartment.

### **5.3.4 Charging**

- a. Connect charger leads to proper battery terminals then proceed according to charger manufacturer's instructions.

### **5.3.5 Storage**

- a. Remove and clean battery, following correct procedures.
- b. Bring battery to full charge, following charger manufacturer's instructions.
- c. Store in a cool dry place where there is no possibility of freezing.

NOTE: Check battery every 30 days during storage and return to full charge if necessary.

## 5.4 Engine and Engine Filters

### 1. Fuel Filter / Water Separator

- i. The fuel filter and water separator is a combined unit,  
PLEASE NOTE it is NOT disposable.
- ii. There is also a separate in-line fuel pre-filter which is disposable.

#### **WARNING**

**BOTH DIESEL FUEL AND GASOLINE ARE HIGHLY FLAMMABLE AND EXPLOSIVE UNDER CERTAIN CONDITIONS. DO NOT SMOKE OR ALLOW SPARKS OR OPEN FLAME WHEN HANDLING.**

### 5.4.1 To Change Fuel Filter

- Stop engine. Wait 15 minutes for engine and surrounding parts to cool before proceeding.
- Unscrew and discard fuel and sediment.
- Clean bowl thoroughly and fill cleaned bowl with clean fuel.
- Lightly coat the seal ring with oil, then screw on filter/separator until seal meets flange.
- Tighten an additional 1/2 to 3/4 turns by hand.

**IMPORTANT:** Do not over tighten.

### 5.4.2 Oil and Filter Changing

- Stop engine. Wait 15 minutes or engine oil to cool before proceeding.
- On the hopper side, remove drain plug and position capturing bucket.
- Drain crankcase.
- Unscrew and discard existing filters.
- Fill new elements with fresh oil.
- Lightly coat the seal rings with oil, and then screw on filters until seals meet flanges.
- Tighten an additional 1/2 to 3/4 turns by hand.

**IMPORTANT:** Do not over tighten.

Fill crankcase to correct level.

Start engine and run at low idle. Have an assistant visually check seal areas for leaks.

Stop engine. Wait a few minutes, and then check engine oil level once again.

## 5.5 Hydraulic System

#### **DANGER**

**RELEASE, RESTRAIN, OR OTHERWISE RENDER SAFE ALL POTENTIAL HAZARDOUS STORED OR RESIDUAL ENERGY. IF A POSSIBILITY EXISTS FOR REACCUMULATION OF HAZARDOUS ENERGY, REGULARLY VERIFY DURING THE SERVICE AND MAINTENANCE THAT SUCH**

**ENERGY HAS NOT REACCUMULATED TO HAZARDOUS LEVELS.**

**⚠ DANGER**

**DO NOT RELEASE OR OPEN ANY HOSE OR HYDRAULIC CIRCUIT WHILE ANY IMPLMENT IS SUSPENDED IN THE AIR. ENSURE ALL IMPLMENTS ARE PROPERLY SUPPORTED AND/OR IN THEIR DOWN MOST LOWEST POSITION.**

### **5.5.1 Hydraulic Fluid Change**

- Stop engine. Allow system pressure to drop and remove filler cap.
- Remove drain plug and drain system completely.
- Remove hydraulic filter. Replace filter element and reinstall.
- Replace fluid to approximately 1" from top of reservoir.
- Operate paver and recheck level.
- Check visually for oil leaks.

NOTE: Each paver should be thoroughly inspected after each use and during maintenance cycle for:

Tightness of mounting bolts and attaching hardware on bearings, couplings, frame, etc.  
Leaks, cracks and loose electrical and fluid fittings.  
Malfunctioning indicators or controls.  
Worn or damaged tires.  
Cleanliness.

### **5.6 Conveyor System**

Conveyor drive system should be inspected annually.

Check for worn sprockets and chain.

Check keys and keyways for wear. Replace keys if needed.

Tighten large conveyor chains with slack adjusters mounted to the underside of the conveyor. Tighten until the chains pull up to within 7" – 8" of the underside of the conveyor deck. Measurement should be made from the peak of the arc in the chains. Do not over tighten.

### **5.7 Final Drive Planetary**

Planetary oil level should be inspected annually or every 500 hours.

To Replace Planetary Fluid

1. Rotate the planetary so the Fill/Drain Hole (1) is in the 6 oclock position.
2. The fluid level hole (2) will be in the 9 oclock position.
3. Unscrew the plug from the Fill./Drain Hole (1), and drain all of the fluid.
4. Once the Planetary is completely drained rotate the planetary until the fluid level hole (2) is at the 3 oclock position, and Fill/drain hole (1) will be at the 12 oclock position.
5. Remove the plug from the Fluid level hole (2).
6. Pour Fluid into the Fill hole (1) until fluid starts to come out of the fluid level hole (2). Use only 80w90 Gear oil.
7. Replace both plugs and tighten.

## 6 Troubleshooting

### 6.1 General

Proper troubleshooting begins with an organized approach to the problem at hand. Begin with investigation of the most probable cause, following the guidelines below.

Study the problem thoroughly before taking action:

Did warning signs precede the problem? If so, what were they? What would they indicate? Is scheduled maintenance current on all parts and systems involved?

Has similar trouble occurred before? What action was taken at that time? Can engine be operated without further damage?

#### **WARNING**

**IF RUNNING INSPECTION MUST BE MADE, GET ASSISTANCE. OPERATOR SHOULD REMAIN ON PAVER THROUGHOUT INSPECTION. MAKE SURE TRANSMISSION IS IN NEUTRAL POSITION.**

Check the most convenient things first.

Don't begin major work before checking all other possibilities.

Reconsider all known facts and clues before proceeding to more in-depth work. Correct the basic cause. Remember, failure of a certain part may be caused by malfunction of another part or system.

#### 6.1.1 Use of Schematics

The Parts & Service manual incorporates electrical and hydraulic diagrams formatted for ease of use by maintenance and for the training of personnel.

#### 6.1.2 Troubleshooting chart

The troubleshooting chart lists problems that might be encountered in the operation of the vehicle. The remedies listed may direct the repairman to a possible faulty component.

#### **WARNING**

**THE TROUBLESHOOTING CHART AND PROCEDURES OUTLINED IN THIS SECTION SHOULD NOT BE ATTEMPTED BY OTHER THAN EXPERIENCED MECHANICS OR PERSONNEL UNDER THE DIRECT SUPERVISION OF AN EXPERIENCED MECHANIC. FAILURE TO COMPLY MAY RESULT IN DAMAGE TO EQUIPMENT AND/OR INJURY OR DEATH TO PERSONNEL.**

#### **DANGER**

**RELEASE, RESTRAIN, OR OTHERWISE RENDER SAFE ALL POTENTIAL HAZARDOUS STORED OR RESIDUAL ENERGY. IF A POSSIBILITY EXISTS FOR REACCUMULATION OF HAZARDOUS**

**ENERGY, REGULARLY VERIFY DURING THE SERVICE AND MAINTENANCE THAT SUCH ENERGY HAS NOT REACCUMULATED TO HAZARDOUS LEVELS.**

**⚠ DANGER**

**DO NOT RELEASE OR OPEN ANY HOSE OR HYDRAULIC CIRCUIT WHILE ANY IMPLMENT IS SUSPENDED IN THE AIR. ENSURE ALL IMPLMENTS ARE PROPERLY SUPPORTED AND/OR IN THEIR DOWN MOST LOWEST POSITION.**

## 6.2 Engine

For engine troubleshooting see charts indicating faults and recommended repair procedures, refer to Manufacturer's Operation and Maintenance Manual.

If your particular problem is not covered or you are unsure of what steps to take, contact your dealer for assistance.

### 6.2.1 Transmission

1. Vehicle fails to move under power. Inadequate oil level in hydraulic reservoir.

- Driveline mechanical failure

2. Vehicle moves in neutral.

- Steering levers are actually engaged
- Steering calibration adjustment required

For detailed troubleshooting information on hydrostatic transmission, refer to Trouble Shooting Manual, Rexroth Hydrostatic Transmissions, available from a Rexroth representative or dealer.

## 6.3 Electrical System

| Engine Status | Voltmeter Reading                | Indicates                           | To Correct        |
|---------------|----------------------------------|-------------------------------------|-------------------|
| Running       | 13.5v - 14v                      | Normal Condition                    |                   |
| Running       | Less than 13.5v or more than 14v | Alternator or Regulator Malfunction | Contact Dealer    |
| Won't Start   | 12-12.5v                         | Weak Battery                        | Charge            |
| Won't Start   | Less than 12 Volts               | Weak Battery or Defective Cell      | Charge or Replace |

## 6.4 Hydraulic System

Thoroughly review description of hydraulic system. Use logical steps to determine cause of malfunction. Identify the function or functions that require troubleshooting.

If possible, trace malfunction to source; pump, control, motor or cylinder. Determine pressure operating the function as specified:

### 6.4.1 Hydraulic System Pressures

|  |                      |
|--|----------------------|
| Priority circuit, triple gear pump                     | 2,500 – 2,800 p.s.i. |
| Neutral Position Main circuit,<br>Rexroth tandem pump  | up to 4,500 p.s.i.   |
| Relief Pressure Charge circuit,<br>Rexroth tandem pump | 300 – 400 p.s.i.     |

| Problem                         | Possible Cause  | Correction  |
|---------------------------------|---|---|
| No power or<br>Inadequate Power | Worn or Malfunctioning Pump or Motor<br>Stuck Relief Valve Cartridge<br>Low System Pressure Caused by Worn Pump | Repair or Replace Pump or Motor<br>Repair or Replace Pump |
| Surging of Hydraulic Items      | Air in System Due to Low level of oil, Cavitating pump, leaky fittings, pinched hoses, etc                      | Correct   |

### Removal and Installation of Equipment

#### 1. Preparation

#### **WARNING**

**BEFORE PERFORMING INSTALLATION OR REMOVAL PROCEDURES THE FOLLOWING PRECAUTIONS MUST BE ADHERED TO IN ORDER TO PREVENT POSSIBLE DAMAGE TO EQUIPMENT OR INJURY OR DEATH TO PERSONNEL.**

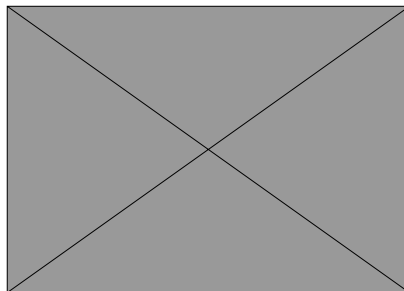
#### **WARNING**

**TURN THE ENGINE OFF BY TURNING THE IGNITION SWITCH TO OFF. DISCONNECT THE BATTERY CABLES BEFORE SERVICING THE ENGINE START OR STOP CIRCUITS. DISCONNECTING BATTERY NEGATIVE GROUND BEFORE REMOVING OR CONNECTING THE POSITIVE BATTERY CABLE CAN PREVENT SHORT CIRCUITING OF THE BATTERY BY TOOLS.**

## 6.5 Recommended Preventive Maintenance Intervals

| Initial              | Item   | Procedure   |
|----------------------|--|---|
| Initial Break in     | After First 50 Hours:<br>Change all hydraulic filters<br>Check for hydraulic leaks<br>Change engine oil and filters<br>Check for loose nuts and bolts<br>Check for excessive wear on all working parts | Tighten as necessary  |
| Daily or 10 Hours    | Check hydraulic fluid level<br>Check oil level<br>Engine air cleaner system<br>Check for loose bolts<br>Remove asphalt from all working surfaces   | Add as necessary<br>Add as necessary<br>Check Service indicator and Inspect<br>Tighten as necessary<br>Spray down with approved release agent and clean |
| 50 hours             | All 10 hour items<br>All bearings<br>Track system<br>All linkages  | As above<br>Grease<br>Check master link<br>Grease   |
| 250 Hours            | All 50 Hour Items<br>Engine air cleaners<br>Engine oil and filter<br>Fuel tank<br>Hydraulic return filter  | As above<br>Replace Element<br>Drain and refill<br>Drain water separator<br>Replace   |
| 500 Hours            | All 250 Hour Items<br>Fuel Filters   | As above<br>Replace   |
| 1000 Hours or Yearly | All 500 Hour Items<br>Hydraulic System<br>Radiator   | As Above<br>Drain and Refill<br>Clean fins with degreaser   |

A copy of this schedule is attached to the paver in the form of a decal.



Be sure to follow the Hour interval recommendations whenever the paver is equipped with an engine hour meter. Time intervals are considered not to exceed recommendations.

NOTE:

FAILURE TO PERFORM PROPER SCHEDULED MAINTENANCE WILL ADVERSLY EFFECT THE PERFORMANCE OF THE PAVER, AND MAY VOID YOUR WARRANTY IN PART OR IN ENTIRETY.

## 7 Warranty



### **CALDER BROTHERS CORPORATION (LIMITED) PRODUCT WARRANTY**

Calder Brothers Corporation warrants that the Paver, Roller, Tank or Grader under this program will be free from defects in material and workmanship for a period of (12) twelve months from the date of installation. Written notice of any claimed defect must be given to Calder Brothers Corporation within the warranty period and within (30) thirty days after such defect is discovered. Liability under this warranty is limited to replacing or repairing at Calder Brothers Corporation election, any part or parts deemed defective after examination by Calder Brothers Corporation or an Authorized Service Representative via prepaid transportation for which is found to be defective, will be repaired or replaced and returned to the customer via prepaid surface transportation within the United States. Should any part be found not defective, inspection and handling may be charged to the customer by Mauldin or an Authorized Service Representative.

#### **EXCLUSIONS:**

This warranty does not apply to routine wearable parts of the Mauldin machine such as seals, points, plugs, hoses or similar items. This warranty does not extend to any machine or part replaced or repaired under this warranty. This warranty does not cover any repair or replacement labor or any part of parts found defective after examination by Mauldin or an Authorized Service Representative. This warranty does not apply to defects caused by casualty or unreasonable use, including faulty repairs by others and failure to provide reasonable and necessary maintenance.

THIS WARRANTY SET FORTH HEREIN IS IN LIEU OF AND EXCLUDES ANY AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, ARISING BY OPERATION OF LAW OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, AND CUSTOMER WAIVES ANY OBLIGATION OF LIABILITY OF MAULDIN ARISING IN TORT OR STRICT LIABILITY IN TORT, OR FOR LOSS OR USE, REVENUE OR PROFIT WITH RESPECT TO MAULDIN MACHINE AND/OR PARTS FOR ANY LIABILITY OF CUSTOMER TO ANY THIRD PARTY, OR FOR OTHER DIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES.