MAULDIN

BY CALDER BROTHERS

PAVER OPERATION MANUAL

MODEL 1550-D

Paver Serial Number _____

Paver Specification Number _____

Engine Serial Number _____

SOLD & SERVICED BY:

TABLE OF CONTENTS

SECTION	ITEM	PAGE
1.0	Daily Start-up Checklist	3
2.0	Important Safety Information	4
3.0	Service Warning	4
4.0	Starting the Paver	4
5.0	Screed Operation	7
5.1	Screed Heating System	7
5.2	Crowning the Screed	7
5.3	Setting the Extensions	9
5.4	Before you Pave	10
5.5	Null your Screed	10
6.0	Fluids & Capacities	11
6.1	Engine Coolant	11
7.0	LUBRICATION & SERVICE PROCEDURES	11
7.1	Air Filters	11
7.2	Battery	12
7.3	Engine & Engine Filters	13
7.4	Hydraulic System	14
7.5	Conveyor System	14
7.6	Troubleshooting Guide	15
7.7	Component Removal & Installation	17
7.8	Recommended Preventive Maintenance Intervals	18
8.0	Warranty	20

Daily Start-up Checklist

1. Check Fluid Levels:
    a. Engine Oil
    b. Engine Coolant
    c. Hydraulic Oil
    d. Wash Down fluid
2. With the key switch in the "ON" position:
    a. Check Engine Fuel Level
    b. Turn on wash down pump and verify operation, turn off when complete.
    c. Verify proper operation of engine gauges or indicator lights.
3. Turn Key switch back to "OFF" position.
4. Remove asphalt from all mechanical moving surfaces
5. Remove asphalt from all screed burner heating areas
6. Check Propane Tank level.

Perform All Propane Testing In A Well Ventilated Area Only!

FAILURE TO COMPLY MAY RESULT IN DAMAGE TO EQUIPMENT AND / OR INJURY OR DEATH TO PERSONNEL.

7. Verify that **ALL** propane valves are in the closed position.
8. Pressurize the propane system by opening the master valve located on the propane tank.
9. With system pressurized, listen for leaks. Run hand over all propane fittings to feel for leaks. If any leaks are detected, **DO NOT OPERATE UNTIL THEY ARE REPAIRED!**
10. Check pressure regulator is set to 4 PSI on Freedom™ IV Screed.
    a. If regulated pressure is too high, open **main screed valve only** allowing gas to escape.
    b. Adjust regulator to 4 PSI on Freedom™ IV Screed.
    c. Close main screed valve.
11. Close the master valve located on the propane tank.
12. Verify & if necessary follow procedure to set screed.
13. Perform a machine walk around looking for:
    a. Any signs of physical damage
    b. Any signs of a leak, (fuel, engine oil, hydraulic oil, engine coolant)
    c. Welded steel junctions
    d. Hydraulic cylinder pins all secure

IMPORTANT SAFETY INFORMATION

Most accidents involving paver maintenance 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.

Read and understand all safety precautions and warnings, before operating or performing lubrication and maintenance on this paver.

WARNING: IMPROPER OPERATION, LUBRICATION OR MAINTENANCE OF THIS PAVER CAN BE DANGEROUS AND COULD RESULT IN INJURY OR DEATH.

WARNING: DO NOT OPERATE THIS PAVER UNTIL YOU READ AND UNDERSTAND THE INSTRUCTIONS IN THE ***OPERATION SECTION*** OF THIS MANUAL.

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.

WARNING: DO NOT OPERATE BURNERS ON SCREED FOR MORE THAN TEN OR FIFTEEN MINUTES AT A TIME.

SERVICE WARNING

General

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.

PAVER OPERATION SECTION

Prior to starting the following procedures must be completed.

1. Check engine oil level **2. Check engine coolant level** **3. Check hydraulic oil level**

STARTING THE PAVER

1.0 STARTING

To start the paver first check to make sure the forward and reverse levers are in the neutral position. The paver will not start if the red indicator light is not "ON" indicating a neutral position.

- Turn key switch to the "ON" position, adjust steer handles until red indicator light is "ON"
- Turn key switch back to the left, position "PRE-HEAT" count to 5
- Turn key switch to "START".
  - *If engine does not start quickly, repeat the PRE-HEAT step*
- Adjust engine RPM as needed for smooth idle.

If Glow Plug equipped

CAUTION: Do not Pre-heat more than 5 seconds at a time, or Glow Plug failure will occur.

CAUTION: Do not use any starting fluid, or **engine warranty will be VOID!!!!**

2.0 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.***

3.0 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 were the handles are locked and cannot be moved. The ideal setting is somewhere in-between were 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 were the handles are attached.

4.0 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.

MATERIAL FEED OPERATION

The 1550-D and 1500-C allow you to configure the auger and conveyor operation of the paver for both an Automatic mode and a Manual mode. Use the automatic mode whenever possible to increase the useful life of the feed augers, and to maintain a more consistent "Head of Material" in front of the screed. In either mode the lower selector switch can be set to "IN" for reverse material flow.

SETUP *Each side of the paver must be set independently.*

AUTOMATIC FEED OPERATION

1.0 Go to the LH operators station

2.0 Locate the AUTO – MAN switch labeled:

3.0 Set the switch to "AUTO"

4.0 Locate the CONV & AUG switches labeled:

5.0 Set the AUG switch to "OUT" 1

6.0 Follow the dotted line and set the CONV switch to the "locked" setting. 2

7.0 To control size of the head of material:

7.1 1550-D – Adjust the control knob to #7
7.2 1500-C – Adjust height of switch by end gate.

MANUAL FEED OPERATION

1.0 Go to the LH operators station

2.0 Locate the AUTO – MAN switch labeled:

3.0 Set the switch to "MAN"

4.0 Locate the CONV & AUG switches labeled:

5.0 Set the AUG switch to "OUT" 1

6.0 Follow the dotted line and set the CONV switch to the "locked" setting. 2

7.0 To control size of the head of material set the AUG switch to OUT or OFF as desired.

SCREED HEATING SYSTEM

The new Freedom™ IV Screed™ has one burner in each extension and two main screed burners. The proper way to light the burner system is the following procedure.

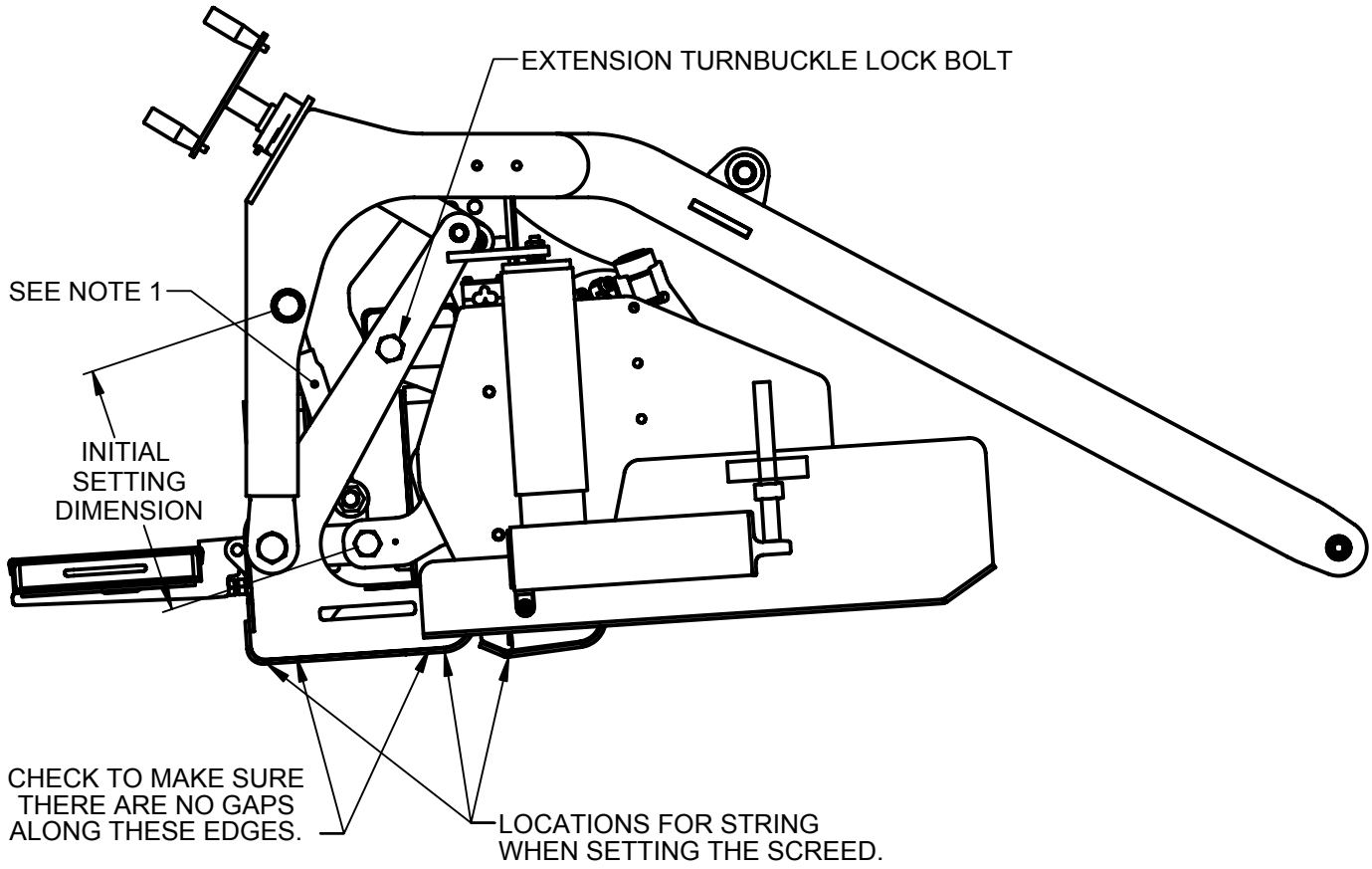
1. Make sure all shutoff valves are in the off position and lighting wand is off.
2. Fully extend the extensions.
3. Turn on gas at tank, and set gauge pressure at 4 p.s.i.
4. Ignite the lighting wand.
5. Use the lighting wand to open the flap style burner lighting access door towards the bottom inboard zone of the LEFT HAND screed extension to ignite the burner.
6. Turn on the gas to the LEFT HAND extension. Repeat step 5 & 6 for right hand extension.
7. The extension burners will have changed from a hissing noise to a roaring noise confirming ignition.
8. After extension burners are ignited, position the lighting wand at the opening found on the back side of the LEFT HAND main screed burner.
9. Turn on gas to the main screed. After ignition of the LEFT HAND main burner, quickly reposition the lighting wand and ignite the right hand main burners the same as the left.

Only use burners for 10 - 15 minutes at any given time. Damage to screed plate will occur.

WARNING: **NEVER USE SYSTEM WITHOUT DIRECT CONSTANT SUPERVISION PERSONAL INJURY OR DEATH MAY RESULT.**

WARNING: **EXCESS GAS ACCUMULATING BEFORE LIGHTING BURNERS MAY CAUSE AN EXPLOSION RESULTING IN PERSONAL INJURY OR DEATH.**

Initial Screed Adjustment Settings



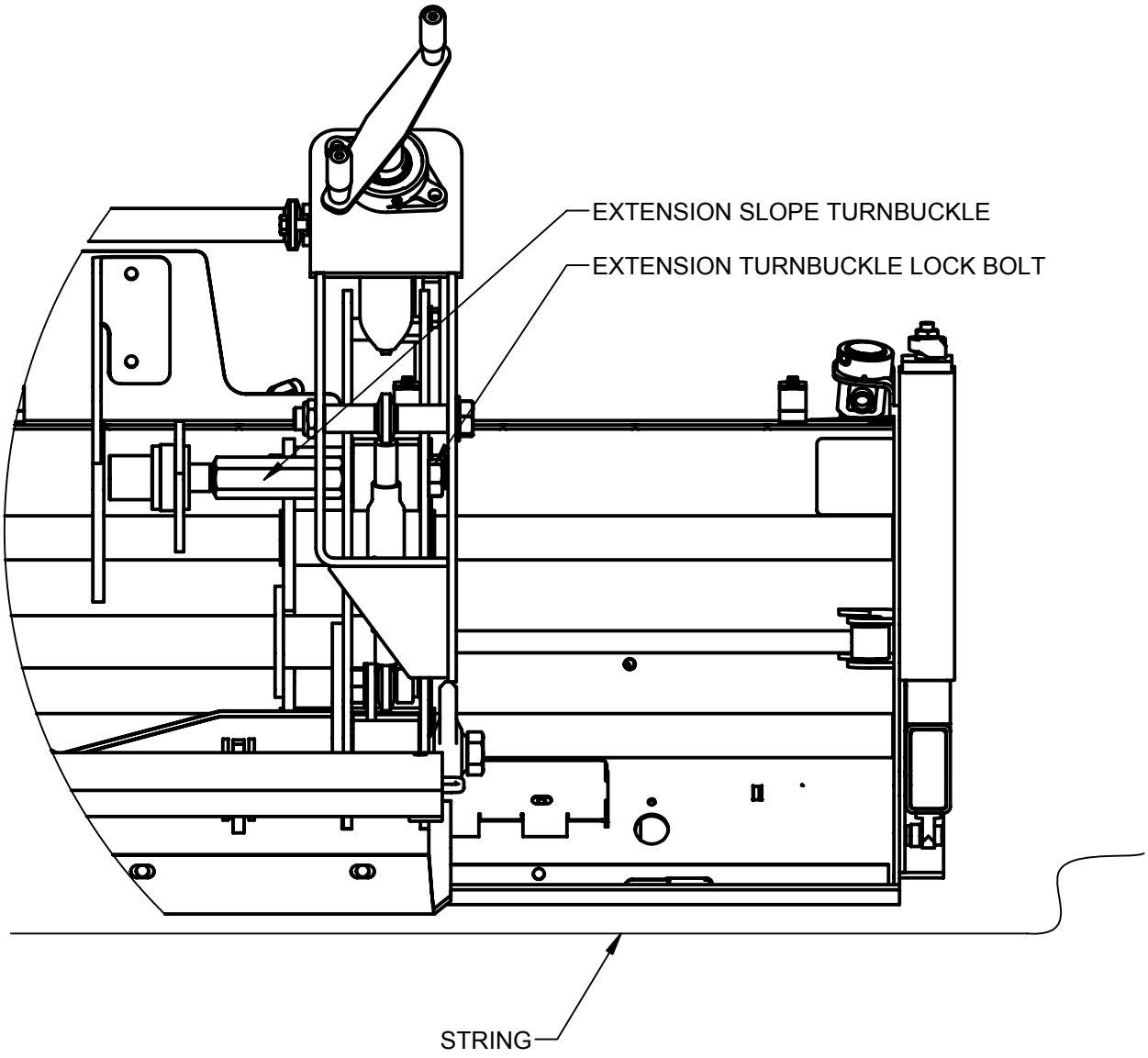
NOTES:

1. VERIFY TURNBUCKLE ASSEMBLY IS FREE TO TURN AND ADJUSTABLE FROM 15-1/4" TO 16-1/4"

ADJUSTMENT INSTRUCTIONS:

1. INITIAL SETTING FOR 1550-D SERIAL NUMBERS UP TO AND INCLUDING XXX-XXXXX-XX: 15-3/4"
2. INITIAL SETTING FOR 1550-D SERIAL NUMBERS AFTER XXX-XXXXX-XX: 16"
3. TO RAISE EXTENSION ASSEMBLY, DECREASE THE INITIAL SETTING ON THE TURNBUCKLE ASSEMBLY.
4. TO LOWER EXTENSION ASSEMBLY, INCREASE THE INITIAL SETTING ON THE TURNBUCKLE ASSEMBLY.

Initial Screed Adjustment Settings



NOTES:

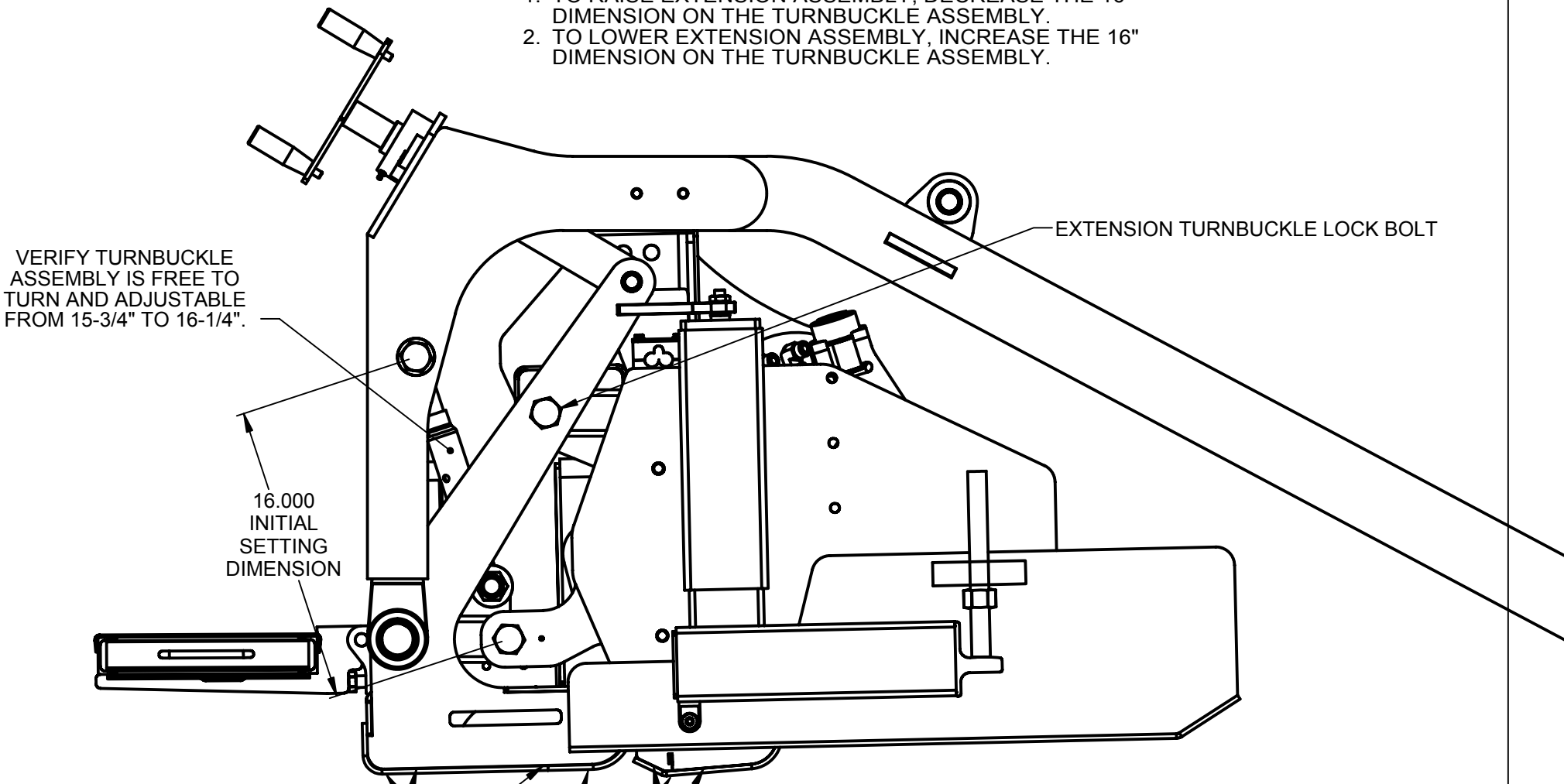
1. POSITION EXTENSION AT HALF WAY OUT POSITION.

ADJUSTMENT INSTRUCTIONS:

1. RUN BOTH LEFT AND RIGHT EXTENSION OUT TO THE HALF OUT POSITION.
2. USE A STRING AND ALIGN WITH TRAILING EDGE OF EXTENSION SCREED PLATE BOTTOM.
3. LOOSEN EXTENSION TURNBUCKLE LOCK BOLT.
4. ADJUST THE EXTENSTION SLOPE TURNBUCKLE TO MAKE THE EXTENSION SCREED PLATE FLAT WITH THE STRING.

ADJUSTMENT INSTRUCTIONS:

1. TO RAISE EXTENSION ASSEMBLY, DECREASE THE 16" DIMENSION ON THE TURNBUCKLE ASSEMBLY.
2. TO LOWER EXTENSION ASSEMBLY, INCREASE THE 16" DIMENSION ON THE TURNBUCKLE ASSEMBLY.



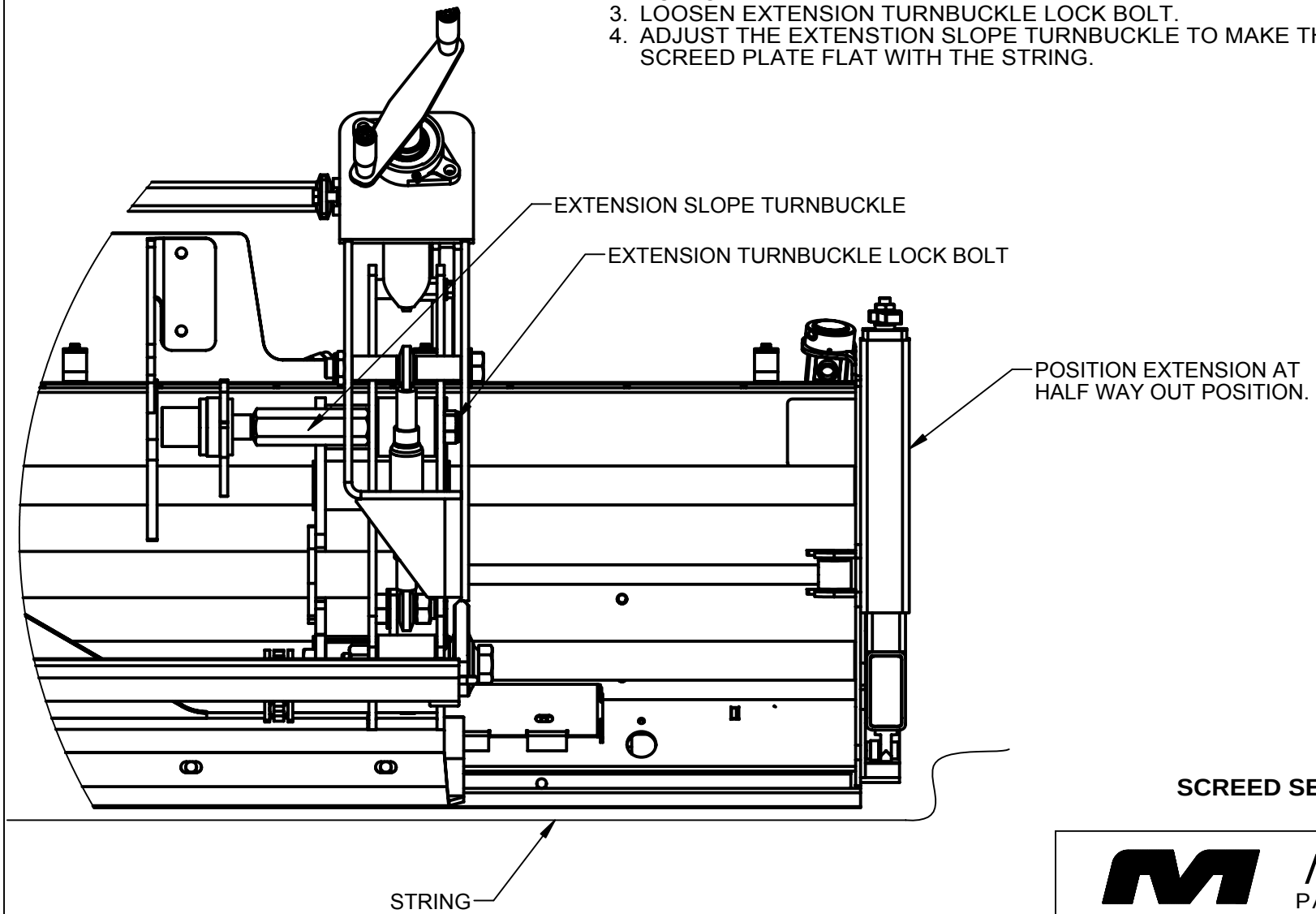
SCREED SETTING INSTRUCTIONS
PAGE 1 OF 2

MAULDIN® PAVING PRODUCTS

DRAWN:	W D Calder	05-15-12	TITLE:	FREEDOM FOURTEEN	
CHECKED:	W D Calder	05-15-12		S209 FINAL ASSEMBLY	
ENGINEER:	D M Calder	05-15-12	CAD MODEL NO.:	MODEL	SHEET NO.:
CAD FILE:	111-209000.slddrw	02-01-11	111-209000	S209	S209-000-03

ADJUSTMENT INSTRUCTIONS:

1. RUN BOTH LEFT AND RIGHT EXTENSION OUT TO THE HALF OUT POSITION.
2. USE A STRING AND ALIGN WITH TRAILING EDGE OF EXTENSION SCREED PLATE BOTTOM.
3. LOOSEN EXTENSION TURNBUCKLE LOCK BOLT.
4. ADJUST THE EXTENSTION SLOPE TURNBUCKLE TO MAKE THE EXTENSION SCREED PLATE FLAT WITH THE STRING.

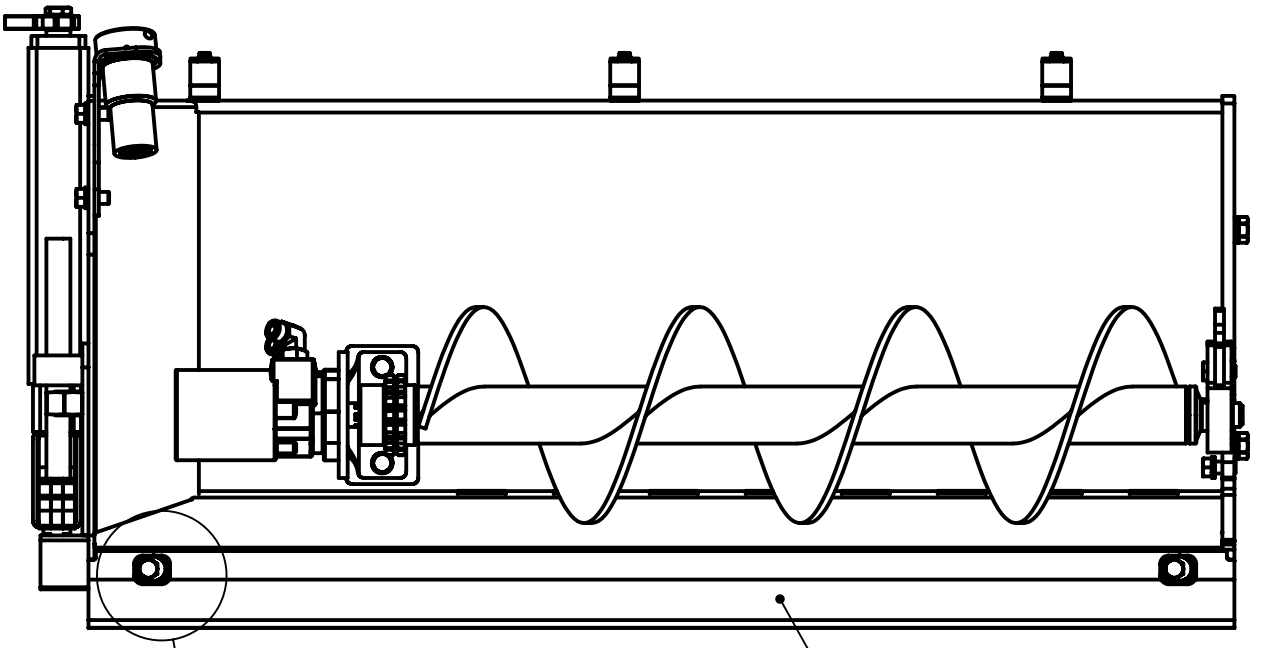


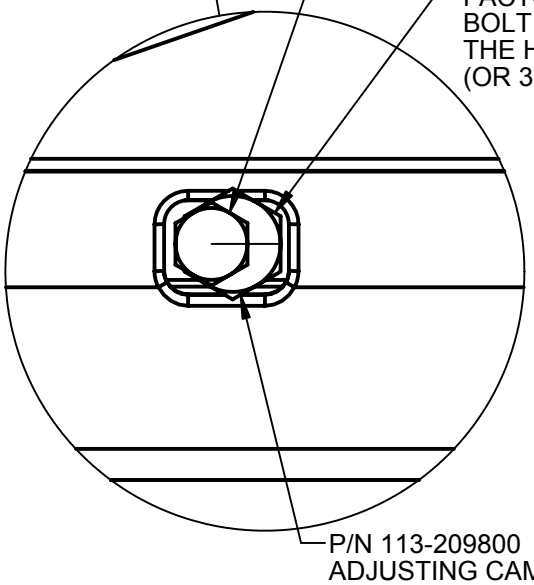
SCREED SETTING INSTRUCTIONS

MAULDIN® PAVING PRODUCTS

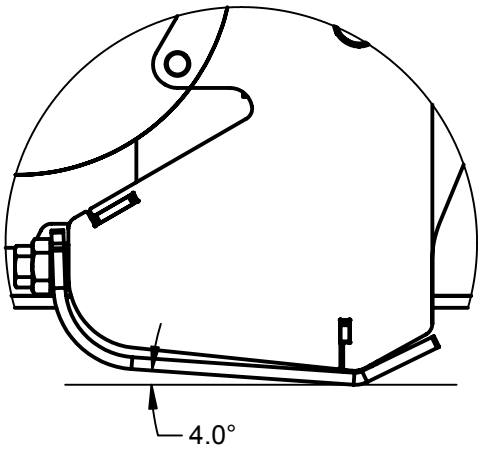
DRAWN:	W D Calder	05-15-12	TITLE: FREEDOM FOURTEEN		
CHECKED:	W D Calder	05-15-12	S209 FINAL ASSEMBLY		
ENGINEER:	D M Calder	05-15-12	CAD MODEL NO.: 111-209000	MODEL S209	SHEET NO.: S209-000-04
CAD FILE:	111-209000.slddrw	02-01-11			

Extension Adjustable Bottom





**DETAIL OF ADJUSTING CAM NUT
(POSITION OF ADJUSTING CAM NUT
SHOWN IS FACTORY DEFAULT)**

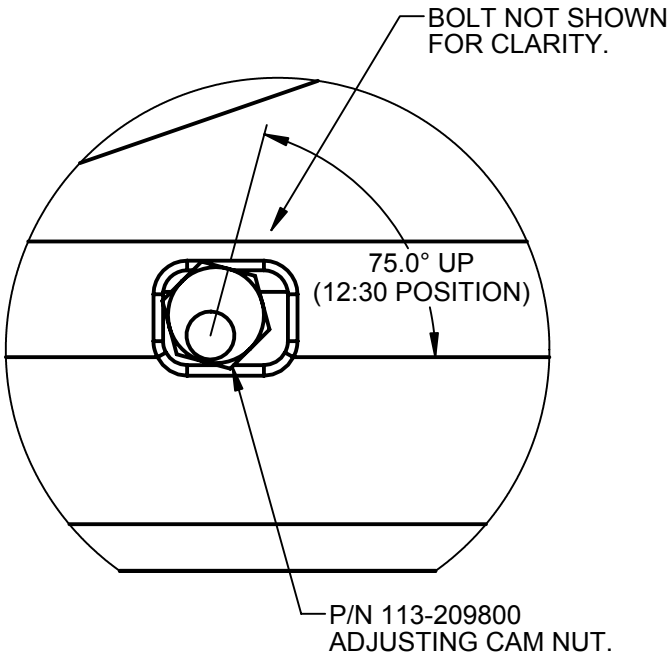


**END VIEW OF EXTENSION BOTTOM
(ATTACK ANGLE SHOWN IS FACTORY DEFAULT)**

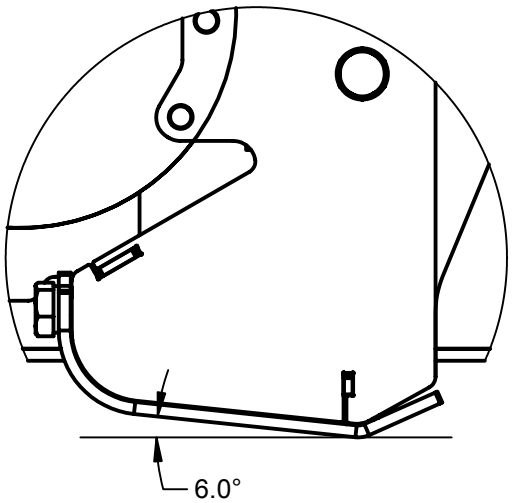
NOTES:

1. Extensions are factory shipped with P/N 113-209801 non-adustable cam nut.
2. 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 seemless mat paving performance.

Extension Adjustable Bottom



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



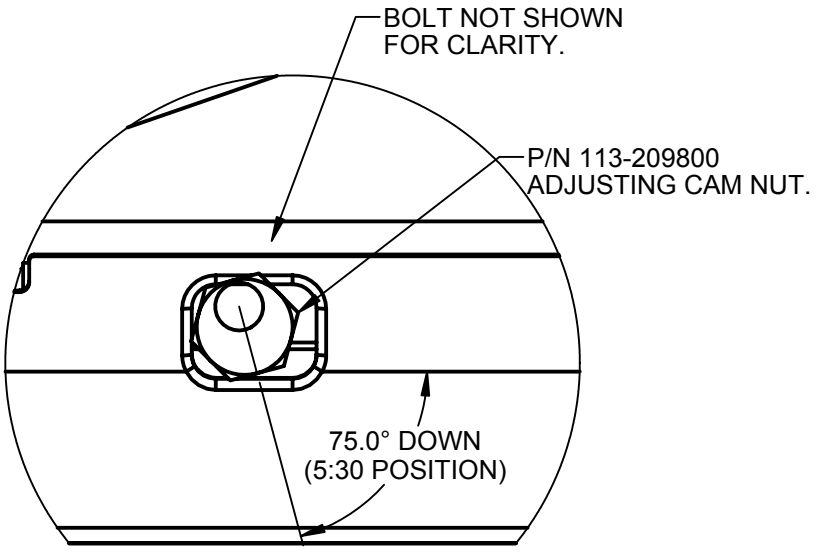
**END VIEW OF EXTENSION BOTTOM
(ATTACK ANGLE SHOWN IS MAXIMUM)**

NOTES:

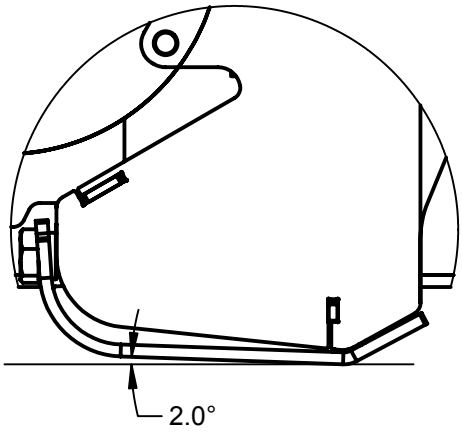
1. If the extensions are lower than the main screed at full paving widths, then increase the extension attack angle, see table below.

Desired Attack Angle	Angle from Horizontal	O'Clock Position
4.0˚ (Factory Default)	90˚ (Factory Default)	3:00 (Factory Default)
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˚ (Factory Default)	90˚ (Factory Default)	3:00 (Factory Default)
3.5˚	15˚ DOWN	3:30
3.0˚	30˚ DOWN	4:00
2.5˚	45˚ DOWN	4:30
2.0˚	75˚ DOWN	5:30

FLUID CAPACITIES AND RECOMMENDATIONS

FLUID	CAPACITY	RECOMMENDATION
Engine oil	8 U.S. quarts 7.5 liters	High quality CC/CD multi-grade lubricating oil. Above 14 deg. F use 15W40 or 20W40.
Hydraulic	15.5 U.S. gal. 60 liters	High quality anti-wear hydraulic oil (Original equipment, Gulf C-3 torque fluid).
Grease	As required	N.G.L.I. consistency #2, high temperature, anti-friction, bearing lubricating grease.
Engine coolant	2.1 U.S. gal. 8 liters	Extended Life Above 14 deg. F
Diesel	12.5 U.S. gal. 47 liters	Above 40°, (5° C), use No. 2-D. Below 40°, (5° C), use No. 1-D. Power loss up to 4% can be expected due to lower viscosity

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 cooling system s. The use of improper coolant mixtur es in diesel engines can result in serious engine damage due to liner erosion and pitting. Refer to the Operator's Manual for information regarding engine coolant (antifreeze), and change interval recommendations.

LUBRICATION AND SERVICE PROCEDURES

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 Main Element

   a. Unbuckle clips to remove element container end cap.
   b. Pull gently to remove main element.
   c. 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.

2. Engine Safety Element

IMPORTANT: Do not remove safety element under heavy dust or blowing conditions (in the field). Even slight amounts of dust entering the engine can lead to premature wear.

Inspect safety element for contamination and physical damage.

IMPORTANT: When safety element is dirty, it should be replaced. Do not attempt to clean.

Battery

CAUTION: BATTERY ELECTROLYTE IS A CAUSTIC ACID. KEEP IT AWAY FROM SKIN AND EYES. IF CONTACT OCCURS, FLUSH THE AFFECTED AREA WITH LOTS OF WATER.

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

1. Removal

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

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.

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.

CAUTION: 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.

4. Charging

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

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.

Engine and Engine Filters

1. Initial Break-In

Proper break-in procedures are a must to realize maximum engine power output and longest engine life. Engine should show noticeable power gain through the first 30 hours service. Power gain will continue until approximately 200 hours if properly broken-in.

IMPORTANT: Do not operate engine above 3/4 throttle, (approximately 2100 RPM), for the first 25 hours.

IMPORTANT: Use full throttle only for short intervals during the first 25 hours.

IMPORTANT: Do not "lug" engine during the break-in period.

IMPORTANT: Replace the original oil and oil filters after the first 20 hours of operation.

2. 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.

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

a. To Change:

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

IMPORTANT: Do not over tighten.

b. Oil and Filter Changing:

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

IMPORTANT: Do not over tighten.

8. Fill crankcase to correct level.
9. Start engine and run at low idle. Have an assistant visually check seal areas for leaks.
10. Stop engine. Wait a few minutes, and then check engine oil level once again.

Hydraulic System

1. Hydraulic Fluid Change

a. Stop engine. Allow system pressure to drop and remove filler cap.
b. Remove suction hose and drain into appropriate container for disposal.
c. Remove hydraulic filter. Replace filter element and reinstall.
d. RETRACT ALL HYDRAULIC CYLINDERS!
e. Replace fluid to approximately 1" from top of reservoir.
   - Operate paver and recheck level.
f. Check visually for oil leaks.

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

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

Conveyor System

Conveyor drive system should be inspected annually.

1. Check for worn sprockets and chain.
2. Check keys and keyways for wear. Replace keys if needed.
3. Tighten large conveyor chains with slack adjustors 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.**

TROUBLESHOOTING

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?

CAUTION: 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.

2. 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.

3. 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.

A. 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.

B. Transmission

1. Vehicle fails to move under power.

   Inadequate oil level in hydraulic reservoir.
   Damaged wiring loom to steering station
   Driveline mechanical failure

2. Vehicle moves in neutral.

   Steering levers are actually engaged
   Steering calibration adjustment required, (must be performed by authorized MAULDIN service technician)

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

C. Electrical System

Engine Status	Voltmeter Reading	Indicates	To Correct
Running	13.5 - 14 Volts	Normal Condition	
Running	Less than 13.5 or more than 14 Volts	Alternator or Regulator Malfunction	Contact Dealer
Won't Start	12 - 12.5 Volts	Weak battery	Charge
Won't Start	Less than 12 Volts	Weak battery or Defective Cell	Charge or Replace
Stopped	Excessive current Draw	Short Circuit	Inspect System

D. 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:

Hydraulic System Pressures

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

Problem	Possible Cause	Correction
No Power or Inadequate Power	Worn or Malfunctioning pump or motor	Repair or replace pump or motor
	Stuck relief valve cartridge.	Repair or replace
	Low system pressure caused by worn pump.	Repair or replace pump
Surging of hydraulic items	Air in system due to low level of oil, cavitating pump, leaky fittings, pinched hose, 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.

Recommended Preventive Maintenance Intervals

INTERVAL	ITEM	PROCEDURE
Initial Break-In	- AFTER FIRST 50 HOURS - Change all hydraulic filters Check for hydraulic leaks Change engine oil and filter Check for loose nuts and bolts Check for excessive wear on all working parts	Tighten as necessary
Daily or 10 hours	Check hydraulic fluid level Check oil level Engine air cleaner system Check for loose bolts Remove asphalt from all working surfaces	Add as necessary Add as necessary Check service indicator and inspect Tighten as necessary Spray down with approved release agent and clean-off
50 hours	All 10 hour items All bearings Tires (tire units only) Track system (tension, etc.) All linkages	As above Grease Visual Inspection Adjust if necessary Grease
250 hours	All 50 hour items Engine air cleaner Engine crankcase Engine oil filter Fuel tank Hydraulic return filter	As above Replace element Drain and refill Replace Drain water and sediment Replace*
500 hours	All 250 hour items Fuel filters	As above Replace
1000 hours or yearly	All 500 hour items Hydraulic system Engine Radiator	As above Drain and refill Adjust valves Clean fins with degreaser

* Change after first 50 hours service, every 250 thereafter, and replace with BP Energol HVI 46 or equal hydraulic fluid.

A copy of this schedule is attached to the paver in the form of a decal. It can be seen to the right.

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 MAINTENACE WILL ADVERSLY EFFECT THE PERFORMANCE OF THE PAVER, AND MAY VOID YOUR WARRANTY IN PART OR IN ENTIRETY.

MAULDIN

PREVENTATIVE MAINTENANCE GUIDE

ITEM	ACTION	INTERVAL
AIR CLEANER	INSPECT	DAILY
	CHANGE	12 MONTHS OR 200 HOURS
IN DUSTY AREA	CHANGE	2 MONTHS OR 75 HOURS
ENGINE OIL LEVEL	INSPECT	DAILY
	CHANGE	12 MONTHS OR 200 HOURS
RADIATOR COOLANT LEVEL	INSPECT	DAILY
	CHANGE	12 MONTHS OR 200 HOURS
HYDRAULIC OIL LEVEL	INSPECT	DAILY
	CHANGE	12 MONTHS OR 200 HOURS
FUEL FILTER	CHANGE	12 MONTHS OR 200 HOURS
ENGINE OIL FILTER	CHANGE	12 MONTHS OR 200 HOURS
HYDRAULIC OIL FILTER	CHANGE	12 MONTHS OR 200 HOURS
GREASE POINTS	APPLY GREASE	3 MONTHS OR 100 HOURS

MAULDIN®

CALDER BROTHERS CORPORATION

(LIMITED) PRODUCT WARRANTY

Calder Brothers Corporation warrants that the Paver under this program will be free from defects in material and workmanship for a period of (12) twelve months from 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's election, any part or parts deemed defective after examination by Calder Brothers Corporation or an Authorized Service Representative. Any paver or any of its parts returned by customer to Calder Brothers Corporation or an Authorized Service Representative via prepaid transportation and which is found to be defective will be repaired or replaced and returned to the customer via prepaid surface transportation within the continental United States. Should any part be found not defective, Calder Brothers Corporation or an Authorized Service Representative may charge inspection and handling to the customer.

EXCLUSIONS:
This warranty does not apply to routine wearable parts of the Mauldin paver such as seals, points, plugs, hoses or similar items. This warranty does not extend to any paver or part replaced or repaired under this warranty. This warranty does not cover any repair or replacement labor of any part or parts found defective after examination by Calder Brothers Corporation 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 CALDER BROTHERS CORPORATION ARISING IN TORT OR STRICT LIABILITY IN TORT, OR FOR LOSS OR USE, REVENUE OR PROFIT WITH RESPECT TO MAULDIN PAVER AND/OR PARTS FOR ANY LIABILTIY OF CUSTOMER TO ANY THIRD PARTY, OR FOR OTHER DIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Notes:

PAVER OPERATION MANUAL

Model 1550-D