

# PARTS & SERVICE MANUAL MODEL 1450/3000/4000

Document: 1450/3000/4000 Parts & Service Manual Rev. 1.5

**Covers Serial Number Range:** 

018-XC14CGH1YG-00018 thru \_\_\_\_\_

SOLD & SERVICED BY

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# **IMPORTANT SAFETY INFORMATION**

Most accidents involving roller 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 roller.

- **WARNING:** IMPROPER OPERATION, LUBRICATION OR MAINTENANCE OF THIS ROLLER CAN BE DANGEROUS AND COULD RESULT IN INJURY OR DEATH.
- **WARNING**: DO NOT OPERATE THIS ROLLER UNTIL YOU READ AND UNDERSTAND THE INSTRUCTIONS IN THE **OPERATION SECTION** OF THIS MANUAL.
- **WARNING:** DO NOT PERFORM ANY LUBRICATION AND MAINTENANCE ON THIS ROLLER UNTIL YOU READ AND UNDERSTAND THE INSTRUCTIONS IN THE **MAINTENANCE SECTION** OF THIS MANUAL.

# SERVICE WARNING

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.

to

Serial Number Range: 438-J-14PHH1YG-02438 thru

# FLUID CAPACITIES AND RECOMMENDATIONS

FLUID	CAPACITY	RECOMMENDATION
Engine oil	Varies with engines	High quality CC/CD multi-grade lubricating oil. Above 14 deg. F use 15W40 or 20W40.
Hydraulic	7 U.S gal	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	Varies with engines	High quality Above 14 deg. F
Gasoline Diesel	3 ½ U.S gal 3 ½ U.S. gal	Regular, unleaded, non-alcohol blend. above 40°, (5° C), use No. 2-D. Below 40°, (5° C), use No. 1-D. Power loss up 1 4% can be expected due to lower viscosity

# 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. Disconnect ground (negative) cable from battery (-) terminal.
  - b. Remove battery retaining rod.
  - 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 roller 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 retaining rod.
  - d. Connect positive (+) cable to terminal.

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

- e. Connect negative (-) terminal
- 4. Charging:

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, 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 Filters:

Both fuel filters are 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.

To Change:

- a) Stop engine. Wait 15 minutes for engine and surrounding parts to cool before proceeding.
- b) Unscrew and discard existing filters.
- c) Fill new filter with clean fuel.
- d) Lightly coat the seal ring with oil, then screw on filter until seal meets flange.
- e) Tighten an additional 1/2 to 3/4 turns by hand.

IMPORTANT: Do not over tighten.

3. Oil and Oil Filter Changing:

- a) Stop engine. Wait 15 minutes or engine oil to cool before proceeding.
- b) Drain crankcase.
- c) Unscrew and discard existing filters.
- d) Fill new elements with fresh oil.
- e) Lightly coat the seal rings with oil, and then screw on filters until seals meet flanges.
- f) Tighten an additional 1/2 to 3/4 turns by hand.
   *IMPORTANT*: Do not over tighten.
- g) Fill crankcase to correct level.
- h) Start engine and run at low idle. Have an assistant visually check seal areas for leaks.
- i) Stop engine. Wait a few minutes, and then check engine oil level once again.

# Hydraulic System

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) Replace fluid to approximately 1" from top of reservoir. Operate roller and recheck level.
- e) Check visually for oil leaks.

# *NOTE*: Each roller should be thoroughly inspected after each use and during maintenance cycle for:

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

# 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 SEATED ON ROLLER THROUGHOUT INSPECTION. SET PARKING BRAKE. 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. 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 engine 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:
    - a) Inadequate oil level in hydraulic reservoir.
    - b) Control cable broken or loose.
    - c) Driveline mechanical failure.
    - d) Inadequate oil flow through transmission suction filter.
  - 2. Vehicle moves in neutral:
    - a) Stroke control needs adjustment.
    - b) Control cable damage.

For detailed troubleshooting information on hydrostatic transmission, refer to Trouble Shooting Manual, Sundstrand Hydrostatic Transmissions, available from a Sundstrand 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, Sundstrand pump:	900psi
Main circuit Sundstrand pump:	2500psi

# HYDRAULIC SYSTEM FLOWS

Priority circuit, Sundstrand pump:	2gpm
Main circuit, Sundstrand pump:	8gpm

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Problem	Possible Cause	To Correct
No Power or	Worn or Malfunctioning pump or motor.	Repair or replace pump or motor.
Inadequate Power	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.	Add oil, tighten fittings, reroute hose(s).

# 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 1 <sup>st</sup> 50 hours)	Hydraulic Filter Engine Oil & Filter Hydraulic Leaks Loose Nuts & Bolts	Change Change Inspect & Tighten as required Inspect & Tighten as required
Daily or 10 hours	Hydraulic oil level Engine oil level Engine air cleaner system Engine coolant level system Radiator Fuel system	Inspect & add as necessary Inspect & add as necessary Check service indicator and/or inspect Inspect & add as necessary Clean and inspect Drain water from separator
100 hours	All 10 hour Items Steering rod ends Bearings Tires (optional tow package)	As above Grease Grease Check pressure
250 hours	All 100 hour items Engine air cleaner Engine crankcase Engine oil filter Fuel tank Hydraulic filter	As above Replace element Drain and refill* Replace* Drain water and sediment Replace*
500 hours	All 250 hour items Fuel filters Engine	As above Replace Have serviced by authorized Dealer
1000 hours	All 500 hour items Hydraulic system	As above Drain and refill

\*Change after first 50 hours service, every 250 thereafter.

# MAULDIN

# CALDER BROTHERS CORPORATION

# (LIMITED) PRODUCT WARRANTY

Calder Brothers Corporation warr ants that the Roller under this program will be free from defects in material and workmanship for a period of (12) tw elve months from date of installation. Written notice of any claimed defect must be given to Ca Ider Brothers Corporation within the warranty period and within (30) thirty days a fter 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 examinati on by Calder Brothers Corporat ion or an Authorized Service Representative. Any roller or any of its parts returned by customer to Calder Brothers Corporation or an Authorized Service Repr esentative via prepaid transportation and which is found to be defective will be repaired or replaced and retur ned to the customer via prepaid surface transportation within the continental United States. Should any part be found not defective, Calder Brothers Corporation or an Au thorized Service Representative may charge inspection and handling to the customer.

#### **EXCLUSIONS:**

This warranty does not apply to routine wearable parts of the Mauldin roller such as seals, points, plugs, hoses or similar items. This warranty does not extend to any roller 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 Corpor ation or an Authorized 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 LIMI TED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PAR TICULAR PURPOSE, AND CUSTOMER WAIVES ANY OBLIGATION OF LIABILITY OF CALDER BROTHERS CORPORATION ARISING IN TORT OR STRICT LIABILI TY IN TORT, OR FOR LOSS OR USE, REVENUE OR PROFIT WITH RESPECT TO MAULDIN ROLLER AND/OR PARTS FOR ANY LIABILITY OF CUSTOMER TO ANY THIRD PARTY, OR FOR OTHER DI RECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES.



# 1 3 2 4 6 10

1. Steering Wheel	050-0030
2. Steering Wheel Mounting Disk (Rubber)	
3. Steering Shaft Assembly	082-0013
4. Steering Shaft	082-0013A
5. Steering Shaft Bushing	
6. Steering Column	
7. Control Box Mounting Bushing	050-0068
8. Steering Control Box	050-0031
9. Steering Box Control Arm (from steering box to linkage assy) (not shown	n) <b>050-0032</b>
10. Steering Linkage Assembly (not shown)	See Drum-Front

# **STEERING ASSEMBLY**

# 

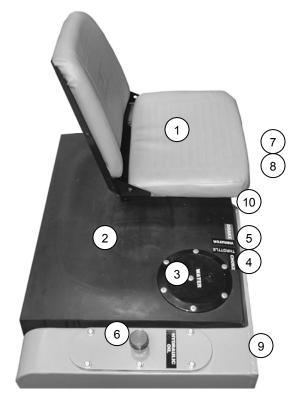
# **DRIVE COMPARTMENT**

#### 1. Drive Handle......083-0024

- 2. Drive Handle Grip ......050-0334
- 3. Choke Cable.....050-0025
- 4. Throttle Cable.....050-0024
- 5. Drive Cable.....050-0008

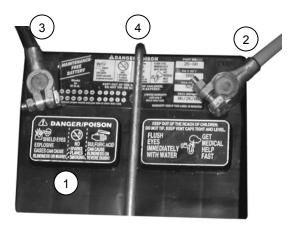
- 8. Hydraulic Filter Assembly......021-0001
- 9. Hydraulic Filter Head .....021-0087B10. Hydraulic Filter Element......021-0002
- 11. Vibrator Valve......017-0005
- 12. Hydraulic Tank Sight Guide ...... See Tank Assy

# SEAT & TANK ASSEMBLY



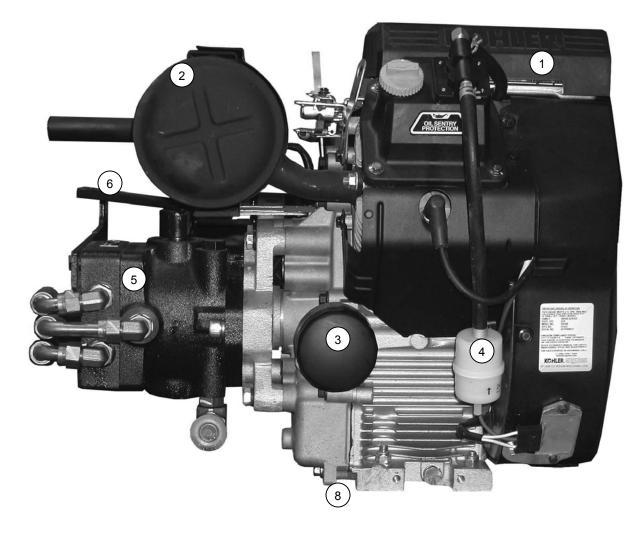
1. Seat Assembly	050-0017
2. Water Tank Assembly	081-0029
3. Inspection Cap	050-0026
4. Ball Valve	017-0043
5. Water Tank Filter	021-0059
6. Hydraulic Tank Breather Cap (	050-0016
7. Fuel Tank (not shown)	050-0027
8. Fuel Tank Cap (not shown)	050-0188
9. Hydraulic Tank Sight Guide	060-0068
10. Seat Stand	082-0079

# **BATTERY ASSEMBLY**



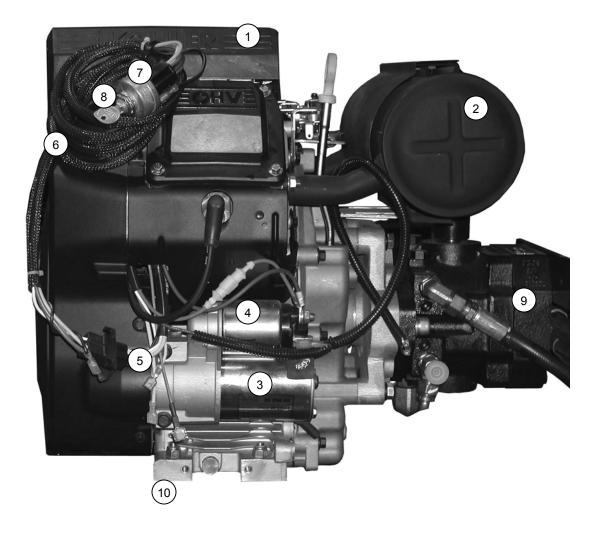
- 1. Battery......020-0019
- 2. Battery Cable (Positive)......020-0361
- 3. Battery Cable (Negative) ...... 020-0318

# **ENGINE ASSEMBLY – FRONT**

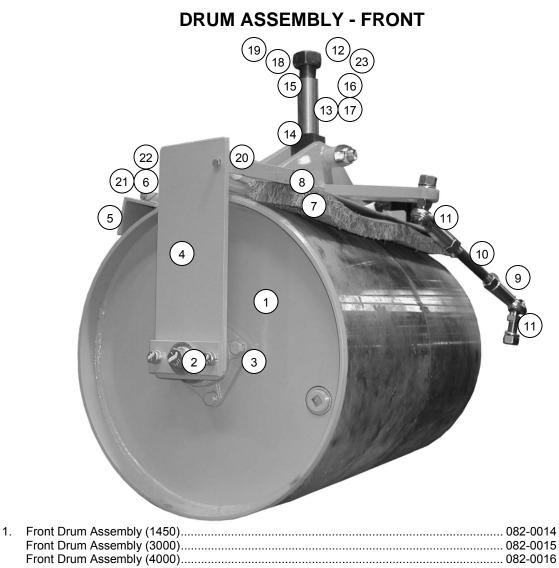


1. Kohler CH18S Engine	010-0275
2. Muffler	010-0302
3. Engine Oil Filter	021-0026
4. Fuel Filter	
5. Main Drive Pump	011-0138
6. Drive Pump Control Arm	
7. Drive Pump Control Arm Ball Joint (not shown)	030-0237
8. Rubber Engine Mount (x4) (not shown)	

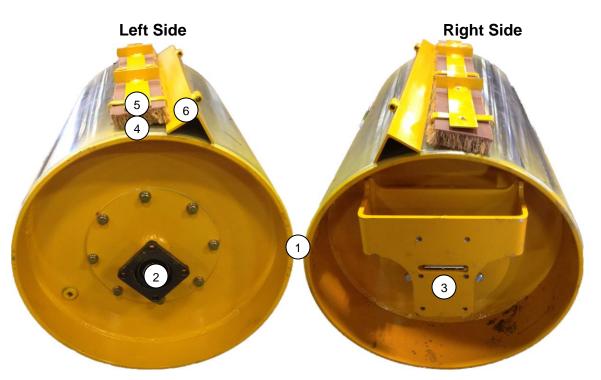
# **ENGINE ASSEMBLY – REAR**



2. Muffler       See Engine-         3. Starter       010-037         4. Starter Solenoid       020-008         5. Engine Wiring Harness (Engine Side)       010-031         6. Engine Wiring Harness (Ignition Switch Side)       010-031         7. Ignition Switch       020-008         8. Ignition Keys (Set)       010-020         9. Main Drive Pump       See Engine-         10. Rubber Engine Mount (x4) (not shown)       050-026	1. Kohler CH18S Engine	. See Engine-Front
<ul> <li>4. Starter Solenoid</li></ul>	2. Muffler	. See Engine-Front
<ol> <li>Engine Wiring Harness (Engine Side)</li></ol>	3. Starter	. 010-0375
<ol> <li>Engine Wiring Harness (Ignition Switch Side)</li></ol>	4. Starter Solenoid	. 020-0085
<ol> <li>Ignition Switch</li></ol>	5. Engine Wiring Harness (Engine Side)	.010-0312A
<ul> <li>8. Ignition Keys (Set)</li></ul>	6. Engine Wiring Harness (Ignition Switch Side)	. 010-0312
9. Main Drive Pump See Engine-	7. Ignition Switch	. 020-0088
	8. Ignition Keys (Set)	. 010-0209
	9. Main Drive Pump	. See Engine-Front



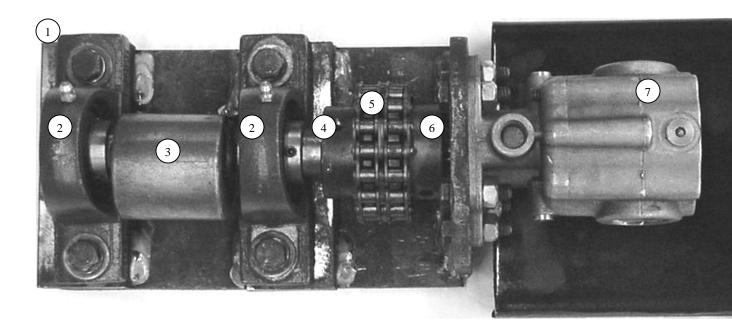
Front Drum Assembly (4000)       082-0016         2. Front Drum Shaft       083-0008         3. Drum Shaft Bearing (x4)       018-0001         4. Front Drum Mounting Frame       082-0017         5. Front Drum Scraper       082-0018         6. Scraper Hanger (x2)       083-0009         8. Front Mat       083-0009         8. Front Mat       083-0027         9. Steering Linkage Assembly       082-0012A         10. Steering Linkage Rod       082-0012         11. Steering Linkage Ball Joint (x2)       050-0009         12. King Pin Assembly       083-0003         13. King Pin       083-0003         14. Thrust Washer (not shown)       083-0002         15. Cover Washer (not shown)       083-0002         15. Cover Washer (not shown)       083-0002         16. King Pin Race (x2) (not shown)       018-0030         17. King Pin Race (x2) (not shown)       018-0030         17. King Pin Race (x2) (not shown)       030-0202         20. Water Spray Pipe (Front)       083-0029         21. Scraper Spring (x2)       050-0006         22. Scraper Spring Retaining Washer (push-on) (x2)       030-0359         23. King Pin Dust Cover (not shown)       050-0266	Front Drum Assembly (3000)	. 082-	0015
3.       Drum Shaft Bearing (x4)       018-0001         4.       Front Drum Mounting Frame       082-0017         5.       Front Drum Scraper       082-0018         6.       Scraper Hanger (x2)       083-0011         7.       Front Mat       083-0009         8.       Front Mat Mounting Frame       083-0027         9.       Steering Linkage Assembly       082-0012         10.       Steering Linkage Rod       082-0012         11.       Steering Linkage Ball Joint (x2)       050-0009         12.       King Pin       083-0003         13.       King Pin       083-0003         14.       Thrust Washer (not shown)       083-0002         15.       Cover Washer (not shown)       083-0002         16.       King Pin Bearing (x2) (not shown)       018-0030         17.       King Pin Race (x2) (not shown)       018-0024         18.       Castle Nut       083-0005         19.       Cotter Pin (not shown)       030-0202         20.       Water Spray Pipe (Front)       083-0029         21.       Scraper Spring (x2)       050-0006         22.       Scraper Spring Retaining Washer (push-on) (x2)       030-0359	Front Drum Assembly (4000)	. 082-	0016
4.       Front Drum Mounting Frame       082-0017         5.       Front Drum Scraper       082-0018         6.       Scraper Hanger (x2)       083-0011         7.       Front Mat       083-0009         8.       Front Mat Mounting Frame       083-0027         9.       Steering Linkage Assembly       082-0012A         10.       Steering Linkage Rod       082-0012         11.       Steering Linkage Ball Joint (x2)       050-0009         12.       King Pin Assembly       083-0003A         13.       King Pin       083-0003         14.       Thrust Washer (not shown)       083-0002         15.       Cover Washer (not shown)       083-0004         16.       King Pin Bearing (x2) (not shown)       018-0030         17.       King Pin Race (x2) (not shown)       018-0030         17.       King Pin Race (x2) (not shown)       030-0202         19.       Cotter Pin (not shown)       030-0202         20.       Water Spray Pipe (Front)       083-0024         18.       Castle Nut       083-0029         21.       Scraper Spring (x2)       050-0006         22.       Scraper Spring Retaining Washer (push-on) (x2)       030-0359 <td></td> <td></td> <td></td>			
5.       Front Drum Scraper       082-0018         6.       Scraper Hanger (x2)       083-0011         7.       Front Mat       083-0009         8.       Front Mat Mounting Frame       083-0027         9.       Steering Linkage Assembly       082-0012A         10.       Steering Linkage Rod       082-0012         11.       Steering Linkage Ball Joint (x2)       050-0009         12.       King Pin Assembly       083-0003A         13.       King Pin       083-0002         15.       Cover Washer (not shown)       083-0002         15.       Cover Washer (not shown)       018-0030         17.       King Pin Bearing (x2) (not shown)       018-0030         17.       King Pin Race (x2) (not shown)       018-0024         18.       Castle Nut       083-0005         19.       Cotter Pin (not shown)       030-0202         20.       Water Spray Pipe (Front)       083-0029         21.       Scraper Spring (x2)       050-0006         22.       Scraper Spring Retaining Washer (push-on) (x2)       030-0359			
6. Scraper Hanger (x2)       083-0011         7. Front Mat       083-0009         8. Front Mat Mounting Frame       083-0027         9. Steering Linkage Assembly       082-0012A         10. Steering Linkage Rod       082-0012         11. Steering Linkage Ball Joint (x2)       050-0009         12. King Pin Assembly       083-0003A         13. King Pin       083-0002         15. Cover Washer (not shown)       083-0002         16. King Pin Bearing (x2) (not shown)       018-0030         17. King Pin Race (x2) (not shown)       018-0030         17. King Pin Race (x2) (not shown)       018-0030         17. King Pin Race (x2) (not shown)       018-0024         18. Castle Nut       083-0005         19. Cotter Pin (not shown)       030-0202         20. Water Spray Pipe (Front)       083-0029         21. Scraper Spring (x2)       050-0006         22. Scraper Spring Retaining Washer (push-on) (x2)       030-0359	4. Front Drum Mounting Frame	. 082-	0017
7. Front Mat       083-0009         8. Front Mat Mounting Frame       083-0027         9. Steering Linkage Assembly       082-0012A         10. Steering Linkage Rod       082-0012         11. Steering Linkage Ball Joint (x2)       050-0009         12. King Pin Assembly       083-0003A         13. King Pin       083-0003         14. Thrust Washer (not shown)       083-0002         15. Cover Washer (not shown)       083-0004         16. King Pin Bearing (x2) (not shown)       018-0030         17. King Pin Race (x2) (not shown)       018-0030         17. King Pin Race (x2) (not shown)       030-022         20. Water Spray Pipe (Front)       030-0202         20. Water Spray Pipe (Front)       083-002         21. Scraper Spring (x2)       050-0006         22. Scraper Spring Retaining Washer (push-on) (x2)       030-0359			
8. Front Mat Mounting Frame       083-0027         9. Steering Linkage Assembly       082-0012A         10. Steering Linkage Rod       082-0012         11. Steering Linkage Ball Joint (x2)       050-0009         12. King Pin Assembly       083-0003A         13. King Pin       083-0003         14. Thrust Washer (not shown)       083-0002         15. Cover Washer (not shown)       083-0004         16. King Pin Bearing (x2) (not shown)       018-0030         17. King Pin Race (x2) (not shown)       018-0024         18. Castle Nut       083-0005         19. Cotter Pin (not shown)       030-0202         20. Water Spray Pipe (Front)       083-0029         21. Scraper Spring (x2)       050-0006         22. Scraper Spring Retaining Washer (push-on) (x2)       030-0359			
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10. Steering Linkage Rod	8. Front Mat Mounting Frame	. 083-	0027
11. Steering Linkage Ball Joint (x2)			
12. King Pin Assembly			
13. King Pin	11. Steering Linkage Ball Joint (x2)	. 050-	0009
14. Thrust Washer (not shown)       083-0002         15. Cover Washer (not shown)       083-0004         16. King Pin Bearing (x2) (not shown)       018-0030         17. King Pin Race (x2) (not shown)       018-0024         18. Castle Nut       083-0005         19. Cotter Pin (not shown)       030-0202         20. Water Spray Pipe (Front)       083-0006         21. Scraper Spring (x2)       050-0006         22. Scraper Spring Retaining Washer (push-on) (x2)       030-0359			
15. Cover Washer (not shown)       083-0004         16. King Pin Bearing (x2) (not shown)       018-0030         17. King Pin Race (x2) (not shown)       018-0024         18. Castle Nut       083-0005         19. Cotter Pin (not shown)       030-0202         20. Water Spray Pipe (Front)       083-0006         21. Scraper Spring (x2)       050-0006         22. Scraper Spring Retaining Washer (push-on) (x2)       030-0359	5		
16. King Pin Bearing (x2) (not shown).       018-0030         17. King Pin Race (x2) (not shown).       018-0024         18. Castle Nut       083-0005         19. Cotter Pin (not shown)       030-0202         20. Water Spray Pipe (Front).       083-0005         21. Scraper Spring (x2).       050-0006         22. Scraper Spring Retaining Washer (push-on) (x2).       030-0359			
17. King Pin Race (x2) (not shown)			
18. Castle Nut       083-0005         19. Cotter Pin (not shown)       030-0202         20. Water Spray Pipe (Front)       083-0029         21. Scraper Spring (x2)       050-0006         22. Scraper Spring Retaining Washer (push-on) (x2)       030-0359			
19. Cotter Pin (not shown)       030-0202         20. Water Spray Pipe (Front)       083-0029         21. Scraper Spring (x2)       050-0006         22. Scraper Spring Retaining Washer (push-on) (x2)       030-0359			
20. Water Spray Pipe (Front)         083-0029           21. Scraper Spring (x2)         050-0006           22. Scraper Spring Retaining Washer (push-on) (x2)         030-0359			
21. Scraper Spring (x2)			
22. Scraper Spring Retaining Washer (push-on) (x2)			
23. King Pin Dust Cover (not shown)			
	23. King Pin Dust Cover (not shown)	. 050-	0266



# **DRUM ASSEMBLY – REAR**

1. Rear Drum Assembly (1450/3000 Model)	
Rear Drum Assembly (4000 Model)	
2. Drum Bearing	See Drum-Front
3. Planetary	016-0056
4. Rear Mat	
5. Rear Mat Mounting Frame	
6. Rear Drum Scraper	
7. Scraper Hanger (not shown) (x2)	See Drum-Front
8. Water Spray Pipe (Rear) (not shown)	
9. Scraper Spring (not shown) (x2)	See Drum-Front
10. Scraper Spring Retaining Washer (push-on) (x2)	See Drum-Front

# VIBRATOR ASSEMBLY



1.	Vibrator Assembly Complete	081-0025
	2. Pillow Block Bearing	
	3. Vibrator Shaft	
	4. Vibrator Shaft Coupling Half	015-0033
	5. Coupling Chain	015-0044
	6. Vibrator Motor Coupling Half	015-0119
	7. Vibrator Motor	





# 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 LIABILTY 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 LIABILTY OF CUSTOMER TO ANY THIRD PARTY, OR FOR OTHER DIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES.

I have read and fully understand the warranty policy above.



**Calder Brothers Corporation** 250 E Warehouse Ct. Taylors SC, 29687

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