

PELICAN SERIES P PREMIER
OPERATOR'S MANUAL
MACHINE SERIAL NUMBER
CHASSIS SERIAL NUMBER

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Elgin Sweeper Company
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Part No. 0700770



ELGIN[®] PELICAN[®] Series P Premier LIMITED WARRANTY

ELGIN SWEEPER COMPANY warrants each new machine manufactured by it against defects in material and workmanship provided the machine is used in a normal and reasonable manner. This warranty is extended only to the original user-purchaser for a period of twelve (12) months or 1250 hours (whichever comes first) from the date of delivery to the original user-purchaser.

ELGIN SWEEPER COMPANY will cause to be repaired or replaced, as the Company may elect, any part or part of such machine which the Company's examination discloses to be defective in material or workmanship.

Repairs or replacements are to be made at the selling Elgin distributor's location or at other locations approved by ELGIN SWEEPER COMPANY.

The ELGIN SWEEPER COMPANY warranty shall not apply to:

1. Major components or trade accessories such as trucks, engines, tires or batteries that have a separate warranty by the original manufacturer.
2. Normal adjustments and maintenance services.
3. Normal wear parts such as: broom fillers, broom wire, shoe runners and rubber deflectors.
4. Failures resulting from the machine being operated in a manner or for a purpose not recommended by ELGIN SWEEPER COMPANY.
5. Repairs, modifications or alterations which, in the Company's sole judgment, have adversely affected the machine's stability or reliability.
6. Items subjected to misuse, negligence, accident or improper maintenance.
7. Machines sold for operation outside of the United States or Canada.

The use in the product of any part other than parts approved by ELGIN SWEEPER COMPANY may invalidate this warranty. ELGIN SWEEPER COMPANY reserves the right to determine, in its sole discretion, if the use of non-approved parts operates to invalidate the warranty.

Nothing contained in this warranty shall make ELGIN SWEEPER COMPANY liable for loss, injury, or damage of any kind to any person or entity resulting from any defect or failure in the machine.

TO THE EXTENT LIMITED BY LAW, THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTIES OF **MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**

This warranty is also in lieu of all other obligations or liabilities on the part of ELGIN SWEEPER COMPANY, including but not limited to, liability for incidental and consequential damages on the part of the Company or the seller.


ELGIN SWEEPER COMPANY makes no representation that the machine has the capacity to perform any functions other than as contained in the Company's written literature, catalogs or specifications accompanying delivery of the machine.

No person or affiliated company representative is authorized to give any other warranties or to assume any other liability on behalf of ELGIN SWEEPER COMPANY in connection with the sale, servicing or repair of any machine manufactured by the Company.


ELGIN SWEEPER COMPANY reserves the right to make design changes or improvements in its products without imposing any obligation upon itself to change or improve previously manufactured products.

SAFETY



Read and understand *all* of the following  CAUTION,  WARNING and  NOTICE Safety Instructions before attempting to operate the Elgin Pelican Series P Premier sweeper:


 CAUTION		
Turning both steering wheels at the same time will damage the steering system.	Exceeding 2500 + 50 RPM can damage the hydrostatic drive system.	Overloading the hopper can cause personal injury or damage to the sweeper.
Use only one wheel to steer at any time.	Do not exceed the recommended 2500 RPM engine speed.	Dump hopper frequently when loading heavy materials.
To avoid possible injury or property damage, <i>read the operator's manual</i> before using this machine.	Refer to maintenance chart for daily and scheduled servicing.	Maintenance and repairs must be done by authorized personnel only.


1033195

 CAUTION
Towing with connected drive axles will damage hydrostatic drive.
Remove 8 bolts & taper bushings from upper drive sprocket on the differential before towing vehicle.


1033193

 CAUTION	
	<p>Rotating Broom. Can cause personal injury.</p> <p>Do not step on side broom while rotating or at rest.</p>

 CAUTION
<p>Cold Weather Starting</p> <p>Engine RPM must not exceed 1000 RPM until engine water temperature gauge needle moves from its stop. Then the sweeper may be moved at engine speeds less than 2000 RPM and at speeds under 10 MPH. When engine water temperature reaches "normal," then normal operation may begin.</p>

 CAUTION
<p>Before operating this machine, <i>read the operator's manual and operator's instructions</i> on the sun visor.</p>

⚠ CAUTION

 **Moving Parts.**
Contact with impeller can cause severe injury.

Stop auxiliary engine before removing impeller cover. Keep cover secured in place unless servicing. Inspect impeller for wear weekly.

To avoid possible injury or property damage, read the operator's manual before using this machine. Maintenance and repairs must be done by authorized personnel only.

⚠ WARNING



Rotating Fan.
Can cause severe injury. Keep clear of fan at all times. Disconnect battery before servicing.

⚠ NOTICE

Tire Inflation Data

Front:		
10:00 x 20	Load Range F	85 p.s.i.
10:00 x 20	Load Range G Michelin	105 p.s.i.
Rear:		
8:25 x 15	Load Range F	100 p.s.i.
7:50 x 15	Load Range F Michelin	100 p.s.i.

1033196

⚠ NOTICE

Change hydraulic oil and flush tank every six months.

⚠ NOTICE

Use #1 or #2 Diesel fuel only.

⚠ NOTICE

Lubricate sprung guide wheel strut daily with lithium base grease #2.

1033189

⚠ NOTICE

Plastic Window Care.
Rinse with water. Wash with mild soap and water. Do not use Abrasives.

(appears on Premier model only)

WELCOME TO THE MOST POPULAR 3-WHEEL SWEEPER IN THE WORLD THE **ELGIN®** PELICAN SERIES P PREMIER

This manual will assist you in the proper operation and care of the Elgin Pelican Series P Premier sweeper. It contains specific information on features and specifications, suggested operating techniques, preventative maintenance hints and instructions for making repairs and adjustments.

Read this manual carefully before operating the sweeper. Working with unfamiliar equipment can lead to accidents.

Elgin employees carefully inspected the sweeper before it left the factory. Your Elgin equipment dealer inspected the sweeper and made certain that it was in proper working order prior to delivery. To keep the Pelican sweeper in good working order, it is important that all maintenance and service schedules are followed:

DAILY SERVICE - After every shift or 10 Hours.
PERIODIC SERVICE - After each period of 50 Hours, 150 Hours, 500 Hours & 1000 Hours.

Keep this manual in a convenient place for reference. If you have a problem with the sweeper, your Elgin Dealer has the factory trained service personnel, genuine Elgin parts & necessary tools and equipment to meet your specific needs.

If you should need to contact the factory, for any reason regarding operation, maintenance or repair, please feel free to call:

(312) 741-5370

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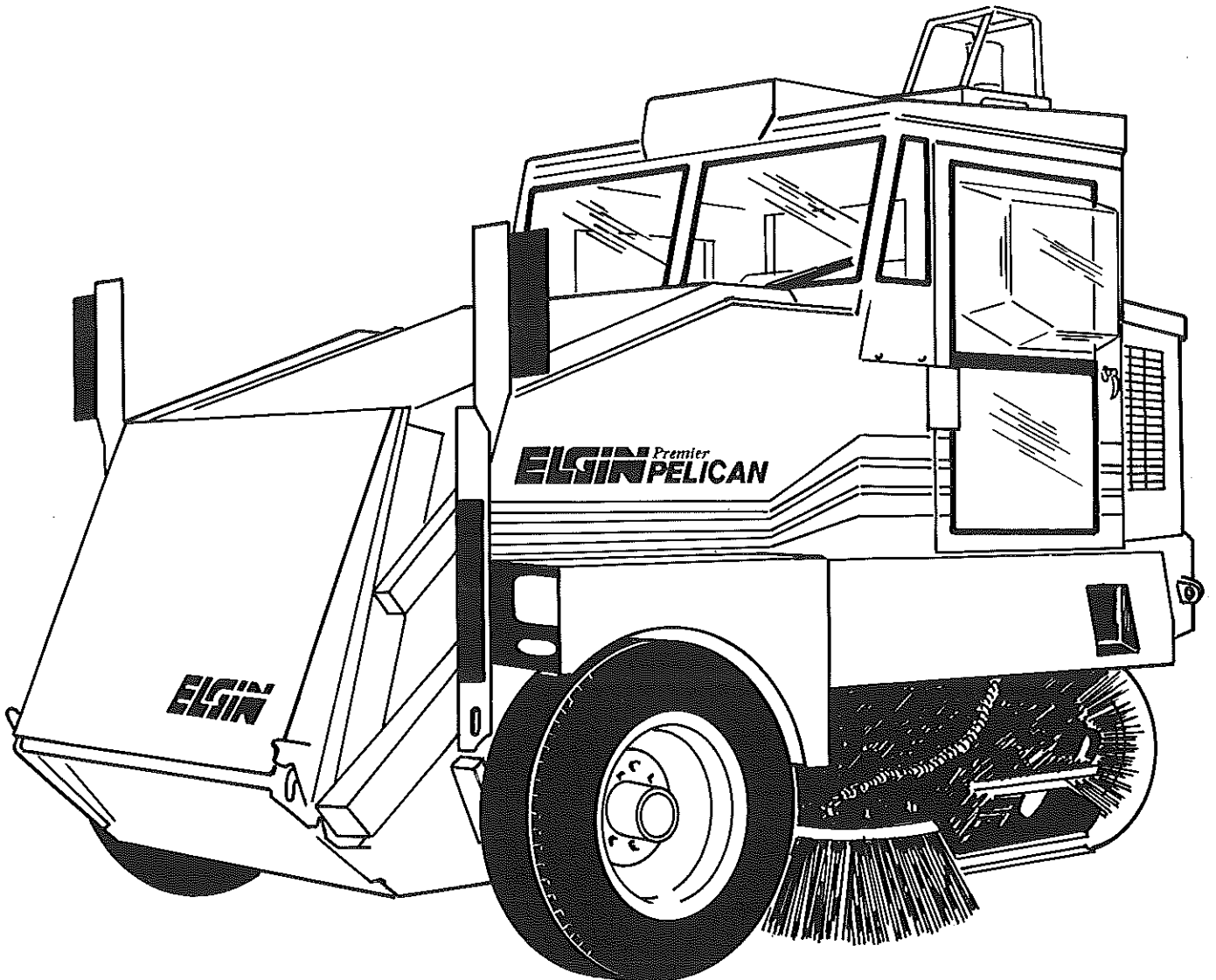
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SECTION 1 MACHINE COMPONENTS



The ELGIN PELICAN SERIES P PREMIER efficiently cleans large, flat, paved areas such as streets, parking lots and runways.

8'0" (2.4m) Sweeping path with one side broom
10'0" (3.0m) Sweeping path with two side brooms

Become familiar with the location and operation of these components found on the left side of the machine.

SPRAY WATER TANK
220 gal. (833L) capacity

CONVEYOR
Delivers material picked up by the main broom to the hopper

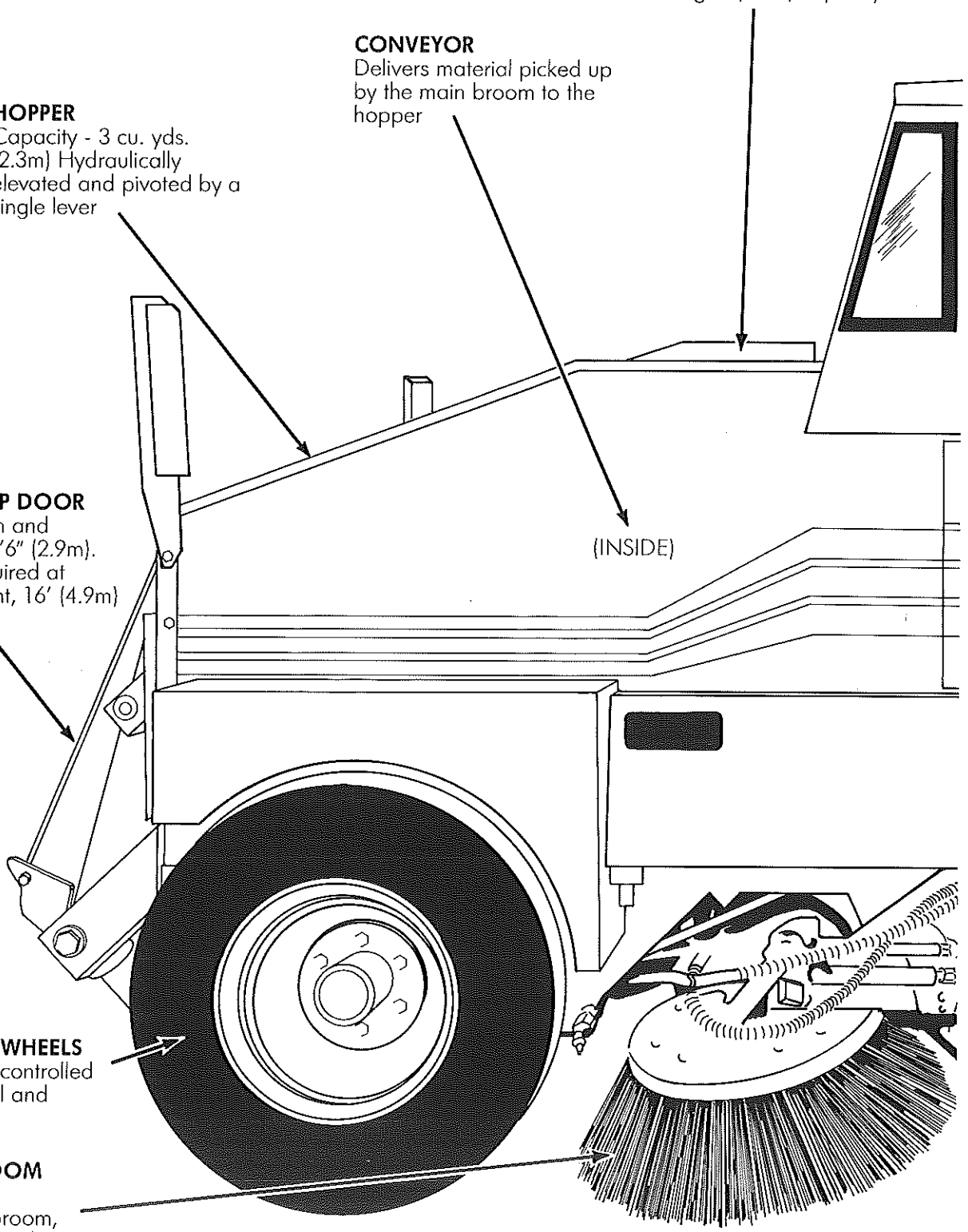
HOPPER
Capacity - 3 cu. yds. (2.3m)
Hydraulically elevated and pivoted by a single lever

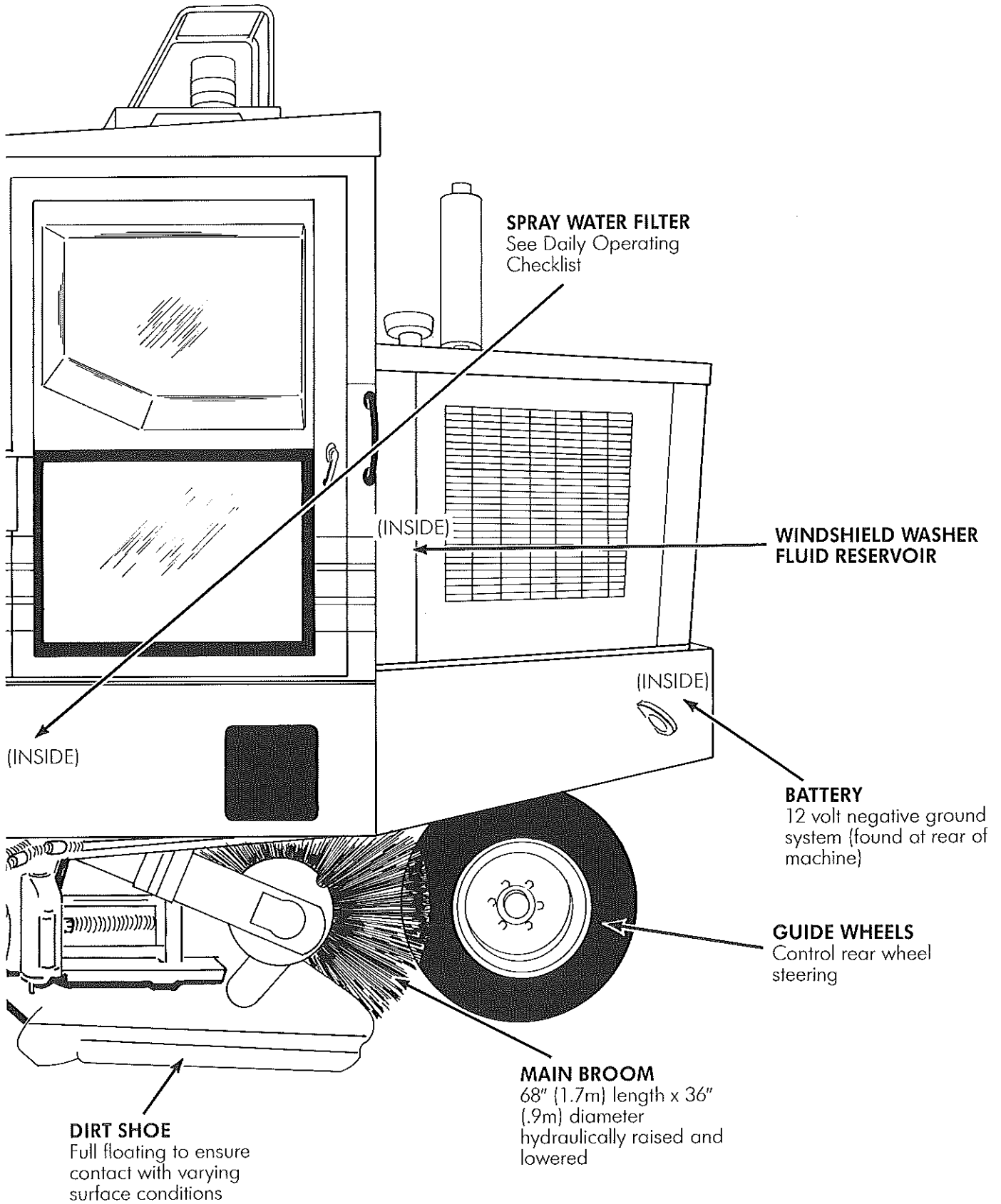
HOPPER DUMP DOOR
Pivoted to open and dump - up to 9'6" (2.9m).
Clearance required at maximum height, 16' (4.9m)

(INSIDE)

FRONT DRIVE WHEELS
Hydrostatically controlled forward, neutral and reverse speeds

LEFT SIDE BROOM (optional)
36" (.9m) side broom, hydraulically raised and lowered.





Become familiar with the location and operation of these components found on the right side of the machine.

AIR PRE CLEANER (Optional)
Engine pre-cleaner. See Daily Operating Checklist

AIR FILTER
Check frequently during heavy, dusty sweeping

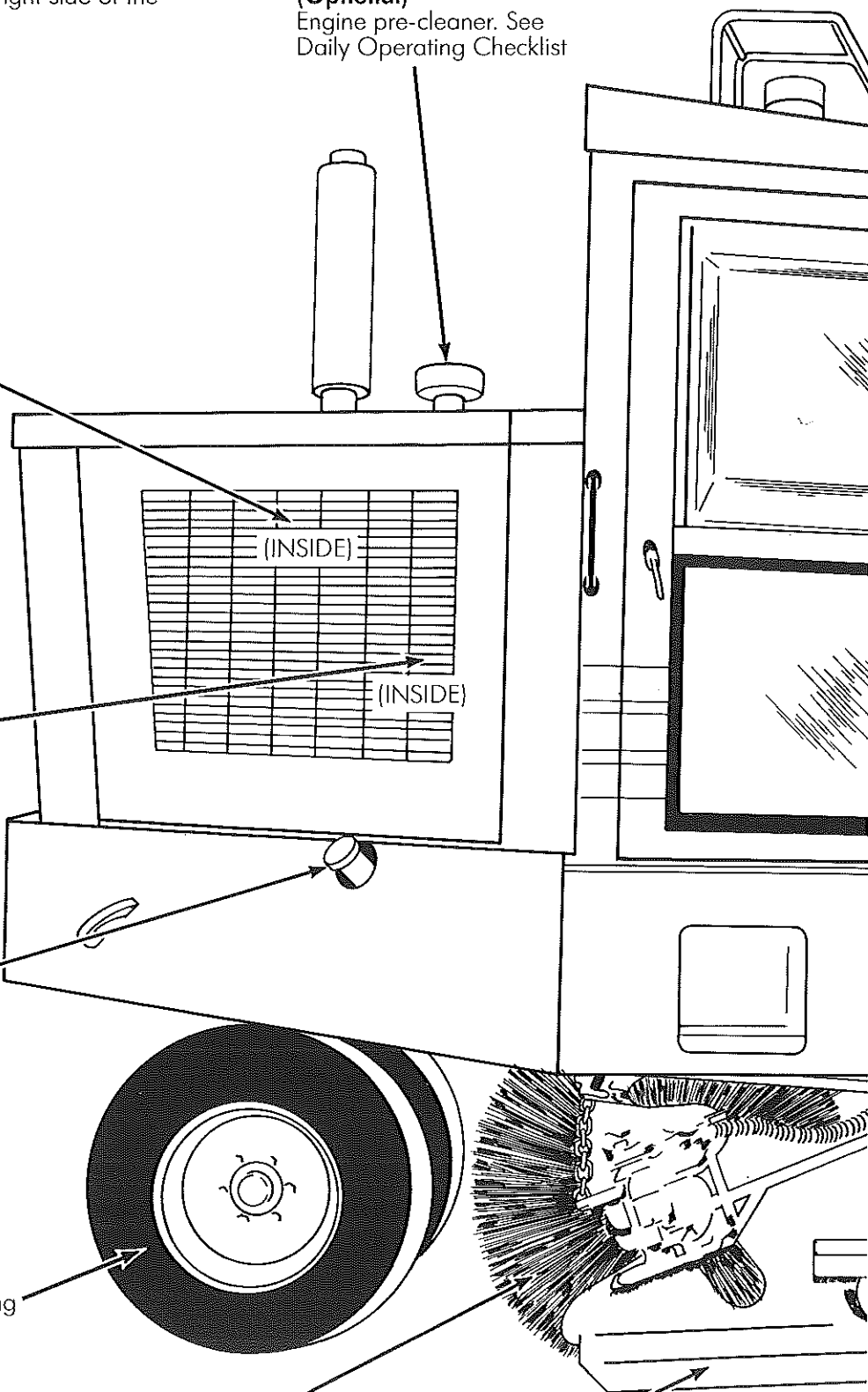
HYD. OIL LEVEL SIGHT GAUGE
See Daily Operating Checklist

DIESEL FUEL TANK
Use #1 or #2 Diesel Fuel only.

GUIDE WHEELS
Control rear wheel steering

MAIN BROOM
68" length (1.7m) x 36" diameter (.9m) hydraulically raised and lowered

DIRT SHOE
Full floating to ensure contact with varying surface conditions



CAB AIR FILTER SCREEN

Check daily in dusty conditions for efficient heating, air conditioning and cab pressurization

SPRAY WATER LEVEL INDICATOR

CONVEYOR

Delivers material picked up by the main broom to the hopper

SPRAY WATER FILL HOSE

12'6" (3.8m) with fire hydrant coupling. Stored in front fender

FRONT DRIVE WHEELS

Hydrostatically controlled - forward, neutral and reverse speeds

HOPPER

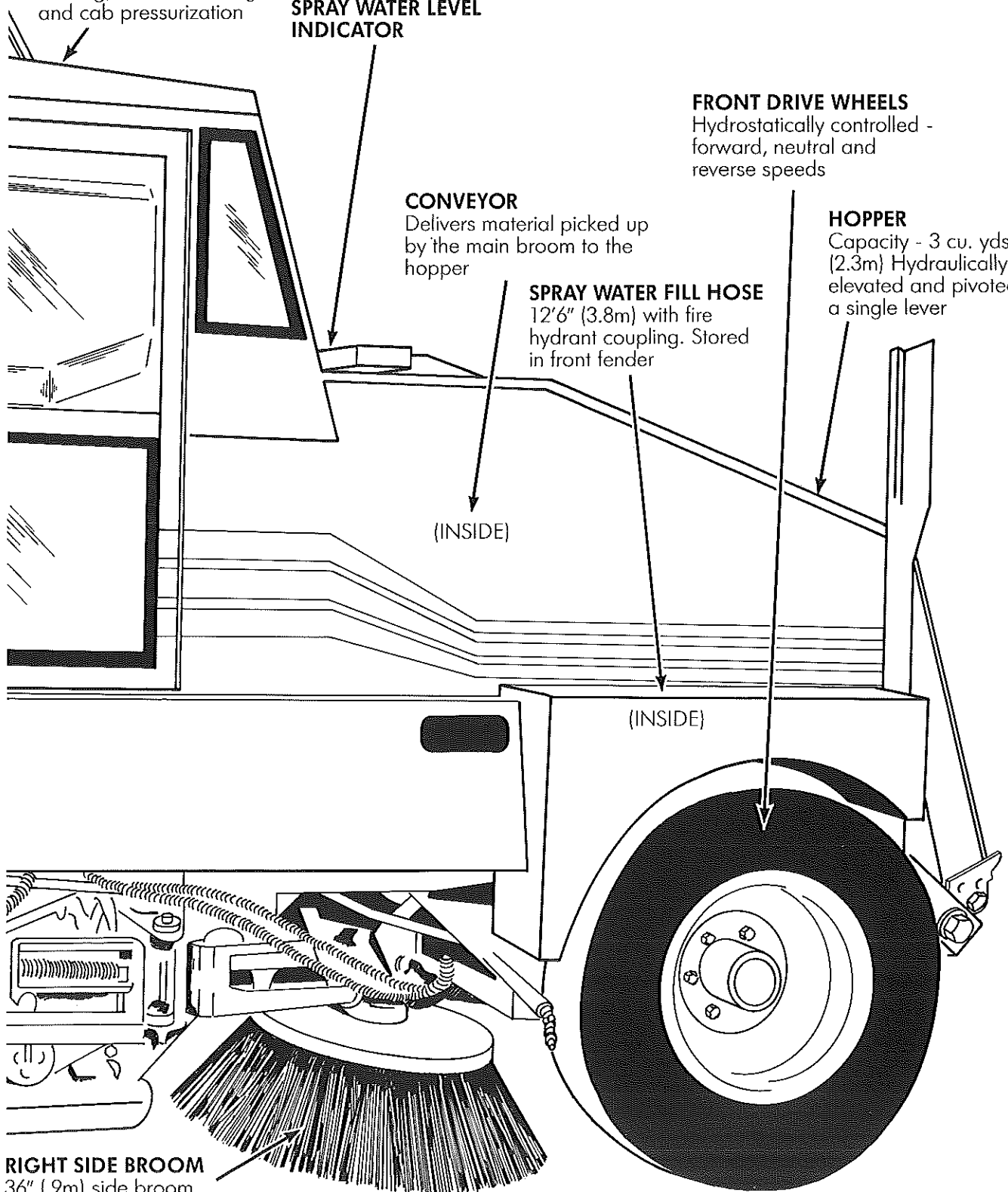
Capacity - 3 cu. yds. (2.3m) Hydraulically elevated and pivoted by a single lever

(INSIDE)

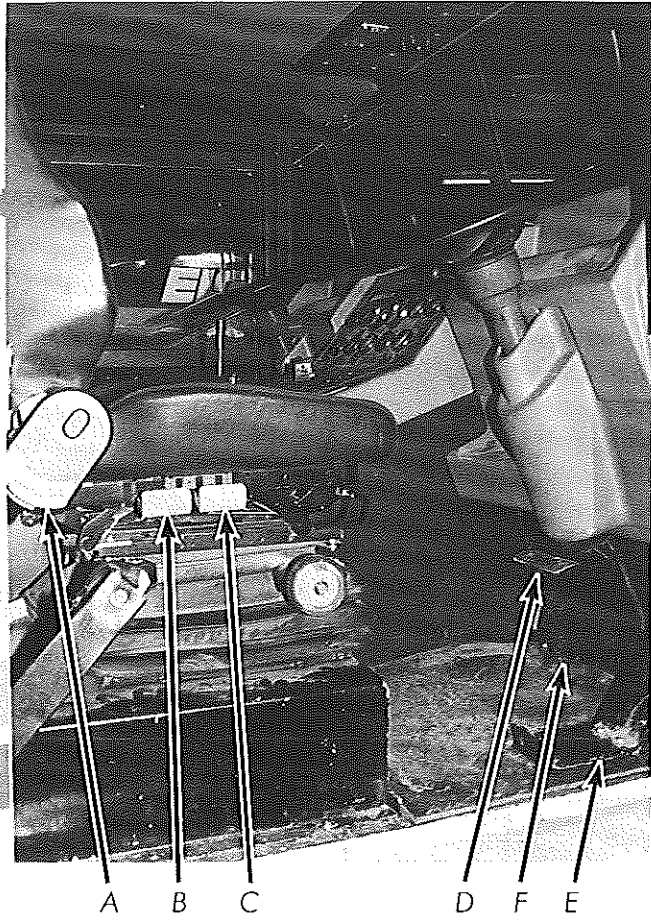
(INSIDE)

RIGHT SIDE BROOM

36" (.9m) side broom, hydraulically raised and lowered



CAB COMPONENTS

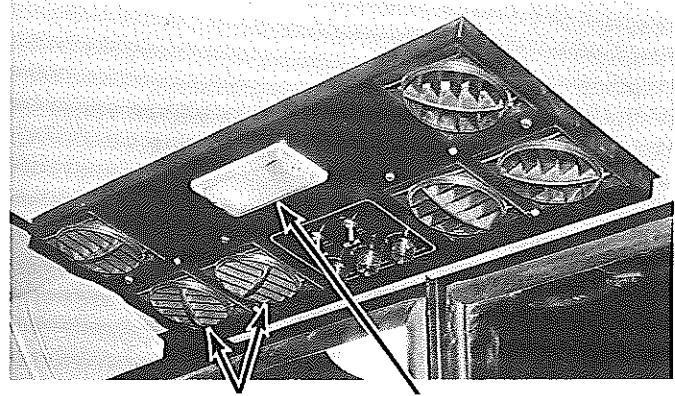


ADJUSTABLE SUSPENSION SEAT lets you "dial in" operator's body weight for optimum comfort and vibration control:

- A • Seat Back Recline
- B • Seat Rear Cushion Tilt
- C • Seat Front Cushion Tilt

Also visible in this photo:

- D • Brake Pedal
- E • Hydrostatic Drive Control
- F • Headlight Dimmer Switch



A B

HEATING/AIR CONDITIONING/CAB PRESSURIZING CONTROLS:

- A • Directional Vents
- B • Dome Light

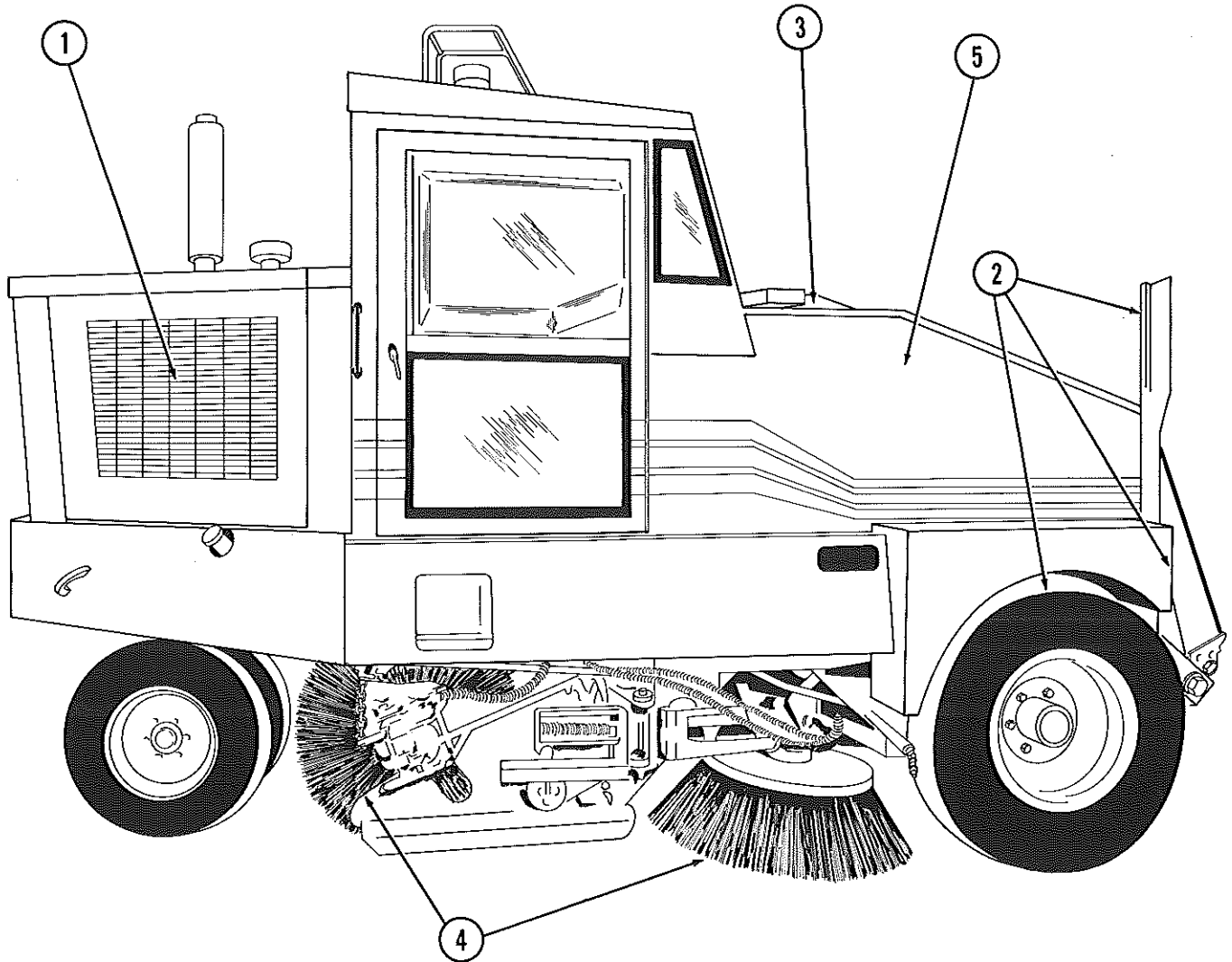


A B

CONTROLS - Become familiar with the location and operation of all components on the Control Panel. Spray water flow adjusting knob is located on the rear cab wall above the center console.

- A • Parking Brake
- B • Control Panel

SECTION 2 MACHINE OPERATION



OPERATING CHECKLIST

Successful daily operation of the Pelican consists of the following 6 standard daily operating checklist procedures:

(Before starting engine)

1. Engine

- Check engine fuel tank. Use #1 or #2 Diesel Fuel only.
- Check engine oil level.
- Check engine radiator coolant level.
- Check battery fluid level (if applicable).

- Clean engine pre-cleaner (if applicable).
- Check and clean the engine air filter if necessary.
- Drain the fuel water separator.
- Check hydraulic oil reservoir level.

2. Tires, Lights, Mirrors

- Check that tires are properly inflated.
- Check that directional and safety lights are in proper working order.
- Check mirrors for visibility.

3. Water Tank

- Fill the water tank (flush fire hydrant before connecting to fill hose to remove impurities).

(After starting engine)

4. Sweeping Components

- Check side broom(s) and sweeping pattern(s).
- Check main broom and sweeping pattern.

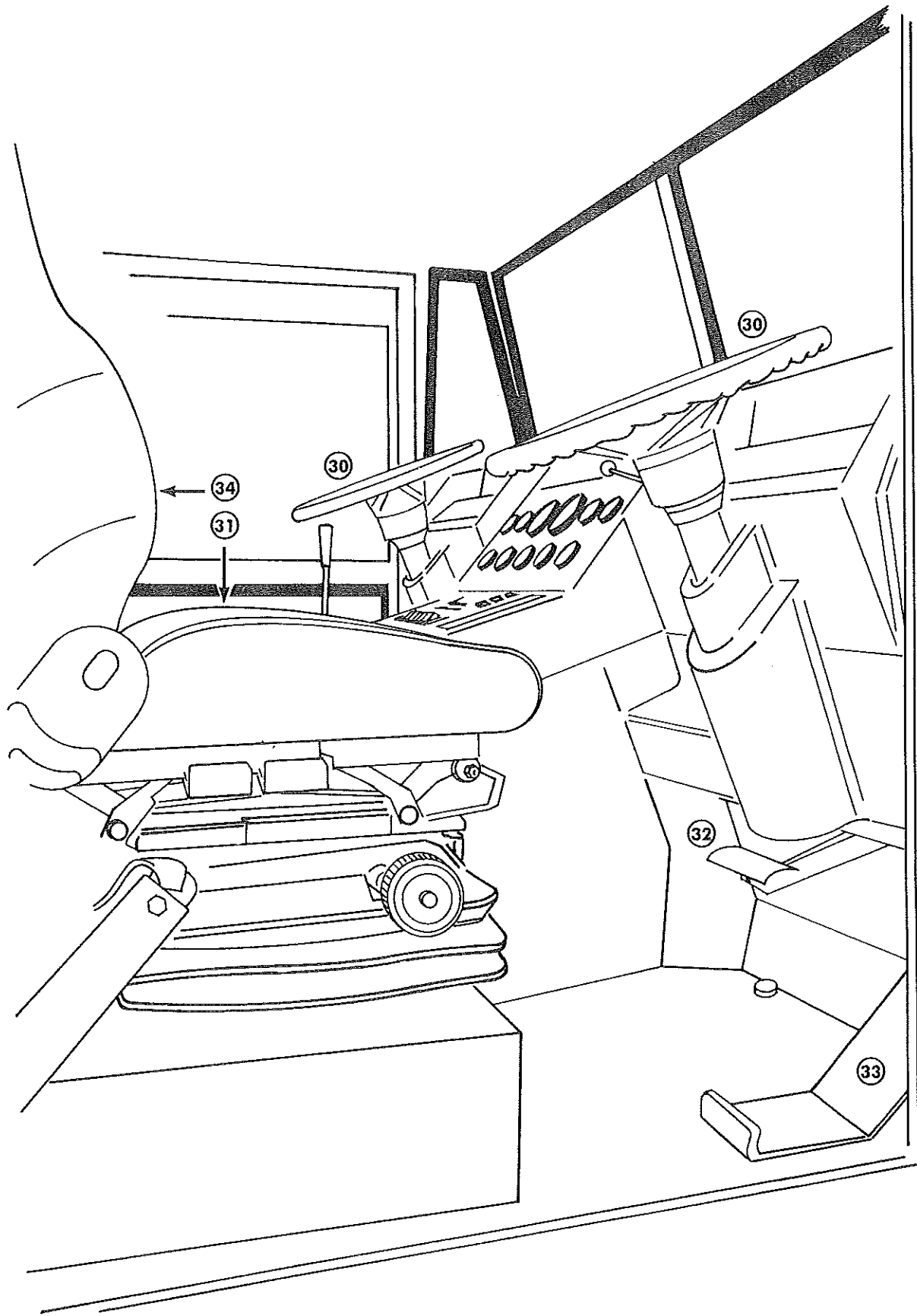
5. Post-Operation Check/Washdown

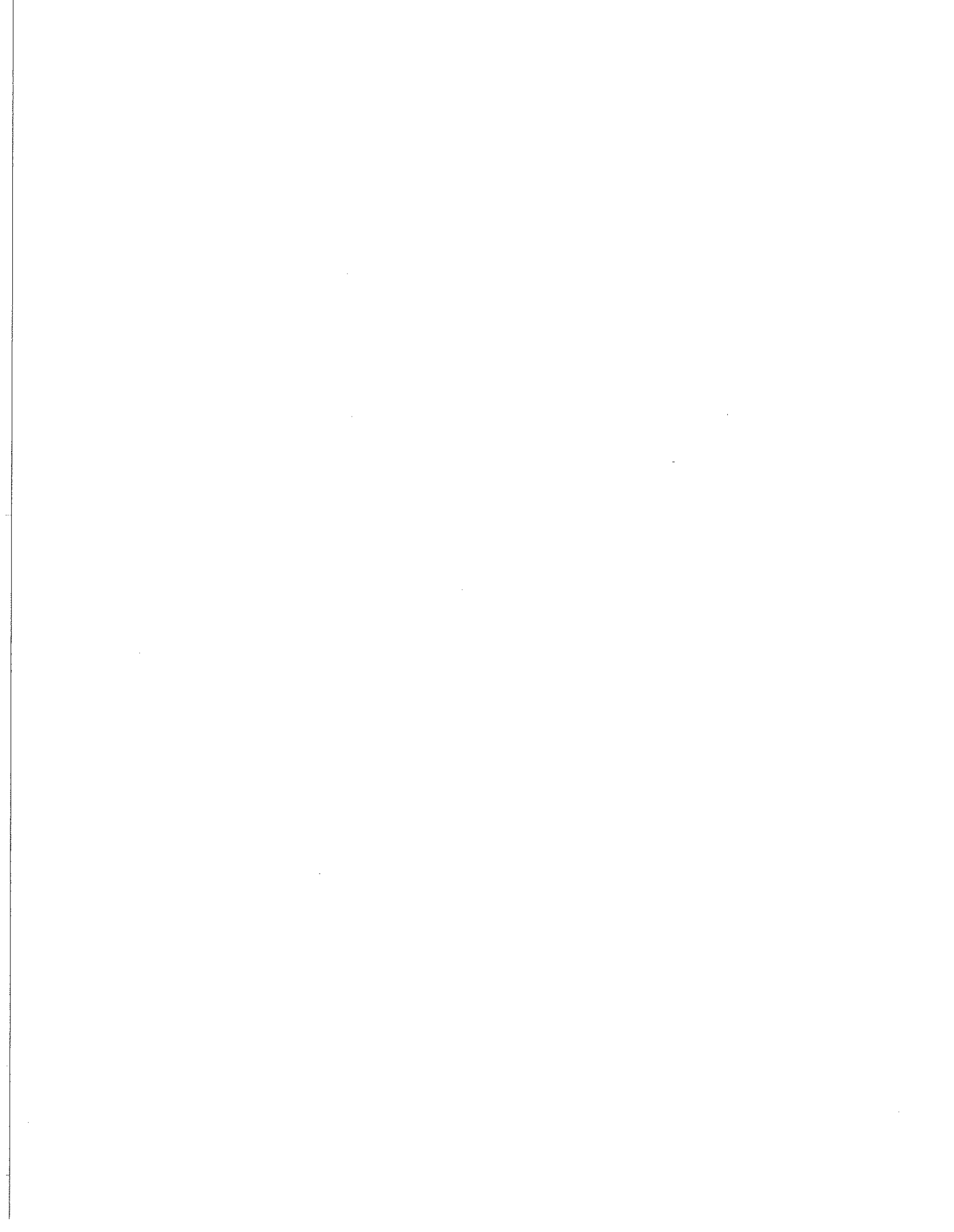
- Raise the hopper and flush all areas clean with pressure hose; side broom(s); inside and around dirt shoes; along both sides of machine; inside of hopper and conveyor. See Daily Washdown, Section 3.

6. Lubricate Daily (After washdown)

- Main broom bearings (2).
- Main broom pulleys and cylinder (2).
- Main broom pivots (2).
- Dirt shoe pivots (2).
- Lower conveyor roll bearings (2).
- Side broom bell crank bearings (2).
- Upper conveyor roll bearings (2). Requires that hopper be rolled out.
- Sprung rear guide wheel (1).

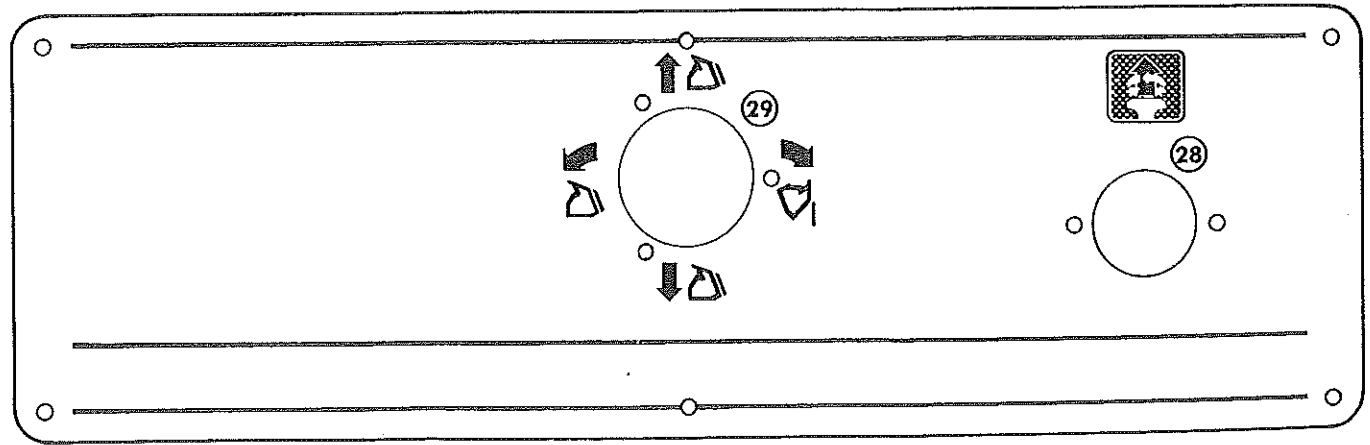
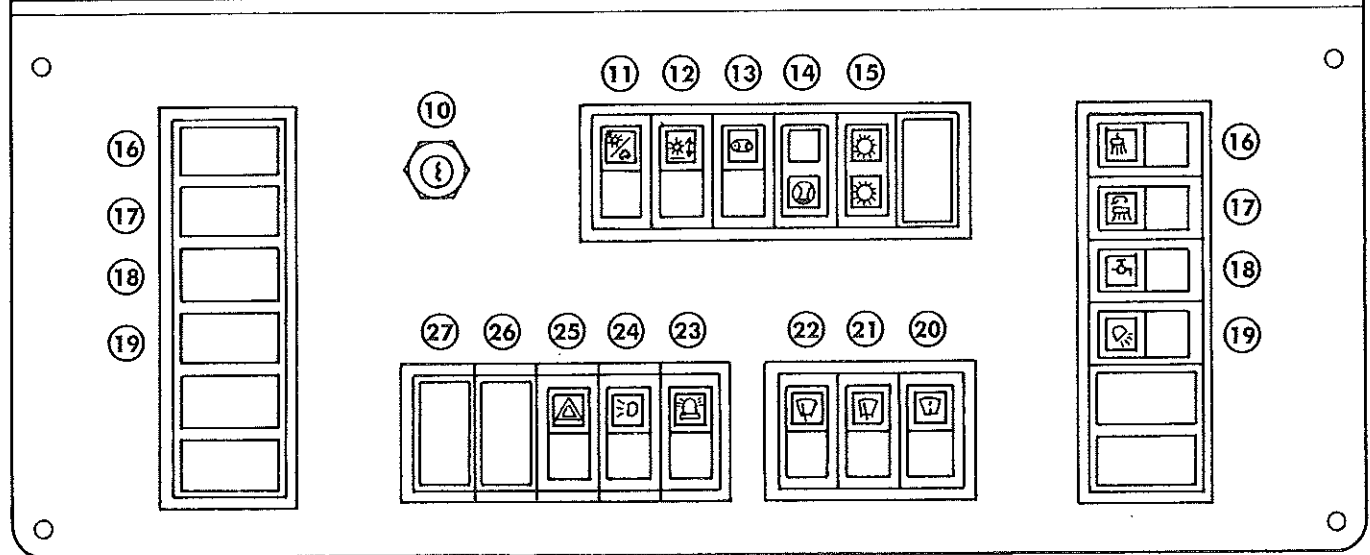
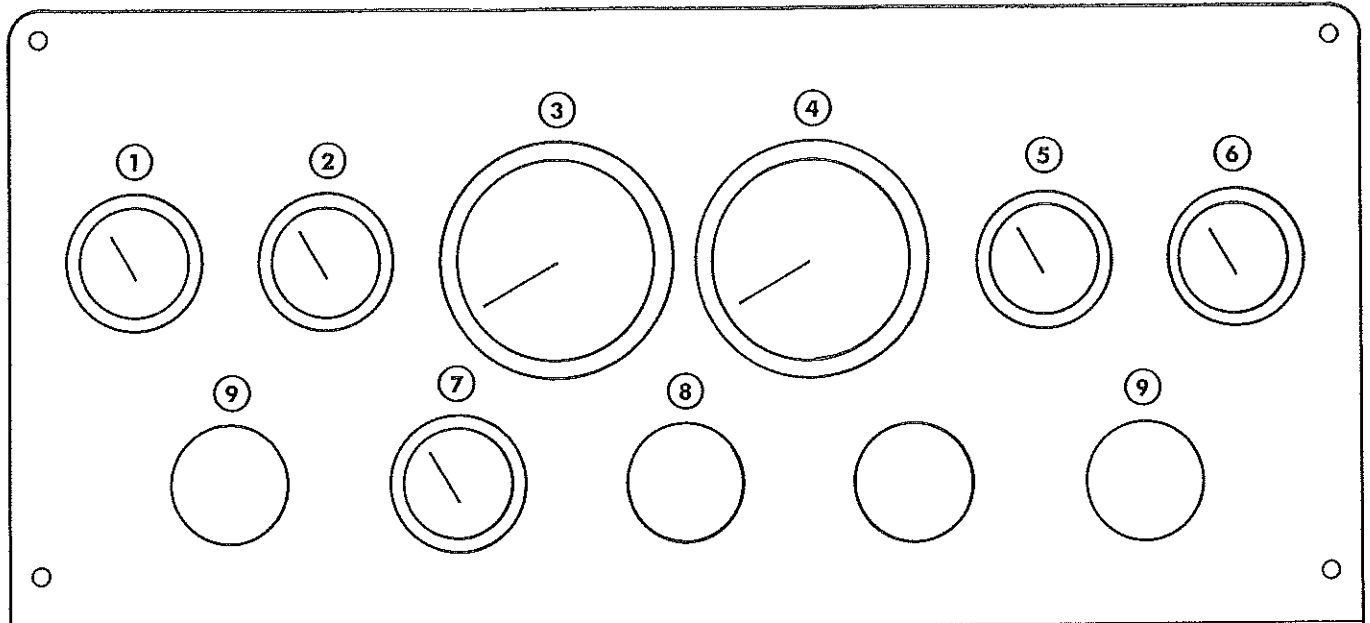
NOTE: For more specific information and step-by-step procedures see **COMPONENTS/SYSTEMS/PROCEDURES** Section 3.







INSTRUMENTS AND CONTROLS



INSTRUMENTS AND CONTROLS

CONTROLS AND INSTRUMENTS - Become familiar with all controls and instruments:

- 1 • Fuel Gauge
- 2 • Temperature Gauge
- 3 • Speedometer/Odometer
- 4 • Tachometer/Hour Meter
- 5 • Oil Temperature Gauge
- 6 • Oil Pressure Gauge
- 7 • Voltmeter
- 8 • Main Broom Position Indicator (optional)
- 9 • Side Broom Position Indicator (optional)
- 10 • Ignition Key Switch
- 11 • Circuit Select Switch
- 12 • Main Broom Switch
- 13 • Conveyor Rotate (3 way) Switch
- 14 • Low Water (Optional)/Air Filter
- 15 • Hyd. Filter/Drive Filter
- 16 • Broom Height Switch
- 17 • Broom Rotate Switch
- 18 • Spray Water Switch
- 19 • Broom Light Switch
- 20 • Wiper Wash Switch
- 21 • Right Wiper Switch
- 22 • Left Wiper Switch
- 23 • Beacon Light
- 24 • Headlights (3 position) Switch
- 25 • Hazard Lights Switch
- 26 • Cold Start (option)
- 27 • Shutdown Override (option)
- 28 • Engine Throttle Control
- 29 • Hopper Dump Control
- 30 • Steering Wheel (optional dual steering controls are hydraulically connected)
- 31 • Parking Brake
- 32 • Brake Pedal
- 33 • Hydrostatic Drive Control Pedal
- 34 • Spray Water Volume Flow Control

1. **FUEL GAUGE** - Accurately measures the quantity of fuel remaining in fuel tank.
2. **TEMPERATURE GAUGE** - Indicates the temperature of the engine coolant. If the needle nears the high temperature, stop and check the level of the coolant.
3. **SPEEDOMETER/ODOMETER** - Records speed and distance in miles.
4. **TACHOMETER/HOUR METER** - Indicates the speed of the engine in thousands of revolutions per minute, RPM. After initial start-up idling, hour meter records engine running hours.
5. **OIL TEMPERATURE GAUGE** - Records engine oil temperature. If the needle nears the high temperature, stop and check the level of the oil.

6. **OIL PRESSURE GAUGE** - Records oil pressure.
7. **VOLTMETER**
8. **MAIN BROOM POSITION INDICATOR (optional)**
9. **SIDE BROOM POSITION INDICATOR (optional)**
10. **IGNITION KEY SWITCH**
11. **CIRCUIT SELECT SWITCH** - Selects sweep or transport mode.
12. **MAIN BROOM SWITCH** - Lowers and raises main broom and conveyor.
13. **CONVEYOR ROTATE (3 way) SWITCH** - Start, stop conveyor. Rotates forward and reverse.
14. **LOW WATER (Optional)/AIR FILTER** - Lights to indicate low water/service filter.
15. **HYD. FILTER/DRIVE FILTER** - Lights to indicate service filter.
16. **BROOM HEIGHT SWITCH** - Lowers and raises side broom height.
17. **BROOM ROTATE SWITCH** - Turns side broom rotation on/off.
18. **SPRAY WATER SWITCH** - Turns spray water on/off.
19. **BROOM LIGHT SWITCH** - Turns broom light on/off.
20. **WIPER WASH SWITCH** - The windshield washer will operate as long as the switch is held.
21. **RIGHT WIPER SWITCH** - On/off.
22. **LEFT WIPER SWITCH** - On/off.
23. **BEACON LIGHT SWITCH** - On/off.
24. **HEADLIGHTS (3 position) SWITCH** - Headlights, parking lights.
25. **HAZARD LIGHTS SWITCH** - On/off.
26. **COLD START (option)** - Hold for two seconds, release for fluid injection.
27. **SHUTDOWN OVERRIDE (option)** - Automatic engine shutdown protects against engine damage from high coolant temperature or low oil pressure. To start engines with this feature, it is necessary to depress override switch while cranking the engine.

28. ENGINE THROTTLE CONTROL - Engine should be allowed to warm up at normal idling speed of 1000 RPM. To raise engine RPM depress button on throttle knob (releases lock) and pull throttle knob up. For fine RPM adjustment, the throttle knob can be rotated clockwise or counterclockwise. Bring the engine speed up to required RPM for all transporting/sweeping operations.

29. HOPPER DUMP CONTROL - Controls all hopper motions: forward to raise hopper; rearward to lower hopper; right to roll in hopper; left to roll out hopper.

30. STEERING WHEEL (optional dual steering controls are hydraulically connected) - It is imperative that only one steering wheel be used at a time to drive the machine. If there are two people in the cab, only one person should have his hands on a steering wheel for driving - the second person should not even rest his hands on the steering wheel in front of him.

31. PARKING BRAKE

32. BRAKE PEDAL

33. HYDROSTATIC DRIVE CONTROL PEDAL (optional dual drive controls are connected) - It is imperative that only one drive control be used at a time to drive the machine. If there are two people in the cab, only one person should have his foot on the hydrostatic drive control) - Controls forward and reverse speeds in addition to dynamic braking. Moving the pedal backward while the sweeper is traveling forward, causes a "dynamic" braking effect. This results in the engine acting as a brake for the sweeper.

34. SPRAY WATER VOLUME FLOW CONTROL - Regulates amount of spray water from low to high volume depending upon sweeping conditions.

STARTING THE MACHINE

(Refer to Instruments & Controls for location of switches and all controls)

1. Parking lever must be engaged.
2. Put Circuit Select Switch **(11)** in transport mode.
3. Some Pelican sweepers are equipped with an optional Shut-Down Override **(27)** feature to protect against engine damage from high coolant temperatures or low oil pressure. To start engines with this feature, it is necessary to depress the override switch while cranking the engine.

4. The engine is started with an Ignition Key Switch **(10)**.


5. The engine should be allowed to warm up at normal idling speed of 1000 RPM. To raise engine RPM, depress button on Engine Throttle Control **(28)** knob (releases lock) and pull throttle knob up. For fine RPM adjustment the throttle knob can be rotated clockwise or counterclockwise. Bring engine speed up to required RPM for all functions.

TRANSPORTING

1. Release Parking Brake.
2. Put Circuit Select Switch **(11)** in sweep mode.
3. Make sure that Main Broom and Side Broom(s) are in raised position by depressing "Raise" end of Main Broom **(12)** and Side Broom **(16)** rocker switches.
4. Put Circuit Select Switch **(11)** into transport mode.
5. Depress Hydrostatic Drive Control Pedal **(34)** to desired forward speed.

STEERING

If the operator has not operated a vehicle with rear wheel steering, he should practice in non-congested areas until accustomed to the machine.

 **CAUTION: (For units equipped with optional dual steering) Turning both steering wheels at the same time will damage the steering system. Use only one wheel to steer at any time.**

SWEEPING

1. Before energizing sweep system components, bring the machine to a complete stop, idling engine at 1000 RPM.
2. Put Circuit Select Switch **(11)** into sweep mode.
3. Lower Main Broom **(12)**.
4. Start Conveyor Rotate **(13)** by depressing 3-way switch to forward position.
5. Lower Side Broom(s) **(16)**.
6. Depress Broom Rotate Switch **(17)** to on position.
7. To activate Spray Water **(18)** depress switch to on position.

NOTE: Spray water volume can be regulated by Spray Water Volume Flow Control (34) on the rear wall of the cab above the center console.

8. Turn on Broom Light (19) when required.
9. Increase engine speed to 1500 RPM for light sweeping conditions, 1850 RPM for medium sweeping conditions, and 2500 RPM for heavy sweeping conditions.



CAUTION: Rotating Broom. Can Cause personal injury. Do not step on side broom while rotating or at rest.

Proceed to sweep using the foot pedal control for optimum sweeper speed forward, dwell, reverse or for dynamic braking.

- For light to medium sweeping - 8 mph
- For moderate to loose/bulky sweeping - 5-8 mph
- For bulky to heavy/packed sweeping - 1-5 mph

NOTE: To keep the sweeper going in a straight line choose a focal point on the front of the machine, such as the edge of the mirror or fender, and line it up with the edge of the curb ahead of the machine. This should eliminate the tendency to oversteer the machine.

REVERSING THE CONVEYOR

The conveyor can be reversed, to dislodge obstructions which may have jammed the conveyor, by activating the Conveyor Rotate (13) switch from Forward, Off to Reverse.

NOTE: DO NOT run conveyor in reverse over a period of more than 30 seconds as it may misalign the belt causing damage.

DUMPING THE HOPPER

NOTE: Before raising or tilting the hopper, check for clearance both in front and above the machine. Front clearance of approximately 3' (.9m) is required to allow the hopper to move out. Overhead clearance of 16' (4.9m) is required to avoid overhead wires and tree branches.

1. Disengage sweeping components and bring the machine to a complete stop.
2. Raise Main Broom (12), Side Broom(s) (16), and turn off Conveyor (13).
3. Put Circuit Select Switch (11) into transport mode.
4. Unloading of the hopper requires alternate or simultaneous operation of the raise (push forward) and roll out (push to left side) function of the Hopper Dump Control (29). The hopper should be level until positioned to roll out for dumping. After dumping, roll the hopper all the way back by moving the Hopper Dump Control (29) to the right. Then lower the hopper back into the machine by moving the Hopper Dump Control (29) rearward.



CAUTION: Overloading the hopper can cause personal injury or damage to the sweeper. Dump hopper frequently when loading heavy materials.

STOPPING THE ENGINE

Set the throttle to low idle and allow the engine to run for a few minutes before routine shutdown. This will allow the lubricating oil and coolant to carry heat away from the turbocharger, combustion chambers, bearings, shafts, etc.

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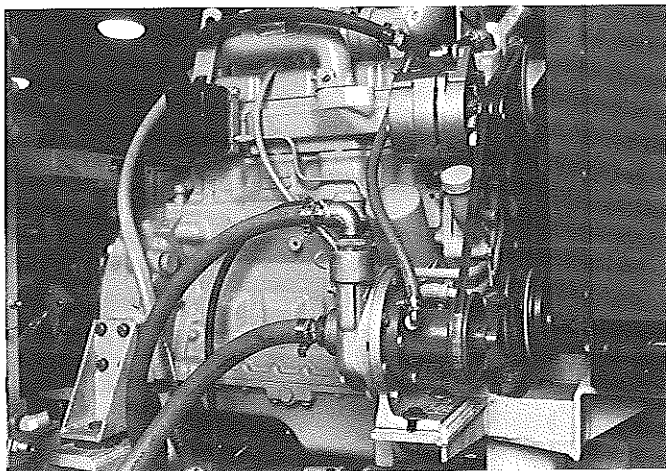
SECTION 3

COMPONENTS/SYSTEMS/PROCEDURES

ENGINE

The diesel engine provides the power to drive the hydrostatic transmission, hydraulic pumps, spray water pump and alternator.

Standard engine accessories include a dual dry-type air cleaner with dump valve and restriction indicator, oil filter, fuel filter and water separator, mechanical fuel lift pump and turbocharger. The engine is also equipped with a 12 volt starting motor and 105 amp alternator.



ENGINE

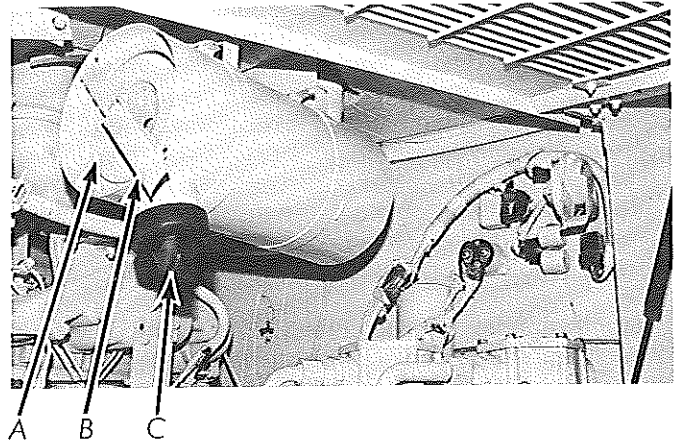


NOTICE: Use #1 or #2 Diesel fuel only.

NOTE: Refer to engine manufacturer's operating manual for further information concerning the engine, its components, specifications and repair.

Air Cleaner - The engine is equipped with a dual element dry-type air cleaner with an automatic rubber dump valve. The Air Filter Indicator (14), lights to indicate when filter should be serviced.

A transparent bowl on the (optional) pre-cleaner provides a quick visual check of the dust level in the bowl. It is easily removed for cleaning by removing the thumb screw on the top cover plate. Lift off the metal cover and plastic bowl for cleaning. This should be checked frequently during heavy, dusty sweeping.



A B C

AIR FILTER CANISTER

- A • Air Cleaner
- B • Retaining Bar
- C • Dump Valve

To service the air filter:

1. Remove the center retaining bar from the filter canister and remove the outer element.
2. Check the rubber seal on the open end of the element and replace if necessary. A loose, damaged or missing seal will allow dust to cause the inner element to become clogged.
3. Clean the element by tapping it against the palm of your hand. **DO NOT BEAT THE ELEMENT AGAINST THE TIRE OR A HARD SURFACE**, as damage to the element will result.

NOTE: Compressed air, not to exceed 30 PSI may be used for cleaning. Blow dust from the inside to the outside by inserting the nozzle inside the element. Blow loose particles from the outside by holding the nozzle at least 6 inches from the element.

4. Clean the inside of the air cleaner body with a damp, lint-free cloth.
5. Visually inspect the inner element while it is in the canister. If the element is dirty, it should be replaced.

NOTE: The inner element is not serviceable.

6. Visually check the rubber dump valve. Pinch the valve and remove any accumulation of foreign material.

7. Install the outer element and secure it with the over-center retaining bar.

Washing the Outer Element - Cleaning the element with compressed air is not as effective as thorough washing. Some dust or exhaust smoke film will remain in the element, causing more frequent servicing of the element. Washing the element is recommended after every five cleanings.

1. Remove the outer element and inspect the gasket seal on the open end. If the gasket is loose or damaged, install a new element.

2. Gently agitate the element in warm water containing a small amount of non-sudsing detergent.

NOTE: Do not use water hotter than the hand can stand, as the element will be damaged. Never wash the element with fuel oil, gas or solvent.

3. Rinse the element with clean water to thoroughly loosen foreign material. Shake excess water from the element and allow it to dry.

NOTE: Do not dry the element with compressed air. This will rupture a wet element.

4. After drying, check for damage by holding a light inside the element. A large spot of light indicates the element is damaged and a new element should be installed.

FUEL SYSTEM

Refer to your vehicle Engine Manual for specific information relating to the engine.

Changing Fuel Filters - John Deere 4239T Engine

The fuel filter should be changed every six months or 500 engine hours.

1. Push tab (A) and pull tab (B) to disengage the hook (C) at the bottom of the filter base.

2. Disengage hook (D) at the top of the filter base and lift off the spring retainer cap (E).

3. Remove element (F).

4. Clean the filter base (G) and spring pin.

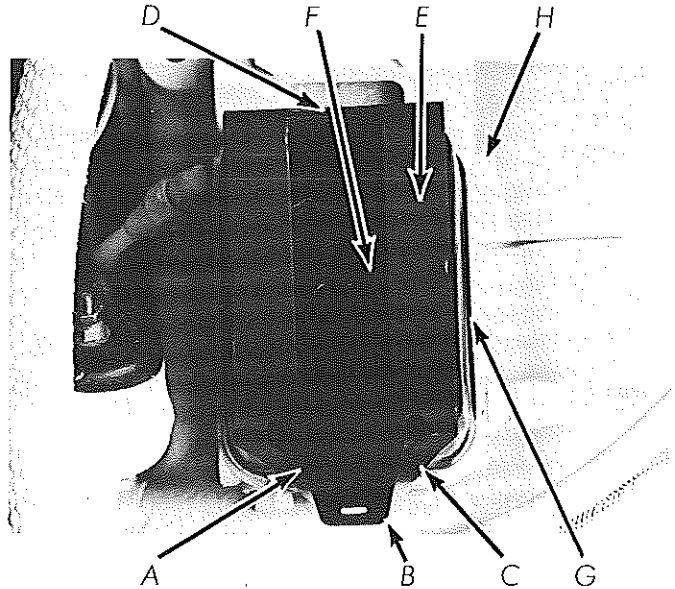
5. Install new element and attach with spring retainer clamp (E).

6. Loosen upper bleed screw (H) on mounting bases.

7. Pump the primer lever on the fuel lift pump until fuel without bubbles flows from around the bleed screw.

8. Tighten bleed screw.

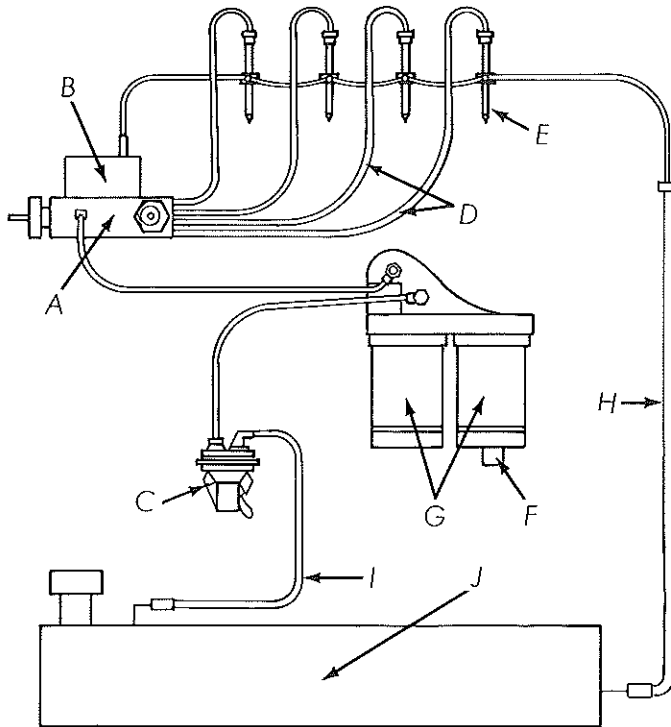
9. Push the primer lever down to its storage position.



4239T ENGINE showing fuel filter, water separator and applicable items required to change the fuel filter and bleed the fuel system

Changing Fuel Filters - Cummins 4BT 3.9 Liter Engine

The fuel filter should be changed every six months or 500 engine hours. The water separator fuel filter should be drained daily.



CUMMINS 4BT 3.9 LITER ENGINE showing fuel filter, water separator and applicable items required to change the fuel filter and bleed the fuel system

- A • Fuel Injection Pump
- B • Electric Fuel Solenoid
- C • Fuel Lift Pump
- D • High Pressure Lines
- E • Injectors
- F • Filter Bleed Screw
- G • Fuel Filters
- H • Return
- I • Suction
- J • Fuel Tank

NOTE: The presence of a large quantity of water can mean there is water in the fuel tank.

1. Remove the fuel filters from the filter base.
2. Clean the filter sealing surface.

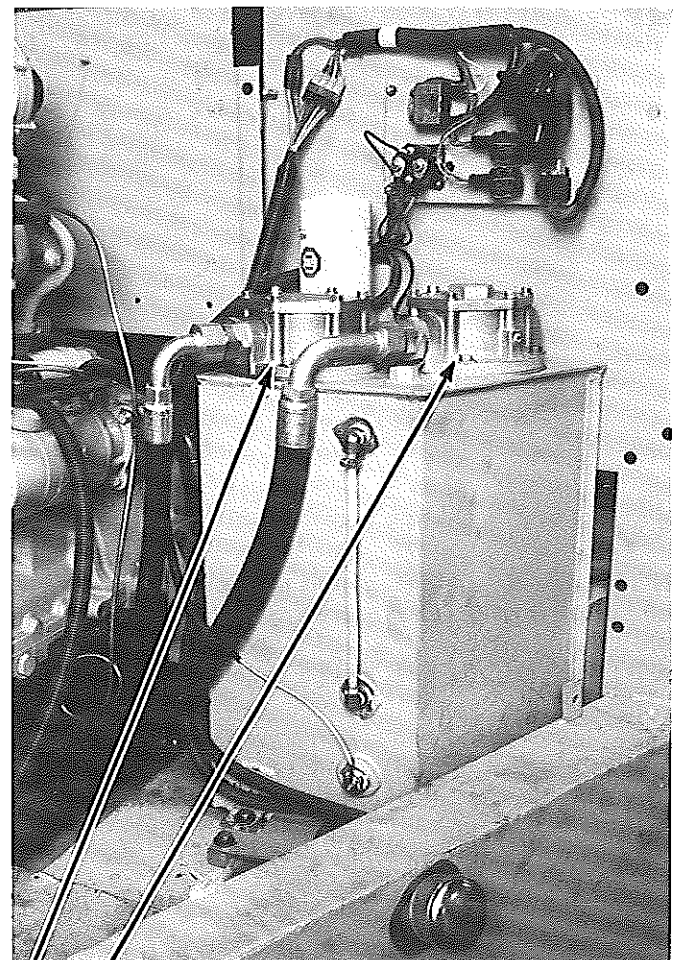
3. Install the new filters onto the filter head. Tighten each filter until the gasket contacts the surface of the filter base. Then, tighten the filter an additional 1/2 turn.

4. Bleed the fuel system by loosening the bleed plug. Hand operate the fuel lift pump until there are no air bubbles in the fuel flowing from the bleed screw. Return lever to storage position and retighten the bleed plug.

HYDRAULIC SYSTEM

Hydraulic power on the Pelican is spline shaft driven - no belts to break or pulleys to adjust or come off.

NOTE: Never clean and reuse a hydraulic filter element.



A B

HYDRAULIC TANK SIGHT GAUGE. Located on the rear of the hydraulic oil tank

- A • Suction Filter For Hydrostatic Drive
- B • Return Filter for the Hydrostatic Drive, the sweep system and the steering system

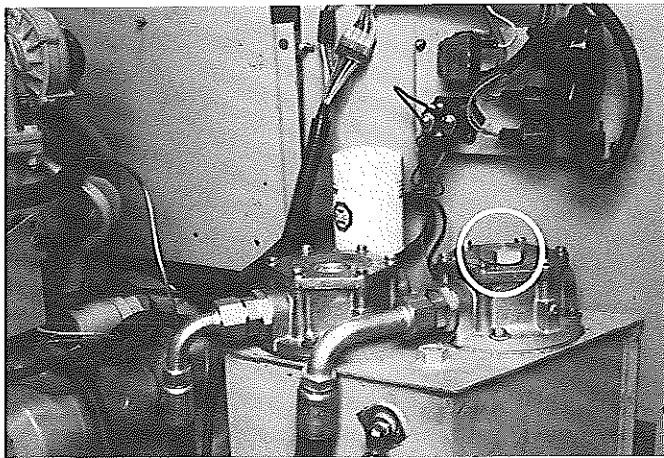
There are three basic hydraulic systems. (1) The hydrostatic drive system. (2) The hydraulic sweep system. (3) The hydraulic steering system. All three are serviced by a common hydraulic oil reservoir with two filters.

The hydraulic oil reservoir is located next to the engine on the right hand side of the vehicle. Check the oil level in the reservoir with the sight gauge located on the side of the tank.

Both filter elements are removable by unscrewing six (6) bolts on the filter head. The filter element should be removed, discarded and replaced with a new element.



NOTICE: Change hydraulic oil and flush tank every six months.



HYDRAULIC TANK FILL CAP. Located on top of the Return Filter. To add oil to the hydraulic reservoir, remove the hex head plug

NOTE: Adding oil through this port prefilters the new oil before it enters the reservoir.

SPRAY WATER SYSTEM

The spray water system suppresses dust during sweeping operations and moistens the material being swept so it will settle out in the hopper.

Two polyethylene water tanks (one holds 175 gallons, the second holds 45 gallons) hold a total of 220 gallons (833L) of water for the spray water system. The water tank fill hose is stored in the front fender.

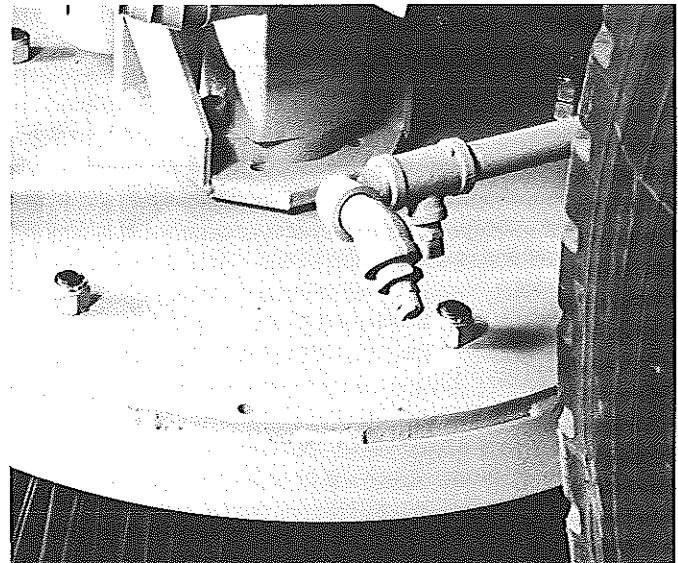
Water first passes through a mesh prefilter, located in the fill hose, and then through a 100 mesh cleanable filter prior to entering the water pump. This strainer filter is located under the removable left side panel. A shut-off valve, located between the water filter and the water tank, stops water from flowing out of the tank when you remove the filter screen for daily cleaning.

The spray water pump runs continuously. By activating the Spray Water (18) switch, water is turned On/Off throughout the system. The (Optional) Low Water (14) indicator light warns when water supply has depleted. In addition, a mechanical water gauge is visible through the right windshield.

Spray water nozzle locations:

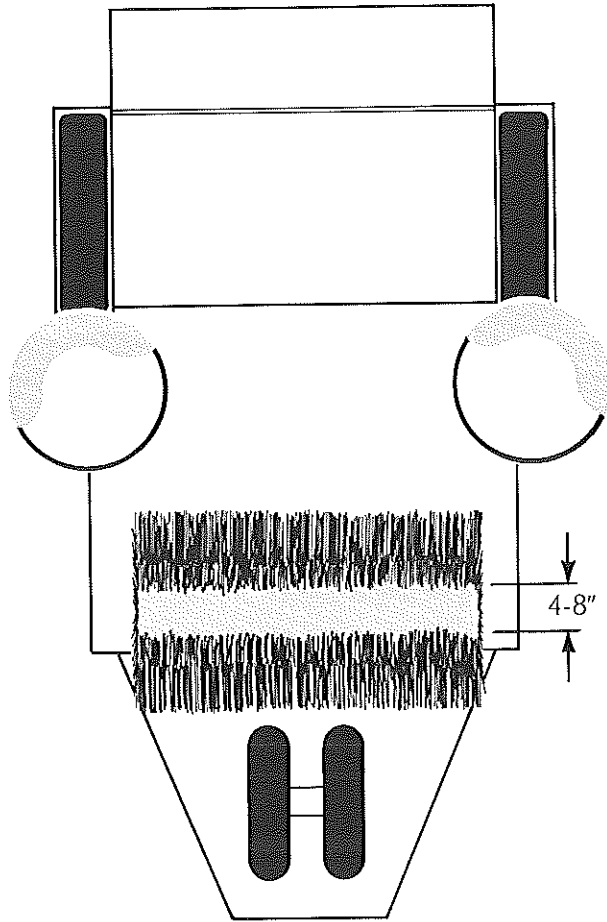
- Right Hand Side Broom (3 spray nozzles)
- Optional Left Hand Side Broom (3 spray nozzles)
- Main Broom (3 spray nozzles)

To limit water consumption, a flow volume control valve is located on the rear cab wall above the center console.



SIDE BROOM SPRAY WATER NOZZLES. Spray nozzles may need occasional cleaning. If a spray nozzle does not have a good spraying pattern, take the nozzle apart and clean it

BROOM SWEEPING PATTERN



BROOM CONTACT SWEEPING PATTERN

Adjustments made at the factory produce sweeping patterns similar to the shaded areas of the side broom(s) and main broom as illustrated above. If the side broom is set too flat, it will scatter debris in all directions. Debris must be brought out of the gutter area into the path of conveyor. A narrower pattern indicates too little broom contact, a wider pattern will cause excessive broom wear.

To check the broom contact area:

1. Locate the sweeper on a level, paved surface.
2. Lower side broom(s) and main broom.
3. Drive machine forward approximately three feet to allow side broom to "walk out" to sweeping position.

4. Increase engine speed to 2500 RPM with machine in standing position.

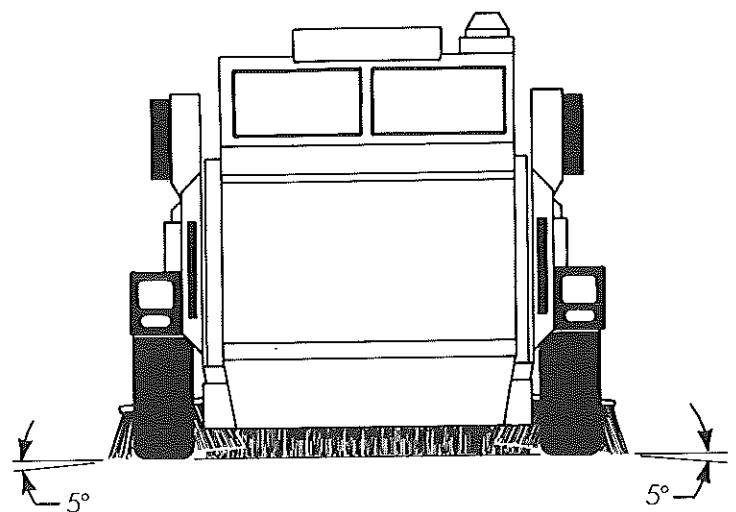
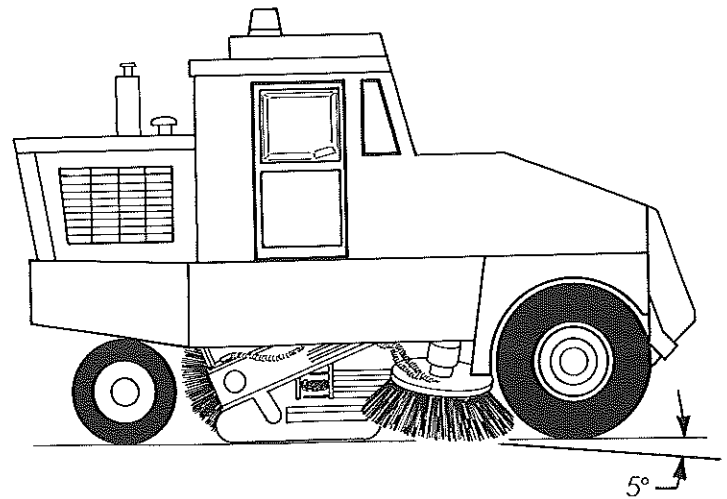
5. Allow the side broom(s) and the main broom to rotate in a stationary position for 15 seconds.

6. Disengage and raise the side broom(s) and main broom.

7. Move the sweeper far enough ahead to expose broom patterns.

8. Observe the side broom and main broom patterns on the pavement. Patterns should match the above illustration.

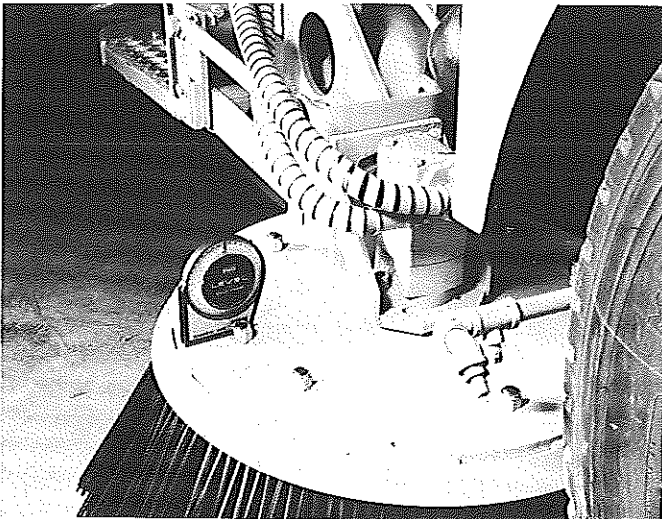
NOTE: For proper sweeping performance, the side broom should be tilted 5° forward and 5° to the outside, according to the following diagram:



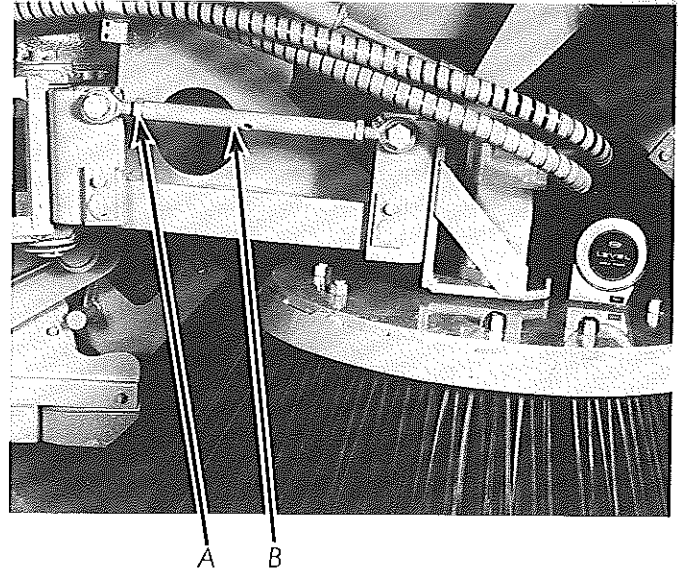
BROOM TILTED 5 DEGREES

To adjust side broom contact area:

1. Lower side broom.
2. Drive the machine forward approximately three feet to allow the side broom to "walk out" to sweeping position.
3. Check the side-to-side angle of the side broom by placing a protractor head on top of the side broom plate at a right angle to the truck chassis. The angle should be 5° . If it is not, loosen the two bolts that attach the motor bracket to the forward side broom bracket and tilt the broom assembly to the proper angle.
4. Check the front-to-back angle of the side broom by placing a protractor head on top of the side broom plate in line with the truck chassis. The angle should be 5° . If it is not, loosen the turnbuckle jam nut located on the upper broom suspension, and then rotate the turnbuckle as required, to adjust broom to the proper angle. Retighten the turnbuckle jam nut.



SIDE BROOM BOLT ADJUSTMENT. Loosen bolts that attach motor bracket to the forward side broom bracket and tilt the broom assembly to the proper angle.



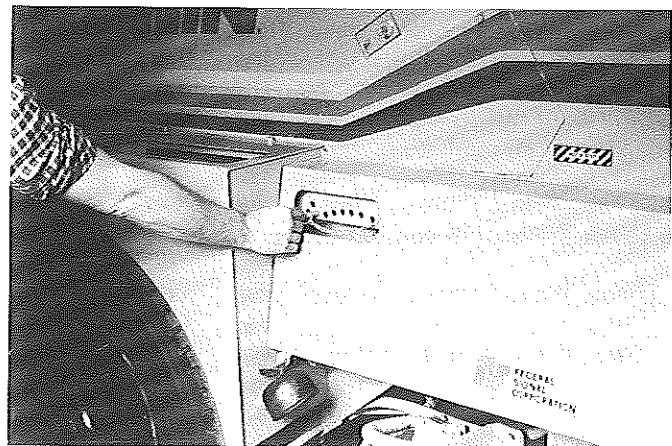
SIDE BROOM TURNBUCKLE ADJUSTMENT. Loosen jam nut located on the upper broom suspension, and rotate the turnbuckle as required for proper angle.

- A • Jam Nut
- B • Turnbuckle

NOTE: This adjustment may need to be changed to obtain proper sweeping patterns in areas that have severely angled gutters, but this 5° setting will provide the best sweeping pattern for most conditions.

To set side broom downpressure adjustment:

Excessive downpressure on the side broom(s) will cause premature bristle wear and possible stalling of the sweeping system.

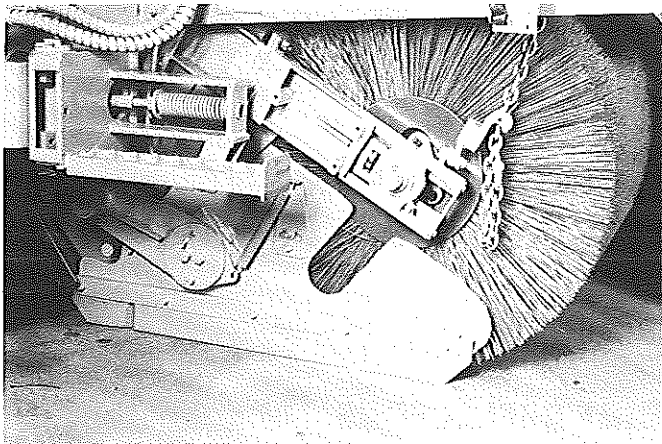


An adjustable stop is provided to limit the pressure of the side broom on the pavement. The stop includes a quick release pin that can be inserted into any one of the predetermined holes.

To adjust main broom contact area:

1. Lower the main broom. Be sure that the sweeper is parked on a flat, level surface.
2. If the broom contact area is equally wide across the entire length of the broom, but is too wide or too narrow, adjust broom height to a lower or higher position with the Main Broom (12) switch.
3. If the broom contact area is not equally wide across the entire length of the broom, but is tapered, the spring tension on one side should be changed to equalize contact area over the entire length.

NOTE: It is important to check the main broom contact area daily. Once the broom begins to wear in a tapered shape, it is difficult to correct.



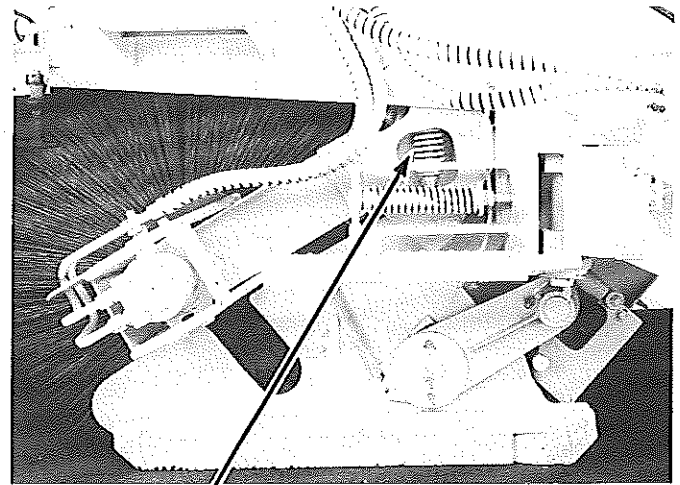
MAIN BROOM ADJUSTMENT FOR "TAPER" - The left or right side of the main broom can be raised by shortening the suspension chain (located on each side of the main broom).

To adjust for "tapered" main broom contact area:

After a new broom has been put in service, check periodically for uneven wear or taper. (Taper is the difference in diameter at each end of the main broom). Should the left end of the main broom show more wear than the right end, for example, the left end of the broom must be raised. This is done by shortening the chain link on the left side.

MAIN BROOM WITH (OPTIONAL) HYDRAULIC BROOM SUSPENSION

Machines equipped with hydraulic main broom suspension incorporate an adjustable coil spring in each broom arm. This is used for floating, snubbing, and provides a means for adjusting broom wear evenly across the entire broom.



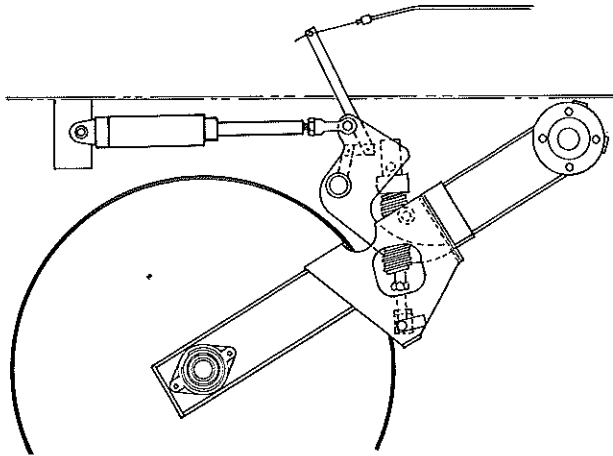
Snubbing Spring

HYDRAULIC MAIN BROOM SUSPENSION

When the main broom starts to wear unevenly, or when the main broom pattern is tapered, the spring tension will require adjustment.

To adjust for "tapered" main broom contact area (Hydraulic Suspension):

1. Distance "A" on the right hand side should be set to approximately 3-3/4" to counterbalance the extra weight of the drive motor on the right hand side. This is the normal setting on a new machine. Spring tension will vary, so some adjustment may be required.
2. Should the left side of the main broom show more wear than the right side, the left side of the broom must be raised. This is done by decreasing the distance "A" on the left side. If the right side of the broom shows more wear than the left side, the right side of the broom should be raised by decreasing the distance "A" on the right side.



HYDRAULIC MAIN BROOM ADJUSTMENT is made by increasing or decreasing the snubbing spring distance. This illustration shows the right hand side.

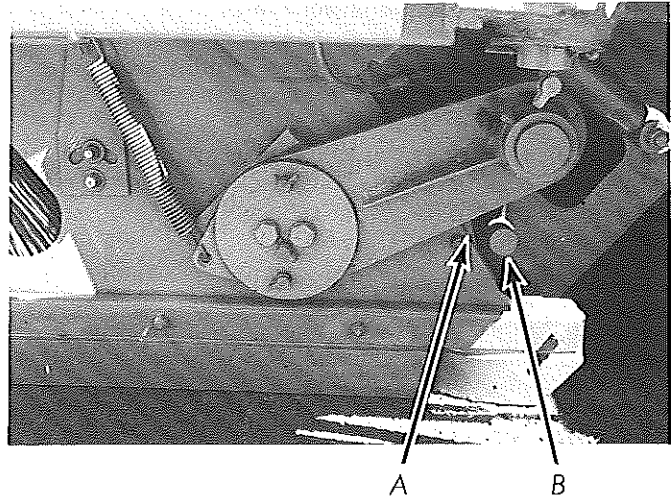
3. Loosen the jam nut and turn the adjusting nut up or down as required. A little oil on the adjusting nut and collar will help to turn it more freely.
4. Two complete turns of the suspension spring adjusting nut corrects for approximately 1" (2.5cm) of taper in the main broom. Taper is the difference in diameter at each end of the broom.

MAIN BROOM DIRT SHOES

Dirt shoes retain debris between the main broom and the conveyor where it is delivered into the hopper. The main broom rotates inside of the dirt shoes; wings at the rear of each dirt shoe assure that brushes are "turned in" and ride flush within the dirt shoe housings. If either the right or left side dirt shoe is misaligned or is not level in a straight line with the road surface, this problem should be immediately corrected.

To check for proper adjustment of dirt shoes, lower the main broom, start rotation, and drive the machine ahead far enough to allow broom and dirt shoes to gain operating position. Physically inspect rotation of the broom within the dirt shoes on both sides of the machine.

Next, raise the broom and drive ahead far enough to allow the broom and dirt shoes to gain "transport" position. In transport, or raised position, the dirt shoes are drawn upwards by a lifting rod attached to the conveyor. The raised assembly should be level with the surface of the road.



DIRT SHOE Right side shown. When lowered, there must be clearance between the lifting pin, as shown, and the top of the dirt shoe.

- A • Adjusting Plate
- B • Lifting Rod

Leveling the Dirt Shoe in the Raised Position:

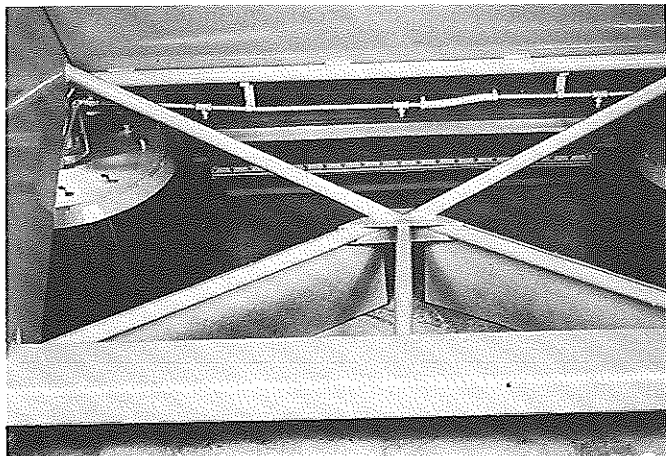
If the dirt shoe is not level in the raised position, adjustment is made by loosening the two nuts holding the dirt shoe adjusting plate. When loosened, move this plate toward the lifting rod to raise the rear of the dirt shoe or away from the rod to lower the rear of the dirt shoe.

DIRT DEFLECTORS

The dual side broom machine has two long dirt deflectors mounted in the center of the machine, under the hopper area, in a "V" configuration. These are used to prevent debris from being thrown beyond the sweeping path of the main broom.

Dirt deflectors are provided between the conveyor and the chassis to prevent debris from spilling over the sides of the conveyor as it travels up into the hopper.

The standard (one side broom) machine has a dirt deflector located on the left hand side just ahead of the dirt shoe. A rubber runner, part of the assembly, contacts the street to prevent debris from being thrown out beyond the side of the main broom. Adjustments can be made by loosening nuts in the metal plate and raising or lowering the runners.



"V" CONFIGURED DIRT DEFLECTORS ON DUAL MACHINE

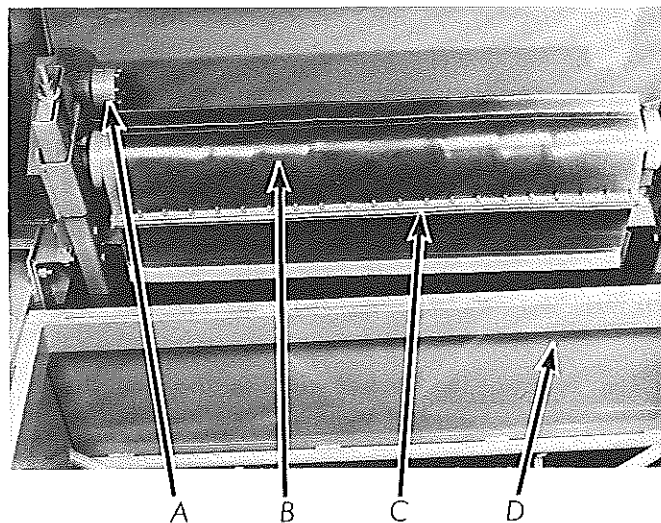


Two rubber deflectors, mounted on cross-channel bracing, cover the area across the width of the machine between the drive wheels. These can be removed, if necessary, during leaf removal season.

Inspect rubber runners and deflectors to make sure they are not torn or worn.

CONVEYOR

The conveyor belt has correct tension when there is adequate clearance between the tip of any cleat and the conveyor housing frame. If too loose, the belt may slip on the upper roll and the cleats may show wear from rubbing the conveyor housing or frame. To avoid premature failure, DO NOT overtighten belt.



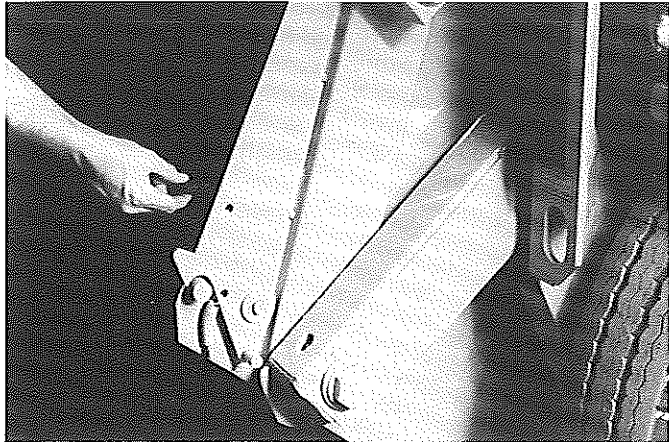
CONVEYOR ASSEMBLY - viewed from front of the machine with hopper rolled out and lowered to the ground

- A • Hydraulic Drive Motor
- B • Conveyor Belt
- C • Belt Splice
- D • Backing Plate

Adjusting the conveyor belt:

1. The conveyor belt must be clean and the lower roll flushed out prior to attempting belt adjustment.
2. Lower the main broom, conveyor and side broom. DO NOT attempt to adjust the conveyor belt with the conveyor in the raised position.

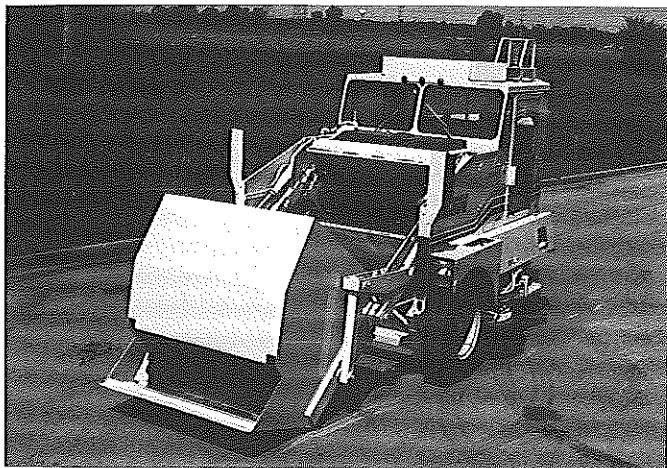
Conveyor Access:



SECURE BOLTS ON BOTH SIDES OF DOOR (IN HOLES) TO ALLOW HOPPER TO BE ROLLED OUT AND LOWERED WITHOUT DOOR COMING OPEN

NOTE: To lower the hopper with the door secured in the closed position, two bolts must be installed in the holes on each side of the spring loaded door latch. There is a 1/2" diameter hole located above the spring loaded door latch on each side of the hopper. By installing a 1/2"x2-1/2" bolt in each of these holes, the door will remain closed as the hopper is tilted. This will allow the hopper to be completely rolled out and lowered to the ground without the hopper door opening.

3. Raise the hopper, roll it out, and lower it to the ground.



CONVEYOR ACCESS FROM FRONT OF MACHINE

NOTE: Grease fittings on the hopper linkage can be serviced from the ground when the hopper is in this position.

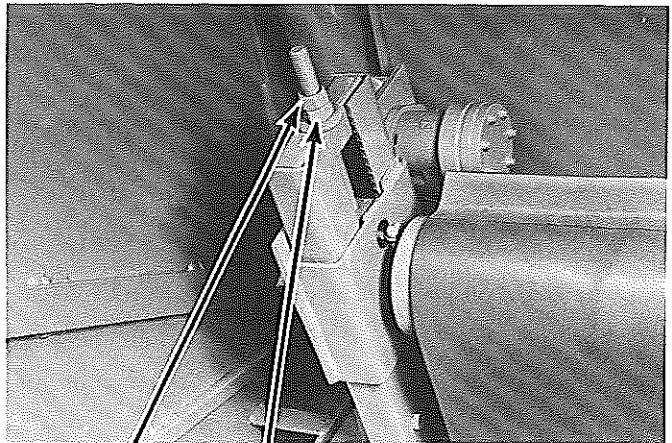
Alternate Safety Support Access Method:



Safety Support Position

HOPPER RAISED WITH SAFETY SUPPORT IN POSITION - Photo with hopper door opened

NOTE: Never walk or work under the elevated hopper unless adequate safety support braces are installed beneath the hopper lift arms.



A ● Jam nut
B ● Adjusting nut

CONVEYOR TENSION ADJUSTMENT - Adjusting nuts, on each side of the upper conveyor assembly, can be turned clockwise (after loosening jam nut) to increase tension, counterclockwise to decrease tension.

- A ● Jam nut
- B ● Adjusting nut

4. Loosen the jam nut.

5. Turn adjusting nut (one on each side of the upper conveyor assembly) clockwise to increase tension, counterclockwise to decrease tension.

If belt runs to the right (relative to operator's position in driver's seat), slide belt to the left.

If belt runs to the left (relative to operator's position in driver's seat), slide belt to the right.

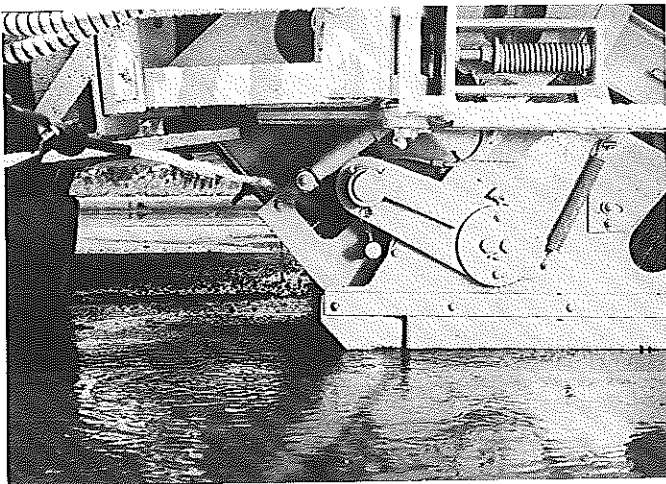
NOTE: All belt adjustments should be no more than one-half turn of an adjusting screw or adjusting nut at a time. Run the belt several minutes with the engine about 1200 RPM to check the results before making another half turn adjustment.

Cleaning the Conveyor:

The conveyor should be cleaned daily. The belt scraper area should be flushed out daily.

To flush the hopper and conveyor, fill the water tank and allow to overflow with the engine and the belt running until thoroughly clean. Flush out the roll scraper with a pressure water hose.

NOTE: Accumulation of debris in the lower roll and scraper area could result in damage to the hydraulic system and conveyor belt.



FLUSH OUT THE ROLL SCRAPER with a pressure water hose

DAILY WASHDOWN

A very important step in a good sweeper maintenance program is a daily washdown after each daily run.

Washdown procedure is divided into two parts:

Part 1 -

1. Park the sweeper on level surface.
2. Lower main broom, conveyor and side brooms to sweeping position. Start rotation of main broom and conveyor.
3. Fill the water tank to overflow, allowing the water to flush the conveyor belt from one to two minutes. Reverse conveyor several times while flushing. This will remove the heavy material from the conveyor and conveyor deflectors.

Part 2 -

1. With the conveyor running, use high pressure water hose to flush the conveyor and belt backing plate.
2. Flush out the hopper, all undercarriage parts, side broom(s), and dirt shoes.
3. Reverse the hopper for 30 seconds and use high pressure hose to dislodge material between roll and edge of scraper bar.
4. When washing down engine compartment, make sure to clean out the engine radiator and oil cooler.

NOTE: Never steam clean or wash engine while it is running.

NOTE: Cold water on a hot manifold could crack the manifold.



CONVEYOR FLUSHING (Shown with hopper raised)

COLD WEATHER STARTING

Operation in temperatures below freezing may require special procedures for starting.

1. Set the throttle at 1/2 speed. (If the machine is equipped with Cold Start (Z), momentarily depress cold start switch. If the machine has Shutdown Override (AA) depress the shutdown override switch).
2. Turn the key start switch until the engine begins to run.

IF THE ABOVE STEPS FAIL, REPEAT A SECOND TIME

NOTE: Do not engage the starting motor for more than 30 seconds. Wait two minutes between unsuccessful tries.

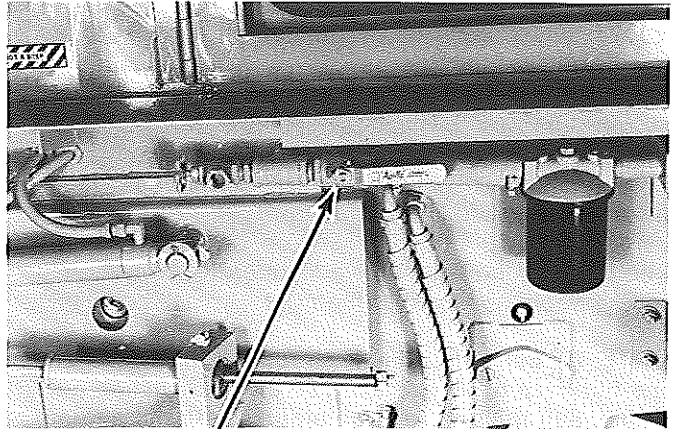
3. Move the throttle to low idle as soon as engine starts. Check gauge for proper oil pressure.
4. Operate the engine at moderate speeds for five minutes before setting the engine speed to sweeping RPM.

NOTE: Avoid long periods of idling. This may be harmful to your engine because combustion chamber temperatures can drop so low that the fuel may not burn completely. Carbon can form which may cause problems.

WINTER STORAGE

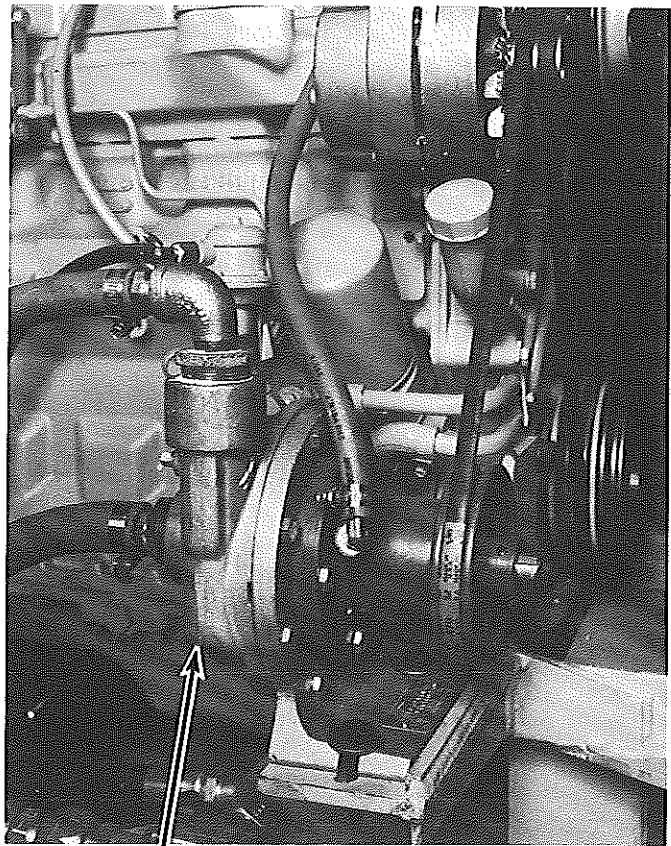
Take caution when storing the Pelican Premier Series P outside in winter. Following is a list of steps that must be taken to prevent damaging the spray water system:

1. Remove the water strainer and open the shut-off valve located on the left side of the machine. This will allow any water in the main water tank and in the lines between the pump and strainer to drain out.
2. Remove the small drain plug located on the lower section of the spray water pump. This will drain the bottom half of the pump.



Shut Off Valve

SPRAY WATER STRAINER



Drain Plug

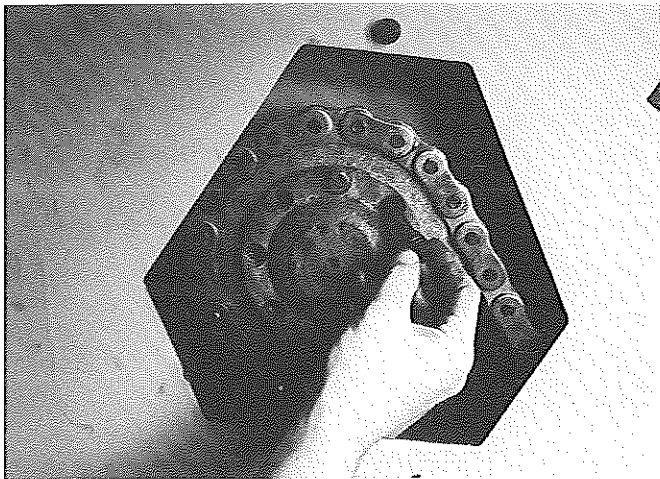
SPRAY WATER PUMP

NOTE: The windshield washer solvent bottle, located in the engine compartment, must also be drained if water is being used instead of an antifreeze solvent.

TOWING

⚠ CAUTION: Towing with connected drive axle will damage hydrostatic drive. Remove 8 bolts and taper bushings from upper drive sprocket on the differential before towing vehicle.

The Elgin Pelican Series P Premier may be towed from the rear with the drive wheels on the ground after removing eight (8) bolts and taper bushings from both right and left drive sprockets on the differential. It is not necessary to remove the axles if the access covers have been replaced. Check and replace gaskets under axle if necessary when replacing taper bushings and bolts.

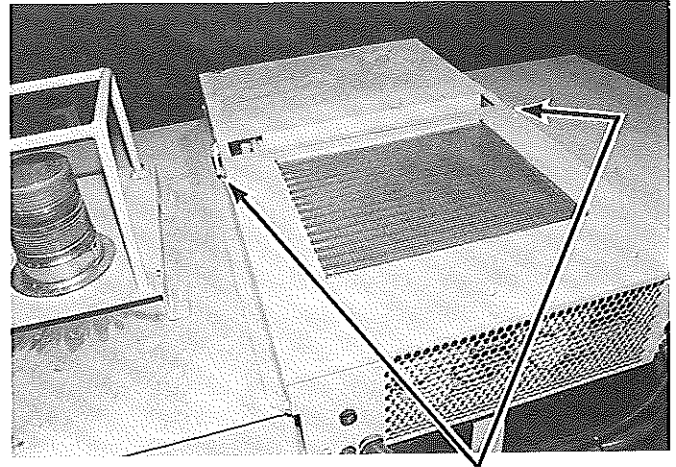


RIGHT HAND DRIVE SPROCKET - Remove 8 bolts and taper bushings from both right and left drive sprockets in the differential.

CAB AIR FILTER

Clean air for heater, air conditioner and cab pressurization is drawn through a filter located on the roof of the cab.

Check and replace filter on a regular basis, by unlatching both sides and lifting cover.



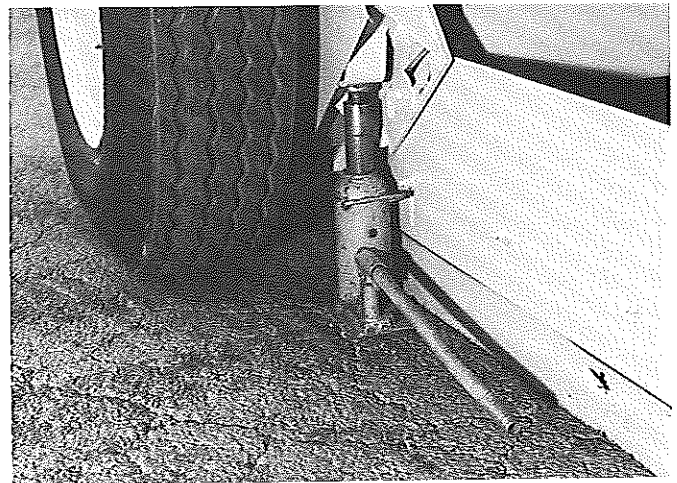
Latch

CAB AIR FILTER

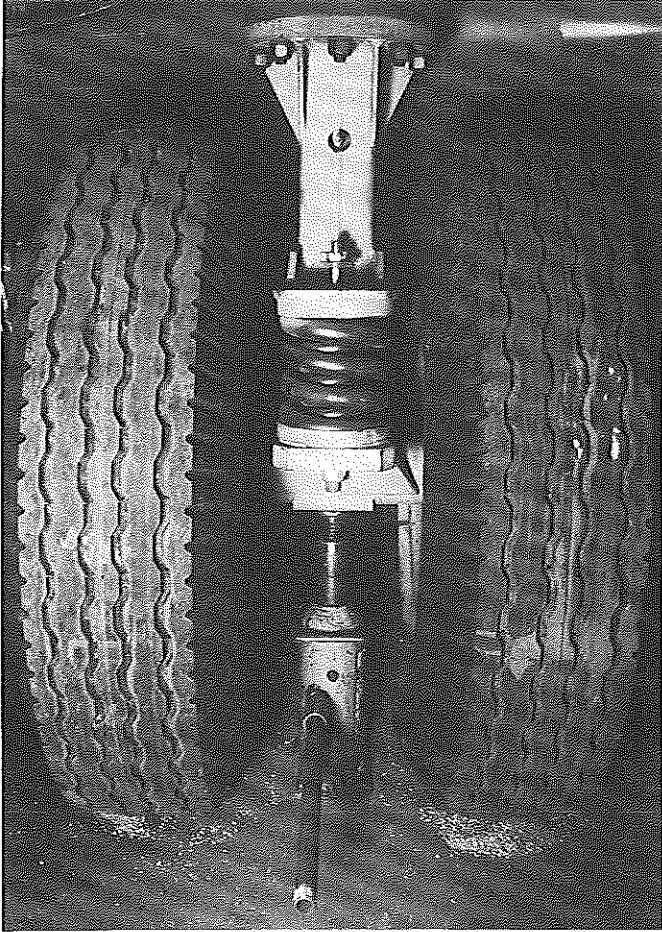
WHEELS AND TIRES

Jack pads are provided behind the front drive wheels on both sides of the machine. A bottle jack can be used to lift the front of the sweeper if necessary for tire change.

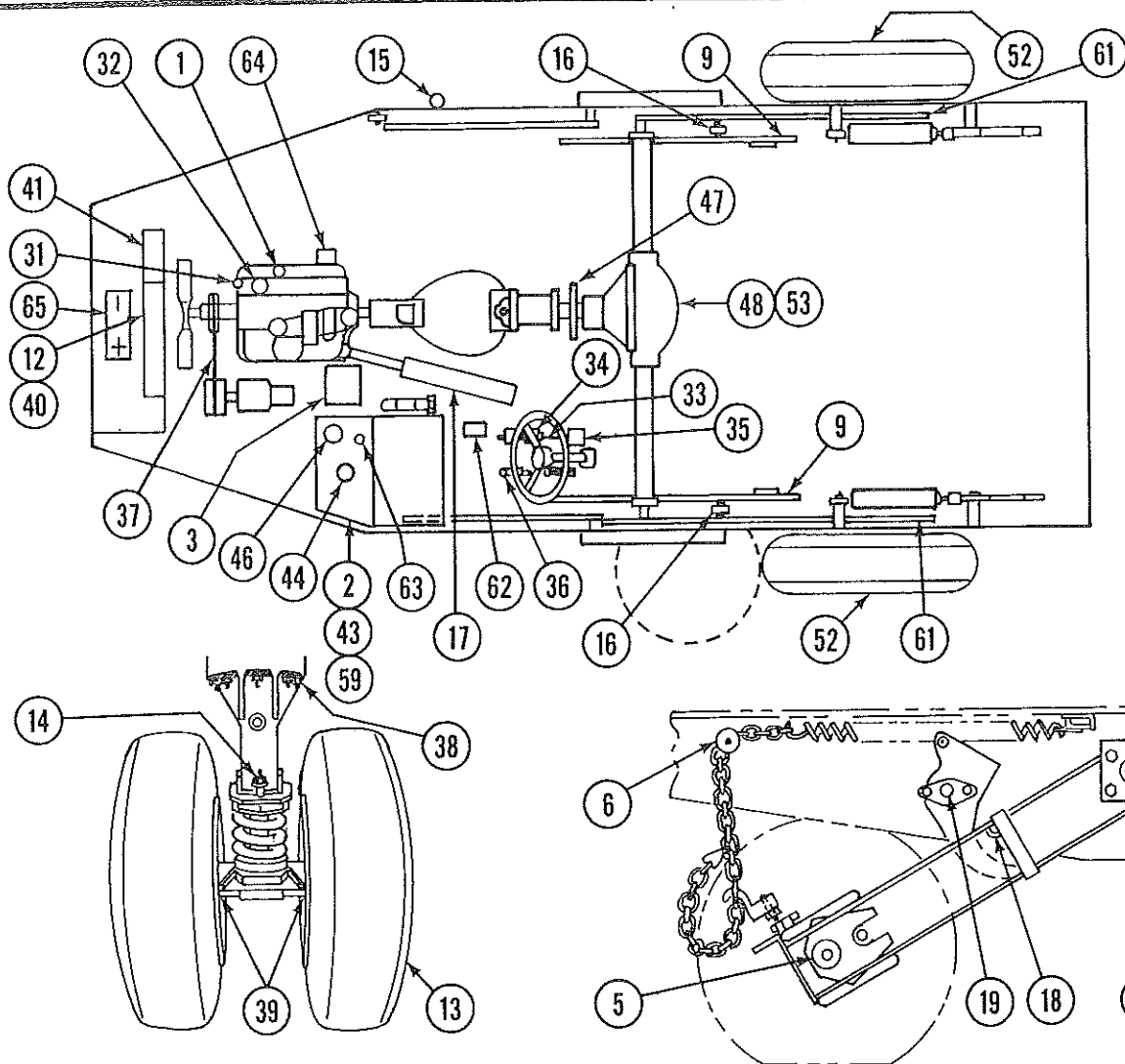
To change a tire on the rear guide wheel assembly, install a small bottle jack between the two guide wheel tires to lift the sweeper.



DRIVE WHEEL JACKING

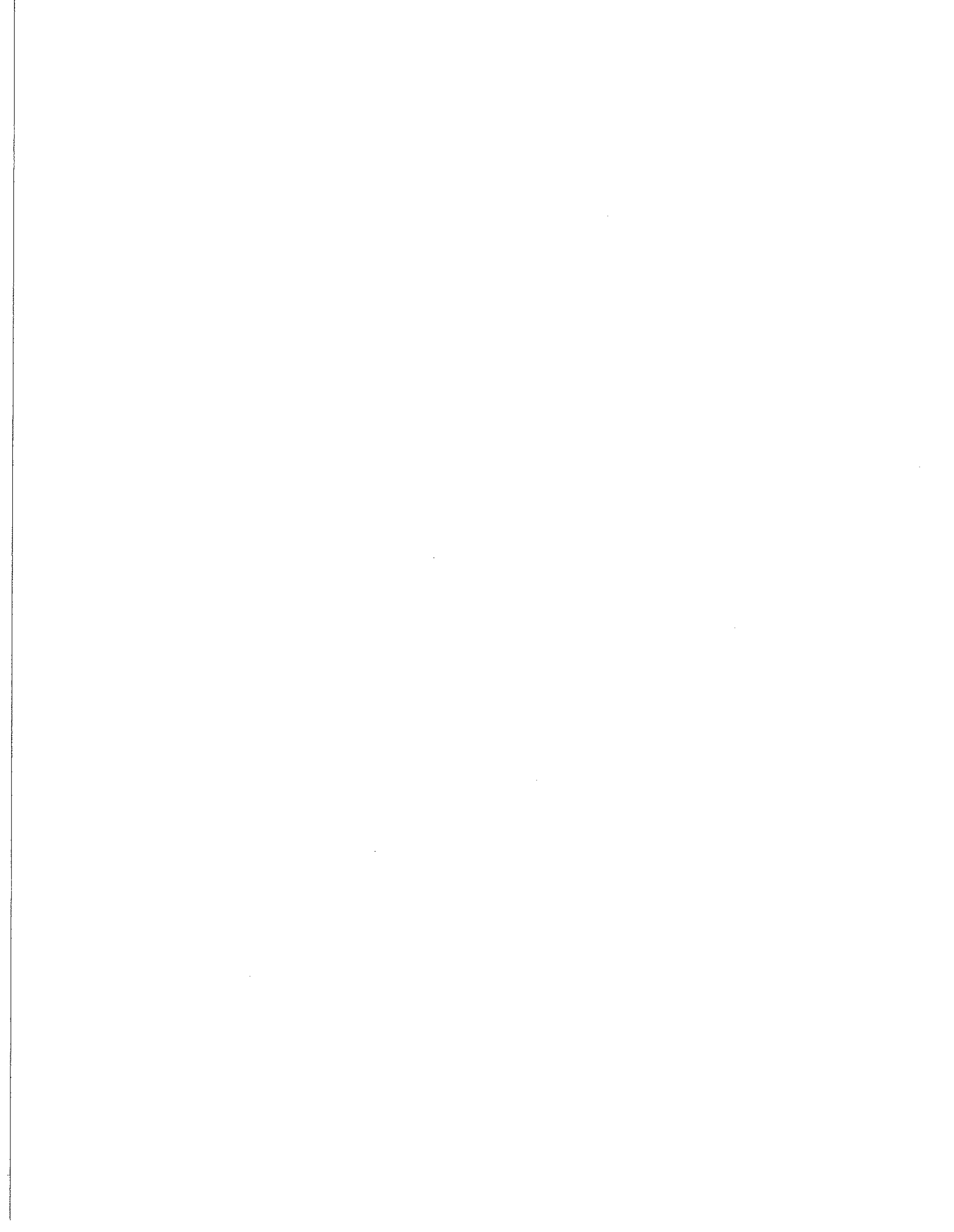


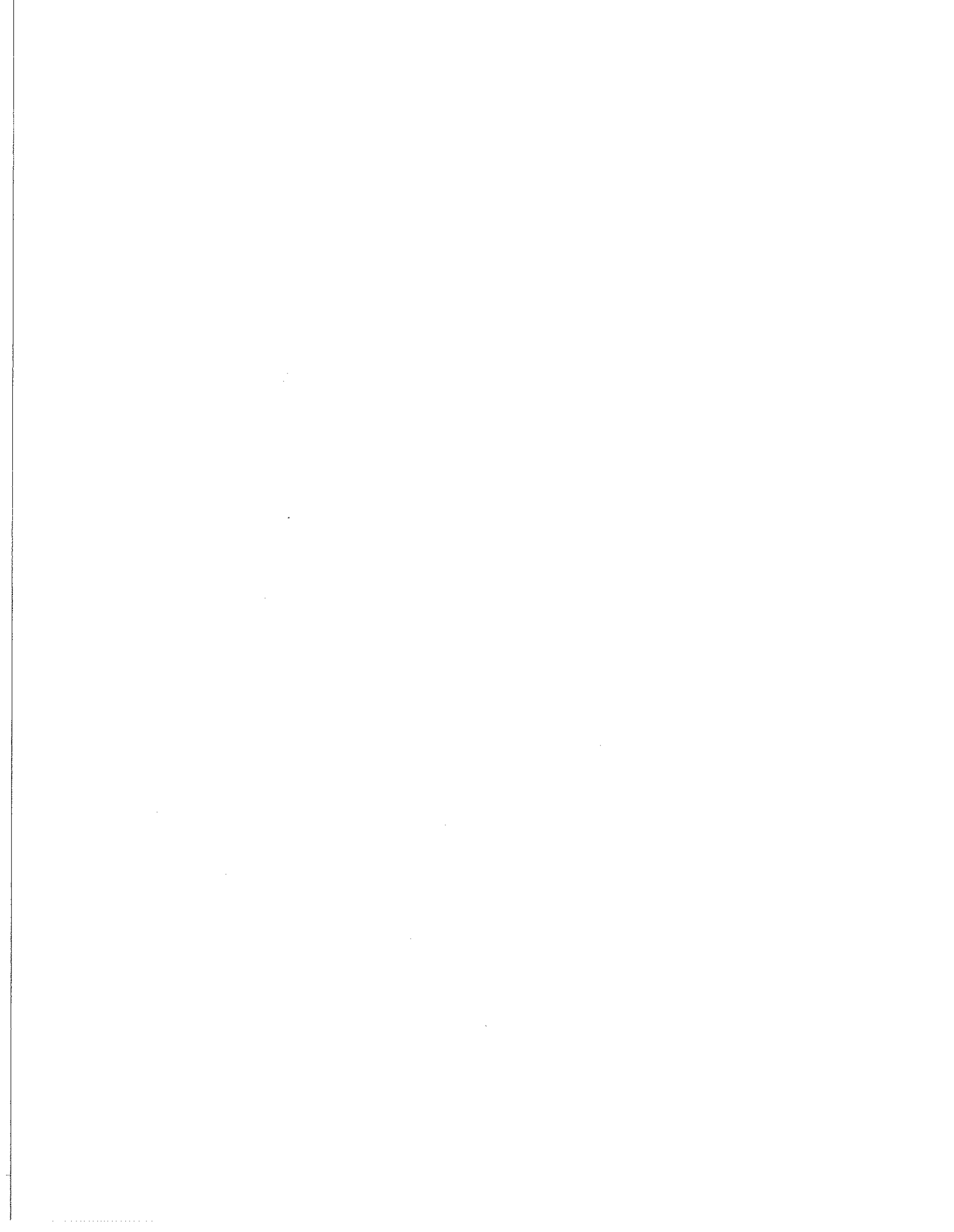
GUIDE WHEEL JACKING

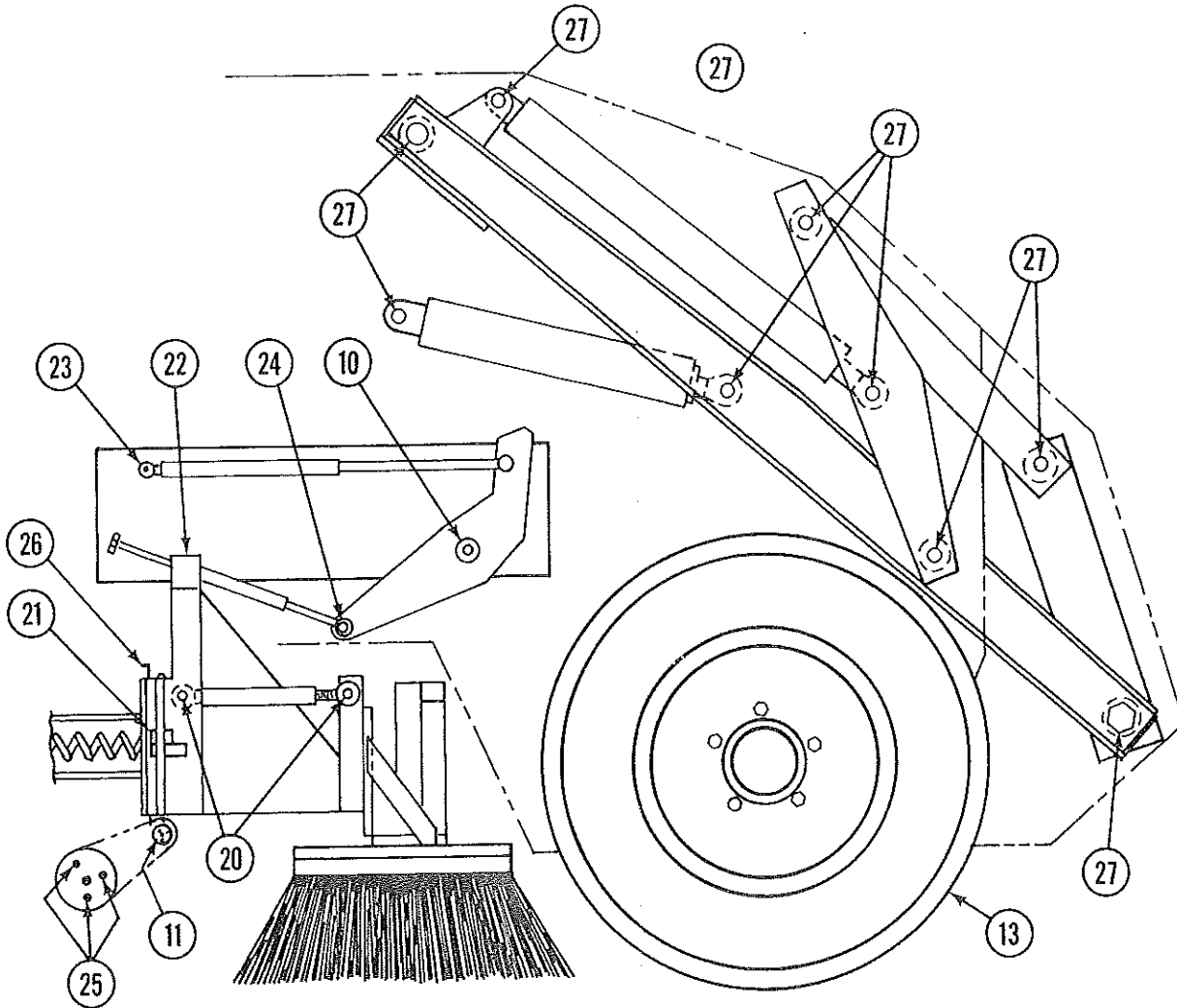


NO.	DESCRIPTION/SERVICE	NOTES
DAILY OR 32 MILES		
1	ENGINE CRANKCASE	1vE
2	SWEEP/DRIVE HYDRAULIC RESERVOIR	vK
3	ENGINE AIR CLEANER (INDICATOR)	A
4		
5	MAIN BROOM BEARING (2)	C
6	MAIN BROOM PULLEY & CYL. (2)	C
7	MAIN BROOM PIVOT (2)	C
8	LOWER CONV. ROLL BEAR'G. (2)	C
9	UPPER CONV. ROLL BEAR'G. (2)	C
10	SIDE BROOM BELL CRANK BEAR'G.	C
11	DIRT SHOE PIVOT (2)	C
12	RADIATOR	v
13	TIRE INFLATION PRESSURE	CHECK
14	SPRUNG GUIDE WHEEL (OPTION)	C
WEEKLY OR 160 MILES		
15	SPRAY WATER FILTER	J
16	CONVEYOR PIVOT (2)	C
17	STEERING REACH ROD	C
18	MAIN BROOM CAM FOLLOWER (2)	C
19	MAIN BROOM CAM PIVOT (2)	C
20	SIDE BROOM TURNBUCKLE	C
21	SIDE BROOM KICK-BACK BEAR'G.	C
22	SIDE BROOM LIFT BEARING	C
23	SIDE BROOM LIFT CYL. PIVOT	C

NO.	DESCRIPTION/SERVICE	NOTES
WEEKLY OR 160 MILES (cont.)		
24	SIDE BROOM LIFT ROD CLEVIS	C
25	DIRT SHOE PIVOT PLATE (3)	C
26	PIVOT PIN — SIDE BROOM	C
27	PELICAN HOPPER ARM PIVOT (18)	C
28		
29		
30		
MONTHLY OR 800 MILES		
31	ENGINE CRANKCASE OIL	R
32	ENGINE OIL FILTER	R
33	FOOT CONTROL ROD SLEEVE	C
34	FOOT CONTROL ROD END	C
35	BRAKE PEDAL	C
36	BRAKE MASTER CYLINDER	vB
37	DRIVE BELTS (INSPECT)	2v
38	GUIDE WHEEL PIVOT BEARING	C
39	GUIDE WHEEL BEARING HUB (2)	C
40	RADIATOR — COOLING FINS	J
41	HYDRAULIC OIL COOLER — COOLING FINS	J
42		
SEMI-ANNUAL OR 4000 MILES		
43	SWEEP/DRIVE HYDRAULIC OIL	R
44	SWEEP HYDRAULIC OIL FILTER	R







O.	DESCRIPTION/SERVICE	NOTES
SEMI-ANNUAL OR 4000 MILES (cont.)		
15		
16	DRIVE HYDRAULIC OIL FILTER	R
17	EMERGENCY BRAKE CALIPER	2✓
18	DIFFERENTIAL AXLE	✓
19		
20		
21		
ANNUAL OR 8000 MILES		
32	DRIVE WHEEL BEARING (REPACK)	C
33	DIFFERENTIAL AXLE	G
34		
35		
36		
37		
38		
GENERAL MAINTENANCE		
39	SWEEP/DRIVE HYDRAULIC OIL RESERVOIR	3✓
40		
51	MAIN DRIVE CHAIN	5✓
52	WINDSLD WASH BOT. (UNDER SEAT)	✓
53	HYDRAULIC RESERVOIR BREATHER	
54	FUEL FILTER - DRAIN WATER/DIRT	3✓
55	BATTERY	J

NOTES:

- A - CLEAN OR REPLACE WHEN IND. READS 25" OF H₂O - CHECK FOR AIR LEAKS
- E - ENGINE OIL/SEE ENG. MFGRS. MANUAL
- C - GREASE/LITHIUM BASE GREASE #2
- B - BRAKE FLUID
- R - REPLACE
- G - GEAR LUBE #90 OIL DRAIN/REFILL
- J - INSPECT/CLEAN
- K - MOBILFLUID 423
- ✓ - CHECK LEVEL
- 1✓ - CHECK LEVEL/SEE ENGINE MFGRS. MA'L.
- 2✓ - CHECK FOR DIRT & WEAR
- 3✓ - DRAIN & CLEAN IF CONTAMINATED
- 4✓ - CLEAN & RINSE WITH "E"
- 5✓ - REMOVE, WASH IN KEROSENE; DRY & OIL WITH "E"

NOTE:
 WASH DOWN MACHINE AFTER EVERY SWEEPING
 SHIFT THEN LUBRICATE
 FLUSH OUT LOWER CONV. ROLL

REFERENCE (PART NO'S)
 MODEL A
 MACH. CHART - 1023695
 WALL CHART - 1023696