

MAINTENANCE SAFETY



WARNING

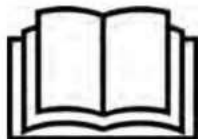
Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, Operator's Handbook and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

W-2003-0807



Safety Alert Symbol: This symbol with a warning statement, means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.

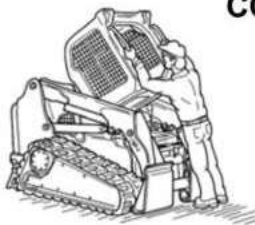
CORRECT



P-90216

- Never service the Bobcat Skid-Steer Loader without instructions.

CORRECT



NA1175

- Use the correct procedure to lift or lower operator cab.

CORRECT



NA1179

- Cleaning and maintenance are required daily.

WRONG



NA1178

- Have good ventilation when welding or grinding painted parts.
- Wear dust mask when grinding painted parts. Toxic dust and gas can be produced.
- Avoid exhaust fume leaks which can kill without warning. Exhaust system must be tightly sealed.

WRONG



NA1174

- Disconnecting or loosening any hydraulic tubeline, hose, fitting, component or a part failure can cause lift arms to drop. Do not go under lift arms when raised unless supported by an approved lift arm support device. Replace it if damaged.

WRONG



NA1176

- Never work on loader with lift arms up unless lift arms are held by an approved lift arm support device. Replace if damaged.
- Never modify equipment or add attachments not approved by Bobcat Company.

WRONG



NA1186

- Stop, cool and clean engine of flammable materials before checking fluids.
- Never service or adjust loader with the engine running unless instructed to do so in the manual.
- Avoid contact with leaking hydraulic fluid or diesel fuel under pressure. It can penetrate the skin or eyes.
- Never fill fuel tank with engine running, while smoking or when near open flame.

WRONG



NA1189

- Keep body, jewelry and clothing away from moving parts, electrical contact, hot parts and exhaust.
- Wear eye protection to guard from battery acid, compressed springs, fluids under pressure and flying debris when engines are running or tools are used. Use eye protection approved for type of welding.
- Keep rear door closed except for service. Close and latch door before operating the loader.

WRONG



B-6589

- Lead-acid batteries produce flammable and explosive gases.
- Keep arcs, sparks, flames and lighted tobacco away from batteries.
- Batteries contain acid which burns eyes or skin on contact.
- Wear protective clothing. If acid contacts body, flush well with water. For eye contact flush well and get immediate medical attention.

Maintenance procedures which are given in the Operation & Maintenance Manual can be performed by the owner/operator without any specific technical training. Maintenance procedures which are **not** in the Operation & Maintenance Manual must be performed **ONLY BY QUALIFIED BOBCAT SERVICE PERSONNEL**. Always use genuine Bobcat replacement parts. The Service Safety Training Course is available from your Bobcat dealer.

MSW36-0409

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SERVICE SCHEDULE

Maintenance Intervals

Maintenance work must be done at regular intervals. Failure to do so will result in excessive wear and early failures.

The service schedule is a guide for correct maintenance of the Bobcat loader.



WARNING

AVOID INJURY OR DEATH

Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, Operator's Handbook and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

W-2003-0807

Every 10 Hours (Before Starting The Loader)

- **Engine Oil** – Check level and add as needed. (See Page 135.)
- **Engine Air Filters and Air System** – Check display panel. Service only when required. Check for leaks and damaged components. (See Page 129.)
- **Engine Cooling System** – Clean debris from hydraulic fluid cooler and radiator assembly, fuel cooler, air conditioning condenser (if equipped), and rear grille. Check coolant level COLD and add premixed coolant as needed. (See Page 138.) and (See Page 141.)
- **Fuel Filter** – Check the display panel. Remove the trapped water when required. (See Page 133.)
- **Lift Arms, Lift Links, Cylinders, Bob-Tach, Pivot Pins, Wedges** – Lubricate with multipurpose lithium based grease. (See Page 171.)
- **Seat Belt, Seat Belt Retractors, Seat Bar, Control Interlocks** – Check the condition of seat belt. Clean or replace seat belt retractors as needed. Check the seat bar and control interlocks for correct operation. Clean dirt and debris from moving parts. (See Page 113.) and (See Page 115.)
- **Bobcat Interlock Control Systems (BICS™)** – Check for correct function. Lift and Tilt functions MUST NOT operate with seat bar raised. (See Page 112.)
- **Front Horn / Back-up Alarm** – Check for proper function. (See Page 39.) and (See Page 119.)
- **Operator Cab** – Check the fastening bolts, washers, and nuts. Check the condition of the cab. (See Page 121.)
- **Indicators and Lights** – Check for correct operation of all indicators and lights. (See Page 28.)
- **Safety Signs and Safety Treads** – Check for damaged signs (decals) and safety treads. Replace any signs or safety treads that are damaged or worn. (See Page 17.) and (See Page 78.)
- **Hydraulic Fluid** – Check fluid level and add as needed. (See Page 150.)
- **Heater and Air Conditioning Filters** (if equipped) – Clean or replace filters as needed. (See Page 126.)

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SERVICE SCHEDULE (CONT'D)

Maintenance Intervals (Cont'd)

Every 50 Hours

- **Hydraulic Hoses and Tubelines** – Check for damage and leaks. Repair or replace as needed.
- **Parking Brake, Foot Pedals, Hand Controls and Steering Levers, or Joysticks** – Check for correct operation. Repair or adjust as needed.
- **Track Drive Sprocket Nuts** – Check for loose sprocket nuts and tighten to correct torque. (See Page 165.)
- **Track Tension** – Check tension and adjust as needed. (See Page 159.)
- **Engine / Hydrostatic Drive Belt** – Perform at first 50 hours, then as scheduled. Check for wear or damage. Adjust or replace as needed. (See Page 169.)
- **Engine Oil and Filter** – Perform at first 50 hours, then as scheduled. Replace oil and filter. (See Page 136.)

Every 100 Hours

- **Battery** – Check cables, connections, and electrolyte level; add distilled water as needed. (See Page 146.)
- **Engine Oil and Filter** – Perform every 100 hours when operating under severe conditions. Replace oil and filter. (See Page 136.)

Every 250 Hours or Every 12 Months

- **Engine / Hydrostatic Drive Belt** – Check for wear or damage. Adjust or replace as needed. (See Page 169.)
- **Drive Belts (Alternator, air conditioning, water pump)** – Check condition. Replace as needed. (See Page 166.) and (See Page 167.)
- **Bobcat Interlock Control System (BICS™)** – Check the function of the lift arm bypass control. (See Page 112.)

Every 500 Hours or Every 12 Months

- **Fuel Filter** – Replace filter element. (See Page 133.)
- **Hydraulic Charge Filter, Hydraulic Reservoir Breather Cap** – Replace the charge filter and the reservoir breather cap. (See Page 155.) and (See Page 158.)
- **Hydrostatic Motor Carrier** – Replace fluid. (See Page 165.)
- **Engine Oil and Filter** – Replace oil and filter. (See Page 136.)
- **Heater Coil and Air Conditioning Evaporator** (if equipped) - Clean the heater coil and air conditioning evaporator. Clean the plenum drains. (See Page 127.)

Every 1000 Hours or Every 12 Months

- **Hydraulic / Hydrostatic Filter** – Replace the hydraulic / hydrostatic filter. (See Page 154.)
- **Hydraulic Reservoir** – Replace the fluid. (See Page 151.)
- **Engine Valves** – Adjust the engine valve clearance.

Every 1500 Hours or Every 24 Months

- **Coolant** – Replace the coolant. (See Page 142.)

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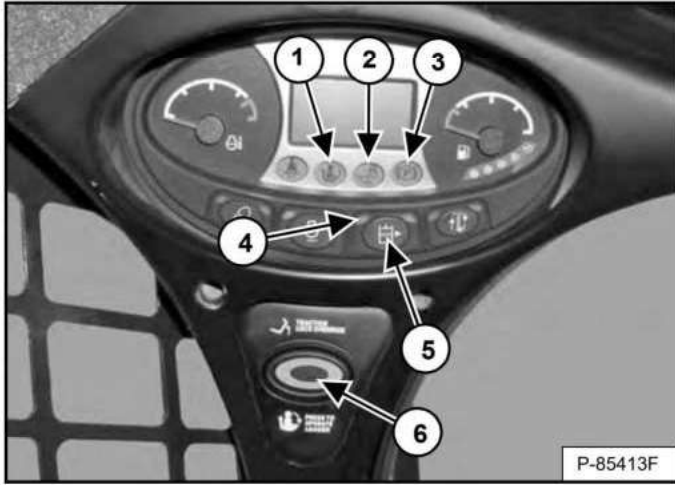
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BOBCAT INTERLOCK CONTROL SYSTEM (BICS™)

See the SERVICE SCHEDULE for the correct service interval. (See SERVICE SCHEDULE on Page 110.)

Inspecting The BICS™ (Engine STOPPED – Key ON)

Figure 161



1. Sit in operator's seat. Turn key switch to RUN. Lower seat bar and disengage parking brake. Press the PRESS TO OPERATE LOADER button (Item 6). Two BICS™ lights (Items 1 and 2) [Figure 161] [SEAT BAR and LIFT AND TILT VALVE] on left instrument panel must be OFF. The PRESS TO OPERATE LOADER button will light.
2. Raise seat bar fully. All three BICS™ lights (Items 1, 2, and 3) [Figure 161] [SEAT BAR, LIFT AND TILT VALVE, and PARKING BRAKE] on left instrument panel must be ON. The PRESS TO OPERATE LOADER button light will turn OFF.

Inspecting Deactivation Of The Auxiliary Hydraulics System (Engine STOPPED – Key ON)

3. Sit in operator's seat, lower seat bar, and press the PRESS TO OPERATE LOADER button (Item 6). Press the Auxiliary Hydraulics button (Item 5). The auxiliary hydraulics light will turn ON (Item 4) [Figure 161]. Raise the seat bar. The light will turn OFF.

Inspecting The Seat Bar Sensor (Engine RUNNING)

4. Sit in operator's seat, lower seat bar, engage parking brake, and fasten seat belt.
5. Start engine and operate at low idle. Press the PRESS TO OPERATE LOADER button. While raising the lift arms, raise the seat bar fully. The lift arms must stop. Repeat using the tilt function.

Inspecting The Traction Lock And Parking Brake (Engine RUNNING)

6. Fasten seat belt, disengage parking brake, press the PRESS TO OPERATE LOADER button, and raise seat bar fully. Move steering levers or joystick(s) slowly forward and backward. The TRACTION lock must be engaged. Lower the seat bar. Press the PRESS TO OPERATE LOADER button.
7. Engage parking brake and move steering levers or joystick(s) slowly forward and backward. The TRACTION lock must be engaged. See your Bobcat dealer for service if loader fails to stop.

NOTE: The PARKING BRAKE light on the left instrument panel will remain ON until the engine is started, the PRESS TO OPERATE LOADER button is pressed, and the parking brake is disengaged.

Inspecting The Lift Arm Bypass Control

8. Raise the lift arms 2 m (6 ft) off the ground. Stop engine. Turn lift arm bypass control knob 90° clockwise. Pull up and hold lift arm bypass control knob until lift arms slowly lower.

Inspecting Deactivation Of Lift And Tilt Functions (ACS And SJC)

9. Sit in operator's seat and fasten seat belt. Lower seat bar, start engine, and press the PRESS TO OPERATE LOADER button.
10. Raise lift arms approximately 2 m (6 ft) off the ground.
11. Turn key switch to STOP and wait for the engine to come to a complete stop.
12. Turn key switch to RUN. Press the PRESS TO OPERATE LOADER button, move the control (foot pedal, hand control, or joystick) to lower the lift arms. Lift arms must not lower.
13. Move the control (foot pedal, hand control, or joystick) to tilt the bucket (or attachment) forward. The bucket (or attachment) must not tilt forward.

! WARNING

AVOID INJURY OR DEATH

The Bobcat Interlock Control System (BICS™) must deactivate the lift, tilt and traction drive functions. If it does not, contact your dealer for service. **DO NOT** modify the system.

W-2151-1111

SEAT BAR RESTRAINT SYSTEM

Description

Figure 162



The seat bar restraint system has a pivoting seat bar with armrests (Item 1) [Figure 162].

The operator controls the use of the seat bar. The seat bar in the down position helps to keep the operator in the seat.

Models with Standard Controls have hydraulic valve spool interlocks for the lift and tilt functions. The spool interlocks require the operator to lower the seat bar in order to operate the foot pedal controls.

When the seat bar is down, the engine is running, the PRESS TO OPERATE LOADER button is activated, and the brake is released; the lift, tilt, and traction drive functions can be operated.

When the seat bar is up, the lift and tilt control pedals are locked when returned to the NEUTRAL position.

Models with Advanced Control System (ACS) have mechanical interlocks for the handles and pedals. The interlocks for the handles and pedals require the operator to lower the seat bar in order to operate the selected controls.

When the seat bar is down, the engine is running, the PRESS TO OPERATE LOADER button is activated, and the brake is released; the lift, tilt, and traction drive functions can be operated.

When the seat bar is up, the handles and pedals are locked when returned to the NEUTRAL position.

Models with Selectable Joystick Controls (SJC) have electrical deactivation of lift and tilt functions. Activation of functions require the operator to lower the seat bar.

When the seat bar is down, the engine is running, the PRESS TO OPERATE LOADER button is activated, and the brake is released; the lift, tilt, and traction drive functions can be operated.

When the seat bar is up, the lift and tilt functions are deactivated even though the joysticks do not mechanically lock.

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SEAT BAR RESTRAINT SYSTEM (CONT'D)

Inspection And Maintenance

See the SERVICE SCHEDULE for the correct service interval. (See SERVICE SCHEDULE on Page 110.)

Sit in the seat and fasten the seat belt. Engage the parking brake. Pull the seat bar all the way down. Start the engine. Press the PRESS TO OPERATE LOADER button.

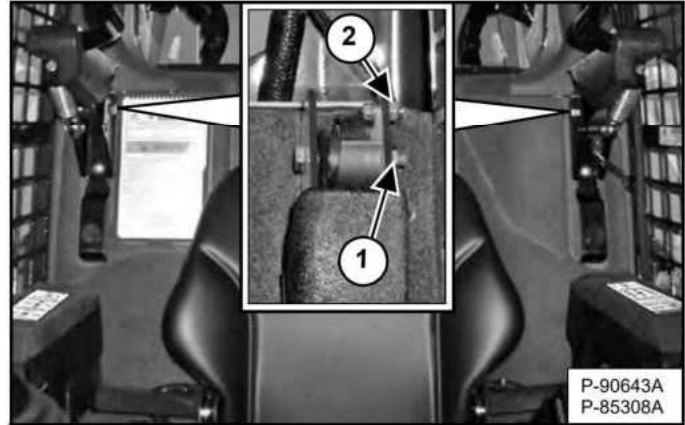
Operate the hydraulic controls to check that the lift and tilt functions operate correctly. Raise the lift arms until the attachment is approximately 600 mm (2 ft) off the ground.

Raise the seat bar. Move the hydraulic controls. Pedals and handles (if equipped) must be firmly locked in the NEUTRAL position (except joysticks). There must be no motion of the lift arms or tilt (attachment) when the controls are moved.

Lower the seat bar, press the PRESS TO OPERATE LOADER button, and lower the lift arms. Operate the lift control. While the lift arms are going up, raise the seat bar. The lift arms must stop.

Lower the seat bar, press the PRESS TO OPERATE LOADER button, lower the lift arms, and put the attachment flat on the ground. Stop the engine. Raise the seat bar. Operate the foot pedals and handles (if equipped) to be sure they are firmly locked in the NEUTRAL position (except joysticks).

Figure 163



Use compressed air to clean any debris or dirt from the pivot parts. Do not lubricate. Inspect all mounting hardware. The correct hinge nut (both sides) (Item 1) torque is 34 – 38 N•m (25 – 28 ft-lb). The seat bar sensor nut (left side only) (Item 2) [Figure 163] torque is 6 – 8 N•m (50 – 70 in-lb).

If the seat bar system does not function correctly, replace parts that are worn or damaged. Use only genuine Bobcat replacement parts.

WARNING

The seat bar system must deactivate the lift and tilt control functions when the seat bar is up. See your Bobcat dealer for service if hydraulic controls do not deactivate.

W-2465-0111

SEAT BELT

Inspection And Maintenance

WARNING

Failure to properly inspect and maintain the seat belt can cause lack of operator restraint resulting in serious injury or death.

W-2466-0703

Check the seat belt daily for correct function.

Inspect the seat belt system thoroughly at least once each year, or more often if the machine is exposed to severe environmental conditions or applications.

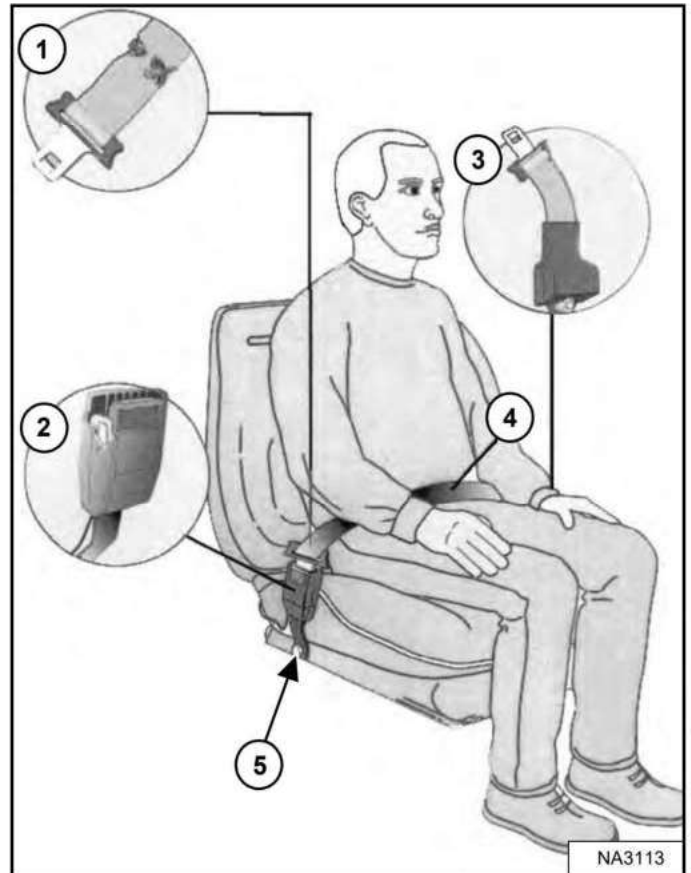
Any seat belt system that shows cuts, fraying, extreme or unusual wear, significant discolorations due to ultraviolet UV exposure, dusty / dirty conditions, abrasion to the seat belt webbing, or damage to the buckle, latch plate, retractor (if equipped), hardware, or any other obvious problem should be replaced immediately.

The items below are referenced in **[Figure 164]**.

1. Check the webbing. If the system is equipped with a retractor, pull the webbing completely out and inspect the full length of the webbing. Look for cuts, wear, fraying, dirt, and stiffness.
2. Check the buckle and latch for correct operation. Make sure latch plate is not excessively worn or deformed and buckle is not damaged or casing broken.
3. Check the retractor web storage device (if equipped) by extending webbing to determine if it looks correct, and that it spools out and retracts webbing correctly.
4. Check webbing in areas exposed to ultraviolet (UV) rays from the sun, or extreme dust or dirt. If the original color of the webbing in these areas is extremely faded and / or the webbing is packed with dirt, the webbing strength may have deteriorated.
5. Check the hardware on both sides of the seat. Hardware should be tight. Hardware must not be missing, rusted, corroded, or damaged.

See your Bobcat dealer for seat belt system replacement parts for your machine.

Figure 164



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LIFT ARM SUPPORT DEVICE

Description

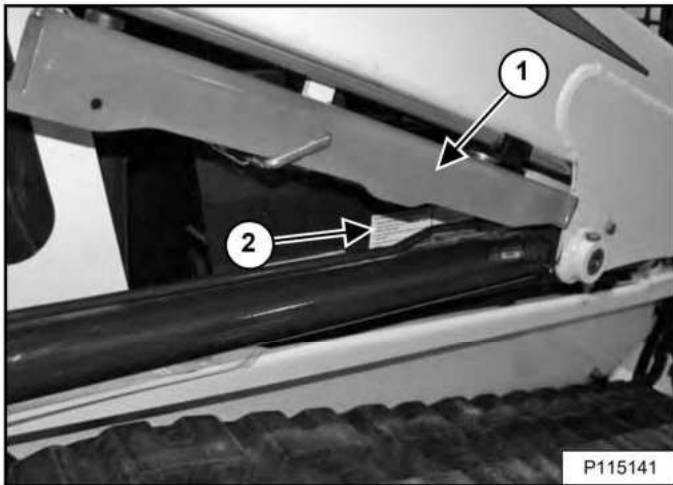
WARNING

Never work on a machine with the lift arms up unless the lift arms are secured by an approved lift arm support device. Failure to use an approved lift arm support device can allow the lift arms or attachment to fall and cause injury or death.

Service lift arm support device if damaged or if parts are missing. Using a damaged lift arm support or with missing parts can cause lift arms to drop causing injury or death.

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Figure 165



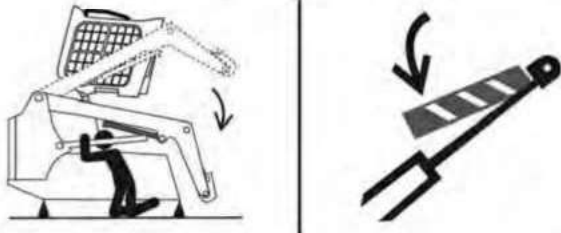
The lift arm support device (Item 1) [Figure 165] is used to support the lift arms while working on a machine with the lift arms up.

A decal (Item 2) [Figure 165] located on the right side of the operator cab provides instructions for installing and removing the lift arm support device.

The procedures are described in more detail on the following pages. (See Installing on Page 117.) and (See Removing on Page 118.)

LIFT ARM SUPPORT DEVICE (CONT'D)

Installing



P-90328

AVOID DEATH

- Disconnecting or loosening any hydraulic tubeline, hose, fitting, component or a part failure can cause lift arms to drop.
- Keep out of this area when lift arms are raised unless supported by an approved lift arm support. Replace if damaged.

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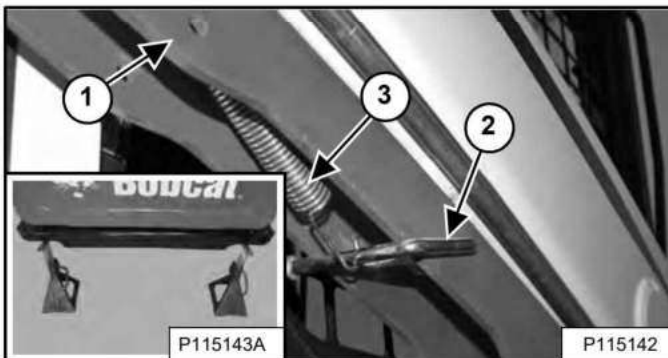
Remove attachment from the loader. (See Installing And Removing The Attachment (Hand Lever Bob-Tach) on Page 93.) **OR** (See Installing And Removing The Attachment (Power Bob-Tach) on Page 96.)



Before the cab or the lift arms are raised for service, jackstands must be put under the rear corners of the frame. Failure to use jackstands can allow the machine to tip backward causing injury or death.

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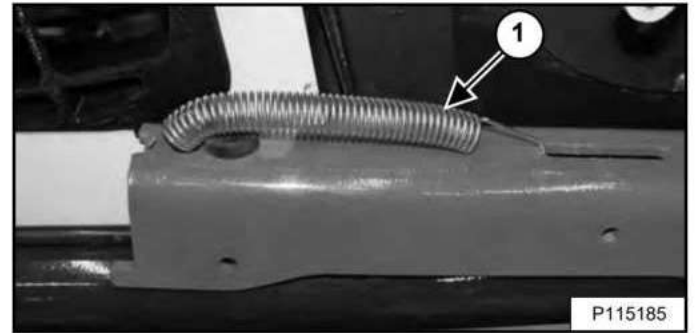
Figure 166



Put jackstands under the rear corners of the loader frame (Inset) [Figure 166].

Disconnect the spring (Item 3) from the lift arm support device retaining pin (Item 2). Support the lift arm support device (Item 1) [Figure 166] with your hand and remove the retaining pin.

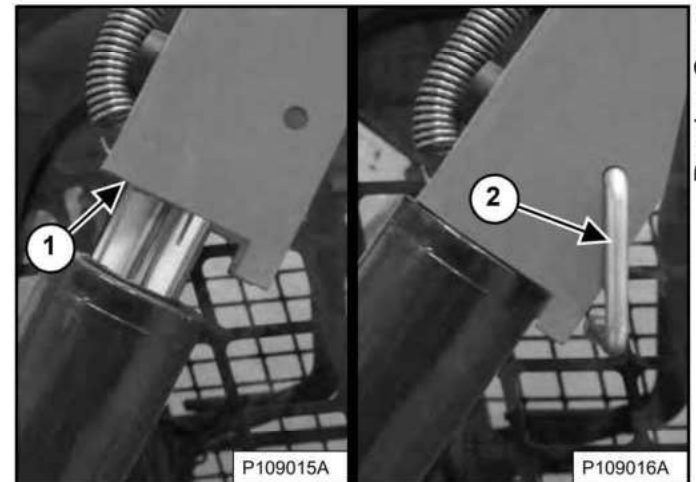
Figure 167



Lower the lift arm support device to the top of the lift cylinder. Hook the free end of the spring (Item 1) [Figure 167] to the lift arm support device to prevent interference with lift arm support device engagement.

Sit in the operator's seat, fasten the seat belt, and lower the seat bar. Start the engine.

Figure 168



Raise the lift arms until the lift arm support device drops onto the lift cylinder rod (Item 1) [Figure 168].

Lower the lift arms slowly until the lift arm support device is held between the lift arms and the lift cylinder.

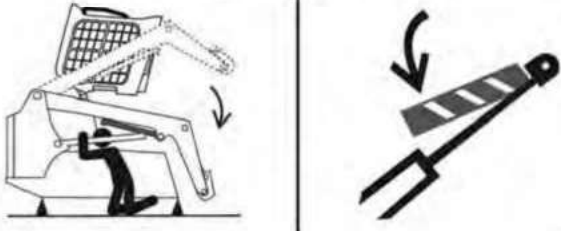
Stop the engine, raise the seat bar, unbuckle the seat belt, and make sure lift and tilt functions are deactivated.

Install the retaining pin (Item 2) [Figure 168] into the rear of the lift arm support device below the lift cylinder rod.

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LIFT ARM SUPPORT DEVICE (CONT'D)

Removing



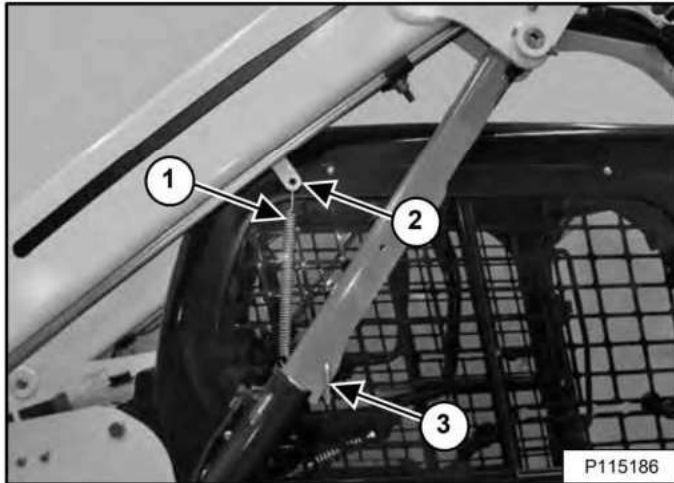
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AVOID DEATH

- Disconnecting or loosening any hydraulic tubeline, hose, fitting, component or a part failure can cause lift arms to drop.
- Keep out of this area when lift arms are raised unless supported by an approved lift arm support. Replace if damaged.

D-1009-0409

Figure 169



Remove the retaining pin (Item 3) [Figure 169] from the lift arm support device.

Connect the spring (Item 1) from the lift arm support device to the bracket (Item 2) [Figure 169] on the bottom of the lift arm.

Sit in the operator's seat, fasten the seat belt, and lower the seat bar. Start the engine.

Figure 170

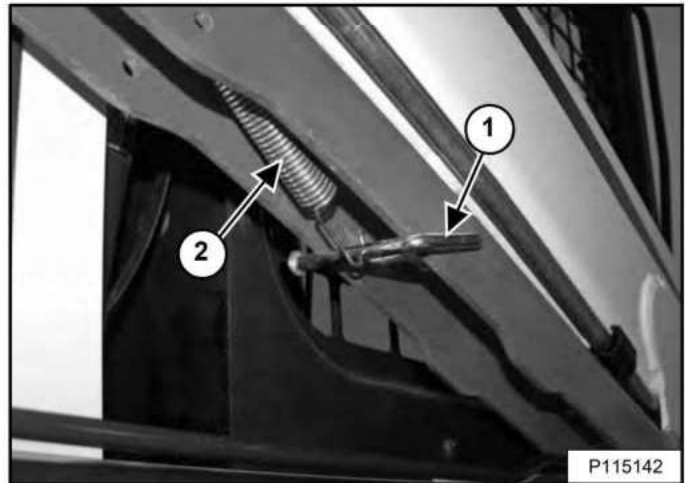


Raise the lift arms a small amount. The spring will lift the lift arm support device off the lift cylinder rod [Figure 170]. Fully lower the lift arms.

Stop the engine, raise the seat bar, unbuckle the seat belt, and make sure lift and tilt functions are deactivated.

Disconnect the spring from the bracket.

Figure 171



Raise the lift arm support device into the storage position and insert the retaining pin (Item 1) through the lift arm support device and the bracket. Hook the spring (Item 2) [Figure 171] to the retaining pin.

Remove the jackstands.

BACK-UP ALARM SYSTEM

Description

The back-up alarm will sound when the operator moves both steering levers or joystick(s) into the reverse position. Slight movement of the controls into the reverse position is required with hydrostatic transmissions, before the back-up alarm will sound.

Inspection

See the SERVICE SCHEDULE for the correct service interval. (See SERVICE SCHEDULE on Page 110.)

Figure 172



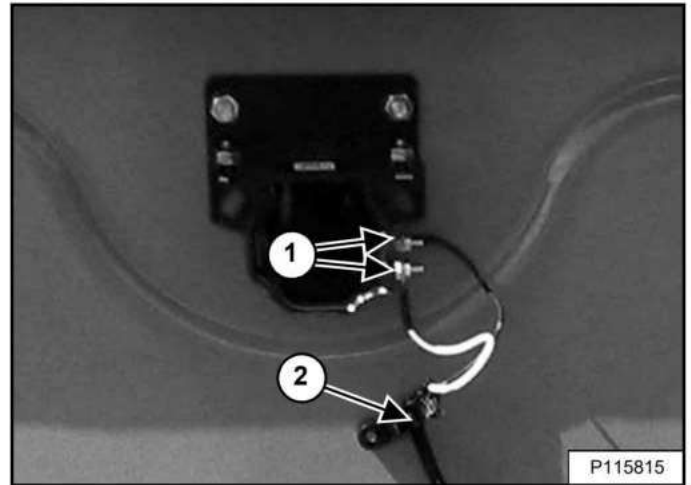
Inspect for damaged or missing back-up alarm decal (Item 1) [Figure 172]. Replace if required.

Sit in the seat and fasten the seat belt. Engage the parking brake. Pull the seat bar all the way down. Start the engine. Press the PRESS TO OPERATE LOADER button. Disengage the parking brake.

Move both steering levers or joystick(s) into the reverse position. The back-up alarm must sound when both tracks are moving in reverse.

The back-up alarm is located on the inside of the rear door.

Figure 173



Inspect the back-up alarm electrical connections (Item 1) [Figure 173], wire harness (Item 2) [Figure 173], and back-up alarm switches (if equipped) (Item 1) [Figure 174] for tightness and damage. Repair or replace any damaged components.

If the back-up alarm switches require adjustment, (See Adjusting Switch Position on Page 120.)

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BACK-UP ALARM SYSTEM (CONT'D)

Adjusting Switch Position

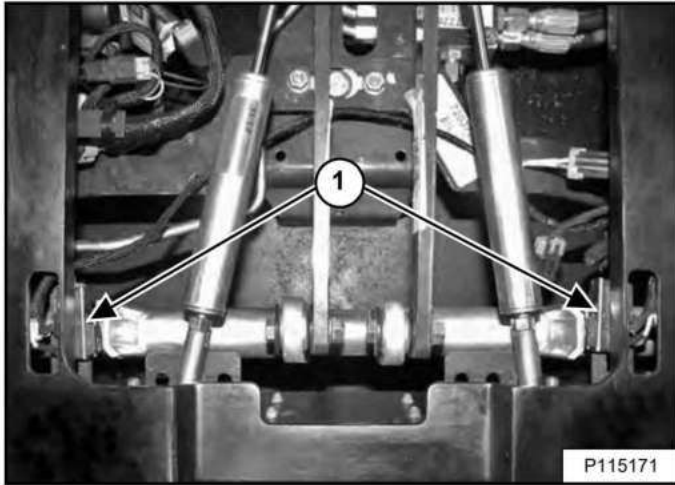
NOTE: Joystick equipped machines do not have back-up alarm switches and cannot be adjusted. See your Bobcat dealer for service if your back-up alarm does not sound.

Standard Controls And ACS (If Equipped)

Stop the engine and raise the operator cab. (See Raising on Page 122.)

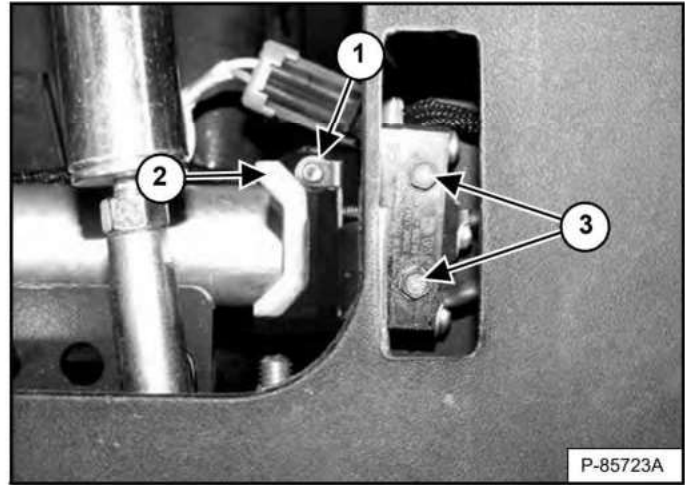
Put the steering levers into the NEUTRAL position.

Figure 174



The back-up alarm switches (Item 1) [Figure 174] are located alongside the steering bellcranks. Both switches must be adjusted properly for the back-up alarm to operate correctly.

Figure 175



Loosen the screws (Item 3) [Figure 175] securing the back-up alarm switch. (Left side shown)

Position the back-up alarm switch so that the roller (Item 1) just makes contact with the bellcrank (Item 2) [Figure 175] without compressing the switch spring.

Torque the screws (Item 3) [Figure 175] securing the switch to the bracket to 1,0 – 1,4 N•m (9 – 12 in-lb).

Repeat adjustment procedure for the other switch.

Lower the operator cab. (See Lowering on Page 123.)

Inspect back-up alarm system for proper function. (See Inspection on Page 119.)

OPERATOR CAB

Description

The Bobcat loader has an operator cab (ROPS and FOPS) as standard equipment to protect the operator from rollover and falling objects. The seat belt must be worn for rollover protection.

Check the cab, mounting, and hardware for damage. Never modify the cab. Replace the cab and hardware if damaged. See your Bobcat dealer for parts.

ROPS – Roll-Over Protective Structure per ISO 3471 and FOPS – Falling-Object Protective Structure per ISO 3449, Level I. Level II is available.

Level I

Protection from falling bricks, small concrete blocks, and hand tools encountered in operations, such as: highway maintenance, landscaping, and other construction sites.

Level II

Protection from falling trees, rocks: for machines involved in site clearing, overhead demolition, or forestry.

! WARNING

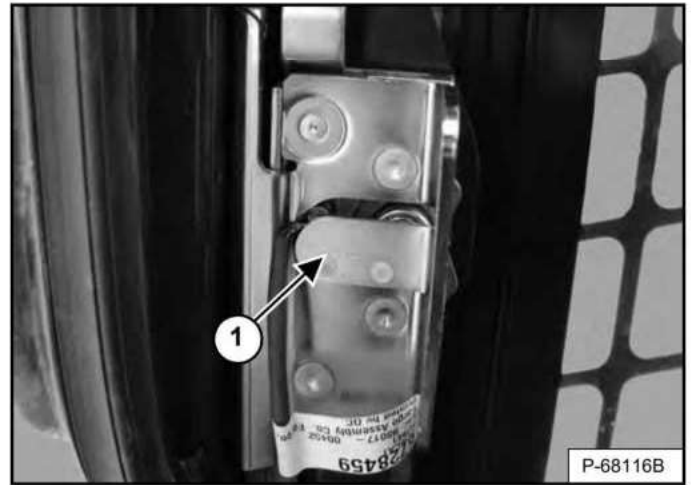
Never modify operator cab by welding, grinding, drilling holes or adding attachments unless instructed to do so by Bobcat Company. Changes to the cab can cause loss of operator protection from rollover and falling objects, and result in injury or death.

W-2069-0200

Cab Door Sensor

This machine may be equipped with a Cab Door Sensor.

Figure 176



The cab door has a sensor (Item 1) [Figure 176] installed that deactivates the lift and tilt valves when the door is open.

Figure 177



The LIFT AND TILT VALVE light (Item 1) [Figure 177] is OFF when the door is closed, the key switch is turned to RUN, the seat bar is lowered, and the PRESS TO OPERATE LOADER button is pressed.

The LIFT AND TILT VALVE light (Item 1) [Figure 177] is ON when the door is open, the key switch is turned to RUN, the seat bar is lowered, and the PRESS TO OPERATE LOADER button is pressed.

[DOOR] will appear in the data display (Item 2) [Figure 177] when the door is open, the key switch is turned to RUN, the seat bar is lowered, and the PRESS TO OPERATE LOADER button is pressed.

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OPERATOR CAB (CONT'D)

Raising

Always stop the engine before raising or lowering the operator cab.

Stop the loader on a level surface. Lower the lift arms. If the lift arms must be up while raising the operator cab, install the lift arm support device. (See LIFT ARM SUPPORT DEVICE on Page 116.)



Before the cab or the lift arms are raised for service, jackstands must be put under the rear corners of the frame. Failure to use jackstands can allow the machine to tip backward causing injury or death.

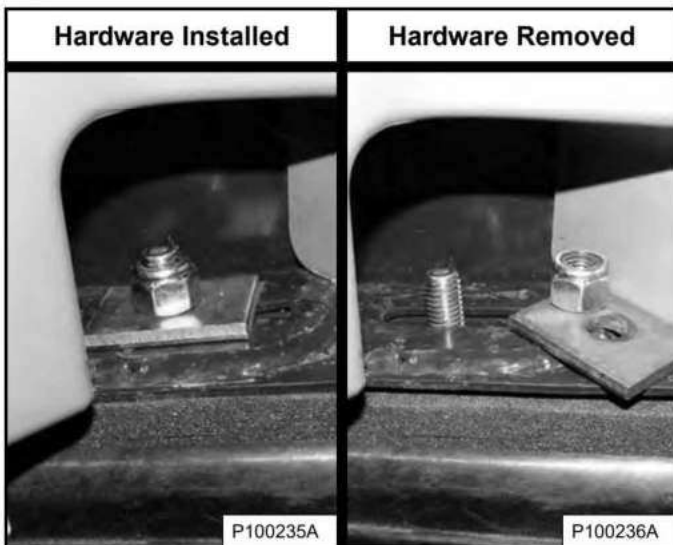
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Figure 178



Install jackstands under the rear of the loader frame [Figure 178].

Figure 179



Remove the nuts and washers [Figure 179] (both sides) at the front corners of the operator cab.



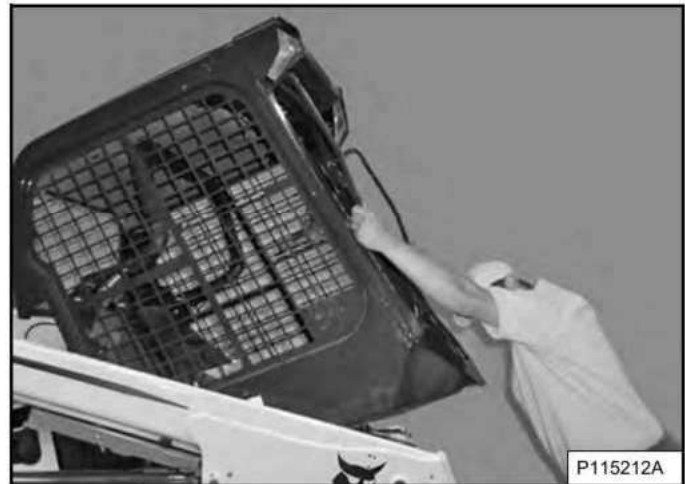
UNEXPECTED LOADER, LIFT ARM OR ATTACHMENT MOVEMENT CAUSED BY CAB CONTACT WITH CONTROLS CAN CAUSE SERIOUS INJURY OR DEATH

- STOP ENGINE before raising or lowering cab.

W-2758-0908

NOTE: On some machines, the operator cab frame can contact the steering levers while raising or lowering the operator cab. The engine **MUST** be stopped before raising or lowering the operator cab.

Figure 180



Lift on the grab handles and bottom of the operator cab [Figure 180] slowly until the operator cab is all the way up and the latching mechanism engages.

OPERATOR CAB (CONT'D)

Lowering

Always stop the engine before raising or lowering the operator cab.

NOTE: Always use the grab handles to lower the operator cab.

Figure 181



Pull down on the bottom of the operator cab until stopped by the latching mechanism [Figure 181].

NOTE: The weight of the operator cab increases when equipped with options and accessories, such as: cab door, heater, and air conditioning. In these cases, the operator cab may need to be raised slightly from the latch to be able to release the latch.

! WARNING

UNEXPECTED LOADER, LIFT ARM OR ATTACHMENT MOVEMENT CAUSED BY CAB CONTACT WITH CONTROLS CAN CAUSE SERIOUS INJURY OR DEATH

- STOP ENGINE before raising or lowering cab.

W-2758-0908

NOTE: On some machines, the operator cab frame can contact the steering levers while raising or lowering the operator cab. The engine MUST be stopped before raising or lowering the operator cab.

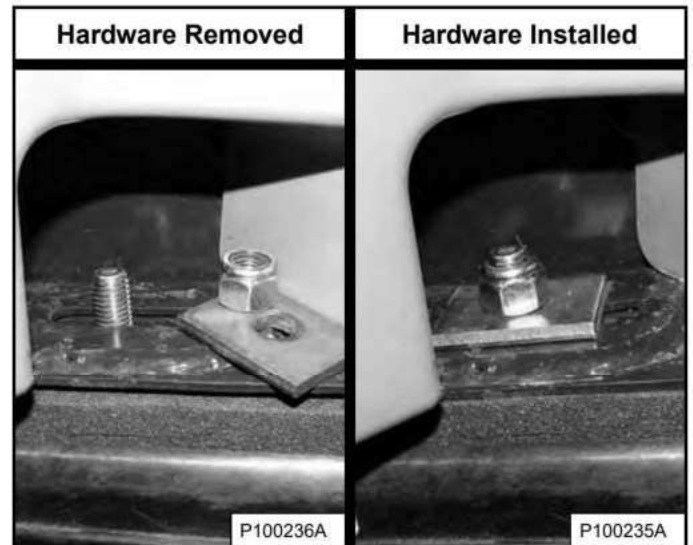
Support the operator cab and release the latching mechanism (Inset) [Figure 181]. Remove your hand from the latch mechanism when the operator cab is past the latch stop. Use both hands to lower the operator cab all the way down.

! WARNING

PINCH POINT CAN CAUSE INJURY
Remove your hand from the latching mechanism when the cab is past the latch stop.

W-2469-0803

Figure 182



Install the washers and nuts (both sides) [Figure 182].

Tighten the nuts to 54 – 61 N•m (40 – 45 ft-lb) torque.

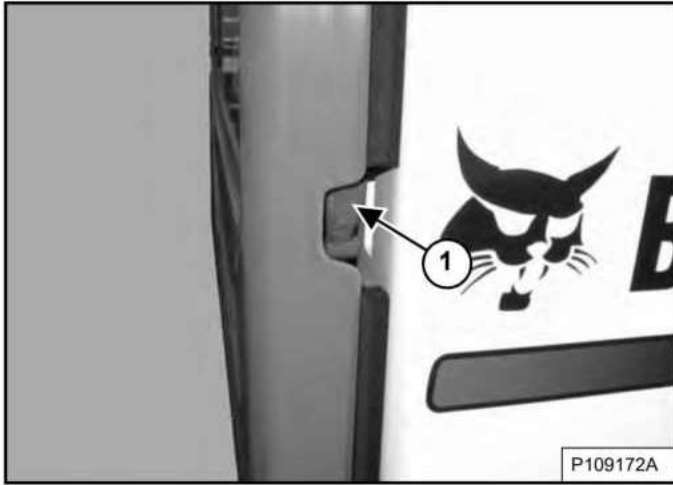
Remove the jackstands.

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REAR DOOR (TAILGATE)

Opening And Closing

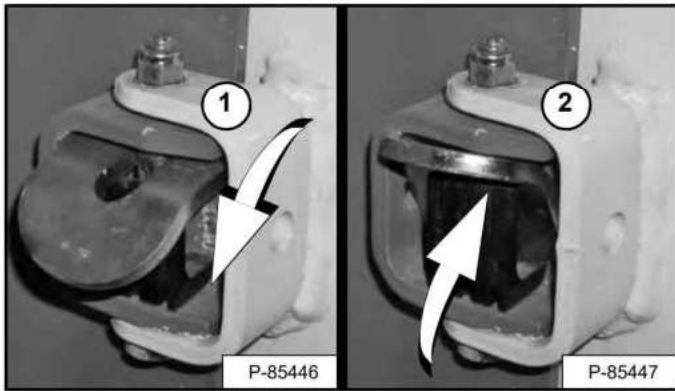
Figure 183



Reach into the slot on the right side of the rear door and pull the latch handle (Item 1) [Figure 183]. Pull the rear door open.

The rear door is equipped with a door stop feature on the top hinge.

Figure 184



Move the door stop into the engaged position (Item 1) to hold the door open. Move the door stop up (Item 2) [Figure 184] to allow the door to close.

WARNING

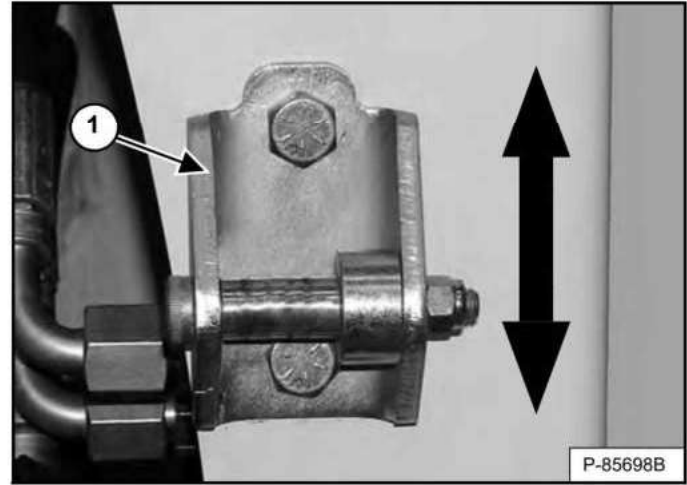
Keep the rear door closed when operating the machine. Failure to do so could seriously injure a bystander.

W-2020-1285

Close the rear door.

Adjusting Latch

Figure 185



The door latch striker (Item 1) [Figure 185] can be adjusted up or down for alignment with the door latch.

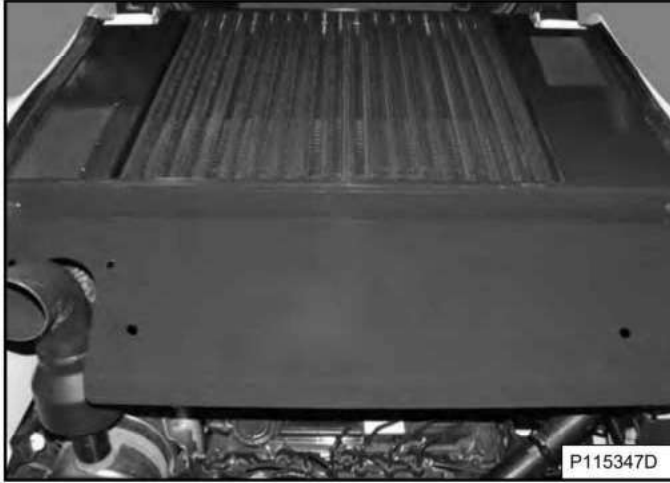
Close the rear door before operating the loader.

REAR GRILLE

Removing

Stop the engine and open the rear door.

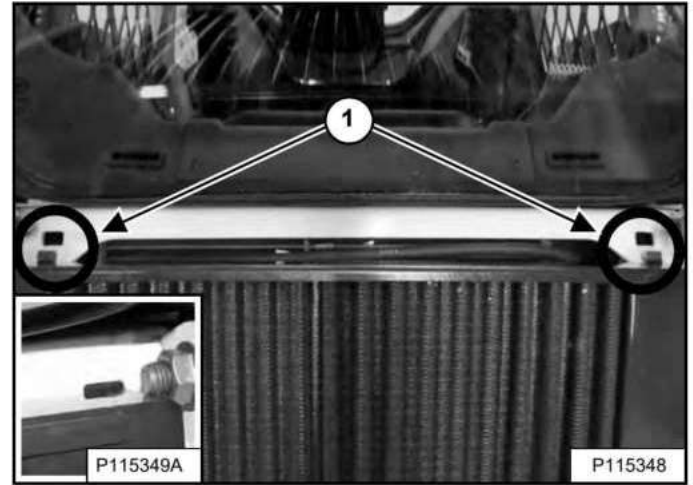
Figure 186



Lift and pull the rear grille backward to remove from the loader [Figure 186].

Installing

Figure 187



The front edge of the rear grille has two tabs that fit into slots in the loader frame (Item 1) [Figure 187]. Insert the tabs into the slots and lower the rear grille.

This tab is properly installed into the loader frame slot (Right Side Shown) (Inset) [Figure 187].

Close the rear door.

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HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) SYSTEM

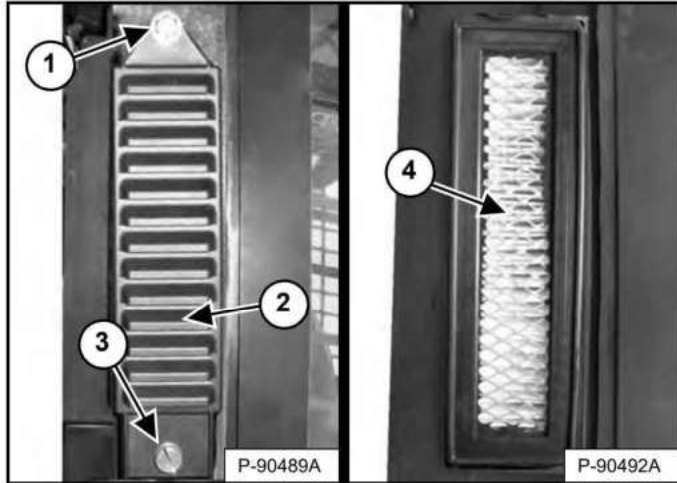
This machine may be equipped with a cab heater or HVAC system.

Filters

See the SERVICE SCHEDULE for the correct service interval. (See SERVICE SCHEDULE on Page 110.)

Fresh Air Filters

Figure 188



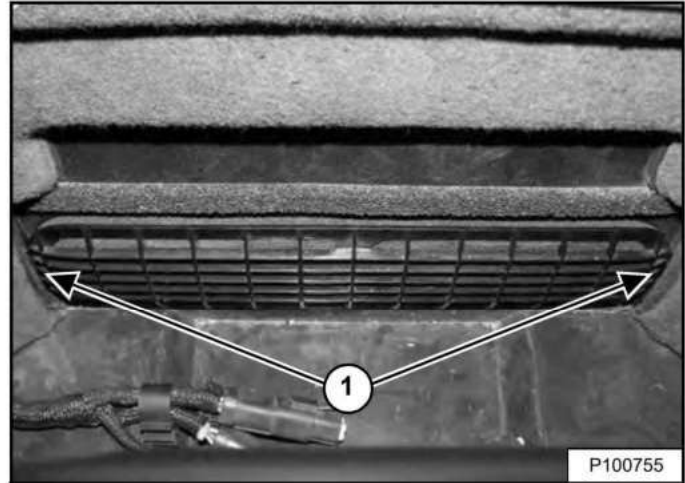
The fresh air filters are located behind the side windows outside the operator cab. (Right side shown) Remove the retaining screw (Item 3) and the filter cover (Item 2) [Figure 188]. (Lift arms shown raised for visual clarity.)

NOTE: Loosen the upper filter cover bolt (Item 1) [Figure 188] to allow removal and installation of the cover if equipped with the High-Efficiency Particulate Air (HEPA) filter kit.

Shake the filter (Item 4) [Figure 188] or use low pressure air to remove dirt. This procedure can be done several times before replacement is required. Install the filter, the filter cover, and the retaining screw.

Recirculation Filter

Figure 189



The recirculation filter is located behind the operator's seat inside the operator cab. The filter cover is held in position with three clips. Pull the cover at each end (Item 1) [Figure 189] to remove.

Rinse the filter with water or use a vacuum cleaner to clean. Do not use solvents.

Line up the clips on the filter cover with the slots provided and push the cover into position.

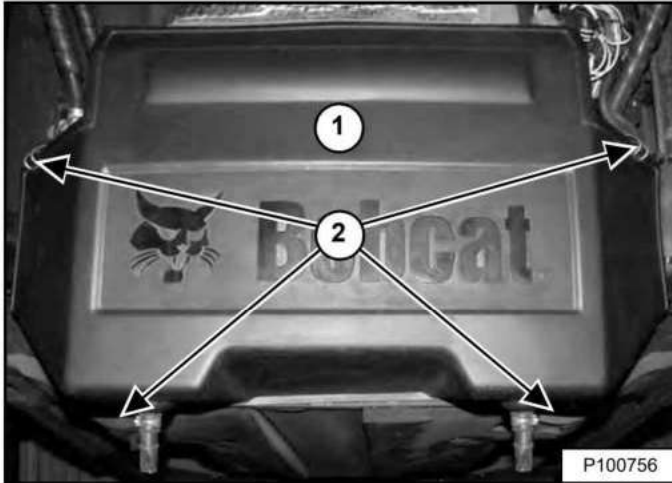
HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) SYSTEM (CONT'D)

Air Conditioning Evaporator / Heater Coil

See the SERVICE SCHEDULE for the correct service interval. (See SERVICE SCHEDULE on Page 110.)

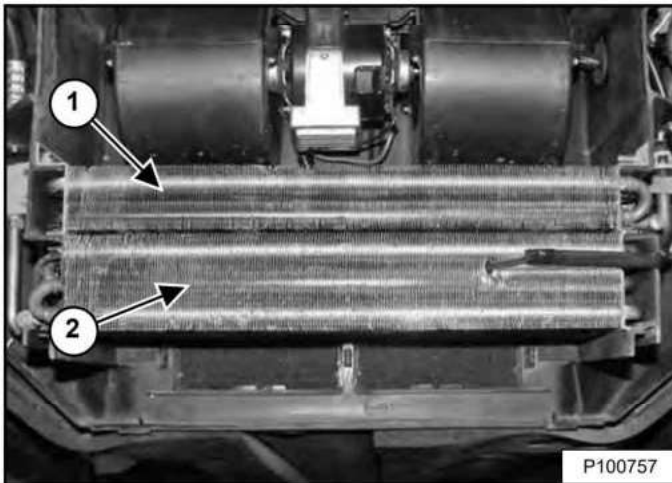
Stop the engine and raise the operator cab. (See Raising on Page 122.)

Figure 190



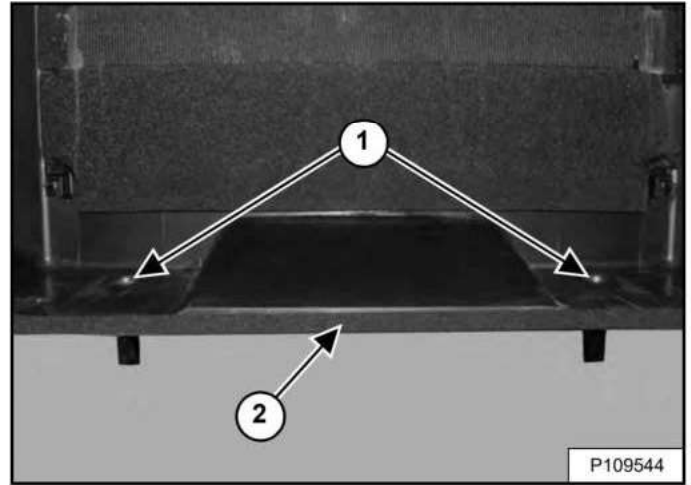
Unhook the cover latches (Item 2) and remove the cover (Item 1) [Figure 190].

Figure 191



Use low pressure air or water to remove debris from the heater coil (Item 1) and evaporator (Item 2) [Figure 191].

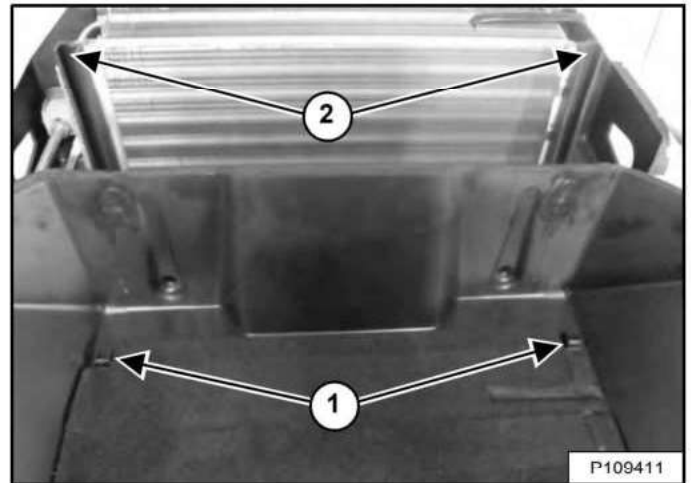
Figure 192



Clean the plenum drains (Item 1) [Figure 192] to ensure they are not plugged by debris.

Inspect the cover seal (Item 2) [Figure 192] for breaks and tears. Ensure the seal is firmly attached all around the cover. See your Bobcat dealer for a replacement seal.

Figure 193



NOTE: The bosses (Item 1) fit inside the core supports (Item 2) [Figure 193] when the cover is installed. Deformity of the cover indicates they are out of position.

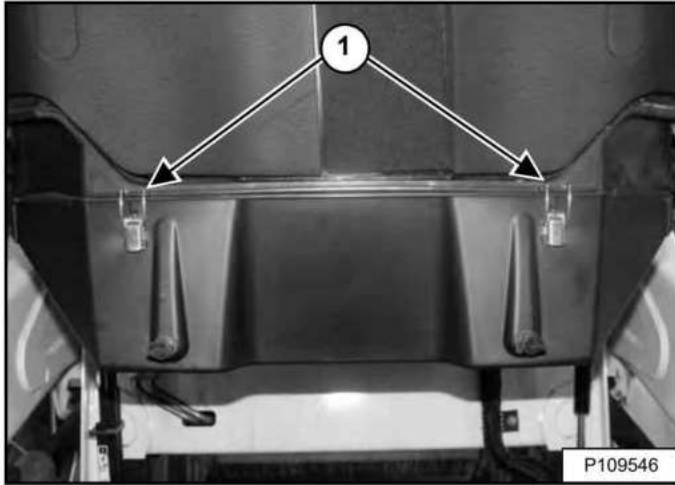
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HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) SYSTEM (CONT'D)

Air Conditioning Evaporator / Heater Coil (Cont'd)

NOTE: Improper cover installation can damage the seal, which may lead to HVAC component failure. Perform the following steps in the order given to prevent cover seal damage.

Figure 194



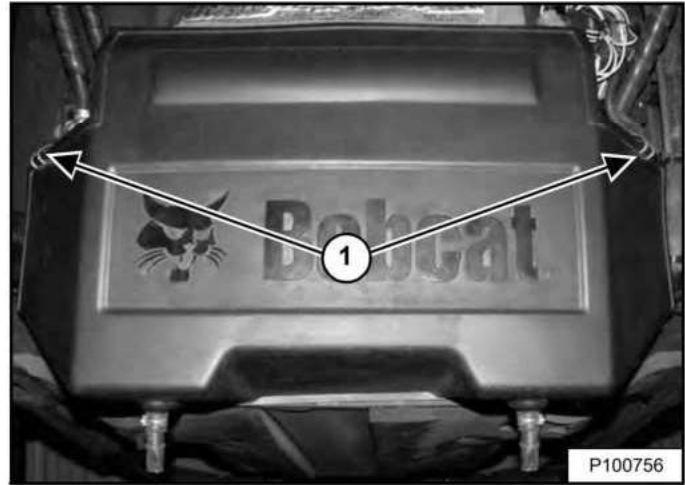
1. Hold the cover in place and fasten two latches (Item 1) [Figure 194].

Figure 195



2. Push the cover up in three places (Items 1, 2, and 3) until the slots snap into place on the tabs. This slot (Inset) [Figure 195] is correctly fastened.

Figure 196



3. Fasten the two remaining latches (Item 1) [Figure 196].

NOTE: Perform a thorough visual check to ensure that the cover and the cover seal are not deformed. The cover should seal tightly all around without any gaps.

Lower the operator cab. (See Lowering on Page 123.)

Air Conditioning Condenser

The condenser should be cleaned with the hydraulic fluid cooler and radiator assembly. (See Cleaning on Page 138.)

Air Conditioning Lubrication

Operate the air conditioning for approximately 5 minutes every week to lubricate the internal components.

Troubleshooting

If the fan does not operate or the air conditioning does not turn on, check the fuse. (See Fuse And Relay Location / Identification on Page 144.) The refrigerant may need to be recharged if the air conditioning system circulates warm air.

ENGINE AIR CLEANER

Replacing Filters

Figure 197



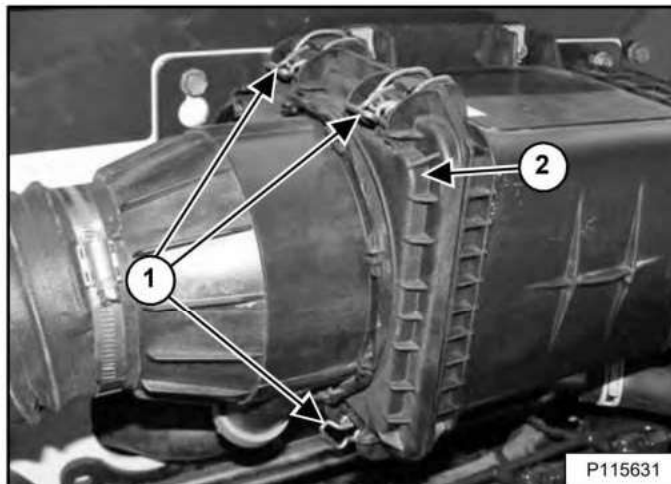
Replace the air filters only when necessary. The service indicator (Item 1) will FLASH. Press the Information button (Item 3) until the display screen shows the service codes. Service code **[M0117]** (Air Filter Plugged) will show in the display screen (Item 2) **[Figure 197]** when air filter replacement is necessary.

Replace the inner filter every second time the outer filter is replaced or as indicated.

Outer Filter

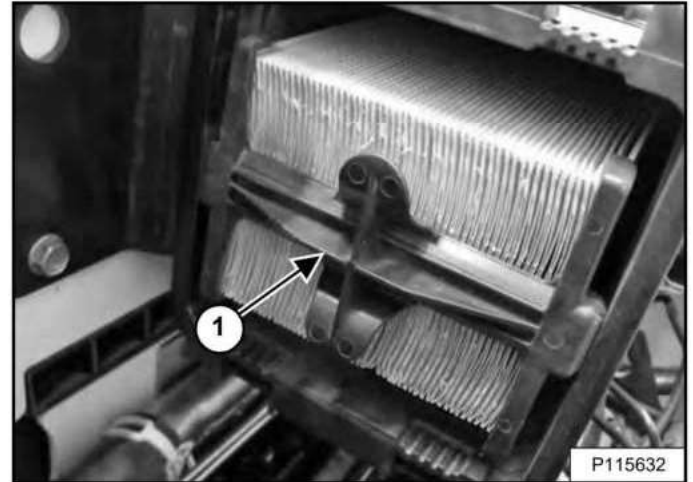
Stop the engine, open the rear door, and remove the rear grille. (See REAR GRILLE on Page 125.)

Figure 198



Open four latches (Item 1) and move the cover (Item 2) **[Figure 198]** out of the way. (One latch is not visible in the photo.)

Figure 199



Remove the outer filter (Item 1) **[Figure 199]** and discard.

NOTE: Make sure the filter housing is free of dirt and debris. Verify that sealing surfaces are clean. DO NOT use compressed air.

Install new outer filter. Push in until the filter contacts the base of the housing.

Install the cover and secure four latches **[Figure 198]**.

Install the rear grille and close the rear door.

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ENGINE AIR CLEANER (CONT'D)

Replacing Filters (Cont'd)

Inner Filter

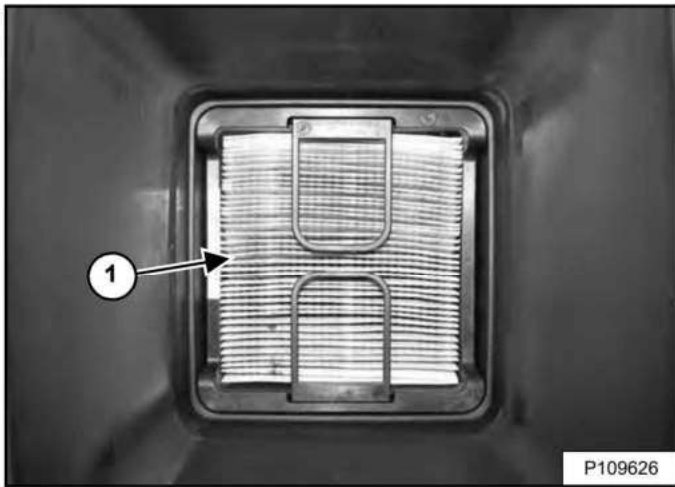
Replace the inner filter only under the following conditions:

- Replace the inner filter every *second* time the outer filter is replaced.
- After the outer filter has been replaced, start the engine and operate at full rpm. If service code **[M0117]** (Air Filter Plugged) is still displayed in the data display, replace the inner filter.

Stop the engine, open the rear door, and remove the rear grille. (See REAR GRILLE on Page 125.)

Remove the cover **[Figure 198]** and the outer filter **[Figure 199]**.

Figure 200



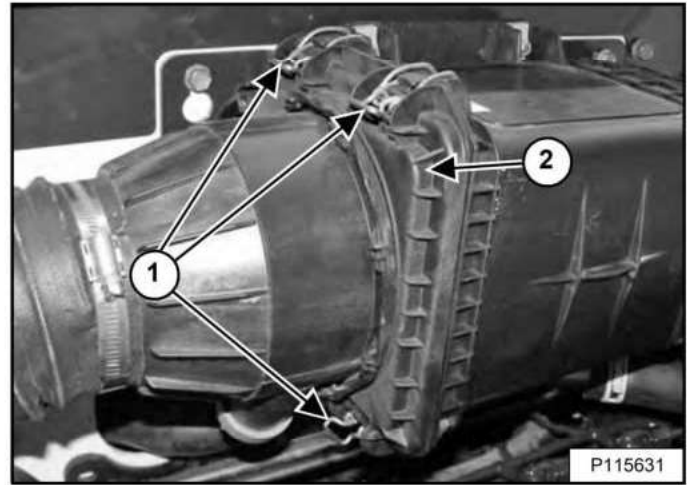
Remove the inner filter (Item 1) **[Figure 200]**.

NOTE: Make sure the filter housing is free of dirt and debris. Verify that sealing surfaces are clean. DO NOT use compressed air.

Install new inner filter. Push in until the filter contacts the base of the housing.

Install the outer filter **[Figure 199]**.

Figure 201



Install the cover (Item 2) and secure four latches (Item 1) **[Figure 201]**. (One latch is not visible in the photo.)

Install the rear grille and close the rear door.

FUEL SYSTEM

Fuel Specifications

NOTE: Contact your local fuel supplier to receive recommendations for your region.

Ultra low sulfur diesel fuel must be used in this machine. Ultra low sulfur is defined as 15 mg/kg (15 ppm) sulfur maximum.

U.S. Standard (ASTM D975)

Use only clean, high quality diesel fuel, Grade Number 2-D or Grade Number 1-D.

The following is one suggested blending guideline that should prevent fuel gelling during cold temperatures:

TEMPERATURE	GRADE 2-D	GRADE 1-D
Above -9°C (+15°F)	100%	0%
Down to -21°C (-5°F)	50%	50%
Below -21°C (-5°F)	0%	100%

NOTE: Biodiesel blend fuel may also be used in this machine. Biodiesel blend fuel must contain no more than five percent biodiesel mixed with ultra low sulfur petroleum based diesel. This biodiesel blend fuel is commonly marketed as B5 blended diesel fuel. B5 blended diesel fuel must meet ASTM specifications.

E.U. Standard (EN590)

Use only clean, high quality diesel fuel that meets the EN590 specifications listed below:

- Ultra low sulfur diesel fuel defined as 10 mg/kg (10 ppm) sulfur maximum
- Diesel fuel with cetane number of 51.0 and above.

NOTE: Biodiesel blend fuel may also be used in this machine. Biodiesel blend fuel must contain no more than seven percent biodiesel mixed with ultra low sulfur petroleum based diesel. This biodiesel blend fuel is commonly marketed as B7 blended diesel fuel. B7 blended diesel fuel must meet EN590 specifications.

Biodiesel Blend Fuel

Biodiesel blend fuel has unique qualities that should be considered before using in this machine:

- Cold weather conditions can lead to plugged fuel system components and hard starting.
- Biodiesel blend fuel is an excellent medium for microbial growth and contamination that can cause corrosion and plugging of fuel system components.
- Use of biodiesel blend fuel may result in premature failure of fuel system components, such as: plugged fuel filters and deteriorated fuel lines.
- Shorter maintenance intervals may be required, such as: cleaning the fuel system and replacing fuel filters and fuel lines.
- Using biodiesel blended fuels containing more than five percent biodiesel can affect engine life and cause deterioration of hoses, tubelines, injectors, injector pump, and seals.

Apply the following guidelines if biodiesel blend fuel is used:

- Ensure the fuel tank is as full as possible at all times to prevent moisture from collecting in the fuel tank.
- Ensure that the fuel tank cap is securely tightened.
- Biodiesel blend fuel can damage painted surfaces, remove all spilled fuel from painted surfaces immediately.
- Drain all water from the fuel filter daily before operating the machine.
- Do not exceed engine oil change interval. Extended oil change intervals can cause engine damage.
- Before machine storage; drain the fuel tank, refill with 100% petroleum diesel fuel, add fuel stabilizer, and operate the engine for at least 30 minutes.

NOTE: Biodiesel blend fuel does not have long term stability and should not be stored for more than 3 months.

FUEL SYSTEM (CONT'D)

Filling The Fuel Tank

WARNING

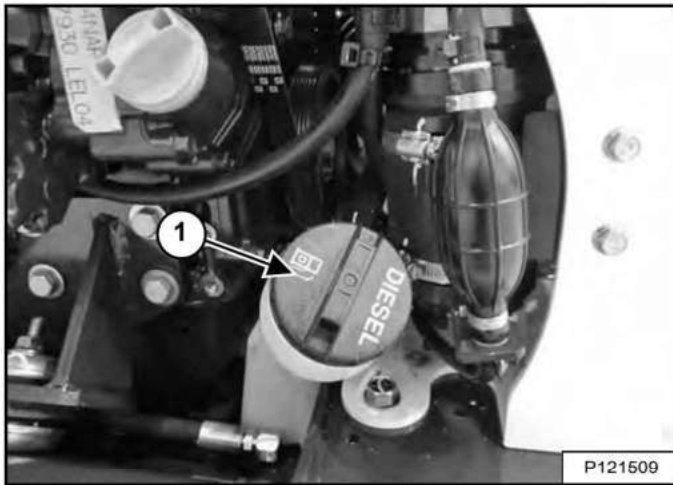
AVOID INJURY OR DEATH

Stop and cool the engine before adding fuel. **NO SMOKING!** Failure to obey warnings can cause an explosion or fire.

W-2063-0807

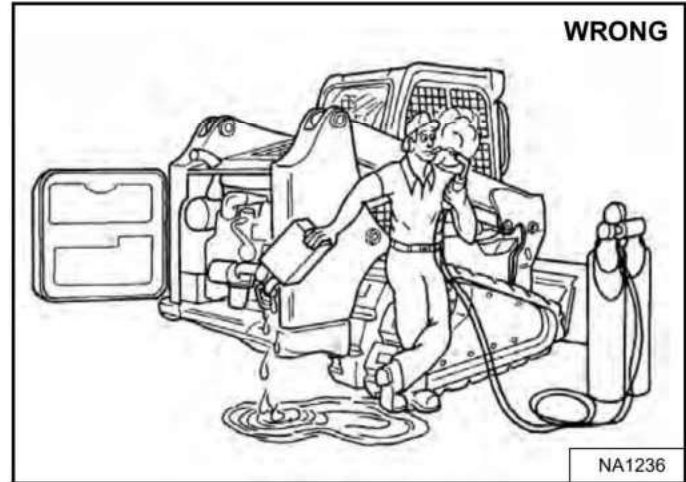
Stop the engine and open the rear door.

Figure 202



Remove the fuel fill cap (Item 1) [Figure 202].

Figure 203



Use a clean, approved safety container to add fuel of the correct specification. Add fuel only in an area that has free movement of air and no open flames or sparks. **NO SMOKING** [Figure 203].

Install and tighten the fuel fill cap (Item 1) [Figure 202].

NOTE: The fuel fill cap must be tightened until the cap clicks.

Close the rear door.

WARNING

AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire.

W-2103-0508

FUEL SYSTEM (CONT'D)

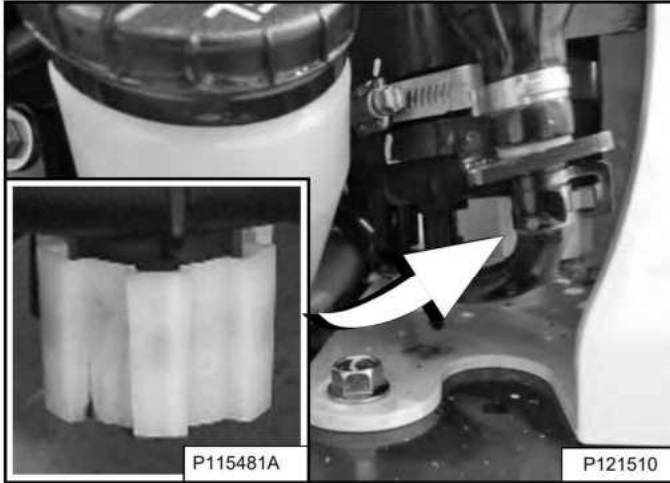
Fuel Filter

Removing Water

See the SERVICE SCHEDULE for the correct service interval. (See SERVICE SCHEDULE on Page 110.)

Stop the engine and open the rear door.

Figure 204



Loosen the drain (Inset) [Figure 204] at the bottom of the filter to remove trapped water from the filter.

Securely tighten the drain.

WARNING

AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire.

W-2103-0508

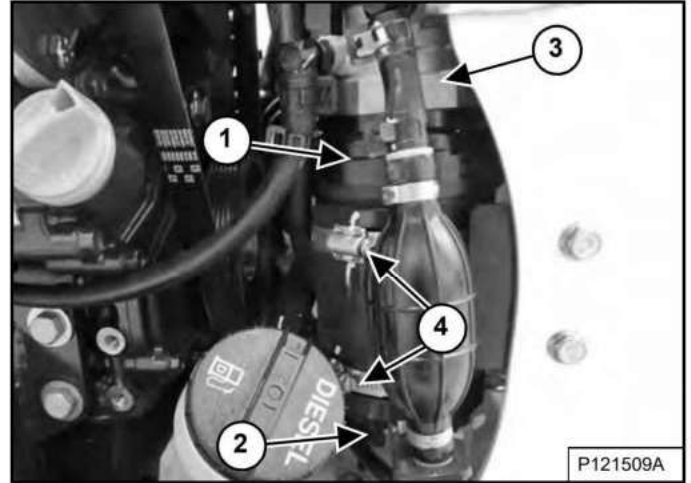
Close the rear door.

Replacing Element

See the SERVICE SCHEDULE for the correct service interval. (See SERVICE SCHEDULE on Page 110.)

Stop the engine and open the rear door.

Figure 205



Disconnect the electrical connector (Item 2) [Figure 205].

Loosen the fuel filter head (Item 3) from the fuel filter element (Item 1) [Figure 205]. Do NOT remove the hoses from the fuel filter head.

Loosen the clamps (Item 4) [Figure 205].

Remove the fuel filter element (Item 1) from the fuel filter head (Item 3) [Figure 205].

NOTE: Do NOT fill the new fuel filter element with fuel at this time.

Put clean oil on the two new fuel filter element O-rings, install the element, and tighten to 13,5 N•m (10 ft-lb) torque.

Install the fuel filter assembly into the clamps and tighten. Connect the electrical connector [Figure 205].

Remove air from the fuel system. (See Removing Air From The Fuel System on Page 134.)

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FUEL SYSTEM (CONT'D)

Fuel Filter (Cont'd)

Replacing Element (Cont'd)

WARNING

AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire.

W-2103-0508

Close the rear door.

Start the engine and allow to operate for one minute.

WARNING

AVOID INJURY OR DEATH

Diesel fuel or hydraulic fluid under pressure can penetrate skin or eyes, causing serious injury or death. Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to find leaks. Do not use your bare hand. Wear safety goggles. If fluid enters skin or eyes, get immediate medical attention from a physician familiar with this injury.

W-2072-0807

Stop the engine and check for leaks at the filter.

Removing Air From The Fuel System

After replacing the filter element or if the fuel tank has run out of fuel, the air must be removed from the fuel system before starting the engine.

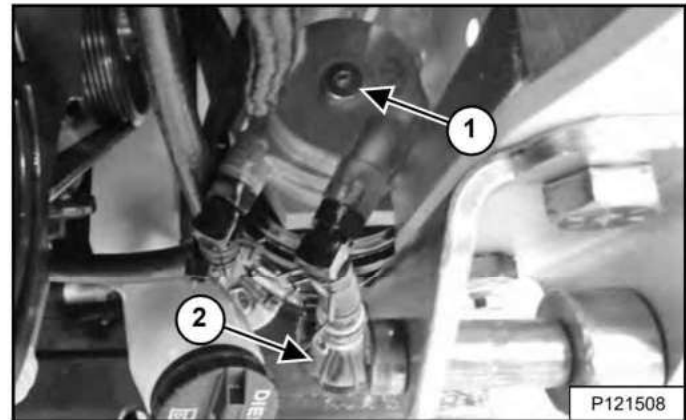
WARNING

AVOID INJURY OR DEATH

Diesel fuel or hydraulic fluid under pressure can penetrate skin or eyes, causing serious injury or death. Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to find leaks. Do not use your bare hand. Wear safety goggles. If fluid enters skin or eyes, get immediate medical attention from a physician familiar with this injury.

W-2072-0807

Figure 206



Open the air vent plug (Item 1) [Figure 206] on the fuel filter assembly three full turns.

Squeeze the hand pump (priming bulb) (Item 2) [Figure 206] until fuel flows from the air vent plug with no air bubbles.

Close the air vent plug (Item 1) [Figure 206].

WARNING

AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire.

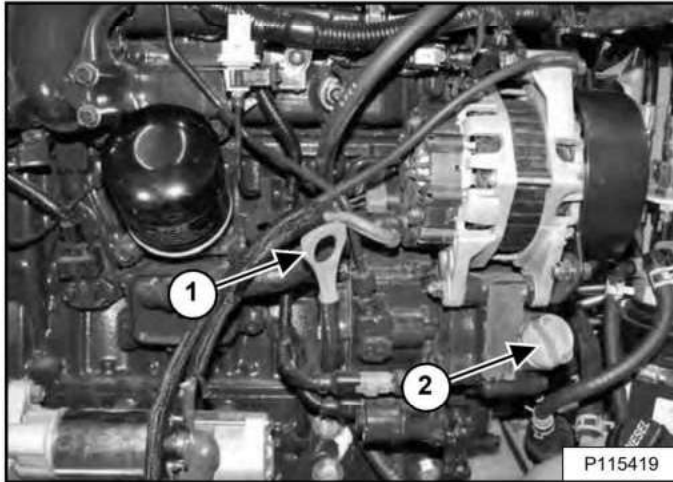
W-2103-0508

ENGINE LUBRICATION SYSTEM

Checking And Adding Engine Oil

Check the engine oil level every day before starting the engine for the work shift.

Figure 207



Park the loader on a level surface. Stop the engine. Open the rear door and remove the dipstick (Item 1) [Figure 207].

Keep the oil level between the marks on the dipstick. Do not overfill.

Remove the oil fill cap (Item 2) [Figure 207] to add engine oil.

WARNING

AVOID INJURY OR DEATH

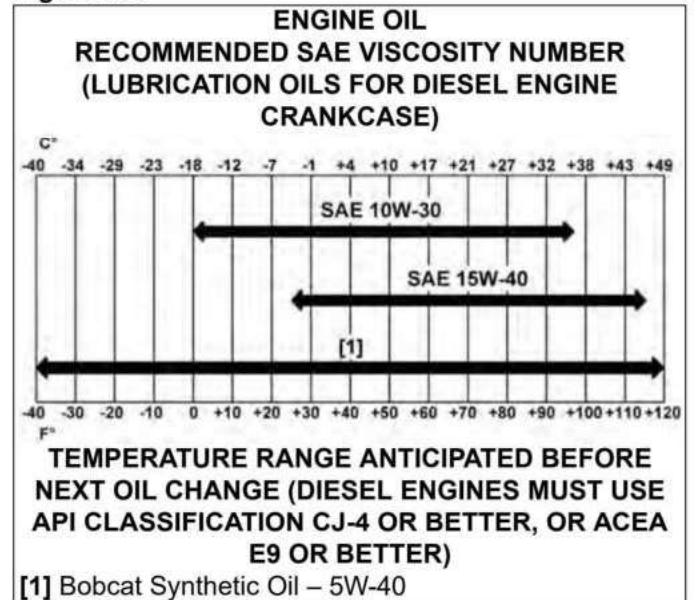
Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire.

W-2103-0508

Close the rear door.

Engine Oil Chart

Figure 208



Bobcat engine oils are recommended for use in this machine. If Bobcat engine oil is not available, use a good quality engine oil that meets API Service Classification of CJ-4 or better, or ACEA E9 or better [Figure 208].

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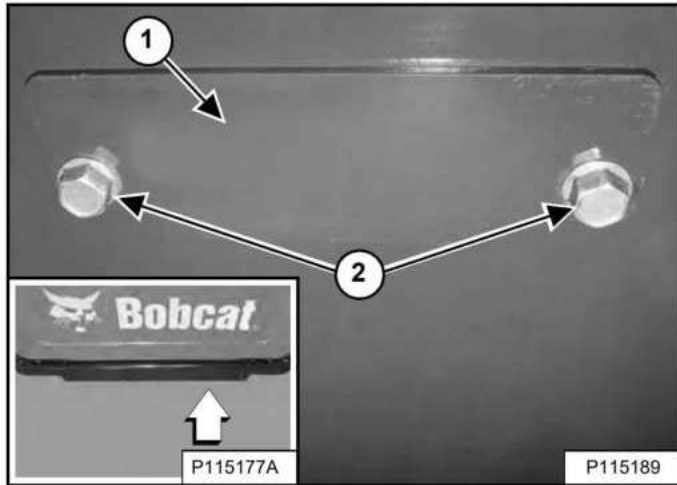
ENGINE LUBRICATION SYSTEM (CONT'D)

Removing And Replacing Oil And Filter

See the SERVICE SCHEDULE for the correct service interval. (See SERVICE SCHEDULE on Page 110.)

Operate the engine until coolant reaches normal operating temperature. Stop the engine.

Figure 209

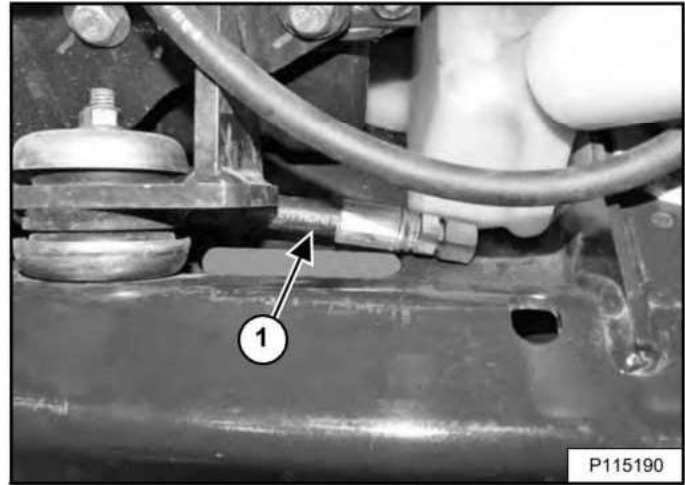


The oil drain hose is located behind a cover (Item 1) under the rear of the loader (Inset) [Figure 209].

Loosen one cover mounting bolt and remove the other bolt (Item 2) [Figure 209] to allow the cover to swing open.

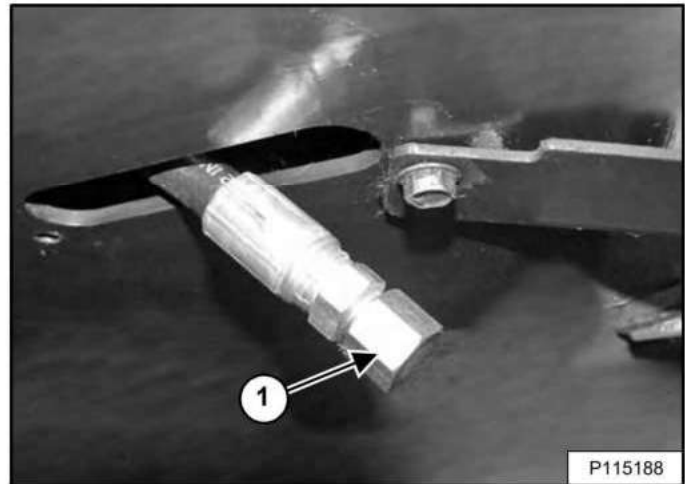
Open the rear door.

Figure 210



The oil drain hose (Item 1) [Figure 210] storage location is near the fuel tank fill. Route the oil drain hose through the opening.

Figure 211



Remove the oil drain cap (Item 1) [Figure 211] from the oil drain hose and drain the oil into a container. Recycle or dispose of used oil in an environmentally safe manner.

Install and tighten the oil drain cap [Figure 211].

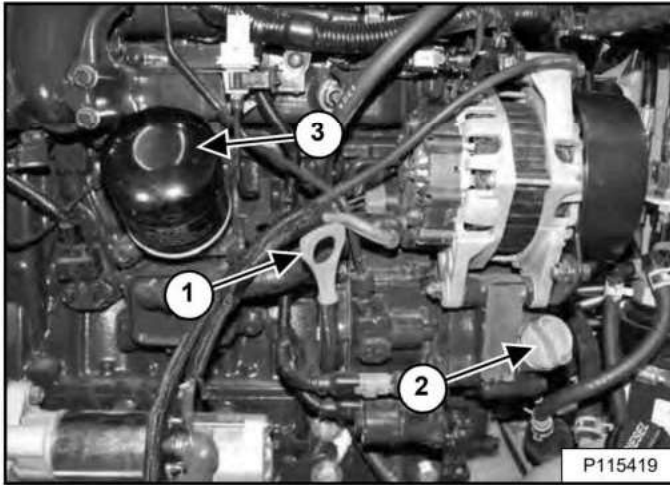
Return the oil drain hose to the storage location [Figure 210].

Close the cover and install the cover mounting bolt [Figure 209]. Tighten both bolts.

ENGINE LUBRICATION SYSTEM (CONT'D)

Removing And Replacing Oil And Filter (Cont'd)

Figure 212



Remove the oil filter (Item 3) [Figure 212] and clean the filter base.

Put clean oil on the new filter gasket, install the new filter, and hand tighten. Use genuine Bobcat filter only.

Remove the oil fill cap (Item 2) [Figure 212].

Put oil into the engine and replace the oil fill cap. (See Capacities on Page 216.) Do not overfill.

Start the engine and allow to operate for several minutes.

WARNING

AVOID INJURY OR DEATH

Diesel fuel or hydraulic fluid under pressure can penetrate skin or eyes, causing serious injury or death. Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to find leaks. Do not use your bare hand. Wear safety goggles. If fluid enters skin or eyes, get immediate medical attention from a physician familiar with this injury.

W-2072-0807

Stop the engine and check for leaks at the filter.

Remove the dipstick (Item 1) [Figure 212] and check the oil level.

Add oil as needed if oil level is not at the top mark on the dipstick. Install the dipstick and close the rear door.

WARNING

AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire.

W-2103-0508

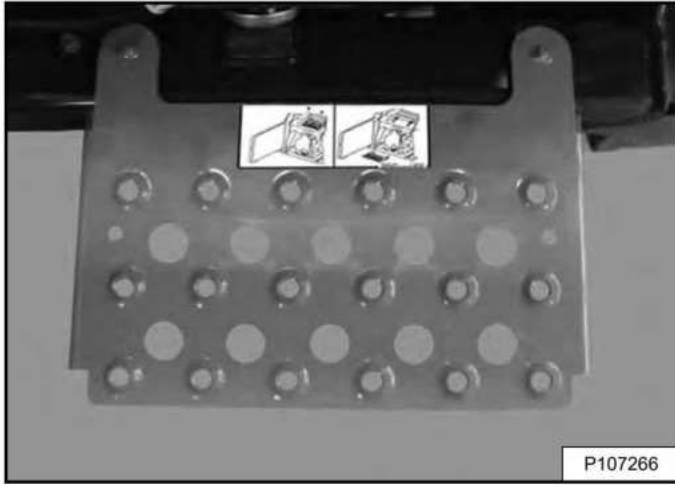
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ENGINE COOLING SYSTEM

Check the cooling system every day to prevent overheating, loss of performance, or engine damage.

Maintenance Platform

Figure 213



A maintenance platform [Figure 213] is available from your Bobcat dealer to facilitate access when cleaning the engine cooling system.

Cleaning

See the SERVICE SCHEDULE for the correct service interval. (See SERVICE SCHEDULE on Page 110.)

Stop the engine, open the rear door, and remove the rear grille. (See REAR GRILLE on Page 125.)

WARNING

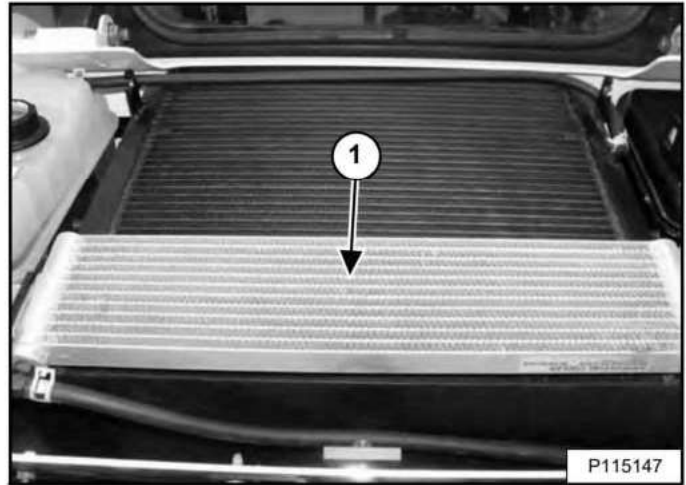
AVOID INJURY OR DEATH

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

W-2019-0907

Figure 214



Use low air pressure or water pressure to clean the top of the fuel cooler (Item 1) [Figure 214].

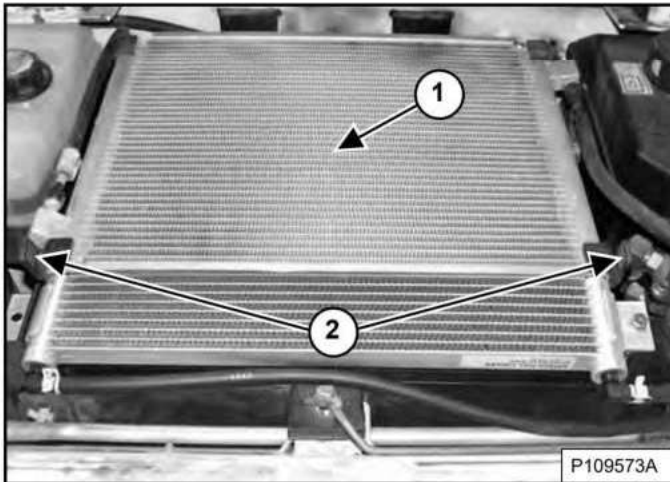
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ENGINE COOLING SYSTEM (CONT'D)

Cleaning (Cont'd)

Loaders With Air Conditioning

Figure 215

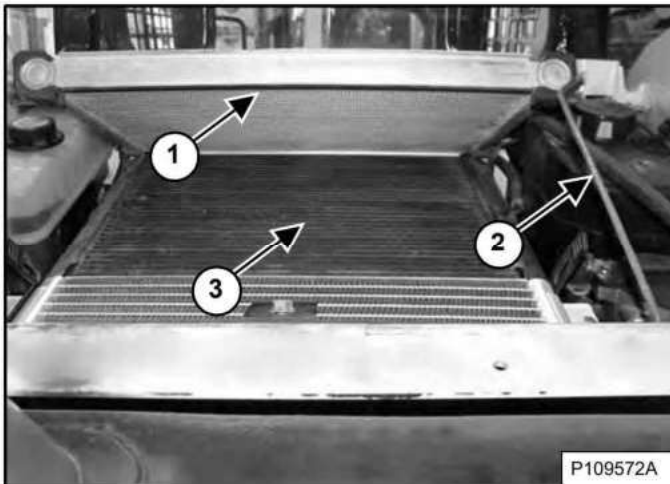


Use low air pressure or water pressure to clean the top of the air conditioning condenser (Item 1) [Figure 215].

Unhook the two rubber straps (Item 2) [Figure 215].

NOTE: The air conditioning condenser fits into two slotted brackets mounted on the hydraulic fluid cooler and radiator assembly. Ensure the air conditioning condenser remains connected to the brackets when raising and lowering.

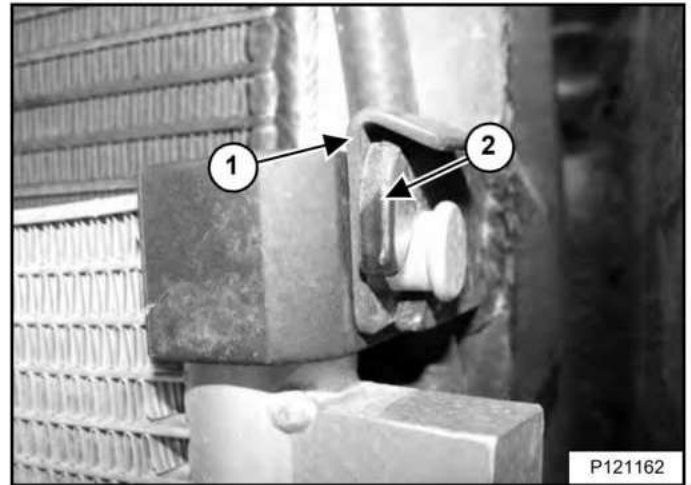
Figure 216



Pivot the air conditioning condenser (Item 1) up and rotate the support bar (Item 2) into position. Use low air pressure or water pressure to clean the top of the hydraulic fluid cooler and radiator assembly (Item 3) [Figure 216].

Return the support bar to storage position and lower the air conditioning condenser.

Figure 217



Ensure the air conditioning condenser is installed into the two slotted brackets (Item 2) [Figure 217]. (Right side shown.)

Ensure the clips (Item 1) are properly installed over the two slotted brackets (Item 2) [Figure 217]. (Right side shown.)

Fasten the two rubber straps [Figure 215].

NOTE: The air conditioning condenser can be lifted out of the two slotted brackets by removing the clips. This allows greater access to clean the hydraulic fluid cooler and radiator assembly.

NOTE: Be careful when removing and installing the air conditioning condenser so that the air conditioning condenser does not fall on the hydraulic fluid cooler and radiator assembly and damage the fins.

Skip ahead to *All Loaders*. (See *All Loaders* on Page 140.)

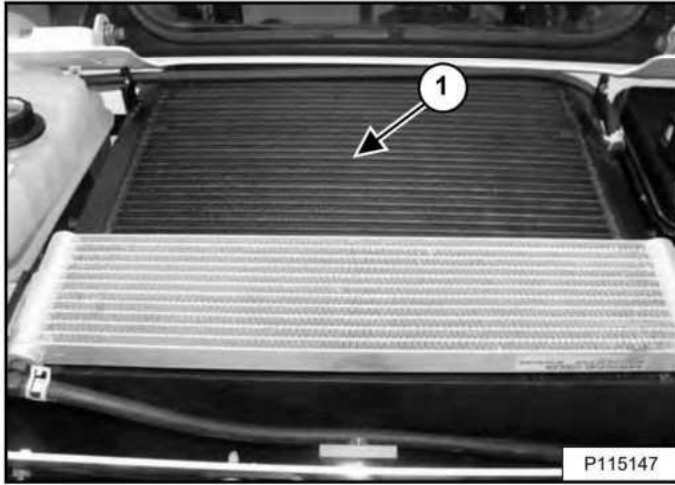
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ENGINE COOLING SYSTEM (CONT'D)

Cleaning (Cont'd)

Loaders Without Air Conditioning

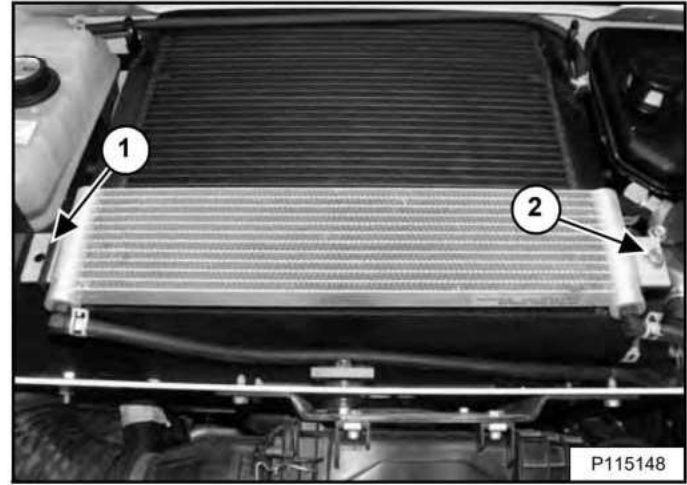
Figure 218



Use low air pressure or water pressure to clean the top of the hydraulic fluid cooler and radiator assembly (Item 1) [Figure 218].

All Loaders

Figure 219



The area between the fuel cooler and the hydraulic fluid cooler and radiator assembly will require occasional cleaning. Remove the bolt (Item 2) and lift the fuel cooler up while sliding out of the bracket (Item 1) [Figure 219].

NOTE: Be careful when removing and installing the fuel cooler so that the fuel cooler does not fall on the hydraulic fluid cooler and radiator assembly and damage the fins.

Install the fuel cooler into the bracket. Install and tighten the bolt [Figure 219].

Check the cooling system for leaks.

Install the rear grille and close the rear door.

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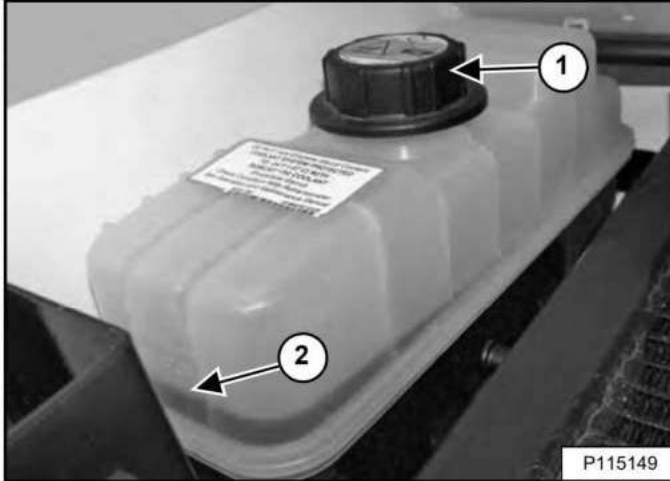
ENGINE COOLING SYSTEM (CONT'D)

Checking And Adding Coolant

Check the engine coolant level every day before starting the engine for the work shift.

Stop the engine, open the rear door, and remove the rear grille. (See REAR GRILLE on Page 125.)

Figure 220



Coolant must be between the top and bottom level markers (Item 2) [Figure 220] when the engine is cold.

NOTE: The loader is factory filled with propylene glycol coolant (purple color). **DO NOT** mix propylene glycol with ethylene glycol.

Use a refractometer to check the condition of propylene glycol in your cooling system.

WARNING

AVOID INJURY

Stop the engine and allow to cool before adding coolant or you can be burned.

W-2106-0907

Remove the coolant fill cap (Item 1) [Figure 220] to add coolant.

The correct mixture of coolant to provide a -37°C (-34°F) freeze protection is 5 L propylene glycol mixed with 4,4 L of water **OR** 1 U.S. gal propylene glycol mixed with 3.5 qt of water.

IMPORTANT

AVOID ENGINE DAMAGE

Always use the correct ratio of water to antifreeze.

Too much antifreeze reduces cooling system efficiency and may cause serious premature engine damage.

Too little antifreeze reduces the additives which protect the internal engine components; reduces the boiling point and freeze protection of the system.

Always add a premixed solution. Adding full strength concentrated coolant can cause serious premature engine damage.

I-2124-0497

Add premixed coolant, 47% water and 53% propylene glycol to the coolant tank until the coolant level reaches the upper level marker on the tank [Figure 220].

Install the coolant fill cap [Figure 220].

NOTE: The coolant fill cap must be tightened until the cap clicks.

Install the rear grille and close the rear door.

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ENGINE COOLING SYSTEM (CONT'D)

Removing And Replacing Coolant

See the SERVICE SCHEDULE for the correct service interval. (See SERVICE SCHEDULE on Page 110.)

Stop the engine, open the rear door, and remove the rear grille. (See REAR GRILLE on Page 125.)

! WARNING

AVOID INJURY

Do not remove engine coolant cap when the engine is hot. You can be seriously burned.

W-2607-0804

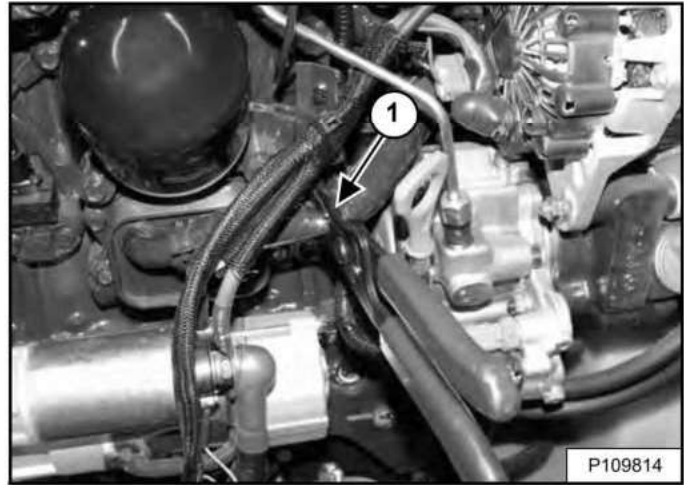
NOTE: This procedure requires the use of a spare 0.75 in. coolant hose approximately 600 mm (24 in) long.

Figure 221



Remove the coolant fill cap (Item 1) [Figure 221].

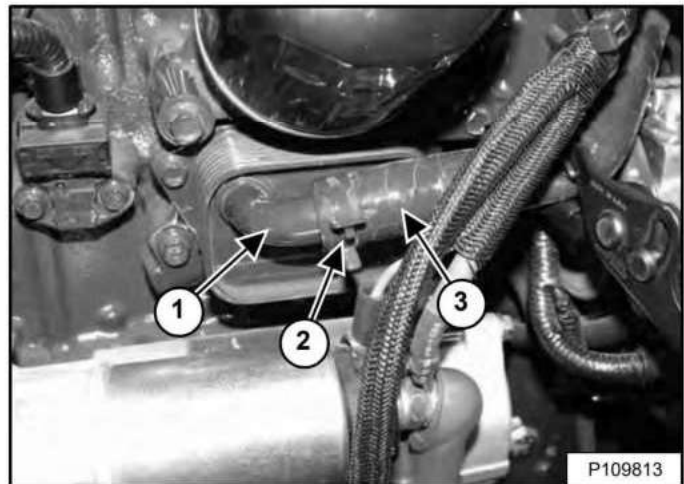
Figure 222



Pinch off the coolant hose attached to the engine oil cooler using a locking hose pinching plier (Item 1) [Figure 222] or similar tool.

Install the coolant fill cap (Item 1) [Figure 221].

Figure 223



Remove the clamp (Item 2) and disconnect the hose (Item 3) from the engine oil cooler fitting (Item 1) [Figure 223].

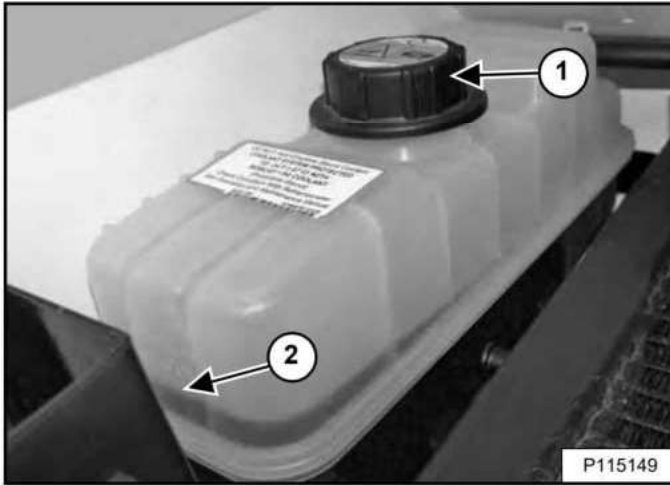
Quickly install the spare 0.75 in. coolant hose onto the engine oil cooler fitting.

Drain the coolant into a container.

ENGINE COOLING SYSTEM (CONT'D)

Removing And Replacing Coolant (Cont'd)

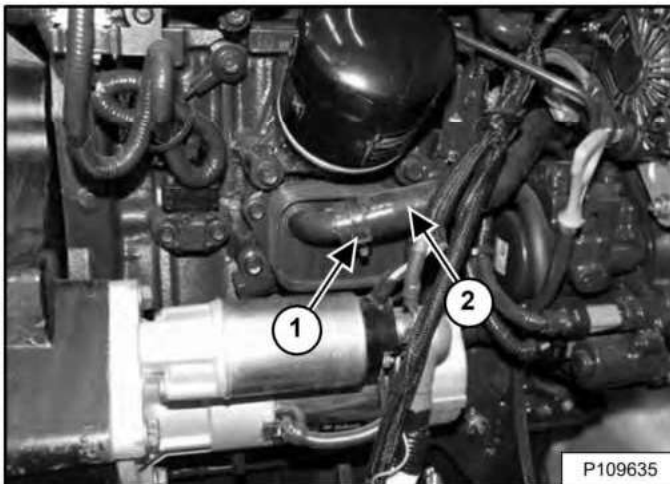
Figure 224



Remove the coolant fill cap (Item 1) [Figure 224] to drain the coolant faster.

Remove the spare 0.75 in. coolant hose from the engine oil cooler fitting when the coolant has drained.

Figure 225



Install the coolant hose (Item 2) onto the engine oil cooler fitting and install the clamp (Item 1) [Figure 225].

Remove the tool used to pinch off the coolant hose.

Recycle or dispose of used coolant in an environmentally safe manner.

Mix new coolant in a separate container. (See Capacities on Page 216.)

The correct mixture of coolant to provide a -37°C (-34°F) freeze protection is 5 L propylene glycol mixed with 4,4 L of water **OR** 1 U.S. gal propylene glycol mixed with 3.5 qt of water.

IMPORTANT

AVOID ENGINE DAMAGE

Always use the correct ratio of water to antifreeze.

Too much antifreeze reduces cooling system efficiency and may cause serious premature engine damage.

Too little antifreeze reduces the additives which protect the internal engine components; reduces the boiling point and freeze protection of the system.

Always add a premixed solution. Adding full strength concentrated coolant can cause serious premature engine damage.

I-2124-0497

Add premixed coolant, 47% water and 53% propylene glycol to the coolant tank until the coolant level reaches the lower level marker on the tank (Item 2) [Figure 224].

Install the coolant fill cap (Item 1) [Figure 224].

NOTE: The coolant fill cap must be tightened until the cap clicks.

Install the rear grille and close the rear door.

Operate the engine until coolant reaches normal operating temperature. Stop the engine.

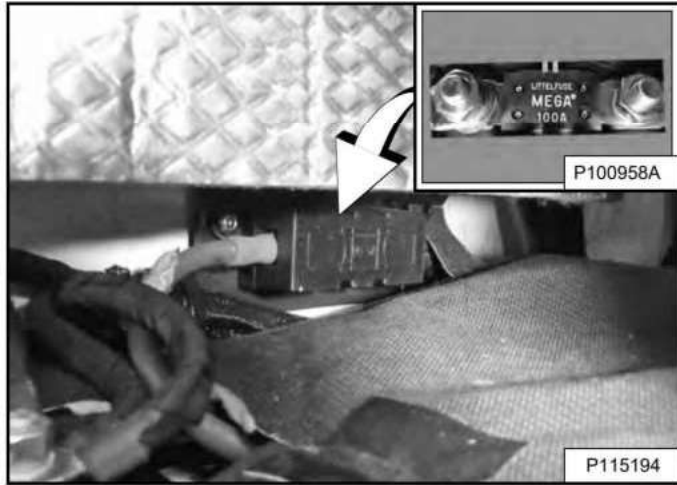
Check the coolant level when cool. Add coolant as needed. (See Checking And Adding Coolant on Page 141.)

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ELECTRICAL SYSTEM

Description

Figure 226



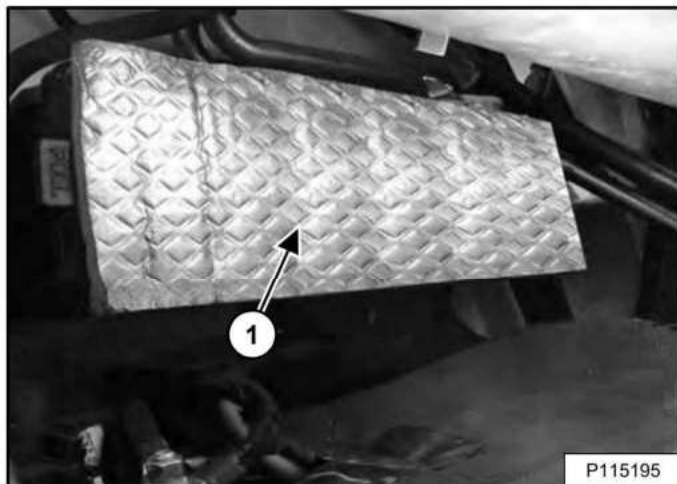
The loader has a 12 volt, negative ground, alternator charging system.

The electrical system is protected by fuses inside a panel and a 100 ampere master fuse (Inset) [Figure 226] located above the battery in the engine compartment.

The fuses will protect the electrical system when there is an electrical overload. The reason for the overload must be found before starting the engine again.

Fuse And Relay Location / Identification

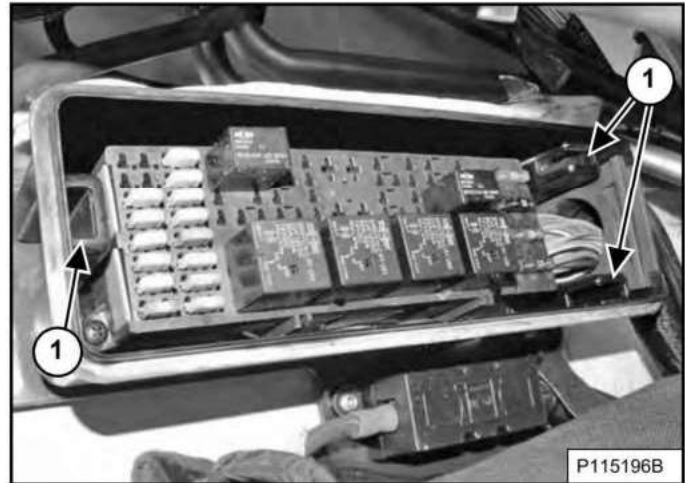
Figure 227



The electrical system is protected from overload by fuses located under the fuse panel cover (Item 1) [Figure 227]. Remove the fuse panel cover by pulling at each end.

A decal located inside the fuse panel cover indicates fuse and relay location and fuse amperage ratings.

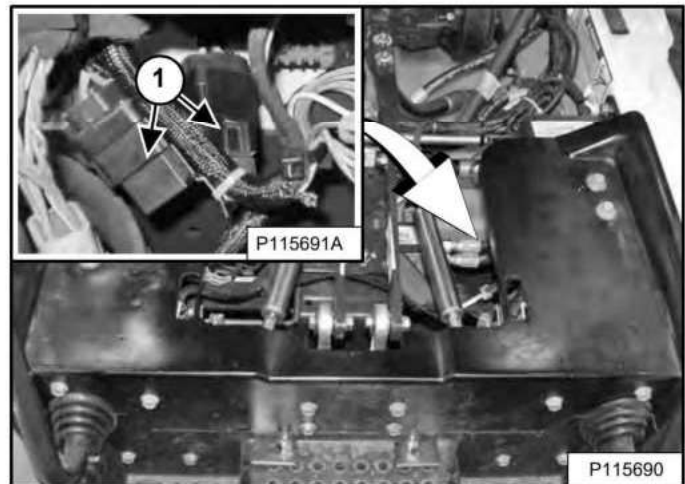
Figure 228



Line up the clips on the back of the fuse panel cover with the slots (Item 1) [Figure 228] in the fuse panel and push the cover into position when finished.

A table is provided with details on amperage ratings and the circuits affected by each fuse and relay. (See Figure 230 on Page 145.)

Figure 229

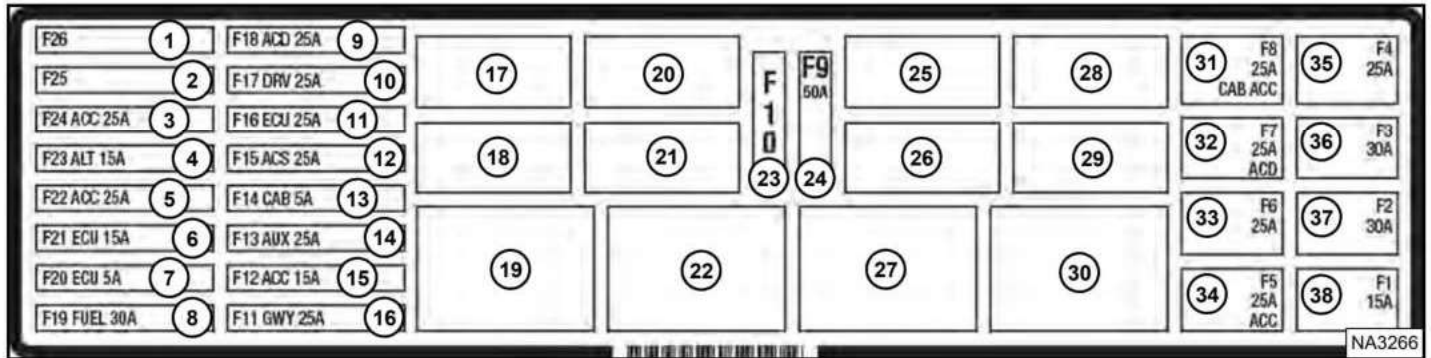


Two relays (Item 1) [Figure 229] for the loader lights are located under the operator cab on the left side of the loader. Stop the engine and raise the operator cab to access the relays. (See Raising on Page 122.)

ELECTRICAL SYSTEM (CONT'D)

Fuse And Relay Location / Identification (Cont'd)

Figure 230



Fuse location and amperage ratings are shown in the table below and on the decal [Figure 230]. Relays are identified by the letter "R" in the AMP column.

ITEM	ICON	DESCRIPTION	AMP	ITEM	ICON	DESCRIPTION	AMP	ITEM	ICON	DESCRIPTION	AMP
1		Not Used	--	14		Auxiliary Controller	25	27		Heater / HVAC	R
2		Not Used	--	15		Bucket Position	15	28		Not Used	--
3		Cab Accessories Power Port	25	16		Bobcat Controller	25	29		Rear Lights	R
4		Alternator	15	17		Starter	R	30		Switched Power	R
5		Accessories and Front Horn	25	18		Not Used	--	31		Cab Switched Power	25
6		Engine Controller	15	19		Traction	R	32		Switched Power	25
7		Engine Controller	5	20		Not Used	--	33		Wiper / Washer	25
8		Fuel Shutoff	30	21		Engine Controller	R	34		Switched Power Back-up Alarm	25
9		Attachments	25	22		Glow Plugs	R	35		Heater / HVAC	25
10		Drive Controller Back-up Alarm	25	23		Not Used	--	36		Traction	30
11		Engine Controller	25	24		Glow Plugs	50	37		Front Lights	30
12		ACS Controller	25	25		Not Used	--	38		Rear Lights	15
13		Cab Switched Power	5	26		Not Used	--				

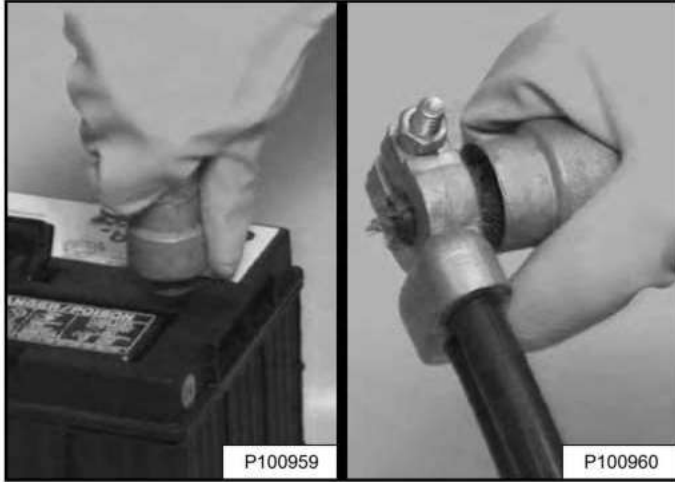
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ELECTRICAL SYSTEM (CONT'D)

Battery Maintenance

See the SERVICE SCHEDULE for the correct service interval. (See SERVICE SCHEDULE on Page 110.)

Figure 231



The battery cables must be clean **[Figure 231]** and tight.

Remove acid or corrosion from battery and cables with sodium bicarbonate (baking soda) and water solution.

Put Bobcat Battery Saver or grease on the battery terminals and cable ends to prevent corrosion.

Check electrolyte level in the battery. Add distilled water as needed.

WARNING

AVOID INJURY OR DEATH

Batteries contain acid which burns eyes and skin on contact. Wear goggles, protective clothing and rubber gloves to keep acid off body.

In case of acid contact, wash immediately with water. In case of eye contact get prompt medical attention and wash eye with clean, cool water for at least 15 minutes.

If electrolyte is taken internally drink large quantities of water or milk! DO NOT induce vomiting. Get prompt medical attention.

W-2065-0807

ELECTRICAL SYSTEM (CONT'D)

Using A Booster Battery (Jump Starting)

If the engine will not start without using a booster battery, BE CAREFUL! There must be one person in the operator's seat and one person to connect and disconnect the battery cables.

The key switch must be in the STOP position. The booster battery must be 12 volt.

WARNING

BATTERY GAS CAN EXPLODE AND CAUSE SERIOUS INJURY OR DEATH

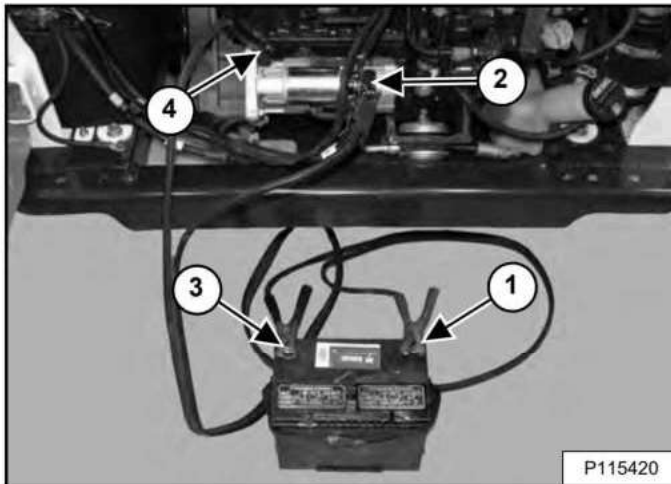
Keep arcs, sparks, flames and lighted tobacco away from batteries. When *jumping* from booster battery make final connection (negative) at machine frame.

Do not jump start or charge a frozen or damaged battery. Warm battery to 16°C (60°F) before connecting to a charger. Unplug charger before connecting or disconnecting cables to battery. Never lean over battery while boosting, testing or charging.

W-2066-0910

Open the rear door.

Figure 232



Connect the end of the first cable (Item 1) to the positive (+) terminal of the booster battery. Connect the other end of the same cable (Item 2) [Figure 232] to the positive (+) terminal on the engine starter.

Connect the end of the second cable (Item 3) to the negative (-) terminal of the booster battery. Connect the other end of the same cable (Item 4) [Figure 232] to the engine.

Keep cables away from moving parts. Start the engine. (See STARTING THE ENGINE on Page 82.)

After the engine has started, remove the negative (-) cable (Item 4) first. Remove the cable from the positive (+) terminal (Item 2) [Figure 232].

Remove the cables from the booster battery.

Close the rear door.

IMPORTANT

Damage to the alternator can occur if:

- Engine is operated with battery cables disconnected.
- Battery cables are connected when using a fast charger or when welding on the loader. (Remove both cables from the battery.)
- Extra battery cables (booster cables) are connected wrong.

I-2023-1285

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ELECTRICAL SYSTEM (CONT'D)

Removing And Installing Battery

Removing

! WARNING

AVOID INJURY OR DEATH

Batteries contain acid which burns eyes and skin on contact. Wear goggles, protective clothing and rubber gloves to keep acid off body.

In case of acid contact, wash immediately with water. In case of eye contact get prompt medical attention and wash eye with clean, cool water for at least 15 minutes.

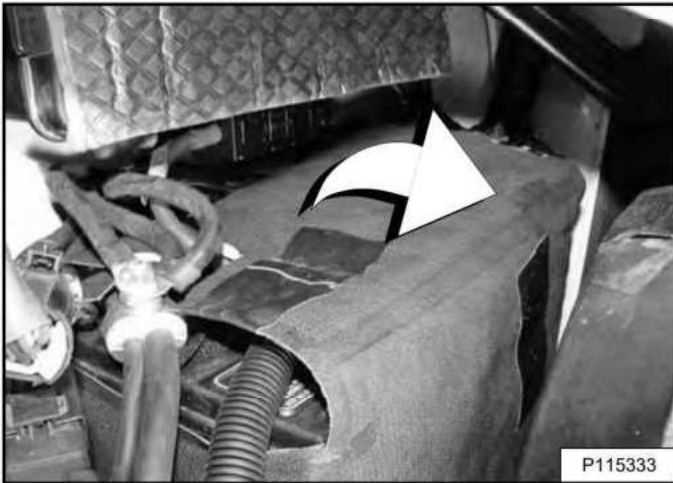
If electrolyte is taken internally drink large quantities of water or milk! DO NOT induce vomiting. Get prompt medical attention.

W-2065-0807

Stop the engine and open the rear door.

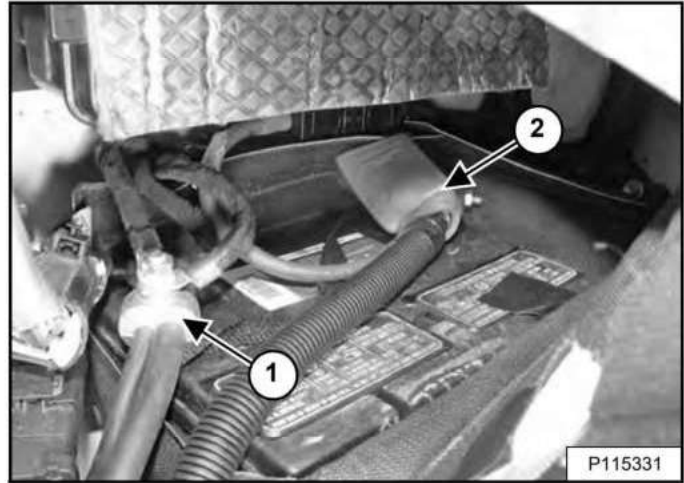
When installing the battery into the loader, do not touch any metal parts with the battery terminals.

Figure 233



Open the top flap of the battery wrap to gain access to the battery terminals [Figure 233].

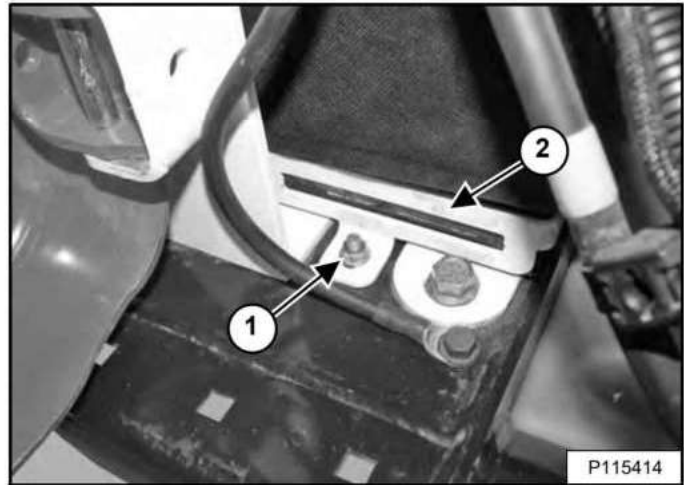
Figure 234



Disconnect the negative (-) cable (Item 1) [Figure 234].

Disconnect the positive (+) cable (Item 2) [Figure 234].

Figure 235



Slightly raise the battery wrap to gain access to the battery clamp.

Remove the nut (Item 1) and the battery clamp (item 2) [Figure 235].

Remove the battery from the loader.

If installing a different battery – Remove the battery wrap from the battery.

ELECTRICAL SYSTEM (CONT'D)

Removing And Installing Battery (Cont'd)

Installing

! WARNING

AVOID INJURY OR DEATH

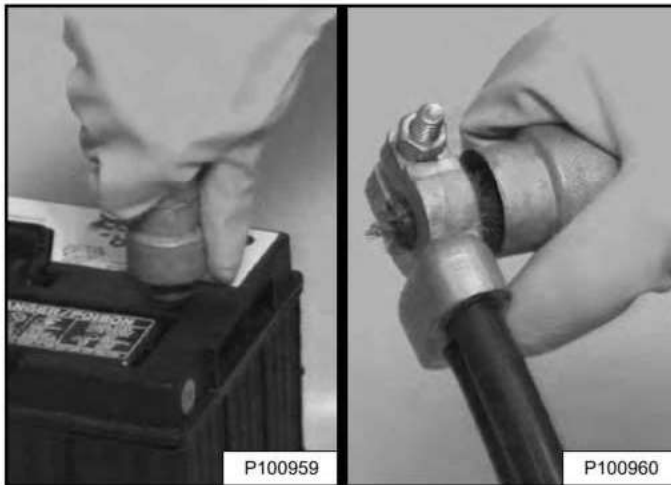
Batteries contain acid which burns eyes and skin on contact. Wear goggles, protective clothing and rubber gloves to keep acid off body.

In case of acid contact, wash immediately with water. In case of eye contact get prompt medical attention and wash eye with clean, cool water for at least 15 minutes.

If electrolyte is taken internally drink large quantities of water or milk! DO NOT induce vomiting. Get prompt medical attention.

W-2065-0807

Figure 236



Always clean the battery terminals and cable ends when installing a new or used battery [Figure 236].

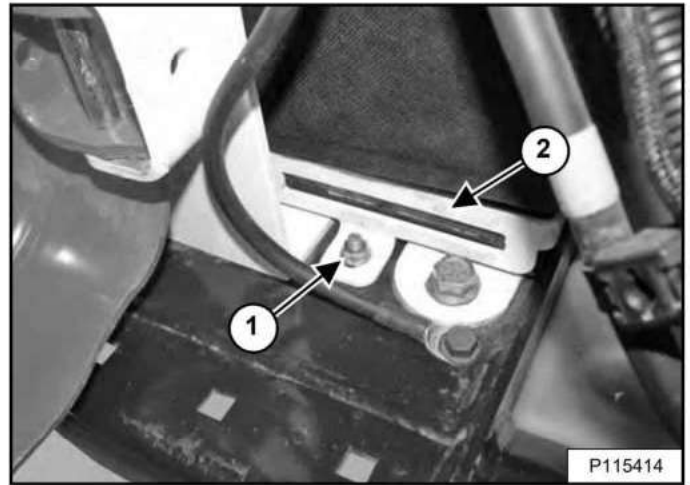
Install the battery wrap onto the battery.

When installing the battery into the loader, do not touch any metal parts with the battery terminals.

Install the battery into the loader.

Slightly raise the battery wrap to allow the battery to lock into the battery clamps.

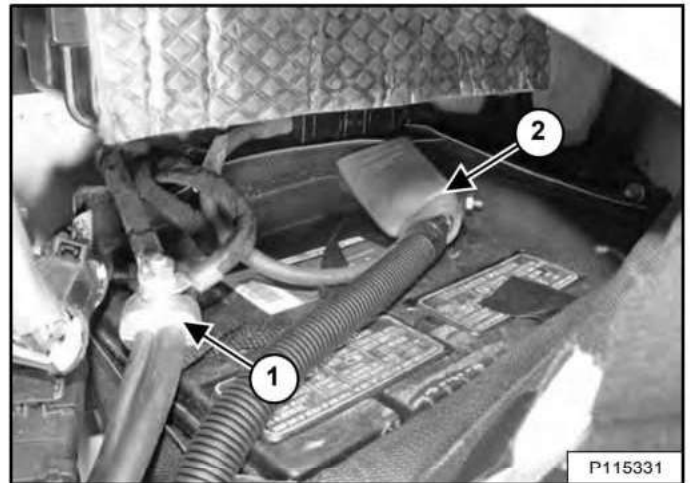
Figure 237



Install the battery clamp (item 2) and the nut (Item 1) [Figure 237].

Lower the battery wrap over the battery clamps.

Figure 238



Connect and tighten the positive (+) cable (Item 2). Connect and tighten the negative (-) cable (Item 1) [Figure 238] last to prevent sparks.

Put Bobcat Battery Saver or grease on the battery terminals and cable ends to prevent corrosion.

Close and securely fasten the top flap of the battery wrap [Figure 233].

Close the rear door.

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HYDRAULIC / HYDROSTATIC SYSTEM

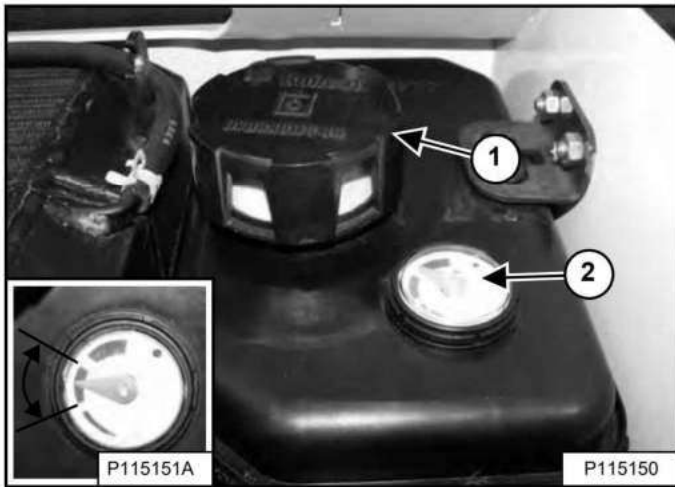
Checking And Adding Fluid

Check the hydraulic / hydrostatic fluid level every day before starting the work shift.

Park the loader on a level surface, lower the lift arms, and put the attachment flat on the ground or tilt the Bob-Tach fully back if no attachment is installed.

Open the rear door and remove the rear grille. (See REAR GRILLE on Page 125.)

Figure 239



Check the fluid level in the sight gauge (Item 2). Keep the fluid level within the operating range (Inset) **[Figure 239]**.

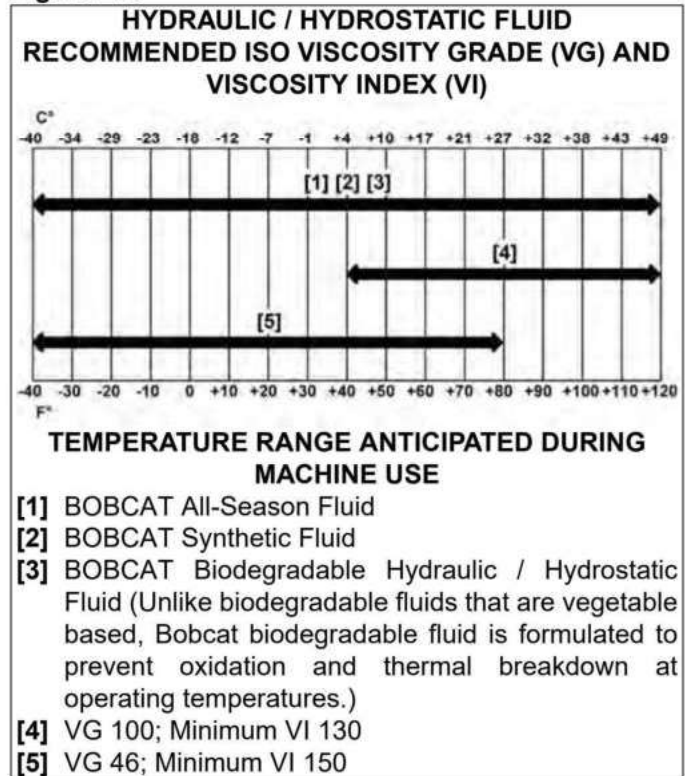
Remove the fill cap (Item 1) **[Figure 239]**.

Add fluid as needed to bring the level within the operating range in the sight gauge.

Install the fill cap, install the rear grille, and close the rear door.

Hydraulic / Hydrostatic Fluid Chart

Figure 240



Bobcat hydraulic fluids are recommended for use in this machine. If Bobcat hydraulic fluid is not available, use a good quality hydraulic fluid meeting the viscosity grade and viscosity index shown in the chart **[Figure 240]**. (See Hydraulic System on Page 215.)



AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire.

W-2103-0508

HYDRAULIC / HYDROSTATIC SYSTEM (CONT'D)

Removing And Replacing Hydraulic Fluid

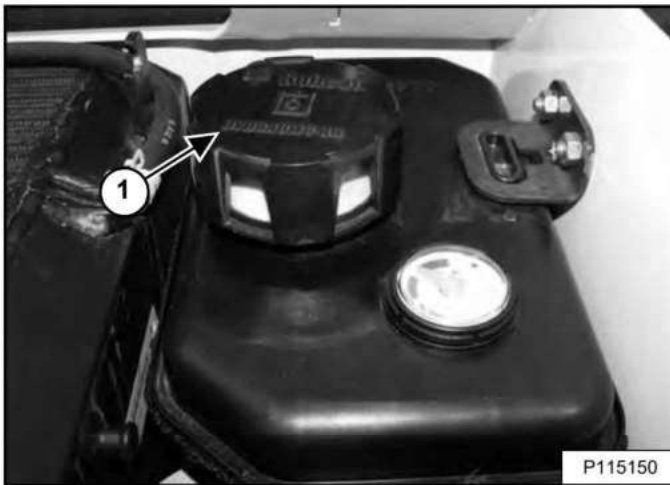
See the SERVICE SCHEDULE for the correct service interval. (See SERVICE SCHEDULE on Page 110.)

Replace the fluid if contaminated or after major repair.

Always replace the hydraulic / hydrostatic filter and the hydraulic charge filter whenever the hydraulic fluid is replaced. (See Removing And Replacing Hydraulic / Hydrostatic Filter on Page 154.) and (See Removing And Replacing Hydraulic Charge Filter on Page 155.)

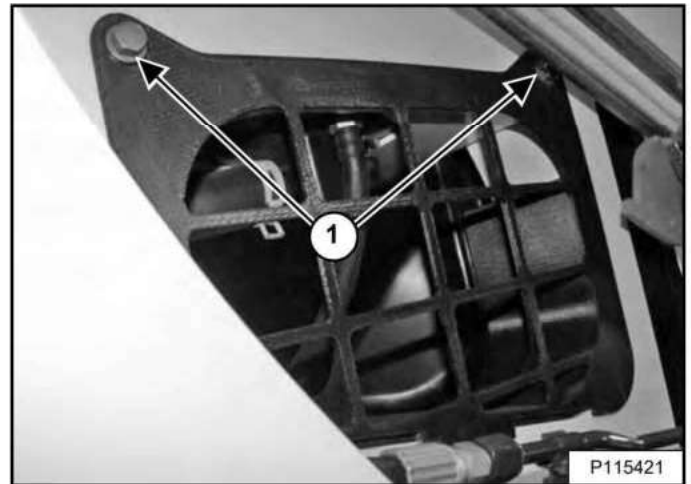
Stop the engine, open the rear door, and remove the rear grille. (See REAR GRILLE on Page 125.)

Figure 241



Remove the hydraulic fill cap (Item 1) [Figure 241].

Figure 242



Remove the right side access cover bolts (Item 1) [Figure 242] and remove the access cover.

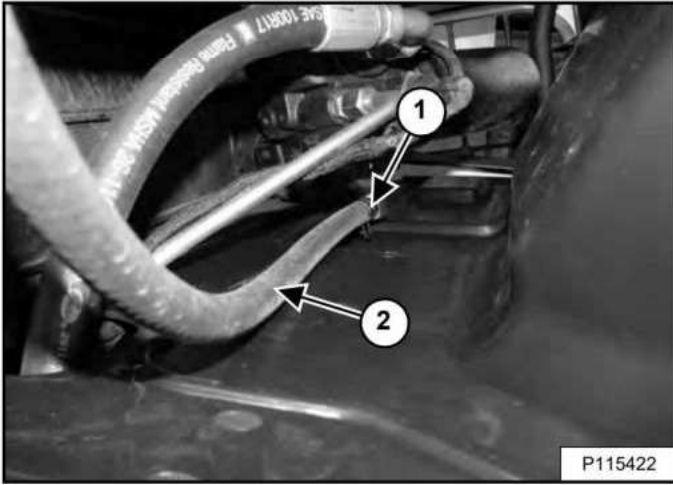
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HYDRAULIC / HYDROSTATIC SYSTEM (CONT'D)

Removing And Replacing Hydraulic Fluid (Cont'd)

Earlier Models

Figure 243

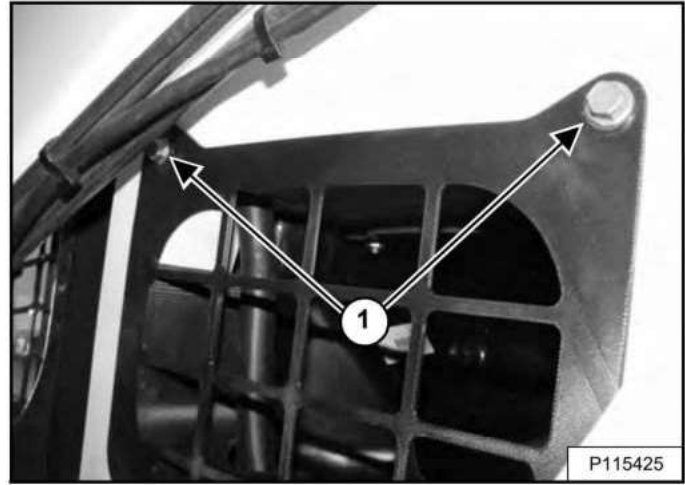


Remove the clamp (Item 1). Pinch off the hose (Item 2) **[Figure 243]** near the fitting and disconnect hose from the fitting.

Skip ahead to *All Models*. (See All Models on Page 153.)

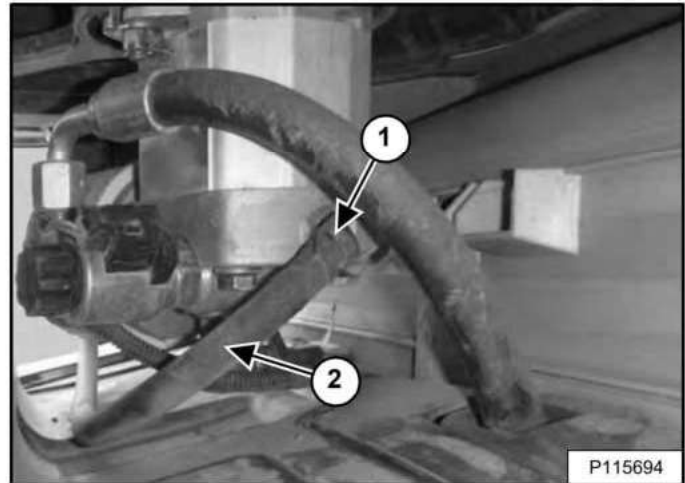
Later Models

Figure 244



Remove the left side access cover bolts (Item 1) **[Figure 244]** and remove the access cover.

Figure 245



Remove the clamp (Item 1). Pinch off the hose (Item 2) **[Figure 245]** near the fitting and disconnect hose from the fitting.

Skip ahead to *All Models*. (See All Models on Page 153.)

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HYDRAULIC / HYDROSTATIC SYSTEM (CONT'D)

Removing And Replacing Hydraulic Fluid (Cont'd)

All Models

Route the hose out the right side of the loader and drain the fluid into a container.

Connect the hose to the fitting when the fluid stops draining. Install the clamp.

Recycle or dispose of used fluid in an environmentally safe manner.

Install hydraulic fill screen and add the correct fluid to the reservoir until the fluid level is within the operating range of the sight gauge. (See Capacities on Page 216.) and (See Checking And Adding Fluid on Page 150.)

Install the hydraulic fill cap [Figure 241].

Install the rear grille and close the rear door.

Start the engine and operate the loader hydraulic controls.

WARNING

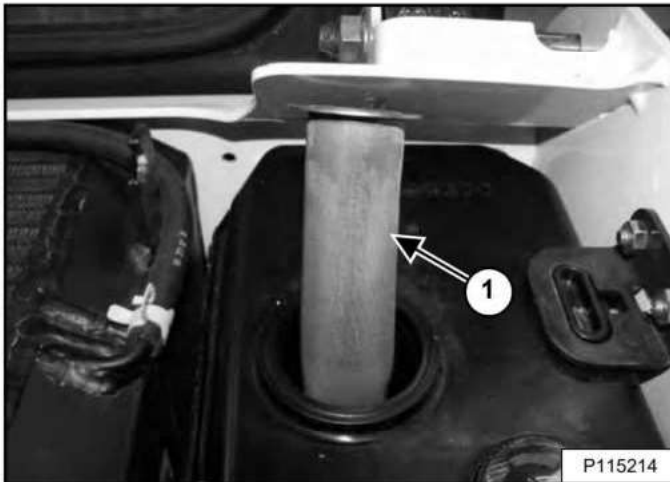
AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire.

W-2103-0508

Install the side access covers and bolts [Figure 242] and [Figure 244].

Figure 246



Remove and clean the hydraulic fill screen (Item 1) [Figure 246]. Use low air pressure to dry the screen.

WARNING

AVOID INJURY OR DEATH

Diesel fuel or hydraulic fluid under pressure can penetrate skin or eyes, causing serious injury or death. Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to find leaks. Do not use your bare hand. Wear safety goggles. If fluid enters skin or eyes, get immediate medical attention from a physician familiar with this injury.

W-2072-0807

Stop the engine and check for leaks.

Check the fluid level in the reservoir and add as needed. (See Checking And Adding Fluid on Page 150.)

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HYDRAULIC / HYDROSTATIC SYSTEM (CONT'D)

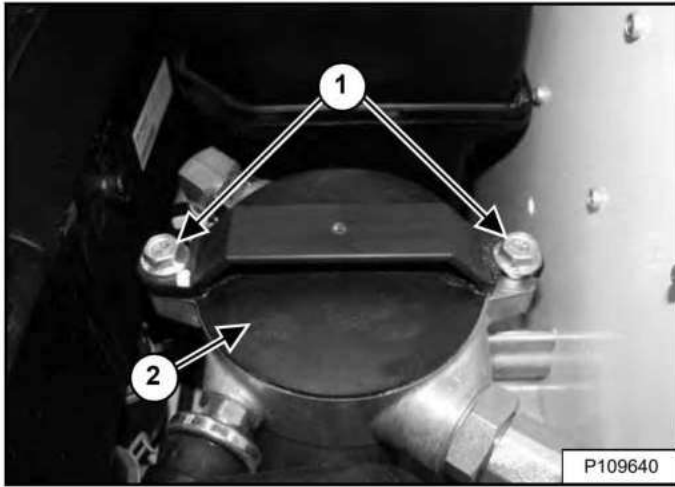
Removing And Replacing Hydraulic / Hydrostatic Filter

See the SERVICE SCHEDULE for the correct service interval. (See SERVICE SCHEDULE on Page 110.)

Stop the engine, open the rear door, and remove the rear grille. (See REAR GRILLE on Page 125.)

Clean the top of the filter housing.

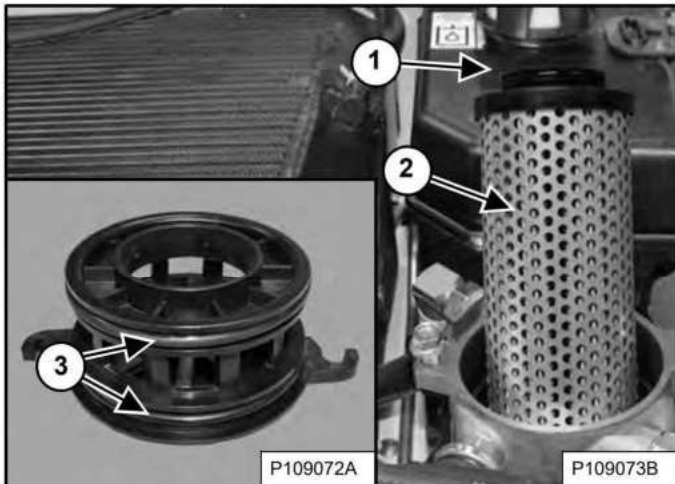
Figure 247



Loosen the bolts (Item 1) and rotate the filter cap (Item 2) [Figure 247] anticlockwise until the cap clears the bolts.

Slowly pry the filter cap off the housing by hand.

Figure 248



Remove the filter (Item 2) [Figure 248] and discard.

Lubricate the O-ring (Item 1) [Figure 248] on new filter with clean oil.

Install new filter ensuring that filter is fully seated in the housing.

Remove the filter cap O-rings (Item 3) [Figure 248] and discard.

Install new filter cap O-rings and lubricate with clean oil.

NOTE: The filter cap O-rings are not the same size. Take care to install each O-ring in the correct location.

Install the filter cap and rotate clockwise to engage the bolts [Figure 247]. Alternate tightening the bolts to draw the cap down evenly. Tighten the bolts to 27 – 41 N•m (20 – 30 ft-lb) torque.

WARNING

AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire.

W-2103-0508

Install the rear grille and close the rear door.

Start the engine and operate the loader hydraulic controls.

WARNING

AVOID INJURY OR DEATH

Diesel fuel or hydraulic fluid under pressure can penetrate skin or eyes, causing serious injury or death. Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to find leaks. Do not use your bare hand. Wear safety goggles. If fluid enters skin or eyes, get immediate medical attention from a physician familiar with this injury.

W-2072-0807

Stop the engine and check for leaks at the filter.

Check the fluid level in the reservoir and add as needed. (See Checking And Adding Fluid on Page 150.)

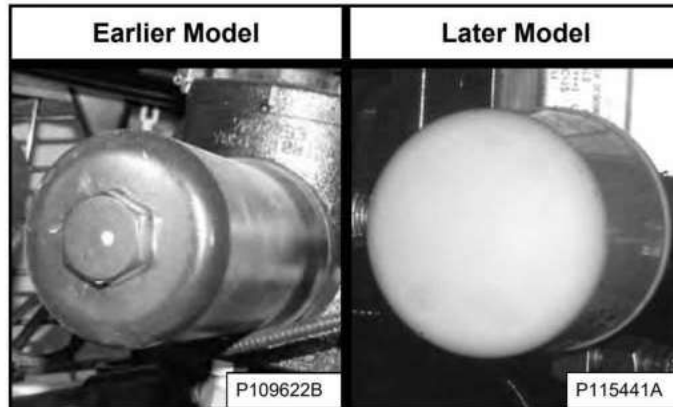
HYDRAULIC / HYDROSTATIC SYSTEM (CONT'D)

Removing And Replacing Hydraulic Charge Filter

See the SERVICE SCHEDULE for the correct service interval. (See SERVICE SCHEDULE on Page 110.)

NOTE: Identification of the hydraulic charge filter used on your machine is necessary to perform the correct replacement procedure.

Figure 249



Earlier models use a separate filter housing and filter element. Later models use a spin-on filter **[Figure 249]**. (See Earlier Models on Page 156.) or (See Later Models on Page 157.)

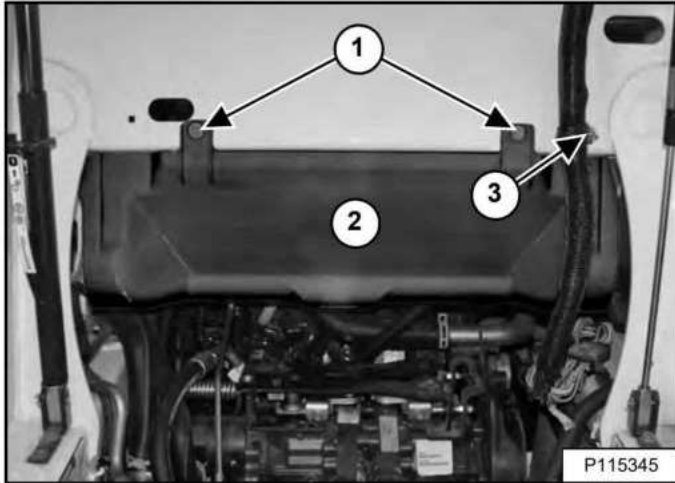
HYDRAULIC / HYDROSTATIC SYSTEM (CONT'D)

Removing And Replacing Hydraulic Charge Filter (Cont'd)

Earlier Models

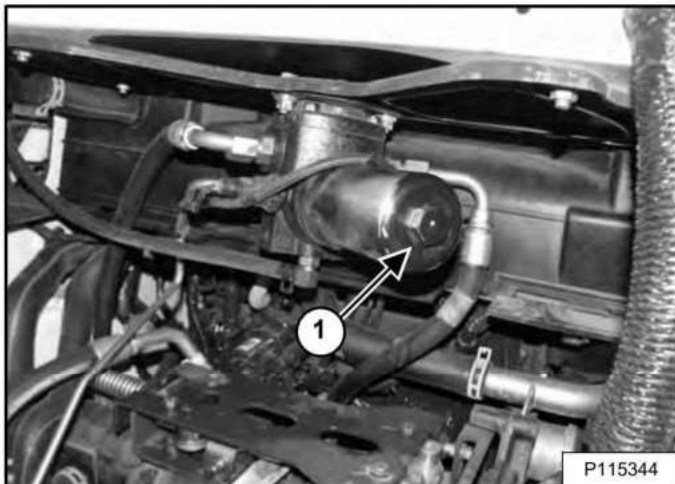
Stop the engine and raise the operator cab. (See Raising on Page 122.)

Figure 250



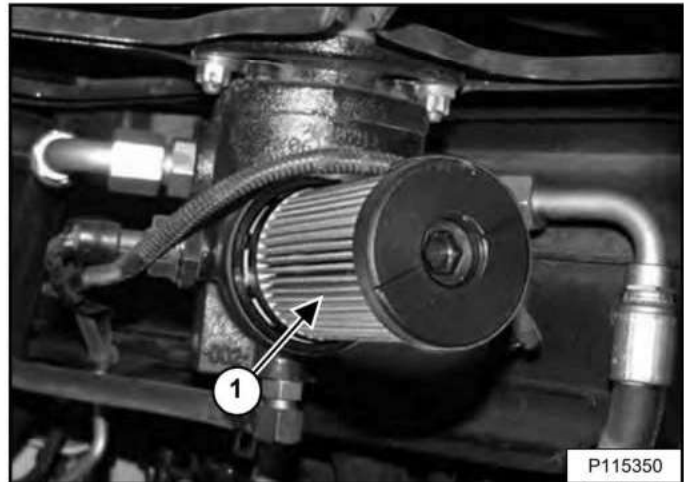
Remove the nut (Item 3) holding the operator cab electrical harness clamp and move the harness toward the front of the loader. Remove the bolts (Item 1) and remove the lower fan duct (Item 2) [Figure 250].

Figure 251



Put a suitable container below the filter housing and remove the filter housing (Item 1) [Figure 251].

Figure 252



Remove the filter (Item 1) [Figure 252] and discard.

Clean the surface of the filter housing and the filter base where they contact the filter seal.

Put clean oil on the seal of the new filter. Install the filter on the filter base [Figure 252].

Install and tighten the filter housing to 65 – 70 N•m (48 – 52 ft-lb) torque [Figure 251].

Recycle or dispose of used fluid in an environmentally safe manner.

WARNING

AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire.

W-2103-0508

Install the lower fan duct, bolts, electrical harness clamp, and nut [Figure 250].

NOTE: Failure to install the lower fan duct correctly may result in decreased cooling.

Lower the operator cab. (See Lowering on Page 123.)

Skip ahead to *All Models*. (See All Models on Page 158.)

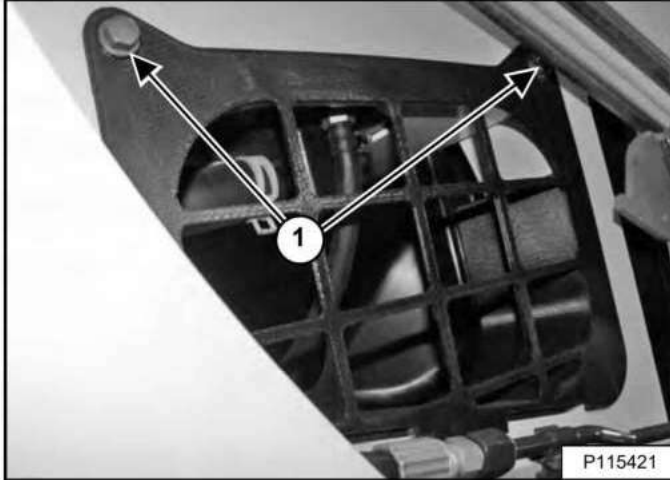
HYDRAULIC / HYDROSTATIC SYSTEM (CONT'D)

Removing And Replacing Hydraulic Charge Filter (Cont'd)

Later Models

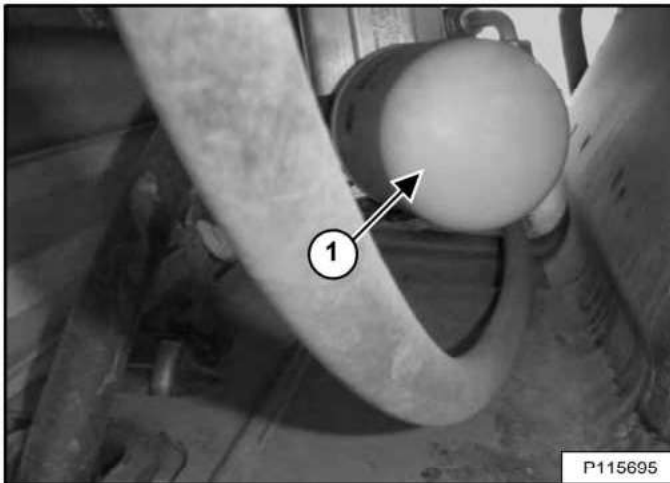
Stop the engine.

Figure 253



Remove the right side access cover bolts (Item 1) [Figure 253] and remove the access cover.

Figure 254



Put a suitable container below the filter, remove the filter (Item 1) [Figure 254], and clean the filter base.

Put clean oil on the new filter gasket, install the new filter, and tighten the filter to 37 – 45 N•m (27 – 33 ft-lb) torque.

Recycle or dispose of used fluid in an environmentally safe manner.

! WARNING

AVOID INJURY OR DEATH

Always clean up spilled fuel or oil. Keep heat, flames, sparks or lighted tobacco away from fuel and oil. Failure to use care around combustibles can cause explosion or fire.

W-2103-0508

Install the side access cover and bolts [Figure 253].

Skip ahead to *All Models*. (See All Models on Page 158.)

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HYDRAULIC / HYDROSTATIC SYSTEM (CONT'D)

Removing And Replacing Hydraulic Charge Filter (Cont'd)

All Models

Start the engine and operate the loader hydraulic controls.

WARNING

AVOID INJURY OR DEATH

Diesel fuel or hydraulic fluid under pressure can penetrate skin or eyes, causing serious injury or death. Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to find leaks. Do not use your bare hand. Wear safety goggles. If fluid enters skin or eyes, get immediate medical attention from a physician familiar with this injury.

W-2072-0807

Stop the engine and check for leaks at the filter.

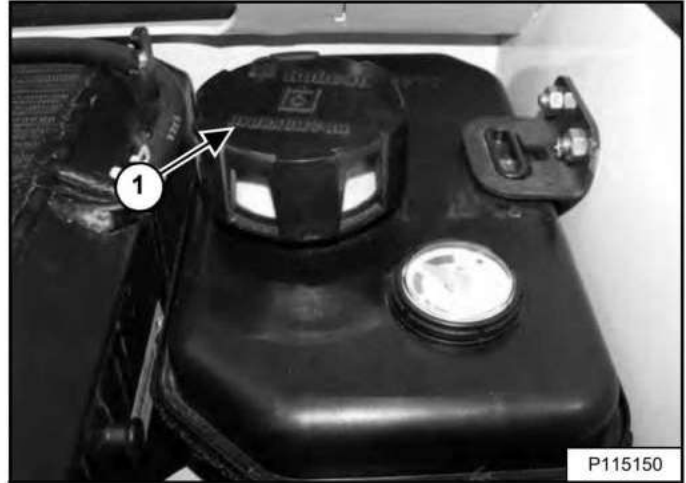
Check the fluid level in the reservoir and add as needed. (See Checking And Adding Fluid on Page 150.)

Replacing Reservoir Breather Cap

See the SERVICE SCHEDULE for the correct replacement interval. (See SERVICE SCHEDULE on Page 110.)

Stop the engine, open the rear door, and remove the rear grille. (See REAR GRILLE on Page 125.)

Figure 255



Remove the breather cap (Item 1) [Figure 255] and discard.

Install new breather cap.

Install the rear grille and close the rear door.

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TRACK TENSION

Description

Figure 256



A bleed tool [Figure 256] is available and recommended to decrease track tension. The bleed tool will direct the flow of grease to aid in cleanup. See your Bobcat dealer to order a bleed tool.

The bleed tools are sized differently:

Part number 6675936 – Used for machines with two track tension fittings.

Part number 7277225 – Used for machines with one track tension fitting.

TRACK TENSION (CONT'D)

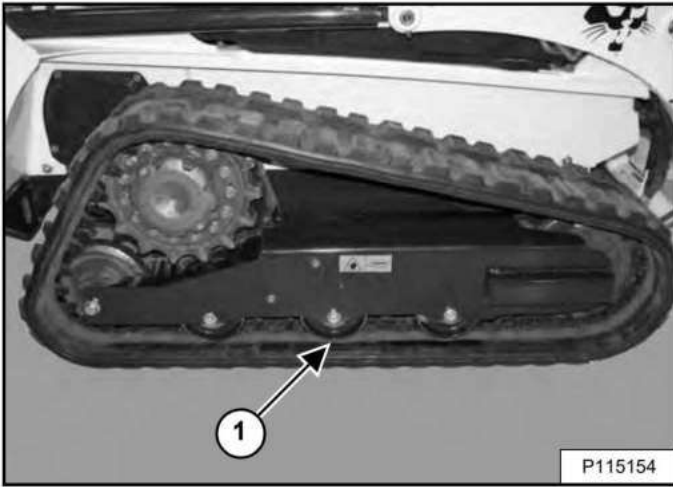
Checking

Correct track tension is important for good performance and to prevent the tracks from derailing or wearing prematurely.

NOTE: The wear of track rollers vary with the working conditions and different types of soil conditions.

Park the loader on a level surface.

Figure 257



Raise one side of the loader and put jackstands at the front and rear of the loader frame so that the track is about 76 mm (3 in) off the ground [Figure 257]. Lower the loader to the jackstands. Be sure the jackstands do not touch the tracks.

Measure the track sag at the middle track roller (Item 1) [Figure 257]. The correct gap is 13 – 16 mm (1/2 – 5/8 in).

Figure 258

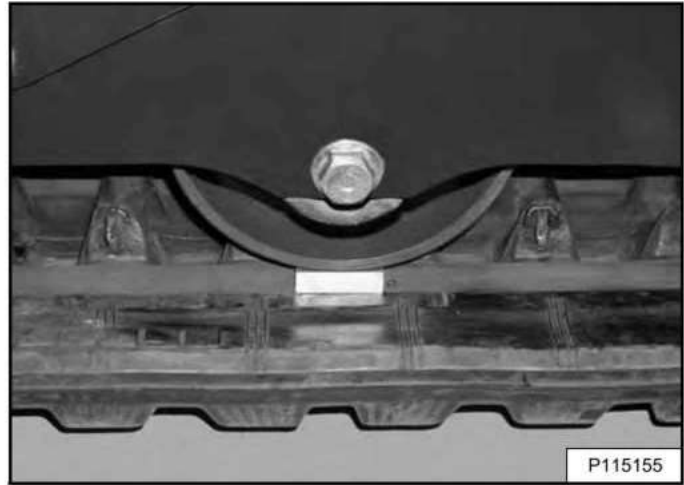
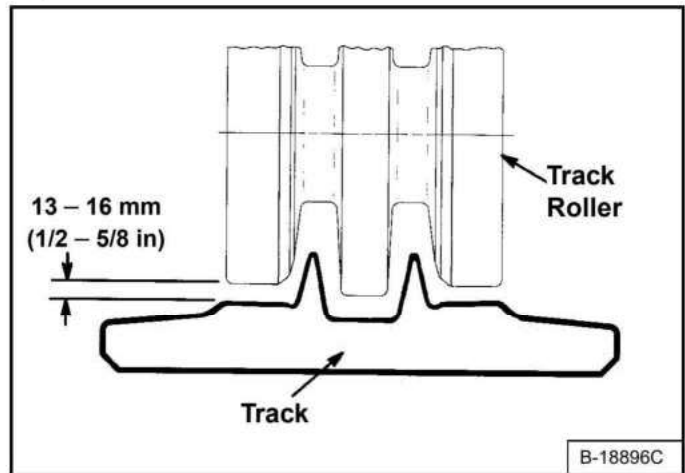


Figure 259



DO NOT put your fingers into the pinch points between the track and the roller. Use a 13 – 16 mm (1/2 – 5/8 in) bolt, dowel or block to check the gap [Figure 258] and [Figure 259].

! WARNING

AVOID INJURY

Keep fingers and hands out of pinch points when checking the track tension.

W-2142-0903

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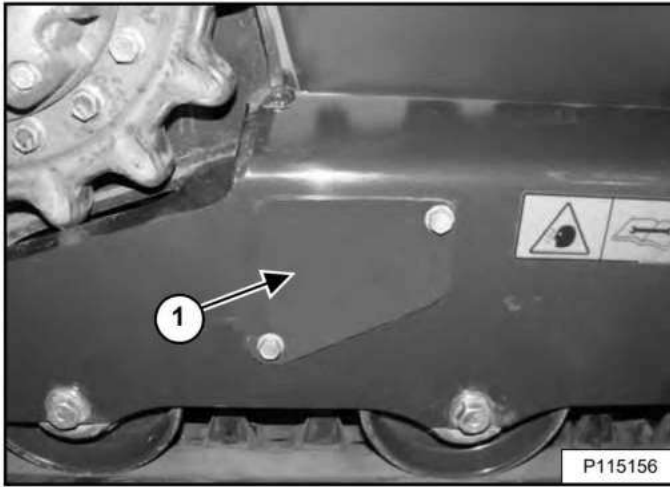
TRACK TENSION (CONT'D)

Adjusting (Earlier Models With Two Track Tension Fittings)

Park the loader on a level surface.

Raise one side of the loader and put jackstands at the front and rear of the loader frame so that the track is about 76 mm (3 in) off the ground. Lower the loader to the jackstands. Be sure the jackstands do not touch the tracks.

Figure 260

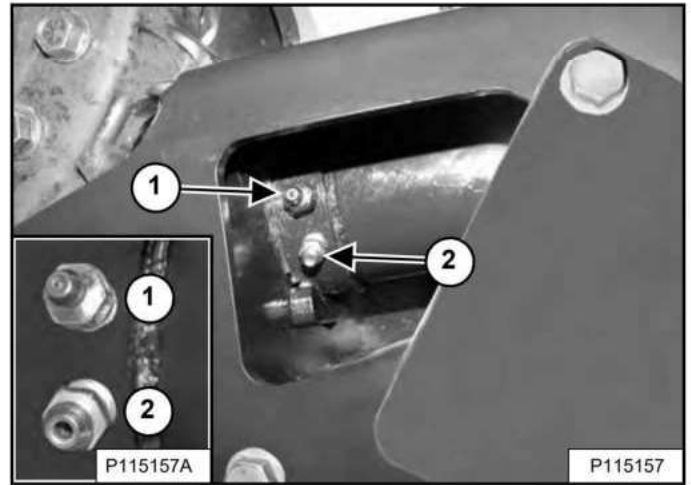


The grease fittings used to adjust the track tension are located behind access covers (Item 1) [Figure 260]. (Right side shown.)

Loosen both access cover bolts and pivot the access cover open [Figure 260].

Increase Track Tension

Figure 261



NOTE: This view shows the grease fittings on the right side of the loader. The fittings are in the opposite position on the left side of the loader. You **MUST** select the correct fitting for the task required. The grease fitting (Item 1) is used to add grease. The bleed fitting (Item 2) [Figure 261] is used to remove grease.

Add grease to the grease fitting (Item 1) [Figure 261] until the track adjustment is correct [Figure 258] and [Figure 259].

NOTE: Do not remove grease fitting unless pressure is released using the bleed fitting. (See [Figure 262] on Page 162.)

NOTE: If replacement is necessary, always replace grease fitting (Item 1) [Figure 261] with genuine Bobcat Parts. The fitting is a special fitting designed for high pressure.

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TRACK TENSION (CONT'D)

Adjusting (Earlier Models With Two Track Tension Fittings) (Cont'd)

Decrease Track Tension

WARNING

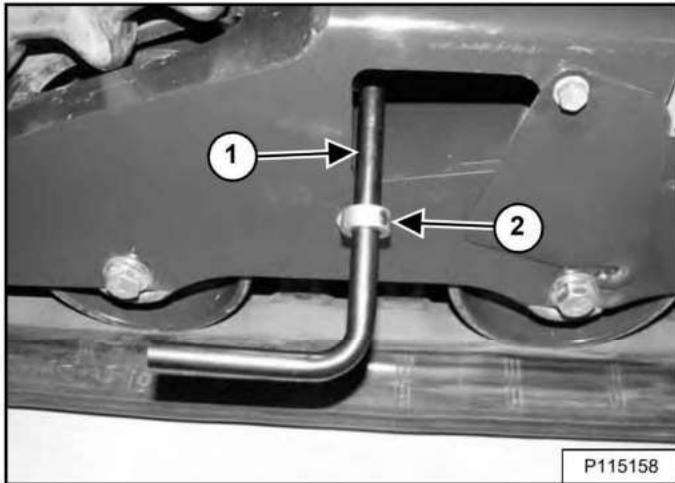
HIGH PRESSURE GREASE CAN CAUSE SERIOUS INJURY

- Do not loosen grease fitting.
- Do not loosen bleed fitting more than 1 - 1/2 turns.

W-2781-0109

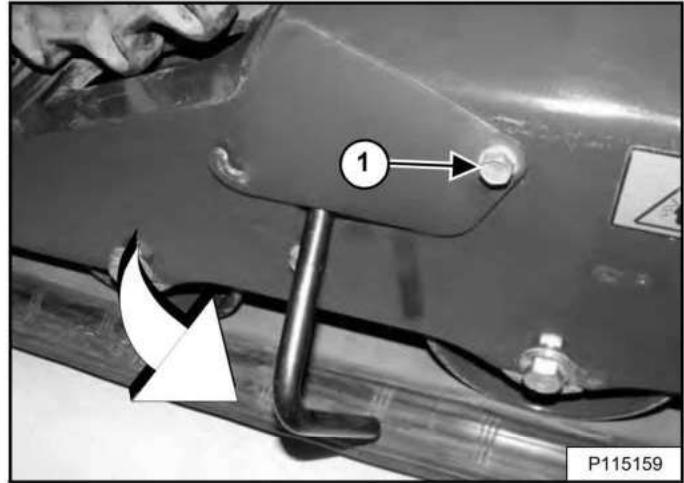
Pressure must be released from the grease cylinder to decrease track tension.

Figure 262



Install the bleed tool (6675936) (Item 1) on the bleed fitting, adjust and tighten the collar (Item 2) [Figure 262] to fit behind the edge of the access cover. (Right side shown.)

Figure 263



Tighten the access cover bolt (Item 1) [Figure 263] to secure the tool.

Turn the tool 90° counterclockwise and let the grease flow into a container. Release pressure [Figure 263] until the track adjustment is correct [Figure 258] and [Figure 259].

Tighten the bleed fitting and remove the bleed tool. Pivot the access cover closed and tighten the access cover bolts.

Raise the loader. Remove the jackstands. Repeat the procedure for the other track. Dispose of grease in an environmentally safe manner.

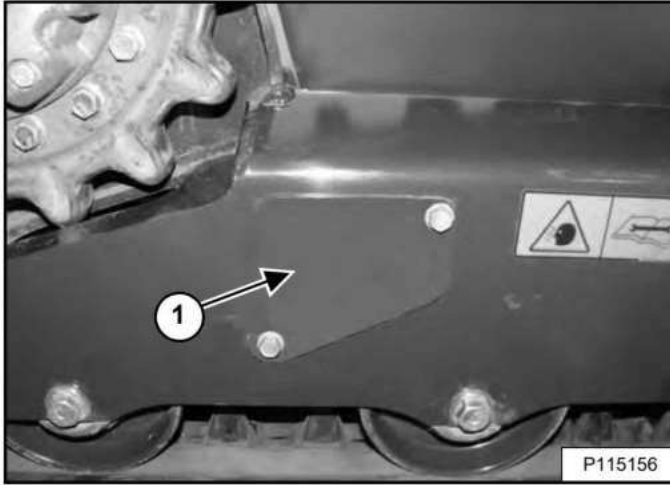
TRACK TENSION (CONT'D)

Adjusting (Later Models With One Track Tension Fitting)

Park the loader on a level surface.

Raise one side of the loader and put jackstands at the front and rear of the loader frame so that the track is about 76 mm (3 in) off the ground. Lower the loader to the jackstands. Be sure the jackstands do not touch the tracks.

Figure 264

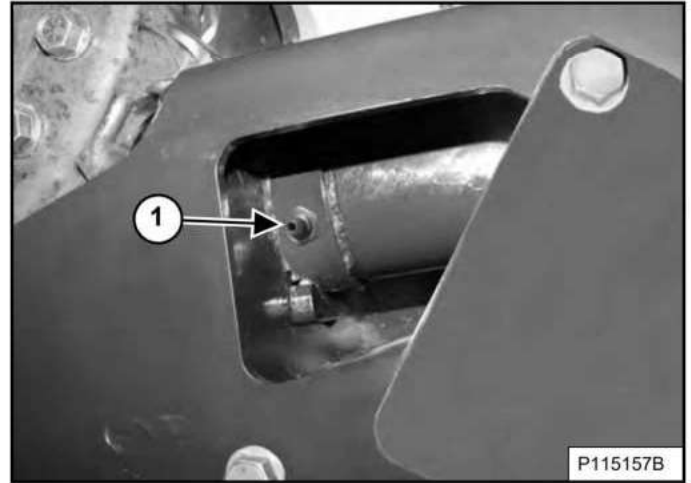


The track tension fittings used to adjust the track tension are located behind access covers (Item 1) [Figure 264]. (Right side shown.)

Loosen both access cover bolts and pivot the access cover open [Figure 264].

Increase Track Tension

Figure 265



Add grease to the track tension fitting (Item 1) [Figure 265] until the track adjustment is correct [Figure 258] and [Figure 259].

NOTE: Do not remove track tension fitting unless pressure is released. (See [Figure 266] on Page 164.)

NOTE: If replacement is necessary, always replace track tension fitting (Item 1) [Figure 265] with genuine Bobcat Parts. The fitting is a special fitting designed for high pressure.

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TRACK TENSION (CONT'D)

Adjusting (Later Models With One Track Tension Fitting) (Cont'd)

Decrease Track Tension

! WARNING

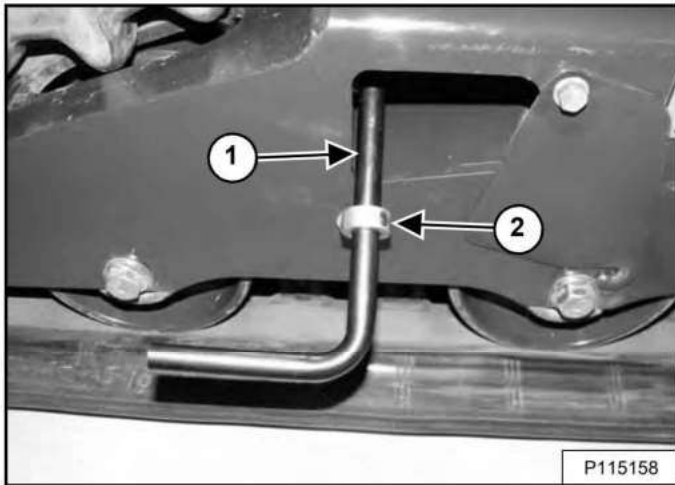
HIGH PRESSURE GREASE CAN CAUSE SERIOUS INJURY

- Do not loosen the track tension fitting more than 1 - 1/2 turns.

W-2994-0515

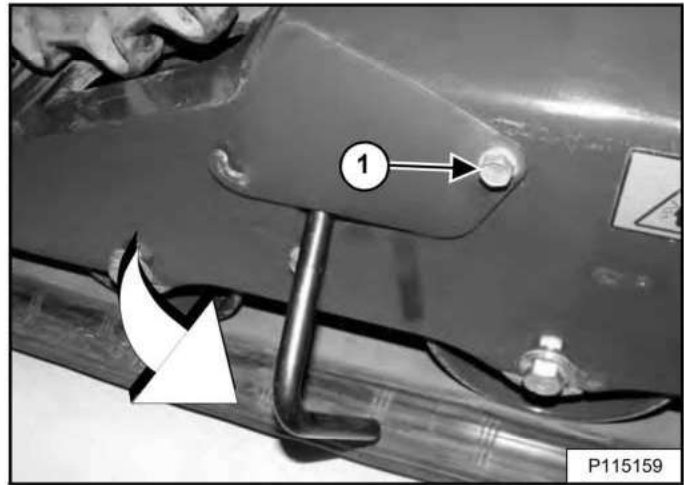
Pressure must be released from the grease cylinder to decrease track tension.

Figure 266



Install the bleed tool (7277225) (Item 1) on the track tension fitting, adjust and tighten the collar (Item 2) [Figure 266] to fit behind the edge of the access cover. (Right side shown.)

Figure 267



Tighten the access cover bolt (Item 1) [Figure 267] to secure the tool.

Turn the tool 90° counterclockwise and let the grease flow into a container. Release pressure [Figure 267] until the track adjustment is correct [Figure 258] and [Figure 259].

Tighten the track tension fitting to 24 – 30 N•m (18 – 22 ft-lb) torque. Pivot the access cover closed and tighten the access cover bolts.

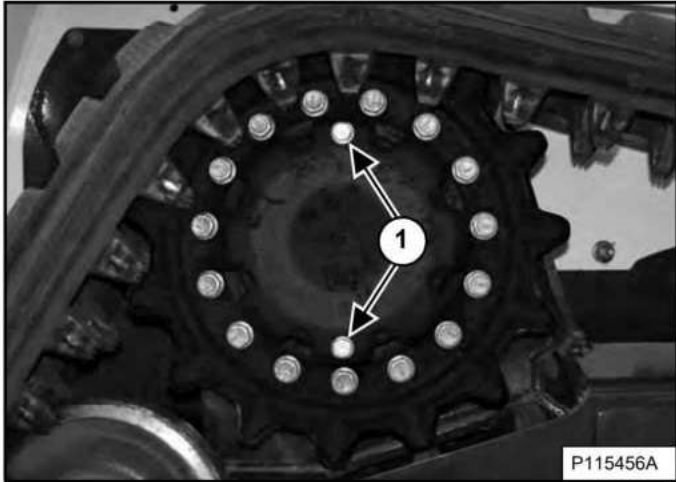
Raise the loader. Remove the jackstands. Repeat the procedure for the other track. Dispose of grease in an environmentally safe manner.

HYDROSTATIC DRIVE MOTOR

Removing And Replacing Fluid

See the SERVICE SCHEDULE for the correct service interval. (See SERVICE SCHEDULE on Page 110.)

Figure 268



Park the loader so that the plugs (Item 1) [Figure 268] in the hydrostatic drive motor are at the top and the bottom.

Remove the plugs and let the fluid drain from the hydrostatic drive motor.

Install and tighten the bottom plug.

Add fluid through the top plug hole using the bottle and hose assembly (Part number: 7270874). Allow entire contents of one bottle to drain into the drive motor.

Install and tighten the top plug.

Repeat for the other hydrostatic drive motor.

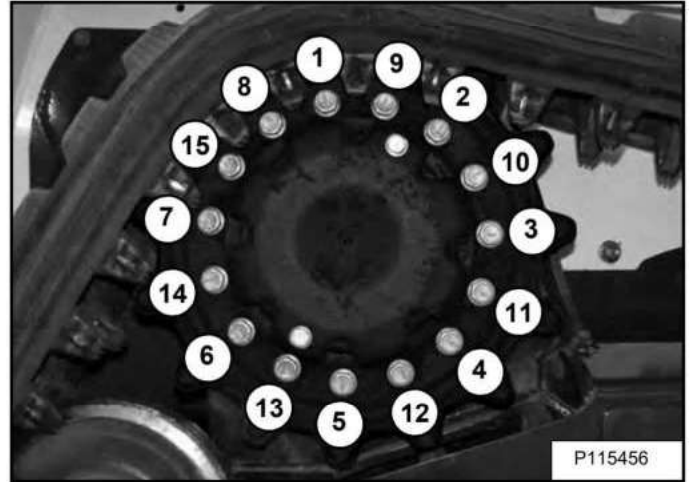
Recycle or dispose of the used fluid in an environmentally safe manner.

TRACK SPROCKET MAINTENANCE

Tightening Procedure

See the SERVICE SCHEDULE for the correct service interval. (See SERVICE SCHEDULE on Page 110.)

Figure 269



Check the torque of the fifteen track sprocket bolts (Items 1 – 15) [Figure 269]. Use an alternating tightening sequence and then repeat to tighten the bolts to 122,0 – 135,6 N•m (90 – 100 ft-lb) torque.

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ALTERNATOR BELT

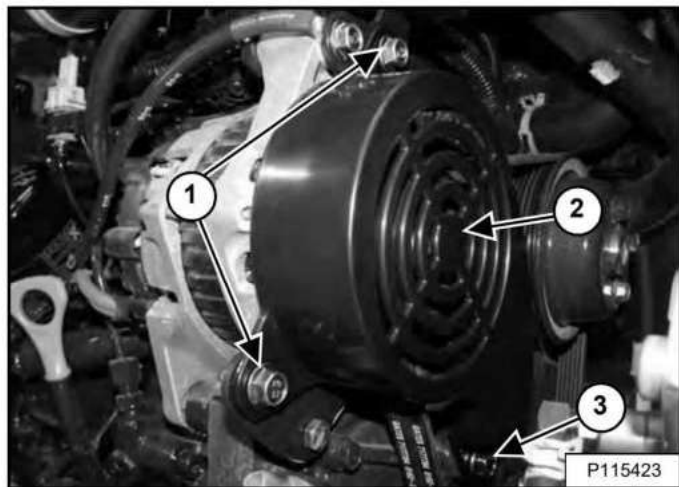
Belt Adjustment

The alternator belt is a special maintenance free type that is pretensioned over the pulleys. This belt eliminates the need for a tensioning device and does not require periodic adjustment. Contact your Bobcat dealer for replacement parts.

Belt Replacement

Stop the engine and open the rear door.

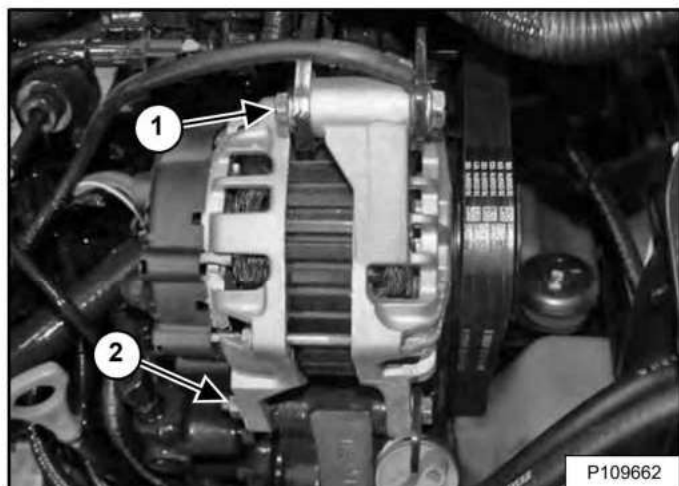
Figure 270



Remove the alternator belt shield mounting nuts and bolts (Item 1). Remove the mounting bolt (Item 3) **[Figure 270]**.

Remove the alternator belt shield (Item 2) **[Figure 270]**.

Figure 271



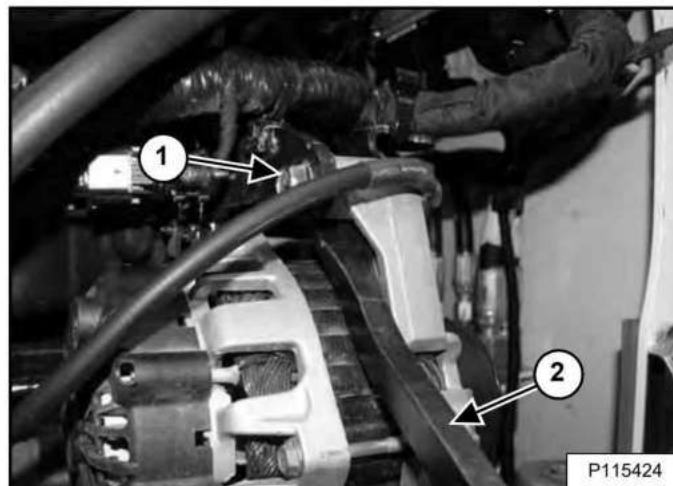
Remove the top alternator mounting bolt (Item 1). Loosen the bottom alternator mounting nut (Item 2) **[Figure 271]**.

Move the alternator toward the engine fully and remove the belt from the pulleys.

Inspect the pulleys for wear.

Install new belt.

Figure 272



Use a prybar (Item 2) in the location shown to move the alternator until the top alternator mounting bolt (Item 1) **[Figure 272]** can be installed.

Tighten the top alternator mounting bolt and the bottom alternator mounting nut **[Figure 271]**.

Install the alternator belt shield, mounting bolts, and nuts **[Figure 270]**.

Close the rear door.

AIR CONDITIONING BELT

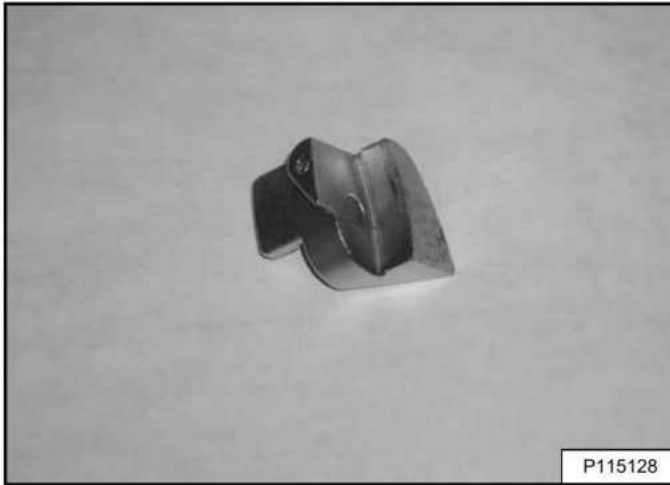
This machine may be equipped with air conditioning.

Belt Adjustment

The air conditioning belt is a special maintenance free type that is pretensioned over the pulleys. This belt eliminates the need for a tensioning device and does not require periodic adjustment.

Belt Replacement

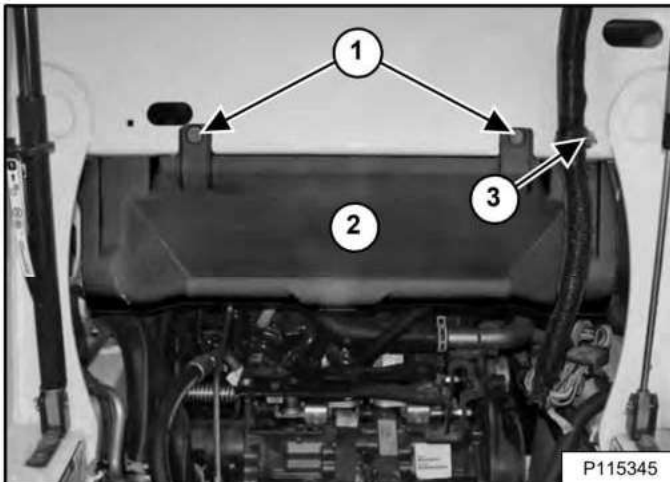
Figure 273



A belt tool [Figure 273] is required to install the new air conditioning belt. See your Bobcat dealer.

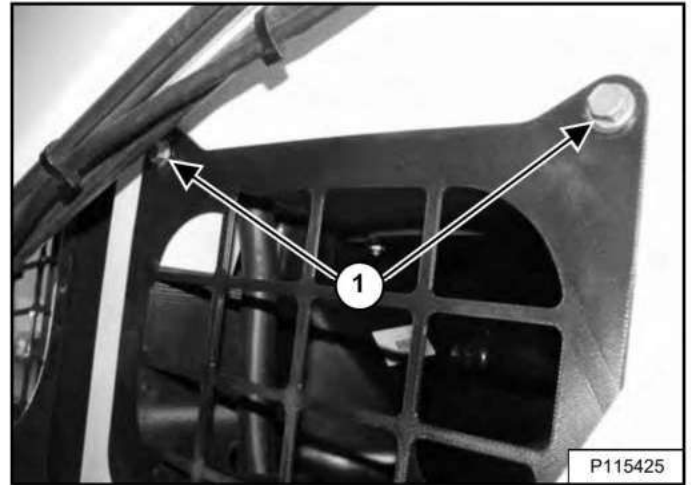
Stop the engine, open the rear door, and raise the operator cab. (See Raising on Page 122.)

Figure 274



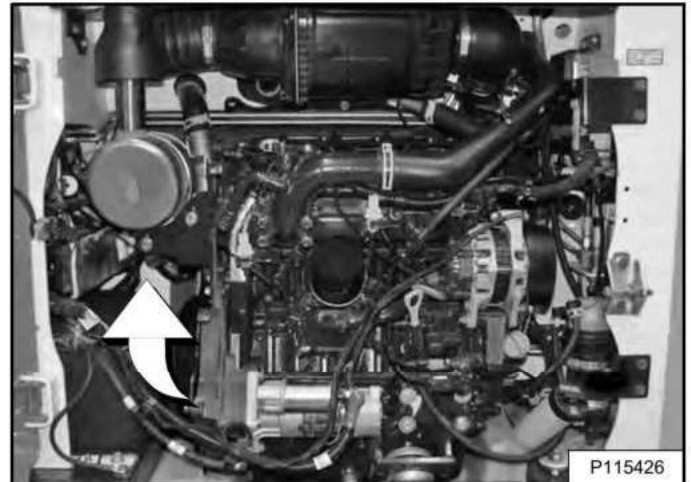
Remove the nut (Item 3) holding the operator cab electrical harness clamp and move the harness toward the front of the loader. Remove the bolts (Item 1) and remove the lower fan duct (Item 2) [Figure 274].

Figure 275



Remove the left side access cover bolts (Item 1) [Figure 275] and remove the access cover.

Figure 276



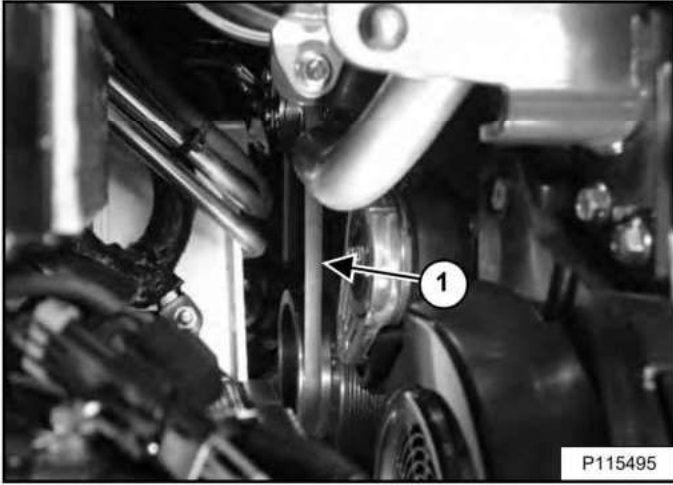
The air conditioning compressor is located behind the engine on the left side of the loader [Figure 276].

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AIR CONDITIONING BELT (CONT'D)

Belt Replacement Cont'd)

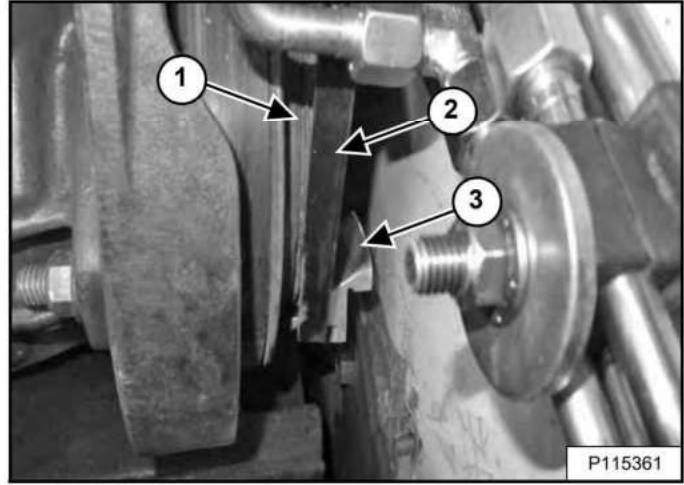
Figure 277



Cut the old belt (Item 1) [Figure 277] and remove the belt from the pulleys. Inspect the pulleys for wear.

NOTE: This view [Figure 277] is from the rear door. The air conditioning belt can also be accessed through the left side access cover or under the operator cab.

Figure 278



Install the belt on the air conditioning compressor pulley and start the belt (Item 2) and the belt tool (Item 3) on the front side of the hydraulic pump pulley (Item 1) [Figure 278].

NOTE: This view [Figure 278] is under the operator cab on the left side of the loader.

Rotate the engine clockwise using the crankshaft pulley bolt. Do not use the hydraulic pump pulley nut or the flywheel bolts.

Ensure that the belt is fully installed on both pulleys. Repeat the procedure if necessary.

Remove the belt tool.

Install the lower fan duct, bolts, electrical harness clamp, and nut [Figure 274].

NOTE: Failure to install the lower fan duct correctly may result in decreased cooling.

Install the left side access cover and bolts [Figure 275].

Lower the operator cab. (See Lowering on Page 123.)

Close the rear door.

DRIVE BELT

Belt Adjustment

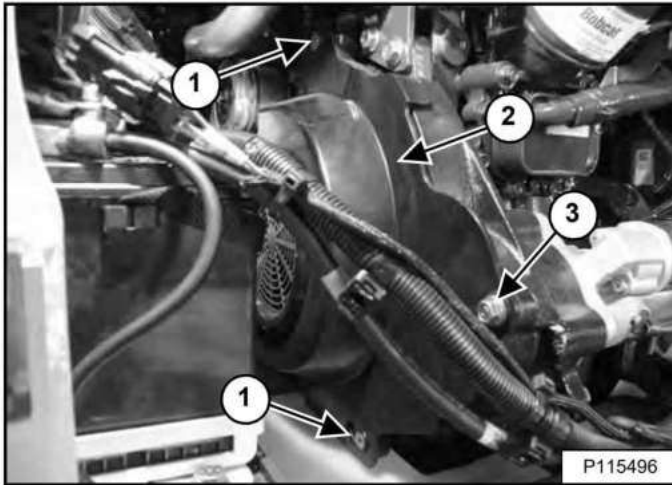
The drive belt does not need adjustment. The belt has a spring loaded idler that constantly maintains the correct belt tension.

Belt Replacement

Stop the engine and open the rear door.

Remove the air conditioning belt. (See AIR CONDITIONING BELT on Page 167.)

Figure 279

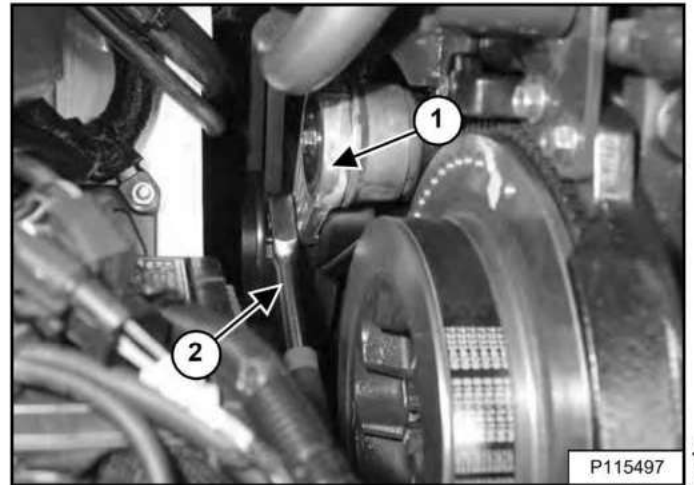


Remove the drive belt shield bolt (Item 3) [Figure 279].

Do **NOT** loosen the drive belt shield mounting bolts (Item 1). Slide the drive belt shield (Item 2) [Figure 279] toward the back of the loader to unseat the shield from the top and bottom drive belt shield mounting bolts.

Remove the drive belt shield (Item 2) [Figure 279].

Figure 280



Insert a breaker bar (Item 2) into the square hole provided in the idler assembly (Item 1) [Figure 280] as shown and push the breaker bar down to release tension on the drive belt.

Remove the drive belt from the hydrostatic pump pulley and flywheel pulley.

Inspect the pulleys for wear.

Install new drive belt.

Ensure the drive belt is positioned correctly on both pulleys and idler assembly.

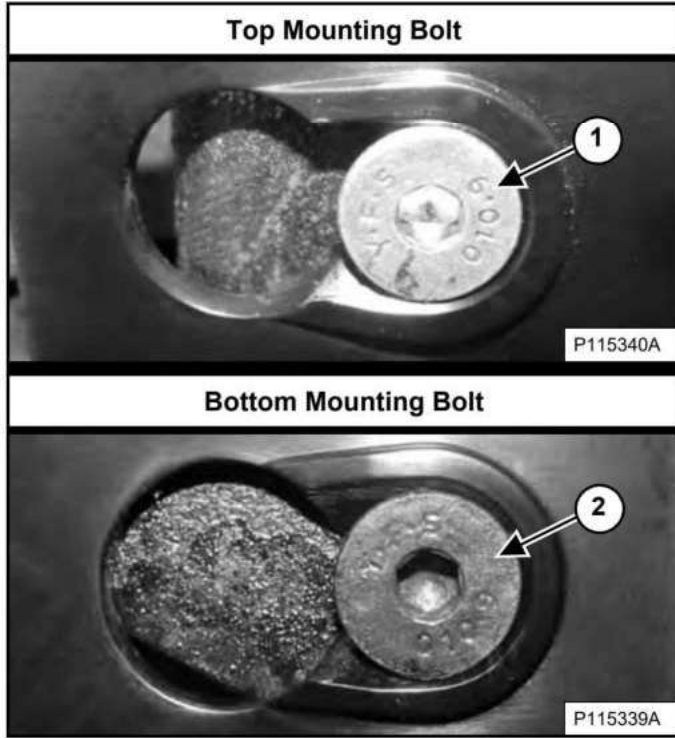
Remove the breaker bar.

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DRIVE BELT (CONT'D)

Belt Replacement (Cont'd)

Figure 281



Position the drive belt shield over the drive belt shield mounting bolts. Slide the drive belt shield toward the front of the loader to fully seat the shield onto the top and bottom mounting bolts (Items 1 and 2) [Figure 281].

Figure 282



Install the drive belt shield bolt (Item 1) [Figure 282].

Install the air conditioning belt. (See AIR CONDITIONING BELT on Page 167.)

Close the rear door.

LUBRICATING THE LOADER

Lubrication Locations

See the SERVICE SCHEDULE for the correct service interval. (See SERVICE SCHEDULE on Page 110.)

Record the operating hours each time you lubricate the Bobcat loader.

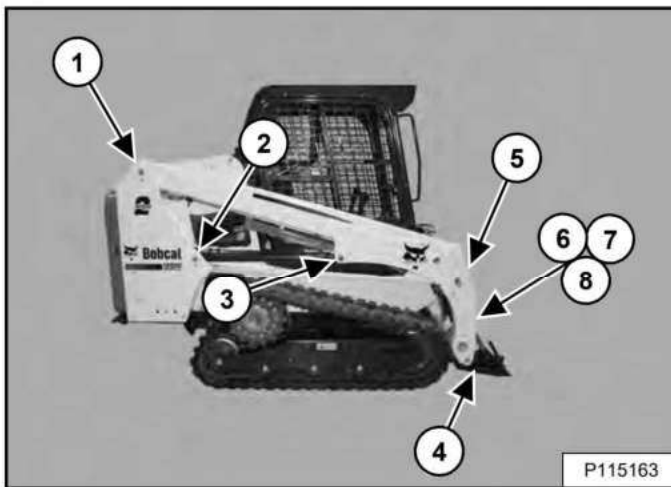
Always use a good quality lithium based multipurpose grease when you lubricate the loader. Apply the lubricant until extra grease shows.

Remove attachment from the loader. (See Installing And Removing The Attachment (Hand Lever Bob-Tach) on Page 93.) **OR** (See Installing And Removing The Attachment (Power Bob-Tach) on Page 96.)

Tilt the Bob-Tach forward until it contacts the ground.

Stop the engine.

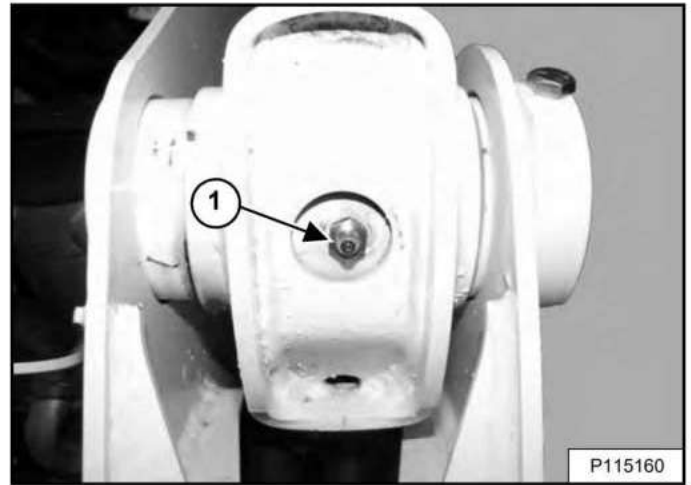
Figure 283



The grease fitting locations **[Figure 283]** are shown in more detail in the following figures.

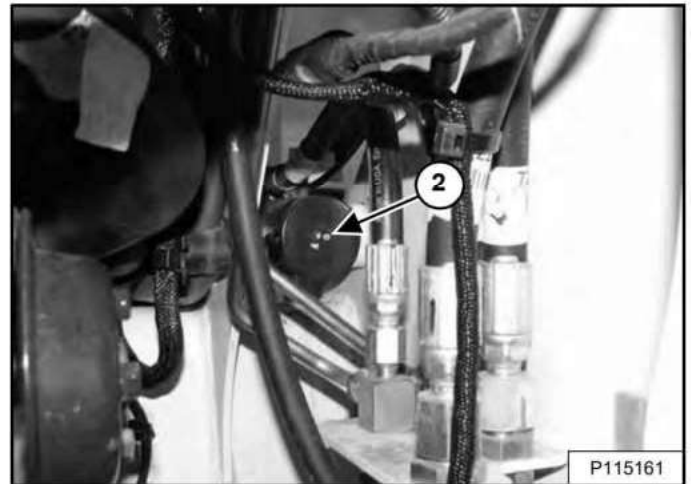
Lubricate the following:

Figure 284



1. Lift Arm Pivot Pin (Both Sides) (2) **[Figure 284]**.

Figure 285



Open the rear door.

2. Base End Lift Cylinder (Both Sides) (2) **[Figure 285]**.

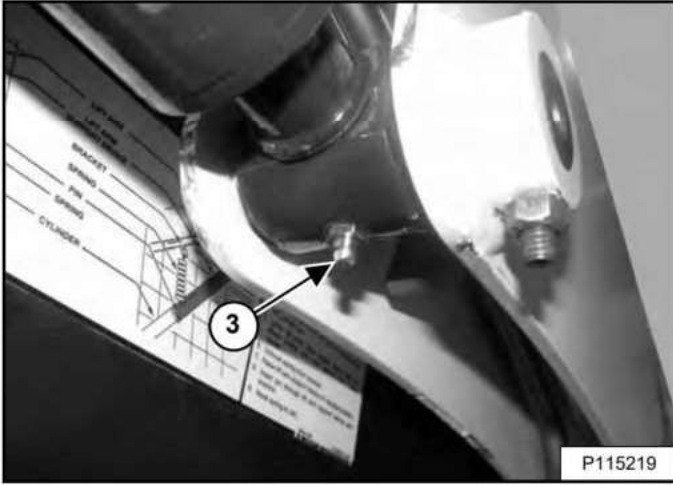
Close the rear door.

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LUBRICATING THE LOADER (CONT'D)

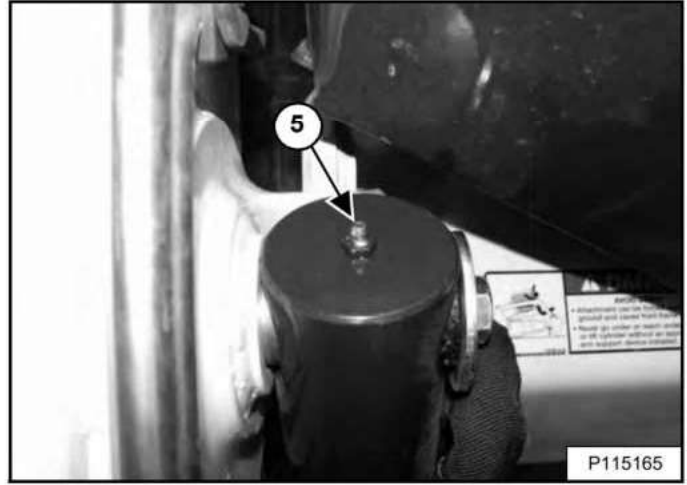
Lubrication Locations (Cont'd)

Figure 286



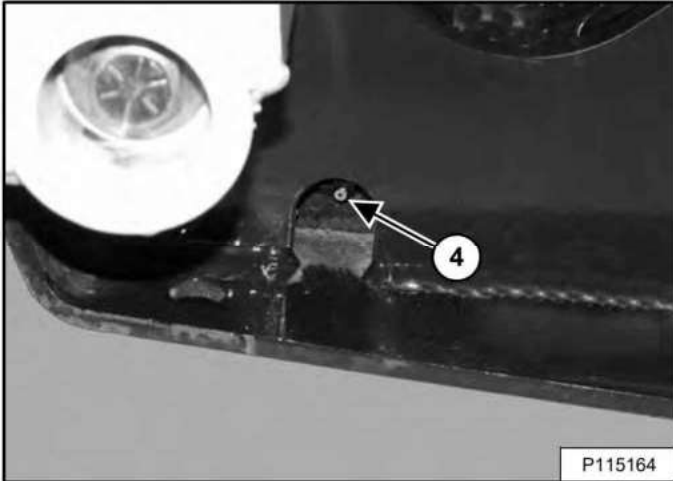
3. Rod End Lift Cylinder (Both Sides) (2) [Figure 286].

Figure 288



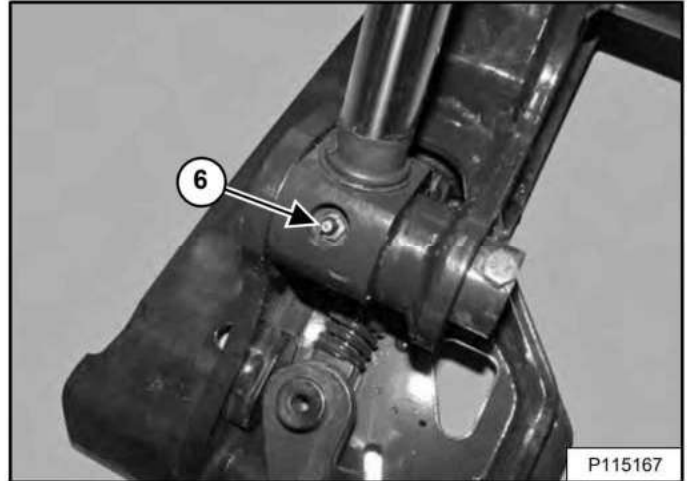
5. Base End Tilt Cylinder (Both Sides) (2) [Figure 288].

Figure 287



4. Bob-Tach Wedge (Both Sides) (2) [Figure 287].

Figure 289



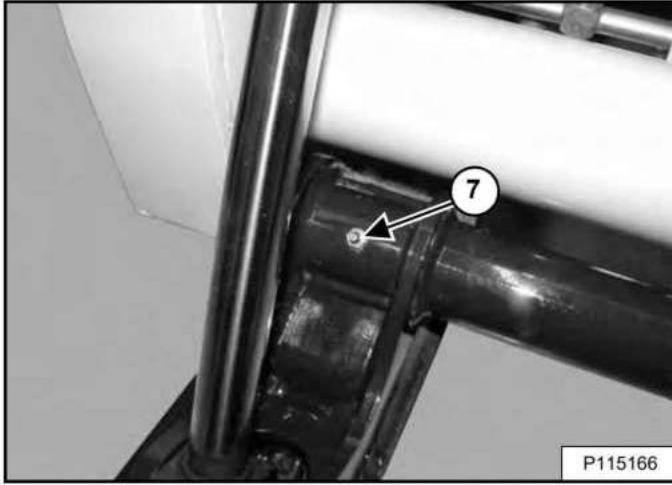
6. Rod End Tilt Cylinder (Both Sides) (2) [Figure 289].

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LUBRICATING THE LOADER (CONT'D)

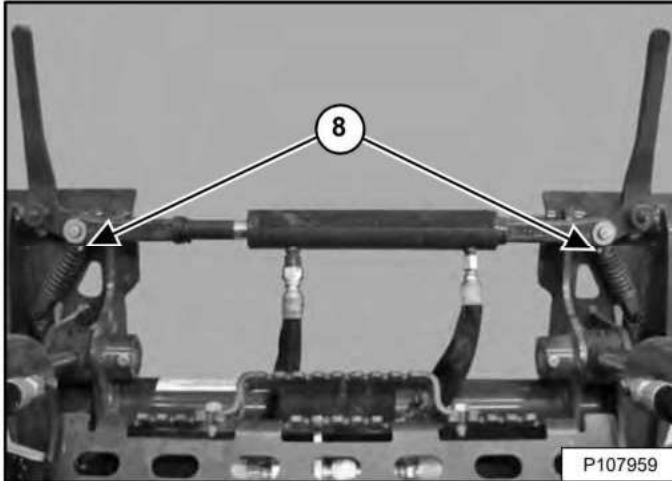
Lubrication Locations (Cont'd)

Figure 290



7. Bob-Tach Pivot Pin (Both Sides) (2) [Figure 290].

Figure 291



8. Power Bob-Tach Hydraulic Cylinder (if equipped) (2) [Figure 291].

TRACK ROLLER AND IDLER LUBRICATION

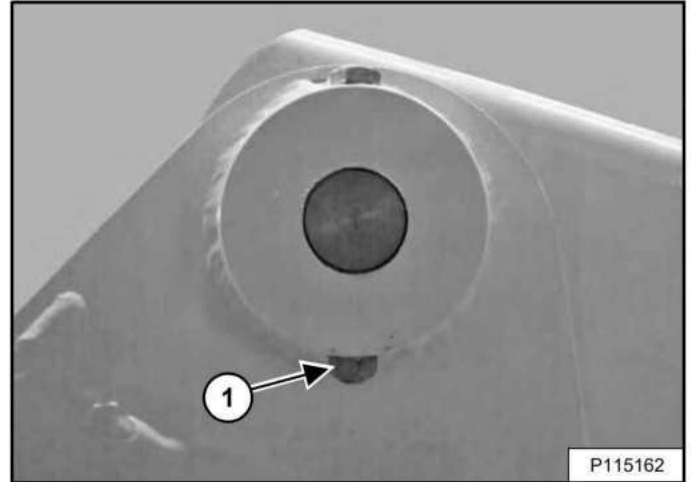
Description

The track rollers and idlers have sealed bearings and do not require lubrication.

PIVOT PINS

Inspection And Maintenance

Figure 292



All lift arm and cylinder pivots have a large pin held in position with a retainer bolt and locknut (Item 1) [Figure 292].

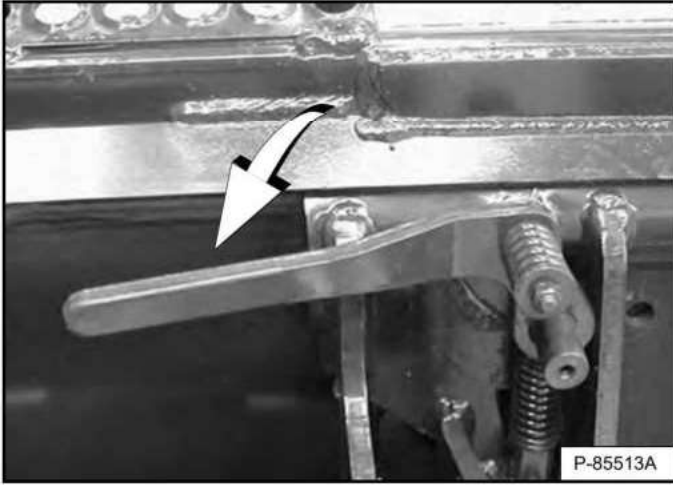
Check that the locknuts are tightened to 48 – 54 N•m (35 – 40 ft-lb) torque.

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BOB-TACH (HAND LEVER)

Inspection And Maintenance

Figure 293



Move the Bob-Tach levers down to engage the wedges [Figure 293].

The levers and wedges must move freely.

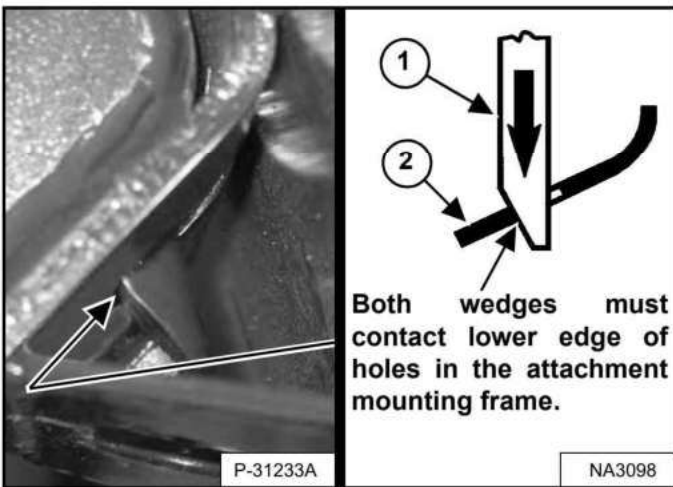
WARNING

AVOID INJURY OR DEATH

The Bob-Tach wedges must extend through the holes in the attachment mounting frame. Levers must be fully down and locked. Failure to secure wedges can allow attachment to come off.

W-2715-0208

Figure 294



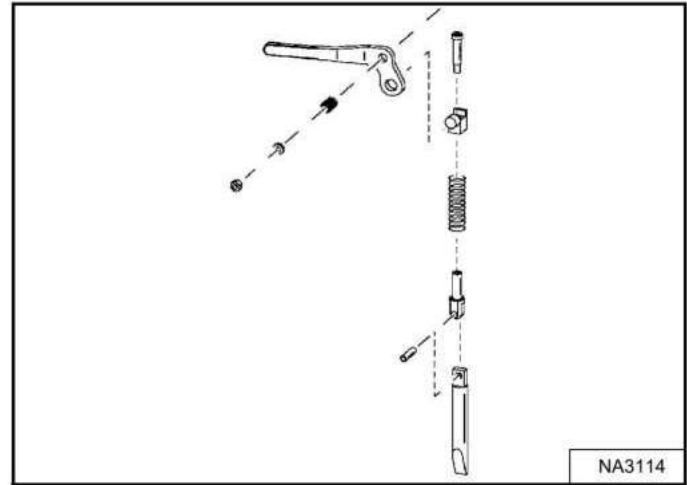
Both wedges must contact lower edge of holes in the attachment mounting frame.

The wedges (Item 1) [Figure 294] must extend through the holes in the attachment mounting frame.

The spring loaded wedges (Item 1) must contact the lower edge of the holes in the attachment mounting frame (Item 2) [Figure 294].

If the wedges do not contact the lower edge of the holes [Figure 294], the attachment will be loose and can come off the Bob-Tach.

Figure 295



Inspect the mounting frame on the attachment and Bob-Tach, linkages, and wedges for excessive wear or damage [Figure 295]. Replace any parts that are damaged, bent, or missing. Keep all fasteners tight.

Look for cracked welds. Contact your Bobcat dealer for repair or replacement parts.

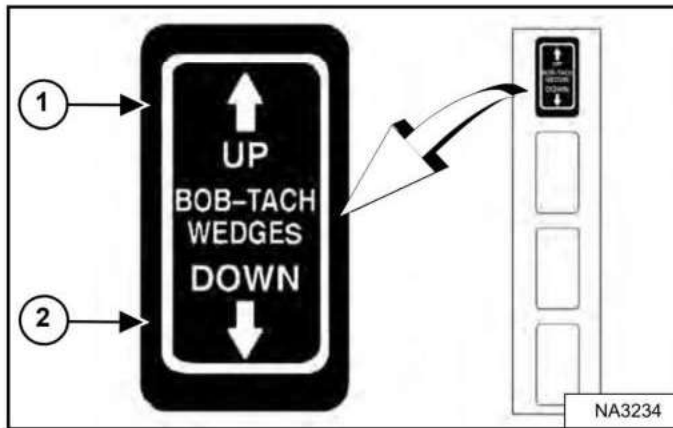
Lubricate the wedges. (See SERVICE SCHEDULE on Page 110.) and (See LUBRICATING THE LOADER on Page 171.)

BOB-TACH (POWER)

This machine may be equipped with a Power Bob-Tach.

Inspection And Maintenance

Figure 296



Push and hold the BOB-TACH WEDGES "UP" switch (Item 1) until wedges are fully raised. Push and hold the BOB-TACH WEDGES "DOWN" switch (Item 2) [Figure 296] until the wedges are fully down.

The levers and wedges must move freely.

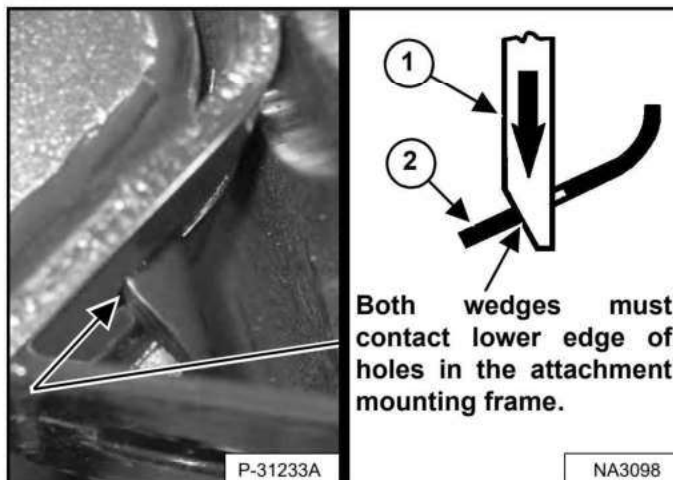
WARNING

AVOID INJURY OR DEATH

The Bob-Tach wedges must extend through the holes in the attachment mounting frame. Levers must be fully down and locked. Failure to secure wedges can allow attachment to come off.

W-2715-0208

Figure 297

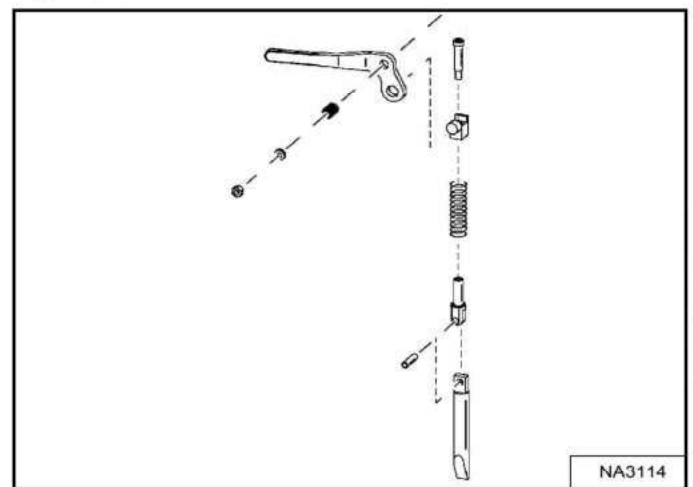


The wedges (Item 1) [Figure 297] must extend through the holes in the attachment mounting frame.

The spring loaded wedges (Item 1) must contact the lower edge of the holes in the attachment mounting frame (Item 2) [Figure 297].

If the wedges do not contact the lower edge of the holes [Figure 297], the attachment will be loose and can come off the Bob-Tach.

Figure 298



Inspect the mounting frame on the attachment and Bob-Tach, linkages, and wedges for excessive wear or damage [Figure 298]. Replace any parts that are damaged, bent, or missing. Keep all fasteners tight.

Look for cracked welds. Contact your Bobcat dealer for repair or replacement parts.

Lubricate the wedges. (See SERVICE SCHEDULE on Page 110.) and (See LUBRICATING THE LOADER on Page 171.)

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LOADER STORAGE AND RETURN TO SERVICE

Storage

You may decide to store your Bobcat loader for an extended period of time. Perform the procedures below for storage:

- Thoroughly clean the loader including the engine compartment.
- Lubricate the loader.
- Replace worn or damaged parts.
- Park the loader in a dry protected shelter.
- Lower the lift arms all the way and put the bucket flat on the ground.
- Put blocks under the frame to remove weight from the tracks.
- Put grease on any exposed cylinder rods.
- Put fuel stabilizer into the fuel tank and operate the engine a few minutes to circulate the stabilizer to the pump and fuel injectors.

If biodiesel blend fuel has been used, perform the following:

Drain the fuel tank, refill with 100% petroleum diesel fuel, add fuel stabilizer, and operate the engine for at least 30 minutes.

- Drain and flush the cooling system. Refill with premixed coolant.
- Replace all fluids and filters (engine, hydraulic / hydrostatic).
- Replace air cleaner, heater, and air conditioning filters.
- Put all controls into the NEUTRAL position.
- Remove the battery. Be sure the electrolyte level is correct, then charge the battery. Store the battery in a cool dry location above freezing temperatures and charge the battery periodically during storage.
- Cover the exhaust pipe opening.
- Tag the machine to indicate that the machine is in storage condition.

Return To Service

After the Bobcat loader has been in storage, perform the procedures below to return the loader to service:

- Check the engine oil and hydraulic fluid levels; check coolant level.
- Install a fully charged battery.
- Remove grease from exposed cylinder rods.
- Check all belt tensions.
- Be sure all shields and guards are in position.
- Lubricate the loader.
- Check track condition and remove blocks from under frame.
- Remove cover from exhaust pipe opening.
- Start the engine and operate for a few minutes while observing the instrument panels and systems for correct operation.
- Operate machine, check for correct function.
- Stop the engine and check for leaks. Repair as needed.

SYSTEM SETUP AND ANALYSIS

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DIAGNOSTIC SERVICE CODES

Viewing Service Codes

The Service Codes will aid your dealer in diagnosing conditions that can damage your machine.

Left Panel

Figure 299



Press the Information button (Item 2) to cycle the data display (Item 1) [Figure 299] until the service code screen is displayed. If more than one service code is present, the codes will scroll on the data display.

When no service code is present, [NONE] is displayed [Figure 299].

NOTE: Corroded or loose grounds can cause multiple service codes and / or abnormal symptoms. All instrument panel lights flashing, alarm sounding, headlights and taillights flashing, can indicate a bad ground. The same symptoms can apply if the voltage is low, such as loose or corroded battery cables. If you observe these symptoms, check grounds and positive leads first.

Deluxe Instrumentation Panel

The optional Deluxe Instrumentation Panel offers an additional view of service codes that includes a brief description.

The last 40 codes stored in history can also be viewed using the Deluxe Instrumentation Panel.

	<p>Press a scroll button (Item 1) repeatedly until the Active Warnings screen icon (Inset) is highlighted.</p>
	<p>The ACTIVE WARNINGS screen displays active service codes. Press [9] to view the next service code if more than one is present. Press [4] to display a history of service codes.</p>
	<p>The WARNINGS HISTORY screen will list the Service Code Number (CODE), Hourmeter reading when the error occurred (HOURL), and the User (USER) who was logged in to operate the machine when the error occurred.</p>
<p>Press [9] to view the next eight service codes.</p> <p>A total of 40 codes can be stored. When more than 40 codes occur, the oldest code will disappear and the newest code will be in the number 1 position.</p>	
	<p>Press the list number next to the service code for more detail.</p> <p>Press the left scroll button to back up one screen.</p>

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DIAGNOSTIC SERVICE CODES (CONT'D)

Service Codes List

Figure 300



Service codes can be either letters (Item 1) or numbers (Item 2) [Figure 300].

The following letter codes may be displayed:

[CODE] The controller is asking for a password. (Keyless Start and Deluxe Instrumentation Panels only.)

[COLD] The engine controller has determined the engine must warm up. (Operator engine speed control will not operate.)

[DOOR] Operator cab door is open. (Lift and Tilt functions will not operate.)

[ERROR] The wrong password was entered. (Keyless Start and Deluxe Instrumentation Panels only.)

[REPLY] One or both instrument panel(s) not communicating with the controller.

[SHTDN] A shutdown condition exists.

CODE	DESCRIPTION	CODE	DESCRIPTION
A0618	Wheel speed out of range	A8206	ACD output 'C' short to ground
A3623	ACD not programmed	A8207	ACD output 'C' open circuit
A4621	5 volt sensor supply out of range high	A8232	ACD output 'C' overcurrent
A4622	5 volt sensor supply out of range low	A8302	ACD output 'D' error ON
A4721	8 volt sensor supply out of range high	A8303	ACD output 'D' error OFF
A4722	8 volt sensor supply out of range low	A8305	ACD output 'D' short to battery
A7701	Machine key active	A8306	ACD output 'D' short to ground
A7901	E-Stop active	A8307	ACD output 'D' open circuit
A8002	ACD output 'A' error ON	A8332	ACD output 'D' overcurrent
A8003	ACD output 'A' error OFF	A8402	ACD output 'E' error ON
A8005	ACD output 'A' short to battery	A8403	ACD output 'E' error OFF
A8006	ACD output 'A' short to ground	A8405	ACD output 'E' short to battery
A8007	ACD output 'A' open circuit	A8406	ACD output 'E' short to ground
A8032	ACD output 'A' overcurrent	A8407	ACD output 'E' open circuit
A8102	ACD output 'B' error ON	A8432	ACD output 'E' overcurrent
A8103	ACD output 'B' error OFF	A8502	ACD output 'F' error ON
A8105	ACD output 'B' short to battery	A8503	ACD output 'F' error OFF
A8106	ACD output 'B' short to ground	A8505	ACD output 'F' short to battery
A8107	ACD output 'B' open circuit	A8506	ACD output 'F' short to ground
A8132	ACD output 'B' overcurrent	A8507	ACD output 'F' open circuit
A8202	ACD output 'C' error ON	A8532	ACD output 'F' overcurrent
A8203	ACD output 'C' error OFF	A8602	ACD output 'G' error ON
A8205	ACD output 'C' short to battery	A8603	ACD output 'G' error OFF

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DIAGNOSTIC SERVICE CODES (CONT'D)

Service Codes List (Cont'd)

CODE	DESCRIPTION	CODE	DESCRIPTION
A8605	ACD output 'G' short to battery	D7527	Drive left swash plate out of position
A8606	ACD output 'G' short to ground	D7528	Drive right swash plate out of position
A8607	ACD output 'G' open circuit	D7529	Drive left joystick X-axis out of range low
A8702	ACD output 'H' error ON	D7531	Drive left joystick Y-axis out of range low
A8703	ACD output 'H' error OFF	D7532	Drive right joystick Y-axis out of range low
A8705	ACD output 'H' short to battery	D7533	Drive right front wheel angle sensor out of range low
A8706	ACD output 'H' short to ground	D7534	Drive left front wheel angle sensor out of range low
A8707	ACD output 'H' open circuit	D7535	Drive right rear wheel angle sensor out of range low
A8802	Reversing solenoid error ON	D7536	Drive left rear wheel angle sensor out of range low
A8803	Reversing solenoid error OFF	D7537	Drive 5 volt sensor supply 1 out of range low
		D7538	Drive 5 volt sensor supply 2 out of range low
D3905	Left joystick X-axis not in NEUTRAL	D7539	Drive left swash plate sensor out of range high
D3907	Left joystick Y-axis not in NEUTRAL	D7540	Drive left swash plate sensor out of range low
D4007	Right joystick Y-axis not in NEUTRAL	D7541	Drive right swash plate sensor out of range high
D7501	Drive CAN joystick information error	D7542	Drive right swash plate sensor out of range low
D7504	Drive no communication from drive controller	D7543	Drive left forward drive solenoid error ON
D7505	Drive left joystick X-axis not in NEUTRAL	D7544	Drive left reverse drive solenoid error ON
D7507	Drive left joystick Y-axis not in NEUTRAL	D7545	Drive right forward drive solenoid error ON
D7508	Drive right joystick Y-axis not in NEUTRAL	D7546	Drive right reverse drive solenoid error ON
D7509	Drive operating mode switch short to ground or battery	D7547	Drive right front steer extend short to battery
D7510	Drive improper joysticks installed	D7548	Drive left front steer extend short to battery
D7511	Drive left speed sensor not connected	D7549	Drive right rear steer extend short to battery
D7512	Drive right speed sensor not connected	D7550	Drive left rear steer extend short to battery
D7513	Drive right front wheel angle sensor stuck	D7551	Drive steer pressure short to battery
D7514	Drive left front wheel angle sensor stuck	D7552	Drive back-up alarm error ON
D7515	Drive right rear wheel angle sensor stuck	D7553	Drive left forward drive solenoid error OFF
D7516	Drive left rear wheel angle sensor stuck	D7554	Drive left reverse drive solenoid error OFF
D7517	Drive left swash plate not in NEUTRAL	D7555	Drive right forward drive solenoid error OFF
D7518	Drive right swash plate not in NEUTRAL	D7556	Drive right reverse drive solenoid error OFF
D7519	Drive left joystick X-axis out of range high	D7557	Drive right front steer extend short to ground
D7521	Drive left joystick Y-axis out of range high	D7558	Drive right front steer retract short to ground
D7522	Drive right joystick Y-axis out of range high	D7559	Drive left front steer extend short to ground
D7523	Drive right front wheel angle sensor out of range high	D7560	Drive left front steer retract short to ground
D7524	Drive left front wheel angle sensor out of range high	D7561	Drive right rear steer extend short to ground
D7525	Drive right rear wheel angle sensor out of range high	D7562	Drive right rear steer retract short to ground
D7526	Drive left rear wheel angle sensor out of range high	D7563	Drive left rear steer extend short to ground

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DIAGNOSTIC SERVICE CODES (CONT'D)

Service Codes List (Cont'd)

CODE	DESCRIPTION	CODE	DESCRIPTION
D7564	Drive left rear steer retract short to ground	E00002709	EGR actuator position fault
D7565	Drive steer pressure short to ground	E00002710	EGR actuator position fault
D7566	Drive back-up alarm error OFF	E00002720	EGR position learning fault
D7567	Drive no communication from Bobcat controller	E00002730	EGR position learning fault
D7568	Drive angle sensors not calibrated	E00002903	Throttle position sensor fault
D7569	Drive battery voltage out of range high	E00002904	Throttle position sensor fault
D7570	Drive interrupted power (also occurs after software updates)	E00009102	Throttle position sensor fault
D7571	Drive battery voltage out of range low	E00009103	Throttle position sensor fault
D7572	Drive pump not calibrated	E00009104	Throttle position sensor fault
D7573	Drive operating mode switch flipped while operating	E00009119	Throttle position sensor fault
D7574	Drive right wheel speed uncommanded motion	E00009411	Rail pressure control fault
D7575	Drive left wheel speed uncommanded motion	E00009703	Water in fuel sensor fault
D7576	Drive no communication from ACS controller	E00009704	Water in fuel sensor fault
D7577	Drive left speed sensor out of range high	E00009709	Water in fuel sensor fault
D7578	Drive right speed sensor out of range high	E00009731	Water in fuel detected
D7579	Drive left speed sensor out of range low	E00010001	Engine oil pressure too low
D7580	Drive right speed sensor out of range low	E00010003	Engine oil pressure fault
D7581	Drive right front steer retract short to battery	E00010004	Engine oil pressure fault
D7582	Drive left front steer retract short to battery	E00010203	Intake air pressure sensor fault
D7583	Drive right rear steer retract short to battery	E00010204	Intake air pressure sensor fault
D7584	Drive left rear steer retract short to battery	E00010502	Intake manifold temperature fault
D7585	Drive 5 volt sensor supply 1 out of range high	E00010503	Intake manifold temperature sensor fault
D7586	Drive 5 volt sensor supply 2 out of range high	E00010504	Intake manifold temperature sensor fault
D7587	Drive software update required	E00010509	Intake manifold temperature sensor fault
D7588	Drive switched power stuck ON	E00010510	Intake manifold temperature sensor fault
D7589	Drive switched power error OFF	E00010603	Manifold pressure sensor fault
D7590	Drive calibration performed	E00010604	Manifold pressure sensor fault
D7591	Drive left swash plate sensor reversed	E00010609	Manifold pressure sensor fault
D7592	Drive right swash plate sensor reversed	E00010803	Barometric pressure fault
D7593	Drive unresponsive right speed sensor	E00010804	Barometric pressure fault
D7594	Drive unresponsive left speed sensor	E00010809	Barometric pressure fault
D7595	Drive left speed sensor reverse direction	E00011000	Engine temperature extremely high
D7596	Drive right speed sensor reverse direction	E00011002	Engine coolant temperature fault
D7597	Drive controller programmed	E00011003	Water temperature sensor fault
D7598	Drive controller in calibration mode	E00011004	Water temperature sensor fault
D7599	Drive AWS controller in wheel position calibration mode	E00011031	Engine coolant temperature sensor fault
		E00013200	Intake air volume fault
E00002700	EGR control fault	E00013201	Intake air volume fault
E00002701	EGR control fault	E00013203	MAF sensor fault
E00002703	EGR actuator position fault	E00013204	MAF sensor fault
E00002704	EGR actuator position fault	E00013209	MAF sensor fault

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DIAGNOSTIC SERVICE CODES (CONT'D)

Service Codes List (Cont'd)

CODE	DESCRIPTION	CODE	DESCRIPTION
E00013215	Boost pressure fault	E00063730	Cam signal fault
E00013231	MAF sensor fault	E00063919	ECU communication error
E00015700	Rail pressure fault	E00064103	Boost control fault
E00015702	Rail pressure sensor fault	E00064104	Boost control fault
E00015703	Rail pressure sensor fault	E00065103	Injector #1 fault
E00015704	Rail pressure sensor fault	E00065105	Injector #1 fault
E00015710	Rail pressure fault	E00065106	Injector #1 fault
E00015711	Rail pressure fault	E00065131	Injector #1 fault
E00015721	Rail pressure control fault	E00065203	Injector #2 fault
E00015722	Rail pressure control fault	E00065205	Injector #2 fault
E00016803	System voltage too high	E00065206	Injector #2 fault
E00016804	System voltage too low	E00065231	Injector #2 fault
E00017103	MAF sensor fault	E00065303	Injector #3 fault
E00017104	MAF sensor fault	E00065305	Injector #3 fault
E00017200	Intake air temperature too high	E00065306	Injector #3 fault
E00017202	Intake air temperature sensor fault	E00065331	Injector #3 fault
E00017203	Intake air temperature sensor fault	E00065403	Injector #4 fault
E00017204	Intake air temperature sensor fault	E00065405	Injector #4 fault
E00017209	Intake air temperature sensor fault	E00065406	Injector #4 fault
E00017300	Exhaust over temperature fault	E00065431	Injector #4 fault
E00017400	Fuel temperature too high	E00067603	Glow plug relay fault
E00017402	Fuel temperature fault	E00067604	Glow plug relay fault
E00017403	Fuel temperature sensor fault	E00067605	Glow plug relay fault
E00017404	Fuel temperature sensor fault	E00072302	Camshaft position sensor fault
E00017502	Engine oil temperature fault	E00072308	Camshaft position sensor fault
E00017531	Engine oil temperature sensor fault	E00107600	Rail pressure control fault
E00019000	Engine speed extremely high	E00107601	Rail pressure control fault
E00062802	ECU fault	E00107603	Rail pressure control fault
E00062912	ECU fault	E00107604	Rail pressure control fault
E00063011	Injector data fault	E00107609	Rail pressure control fault
E00063023	ECU fault	E00107615	Rail pressure control fault
E00063024	ECU fault	E00107616	Rail pressure control fault
E00063025	ECU fault	E00107617	Rail pressure control fault
E00063031	ECU fault	E00107618	Rail pressure control fault
E00063307	Rail pressure fault	E00107631	Rail pressure control fault
E00063600	Crank position sensor fault	E00107702	ECU fault
E00063601	Crank position sensor fault	E00118002	Turbo temperature fault
E00063602	Crank position sensor fault	E00118003	Turbo temperature sensor fault
E00063607	Cam or crank sensor fault	E00118004	Turbo temperature sensor fault
E00063608	Crank position sensor fault	E00118009	Turbo temperature sensor fault
E00063611	Crank position sensor fault	E00118010	Turbo temperature sensor fault
E00063702	Cam signal fault	E00118031	Turbo temperature sensor fault
E00063708	Cam signal fault	E00122103	ECU safety monitoring fault
E00063720	Cam signal fault	E00122104	ECU safety monitoring fault

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DIAGNOSTIC SERVICE CODES (CONT'D)

Service Codes List (Cont'd)

CODE	DESCRIPTION	CODE	DESCRIPTION
E00122111	ECU safety monitoring fault	E00370116	Particulate matter too high
E00122119	ECU safety monitoring fault	E00408203	Inlet metering valve fault
E00122126	ECU safety monitoring fault	E00408204	Inlet metering valve fault
E00122127	ECU safety monitoring fault	E00408205	Inlet metering valve fault
E00122128	ECU safety monitoring fault	E00476500	Exhaust temperature extremely high
E00122129	ECU safety monitoring fault	E00476503	Exhaust gas temperature sensor fault
E00122131	ECU safety monitoring fault	E00476504	Exhaust gas temperature sensor fault
E00123901	High pressure fuel leak	E00476518	Exhaust gas temperature sensor fault
E00134703	High pressure pump fault	E00532403	Glow plug signal fault
E00134704	High pressure pump fault	E00532404	Glow plug signal fault
E00134707	High pressure pump fault	E52352302	Injector #1 and #4 fault
E00148502	ECU main relay fault	E52352303	Injector #1 and #4 fault
E00148507	ECU main relay fault	E52352304	Injector #1 and #4 fault
E00148511	ECU main relay fault	E52352402	Injector #2 and #3 fault
E00161203	Injector #1 and #4 fault	E52352403	Injector #2 and #3 fault
E00161204	Injector #1 and #4 fault	E52352404	Injector #2 and #3 fault
E00161303	Injector #2 and #3 fault	E52352501	Injector fault
E00161304	Injector #2 and #3 fault	E52352702	ECU fault
E00279103	EGR motor fault	E52353500	Injector fault
E00279104	EGR motor fault	E52353602	EGR fault
E00279105	EGR motor fault	E52353702	EGR fault
E00279108	EGR position fault	E52353802	ECU fault
E00324200	Exhaust temperature extremely high	E52353807	ECU fault
E00324203	Exhaust gas temperature sensor fault	E52353902	Fuel pump fault
E00324204	Exhaust gas temperature sensor fault	E52354002	Fuel pump fault
E00324216	Exhaust gas temperature sensor fault	E52354103	EGR fault
E00324600	Exhaust temperature extremely high	E52354104	EGR fault
E00324603	EGR temperature sensor fault	E52354302	Throttle position sensor fault
E00324604	EGR temperature sensor fault	E52354403	Intake heater fault
E00324616	Exhaust gas temperature sensor fault	E52354404	Intake heater fault
E00325100	Differential pressure sensor fault	E52354702	ECU communication error
E00325101	Differential pressure sensor fault	E52354802	ECU communication error
E00325103	EGR temperature sensor fault	E52357204	EGR position sensor fault
E00325104	EGR temperature sensor fault	E52357403	EGR actuator fault
E00325200	Exhaust temperature too high	E52357404	EGR actuator fault
E00350903	Sensor supply voltage fault	E52357507	EGR actuator fault
E00350904	Sensor supply voltage fault	E52357602	EGR motor fault
E00350911	Sensor supply voltage fault	E52357702	EGR temperature sensor fault
E00351003	Sensor supply voltage fault	E52357802	EGR fault
E00351004	Sensor supply voltage fault	E52358002	Intake throttle fault
E00351011	Sensor supply voltage fault	E52358203	Intake throttle lift sensor fault
E00351111	Sensor supply voltage fault	E52358204	Intake throttle lift sensor fault
E00370100	Particulate matter extremely high	E52358917	Low water temperature in parked regeneration
E00370115	Particulate matter warning	E52359016	Parked regeneration time out

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DIAGNOSTIC SERVICE CODES (CONT'D)

Service Codes List (Cont'd)

CODE	DESCRIPTION	CODE	DESCRIPTION
E52359102	ECU communication fault	H2507	Diverter #2 open circuit
E52359202	ECU communication fault	H2605	Front base output short to battery
E52359302	ECU communication fault	H2606	Front base output short to ground
E52359402	ECU communication fault	H2607	Front base output open circuit
E52359502	ECU communication fault	H2632	Front base output overcurrent
E52359602	ECU communication fault	H2705	Front rod output short to battery
E52359800	DOC failure	H2706	Front rod output short to ground
E52359802	ECU communication fault	H2707	Front rod output open circuit
E52359900	Exhaust temperature sensor fault	H2732	Front rod output overcurrent
E52360000	Pump calibration error	H2805	Diverter short to battery
E52360100	Exhaust gas temperature sensor fault	H2806	Diverter short to ground
E52360200	DPF fault	H2807	Diverter open circuit
E52360315	Water temperature sensor fault	H2905	High-flow short to battery
E52360402	ECU communication fault	H2906	High-flow short to ground
E52370013	ECU fault	H2907	High-flow open circuit
		H2932	High-flow overcurrent
H1221	Right thumb switch out of range high	H3028	Controller memory failure
H1222	Right thumb switch out of range low	H3128	Interrupted power failure
H1224	Right thumb switch not in NEUTRAL	H3648	Multiple ACD conflict error
H1321	Left thumb switch out of range high	H3904	Left joystick in error
H1322	Left thumb switch out of range low	H3912	Left joystick thumb switch not in NEUTRAL
H1324	Left thumb switch not in NEUTRAL	H3913	Left joystick grip no communication
H1421	Lift base pressure out of range high	H3916	Left joystick no communication
H1422	Lift base pressure out of range low	H3928	Left joystick internal failure
H1502	Ride control output error ON	H3948	Left joystick multiple
H1503	Ride control output error OFF	H4004	Right joystick in error
H1507	Ride control output open circuit	H4012	Right joystick thumb switch not in NEUTRAL
H1528	Ride control output failure	H4013	Right joystick grip no communication
H1602	Ride control relay error ON	H4016	Right joystick no communication
H1603	Ride control relay error OFF	H4028	Right joystick internal failure
H2105	Reverse fan solenoid short to battery	H4048	Right joystick multiple
H2106	Reverse fan solenoid short to ground	H4302	Horn error ON
H2107	Reverse fan solenoid open circuit	H4303	Horn error OFF
H2132	Reverse fan solenoid overcurrent	H4423	Auxiliary not programmed
H2305	Rear base output short to battery	H4497	Auxiliary controller programmed
H2306	Rear base output short to ground	H4502	Right blinker error ON
H2307	Rear base output open circuit	H4503	Right blinker error OFF
H2332	Rear base output overcurrent	H4602	Left blinker error ON
H2405	Rear rod output short to battery	H4603	Left blinker error OFF
H2406	Rear rod output short to ground	H4721	8 volt sensor supply out of range high
H2407	Rear rod output open circuit	H4722	8 volt sensor supply out of range low
H2432	Rear rod output overcurrent	H7404	Main controller no communication
H2505	Diverter #2 short to battery		
H2506	Diverter #2 short to ground	L0102	Lights button error ON

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DIAGNOSTIC SERVICE CODES (CONT'D)

Service Codes List (Cont'd)

CODE	DESCRIPTION	CODE	DESCRIPTION
L0202	High-flow enable / auto idle enable button error ON	M0909	Fuel level too low
L0302	Auxiliary enable button error ON	M0921	Fuel level out of range high
L0402	Information button error ON	M0922	Fuel level out of range low
L7404	Main controller no communication	M1016	Hydraulic charge filter not connected
L7672	Left display panel needs programming	M1017	Hydraulic charge filter plugged
		M1121	Seat bar sensor out of range high
M0116	Air filter not connected	M1122	Seat bar sensor out of range low
M0117	Air filter plugged	M1128	Seat bar sensor failure
M0216	Hydraulic / Hydrostatic filter not connected	M1305	Fuel hold solenoid short to battery
M0217	Hydraulic / Hydrostatic filter plugged	M1306	Fuel hold solenoid short to ground
M0309	System voltage too low	M1307	Fuel hold solenoid open circuit
M0310	System voltage too high	M1402	Fuel pull solenoid error ON
M0311	System voltage extremely high	M1403	Fuel pull solenoid error OFF
M0314	System voltage extremely low	M1407	Fuel pull solenoid open circuit
M0322	System voltage out of range low	M1428	Fuel pull solenoid failure
M0409	Engine oil pressure too low	M1502	Traction lock pull output error ON
M0414	Engine oil pressure extremely low	M1503	Traction lock pull output error OFF
M0415	Engine oil pressure in shutdown	M1507	Traction lock pull output open circuit
M0421	Engine oil pressure out of range high	M1528	Traction lock pull output failure
M0422	Engine oil pressure out of range low	M1605	Traction lock hold solenoid short to battery
M0509	Hydraulic charge pressure too low	M1606	Traction lock hold solenoid short to ground
M0510	Hydraulic charge pressure too high	M1607	Traction lock hold solenoid open circuit
M0511	Hydraulic charge pressure extremely high	M1705	Hydraulic lock valve short to battery
M0514	Hydraulic charge pressure extremely low	M1706	Hydraulic lock valve short to ground
M0515	Hydraulic charge pressure in shutdown	M1707	Hydraulic lock valve open circuit
M0521	Hydraulic charge pressure out of range high	M1732	Hydraulic lock valve overcurrent
M0522	Hydraulic charge pressure out of range low	M1805	Lift spool lock output short to battery
M0610	Engine speed too high	M1806	Lift spool lock output short to ground
M0611	Engine speed extremely high	M1807	Lift spool lock output open circuit
M0613	Engine speed no signal	M1832	Lift spool lock output overcurrent
M0615	Engine speed in shutdown	M2005	Two-speed primary solenoid short to battery
M0618	Engine speed out of range	M2006	Two-speed primary solenoid short to ground
M0634	Engine speed invalid information from ECU	M2007	Two-speed primary solenoid open circuit
M0710	Hydraulic fluid temperature too high	M2032	Two-speed primary solenoid overcurrent
M0711	Hydraulic fluid temperature extremely high	M2102	Glow plug output error ON
M0715	Hydraulic fluid temperature in shutdown	M2103	Glow plug output error OFF
M0721	Hydraulic fluid temperature out of range high	M2107	Glow plug output open circuit
M0722	Hydraulic fluid temperature out of range low	M2128	Glow plug output failure
M0810	Engine coolant temperature too high	M2202	Starter output error ON
M0811	Engine coolant temperature extremely high	M2203	Starter output error OFF
M0815	Engine coolant temperature in shutdown	M2207	Starter output open circuit
M0821	Engine coolant temperature out of range high	M2228	Starter output failure
M0822	Engine coolant temperature out of range low	M2302	Starter relay error ON
M0826	Engine coolant temperature pre-shutdown	M2303	Starter relay error OFF

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DIAGNOSTIC SERVICE CODES (CONT'D)

Service Codes List (Cont'd)

CODE	DESCRIPTION	CODE	DESCRIPTION
M2402	Fuel pull relay error ON	M4903	Rear light relay error OFF
M2403	Fuel pull relay error OFF	M5002	Front light output error ON
M2502	Traction pull relay error ON	M5003	Front light output error OFF
M2503	Traction pull relay error OFF	M5007	Front light output open circuit
M2602	Glow plug relay error ON	M5028	Front light output failure
M2603	Glow plug relay error OFF	M5102	Rear light output error ON
M2721	Throttle primary sensor out of range high	M5103	Rear light output error OFF
M2722	Throttle primary sensor out of range low	M5107	Rear light output open circuit
M2821	Throttle secondary sensor out of range high	M5128	Rear light output failure
M2822	Throttle secondary sensor out of range low	M5202	Press to operate button error ON
M3028	Controller memory failure	M5221	Press to operate button out of range high
M3128	Interrupted power failure	M5222	Press to operate button out of range low
M3204	ACS (AHC) no communication to Bobcat controller	M5305	Press to operate light short to battery
M3304	Deluxe panel no communication	M5306	Press to operate light short to ground
M3404	Deluxe panel in error	M5405	Tilt spool lock short to battery
M3505	Hydraulic fan short to battery	M5406	Tilt spool lock short to ground
M3506	Hydraulic fan short to ground	M5407	Tilt spool lock open circuit
M3507	Hydraulic fan open circuit	M5432	Tilt spool lock overcurrent
M3532	Hydraulic fan overcurrent	M5810	Fuel temperature too high
M3705	Two-speed second output short to battery	M5811	Fuel temperature extremely high
M3706	Two-speed second output short to ground	M5815	Fuel temperature in shutdown
M3707	Two-speed second output open circuit	M5826	Fuel temperature pre-shutdown
M3732	Two-speed second output overcurrent	M5902	DPF regeneration switch error ON
M3805	Auxiliary hydraulic lock short to battery	M6002	DPF inhibit regeneration switch error ON
M3806	Auxiliary hydraulic lock short to ground	M6102	Remote parked regeneration switch error ON
M3807	Auxiliary hydraulic lock open circuit	M6402	Switched power relay error ON
M3832	Auxiliary hydraulic lock overcurrent	M6403	Switched power relay error OFF
M4028	Wrong ECU detected	M6505	ECU power short to battery
M4109	Alternator voltage too low	M6506	ECU power short to ground
M4110	Alternator voltage high	M6507	ECU power open circuit
M4111	Alternator voltage extremely high	M6604	ECU no communication
M4304	Keyless panel no communication	M6702	HVAC output error ON
M4404	Auxiliary no communication	M6703	HVAC output error OFF
M4510	Water in fuel sensor too high	M6707	HVAC output open circuit
M4511	Water in fuel sensor extremely high	M6728	HVAC output failure
M4521	Water in fuel sensor out of range high	M6802	HVAC relay error ON
M4522	Water in fuel sensor out of range low	M6803	HVAC relay error OFF
M4621	5 volt sensor supply out of range high	M7002	Switched power output error ON
M4622	5 volt sensor supply out of range low	M7003	Switched power output error OFF
M4721	8 volt sensor supply out of range high	M7007	Switched power output open circuit
M4722	8 volt sensor supply out of range low	M7028	Switched power output failure
M4802	Front light relay error ON	M7304	Remote control no communication
M4803	Front light relay error OFF	M7316	Remote control no communication to transmitter
M4902	Rear light relay error ON	M7423	Main controller not programmed

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DIAGNOSTIC SERVICE CODES (CONT'D)

Service Codes List (Cont'd)

CODE	DESCRIPTION	CODE	DESCRIPTION
M7472	Main controller needs programming	W3233	ACS (AHC) tilt handle wiring
M7497	Main controller programmed	W3234	ACS (AHC) tilt actuator not in NEUTRAL
M7504	Drive no communication	W3235	ACS (AHC) tilt handle / pedal not in NEUTRAL
M7604	Left display panel no communication	W3236	ACS (AHC) lift actuator
M7748	Key switch multiple	W3237	ACS (AHC) lift actuator wiring
M7839	Hourmeter changed	W3238	ACS (AHC) lift handle wiring
M7974	Door open	W3239	ACS (AHC) lift actuator not in NEUTRAL
M8541	DPF automatic regeneration active	W3240	ACS (AHC) lift handle / pedal not in NEUTRAL
M8542	DPF automatic regeneration active (Operate machine under load)	W3241	ACS (AHC) no communication
M8543	DPF regeneration required	W3249	ACS (AHC) lift actuator short to ground
M8551	DPF regeneration needed – inhibit active	W3250	ACS (AHC) tilt actuator short to ground
M8552	DPF regeneration needed – inhibit active (Operate machine under load)	W3251	ACS (AHC) lift actuator short to battery
M8553	DPF remote parked regeneration required (Remote regeneration kit required)	W3252	ACS (AHC) tilt actuator short to battery
M8554	DPF service regeneration required (Contact Bobcat dealer)	W3253	ACS (AHC) lift handle / pedal short to ground
M8555	DPF service required	W3254	ACS (AHC) tilt handle / pedal short to ground
M8560	DPF service regeneration active	W3255	ACS (AHC) lift handle / pedal short to battery
M8561	DPF service regeneration active	W3256	ACS (AHC) tilt handle / pedal short to battery
M8562	DPF service regeneration active	W3257	ACS (AHC) lift actuator reduced performance
M8563	DPF service regeneration active	W3258	ACS (AHC) tilt actuator reduced performance
M8564	DPF service regeneration active	W3259	ACS (AHC) lift actuator wrong direction
M8615	Engine speed derate in shutdown	W3260	ACS (AHC) tilt actuator wrong direction
M8625	Engine speed derate unresponsive	W3261	ACS (AHC) handle lock short to ground
		W3262	ACS (AHC) handle lock short to battery
R7404	Main controller no communication	W3263	ACS (AHC) pedal lock short to ground
		W3264	ACS (AHC) pedal lock short to battery
T9002	Service tool output 'C' error ON	W3265	ACS (AHC) sensor supply voltage out of range
T9003	Service tool output 'C' error OFF	W3266	ACS (AHC) battery voltage out of range
T9102	Service tool output 'D' error ON	W3267	ACS (AHC) switch flipped while operating
T9103	Service tool output 'D' error OFF	W3268	ACS (AHC) lift handle information error
T9202	Service tool output 'E' error ON	W3269	ACS (AHC) control mode toggle switched while operating
T9203	Service tool output 'E' error OFF	W3270	ACS (AHC) right drive handle short to ground
T9302	Service tool output 'F' error ON	W3271	ACS (AHC) right drive handle short to battery
T9303	Service tool output 'F' error OFF	W3274	ACS (AHC) left joystick X-axis out of range
		W3275	ACS (AHC) interrupted unswitched power
W3204	ACS (AHC) no communication to Bobcat controller	W3276	ACS (AHC) CAN joystick information error
W3223	ACS (AHC) calibration required	W3277	ACS (AHC) remote control information error
W3224	ACS (AHC) calibration performed	W3297	ACS (AHC) controller programmed
W3225	ACS (AHC) actuator calibration failed	W3905	Left joystick X-axis not in NEUTRAL
W3231	ACS (AHC) tilt actuator	W4005	Right joystick X-axis not in NEUTRAL
W3232	ACS (AHC) tilt actuator wiring	W4007	Right joystick Y-axis not in NEUTRAL

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CONTROL PANEL SETUP

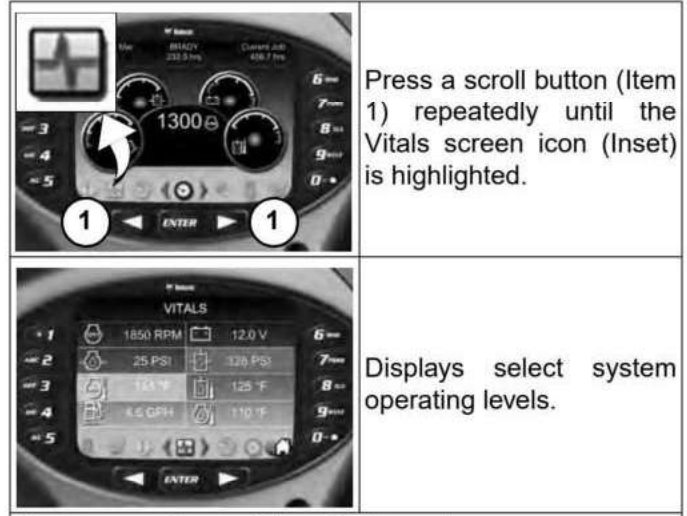
Right Panel Setup (Deluxe Instrumentation Panel)

Icon Identification

Figure 301



Vitals



Press a scroll button (Item 1) repeatedly until the Vitals screen icon (Inset) is highlighted.

Displays select system operating levels.

You can monitor real-time displays of:

- Engine Speed
- Engine Oil Pressure
- Engine Coolant Temperature
- Fuel Consumption
- System Voltage
- Hydraulic Charge Pressure
- Hydraulic Fluid Temperature
- Engine Oil Temperature







The Deluxe Instrumentation Panel is easy to use. Continue to set your own preferences for operating / monitoring your Bobcat loader.

ICON	DESCRIPTION
Mon, 17 Mar 3:45 PM	DATE / TIME
BRADY 232.5 hrs	USER / HOURMETER
Current Job 456.7 hrs	CURRENT JOB HOURS
	ACTIVE WARNINGS screen icon
	VITALS screen icon
	SERVICE screen icon
	MAIN screen icon
	ATTACHMENTS screen icon
	SECURITY screen icon
	DISPLAY screen icon
	HOME icon (Return to MAIN screen)
	LEFT SCROLL button
	RIGHT SCROLL button
	ENTER button

CONTROL PANEL SETUP (CONT'D)

Right Panel Setup (Deluxe Instrumentation Panel) (Cont'd)




Date And Time

	Press a scroll button (Item 1) repeatedly until the Display screen icon (Inset) is highlighted.
	Select [1. CLOCKS] .
	Select [1. TIME] .
	Use the keypad to enter time. Select AM / PM / 24hr. Press [ENTER] to continue.
	Select [2. DATE] .
	Use the keypad to enter date. Press [ENTER] to continue.

English / Metric Display

	Press a scroll button (Item 1) repeatedly until the Display screen icon (Inset) is highlighted.
	Select [4. DISPLAY SETTINGS] .
	Press [1] to cycle between ENGLISH and METRIC.

Auto Idle Time Delay


	Press a scroll button (Item 1) repeatedly until the Security screen icon (Inset) is highlighted.
	Select [3. ENGINE SETTINGS] .
	Use the keypad to enter the desired delay time between 4 and 250 seconds. Press [ENTER] to save and continue. Press left scroll button to exit without saving.

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CONTROL PANEL SETUP (CONT'D)

Right Panel Setup (Deluxe Instrumentation Panel) (Cont'd)

Job Clock Reset

	<p>Press a scroll button (Item 1) repeatedly until the Security screen icon (Inset) is highlighted.</p>
	<p>Select [1. PASSWORDS / LOCKOUTS].</p>
	<p>Enter owner password and press [ENTER].</p>
	<p>Select SETTINGS. [1. USER SETTINGS].</p>
	<p>Select user.</p>
	<p>Select [3. RESET JOB STATISTICS].</p>
	<p>Press [9] to reset job statistics. Press left scroll button or [0] to exit without saving.</p>

Machine Lockouts

	<p>Press a scroll button (Item 1) repeatedly until the Security screen icon (Inset) is highlighted.</p>
	<p>Select [1. PASSWORDS / LOCKOUTS].</p>
	<p>Enter owner password and press [ENTER].</p>
	<p>Select [4. TWO-SPEED].</p>
	<p>TWO-SPEED Press user number to cycle between LOCKED and UNLOCKED.</p>

NOTE: Two-Speed lockouts for the owner are active even if the Password Lockout feature is unlocked.

PASSWORD SETUP (KEYLESS START PANEL)

Password Description

Master Password:

A permanent, randomly selected password set at the factory that cannot be changed. This password is used for service by the Bobcat dealer if the owner password is not known or to change the owner password.

Owner Password:

Allows for full use of the loader. Must be used to change the owner password.

Changing The Owner Password

Turn the key switch to the RUN position to turn on the loaders electrical system.

Enter the five digit owner password using the number keys (1 through 0) if locked.

Figure 302



Press and hold the lock (Item 1) and unlock (Item 2) [Figure 302] keys for 2 seconds.

The lock key red light will flash and the left panel display screen will show [ENTER].

Enter a new five digit owner password using the number keys (1 through 0). An asterisk will show in the left panel display screen for each key press.

The left panel display screen will show [AGAIN].

Enter the new five digit owner password again.

The lock key red light will become solid.

Password Lockout Feature

This feature allows the owner to unlock the password feature so that a password does not need to be used every time the engine is started.

Turn the key switch to the RUN position to turn on the loaders electrical system.

Enter the five digit owner password using the number keys (1 through 0).

Press the unlock key (Item 2) [Figure 302].

The left panel display screen will show [CODE].

Enter the five digit owner password using the number keys (1 through 0). The unlock key green light will flash, then become solid.

The loader can now be started without using a password.

NOTE: Use the following procedure to reset the machine lock so that the loader requires a password to start the engine.

Turn the key switch to the RUN position to turn on the loaders electrical system.

Press the lock key (Item 1) [Figure 302].

The lock key red light will flash and the left panel display screen will show [CODE].

Enter the five digit owner password using the number keys (1 through 0). The unlock key green light will flash, then the lock key red light will become solid.

You must now enter the password every time to start the loader.

PASSWORD SETUP (DELUXE INSTRUMENTATION PANEL)

Password Description

All new machines with a Deluxe Instrumentation Panel arrive at Bobcat dealerships with the keypad in locked mode. Locked mode means that a password must be used to start the engine.

For security purposes, your dealer may change the password and set the keypad in the locked mode. Your dealer will provide you with the password.

Master Password:

A permanent, randomly selected password set at the factory that cannot be changed. This password is used for service by the Bobcat dealer if the owner password is not known or to change the owner password.

Owner Password:


Allows for full use of the loader and to set up the Deluxe Instrumentation Panel. There is only one owner password. The owner password must be used to change the owner or user passwords. Owner should change the password as soon as possible for security of the loader.

User Password:

Allows starting and operating the loader; cannot change passwords or lockout features.

For the procedures to change passwords: (See Changing The Owner Password on Page 192.) and (See Changing The User Passwords on Page 193.)





Changing The Owner Password

 <p>The image shows the main dashboard screen with a lock icon in the top right corner. A white circle with the number '1' is placed over the lock icon. Another white circle with the number '1' is placed over the left scroll button. A white arrow points from the lock icon to the scroll button.</p>	<p>Press a scroll button (Item 1) repeatedly until the Security screen icon (Inset) is highlighted.</p>
 <p>The image shows the 'MACHINE SETTINGS' screen. The first option, '1. PASSWORDS / LOCKOUTS', is highlighted with a white circle containing the number '1'.</p>	<p>Select [1. PASSWORDS / LOCKOUTS].</p>
 <p>The image shows the 'SECURITY' screen with the prompt 'ENTER OWNER PASSWORD'.</p>	<p>Enter owner password and press [ENTER].</p>
 <p>The image shows the 'SECURITY' screen with '1. USER SETTINGS' highlighted by a white circle containing the number '1'.</p>	<p>Select [1. USER SETTINGS].</p>
 <p>The image shows the 'USER' settings screen with a list of users. The first user, '1. OWNER', is highlighted with a white circle containing the number '1'.</p>	<p>Select [1. OWNER].</p>
 <p>The image shows the 'SECURITY' screen with '2. CHANGE PASSWORD' highlighted by a white circle containing the number '2'.</p>	<p>Select [2. CHANGE PASSWORD].</p>
 <p>The image shows the 'OWNER PASSWORD' screen with the prompt 'ENTER NEW OWNER PASSWORD' and the number '12345' entered.</p>	<p>Enter new owner password and press [ENTER]. You will be prompted to reenter the new owner password.</p>

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PASSWORD SETUP (DELUXE INSTRUMENTATION PANEL) (CONT'D)

Changing The User Passwords

	<p>Press a scroll button (Item 1) repeatedly until the Security screen icon (Inset) is highlighted.</p>
	<p>Select [1. PASSWORDS / LOCKOUTS].</p>
	<p>Enter owner password and press [ENTER].</p>
	<p>Select [1. USER SETTINGS].</p>
	<p>Select user.</p>
	<p>Select [2. CHANGE PASSWORD].</p>
	<p>Enter new user password and press [ENTER].</p>

Password Lockout Feature

This feature allows the owner to unlock the password feature so that a password does not need to be used every time the engine is started.

	<p>Press a scroll button (Item 1) repeatedly until the Security screen icon (Inset) is highlighted.</p>
	<p>Select [1. PASSWORDS / LOCKOUTS].</p>
	<p>Enter owner password and press [ENTER].</p>
	<p>Select [2. MACHINE LOCK].</p>

NOTE: The procedure above can be followed to reset the machine lock so that the machine requires a password to start the engine.

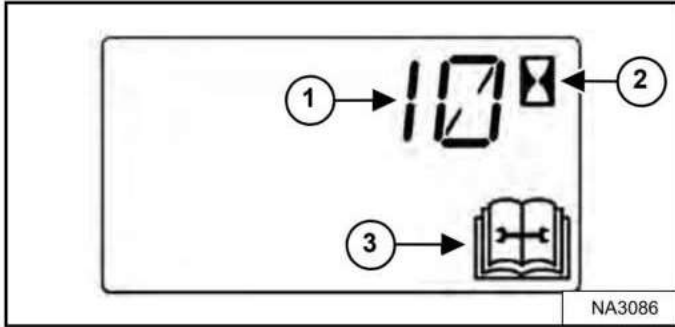
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MAINTENANCE CLOCK

Description

The Maintenance Clock alerts the operator when the next service interval is due. *EXAMPLE:* The maintenance clock can be set to a 500 hour interval as a reminder for the next 500 hour planned maintenance.

Figure 303



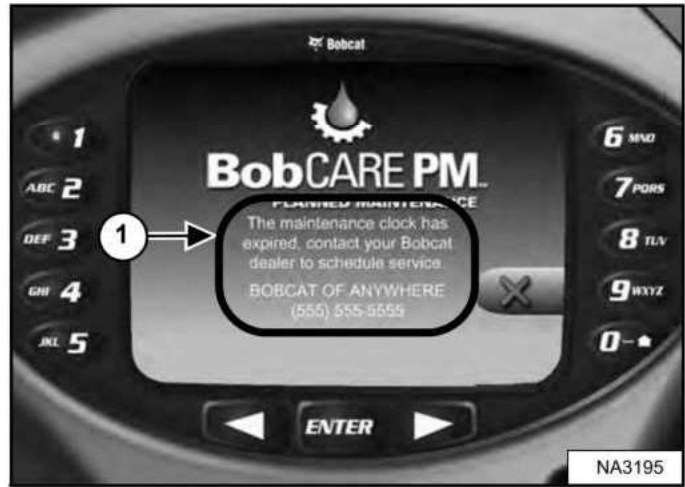
During machine operation, a 2 beep alarm will sound when there are less than 10 hours until the next planned maintenance.

The remaining hours before maintenance is required (Item 1) will appear in the data display for 5 seconds while the service icon (Item 3) and the hourmeter icon (Item 2) [Figure 303] flash.

NOTE: The display will show negative numbers after counting down to zero.

The display will revert to the previous display and will appear for 5 seconds every time the machine is started until the maintenance clock is reset.

Figure 304



The Deluxe Instrumentation Panel (if equipped) will display a message (Item 1) [Figure 304] alerting the operator to service the machine.

This message will appear for 10 seconds every time the machine is started until the maintenance clock is reset.

Figure 305



The Deluxe Instrumentation Panel (if equipped) will display a bar (Item 1) [Figure 305] showing the time remaining until next service. This bar will turn red when service is past due. [NEXT MAINTENANCE DUE] will change to [MAINTENANCE PAST DUE] and display the number of hours past due.

Keys [4] and [9] can be used to adjust the service interval when the owner is logged in [Figure 305].

MAINTENANCE CLOCK (CONT'D)

Setup

See your Bobcat dealer about installation of this feature.

Reset

Figure 306



Press the Information button (Item 2) **[Figure 306]** until the display screen shows the maintenance clock.

Press and hold the Information button (Item 2) for 7 seconds until **[RESET]** (Item 1) **[Figure 306]** appears in the display screen.

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MACHINE SIGN TRANSLATIONS

MACHINE SIGN TRANSLATIONS	197
Service Schedule (7242070)	197
Warning (7167993)	200
Warning (7169291)	200
Danger (7167989)	200
Danger (7167990)	200
Danger (7167988)	201
Warning (7168114)	201
Warning (7167994)	202
Warning (7168140)	203
Warning (7168142)	203
Warning (7168138)	204
Warning (7167996)	205
Warning (6737189)	205
Warning (7184346)	206
Danger (7170355)	206
Lift Arm Support Device (6706558)	207
Warning (7168024)	208
Warning (7142141)	209
Warning (7168019)	210

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WARNING

AVOID INJURY OR DEATH

- Keep door closed except for service.
- Keep engine clean of flammable material.
- Keep body, loose objects and clothing away from electrical contacts, moving parts, hot parts and exhaust.
- Do not use loader in space with explosive dusts or gases or with flammable material near exhaust.
- Never use ether or starting fluid on diesel engine with glow plugs or air intake heater. Use only starting aids as approved by engine manufacturer.
- Leaking fluids under pressure can enter skin and cause serious injury.
- Battery acid causes severe burns; wear goggles. If acid contacts eyes, skin, or clothing, flush with water. For contact with eyes, flush and get medical attention.
- Battery makes flammable and explosive gas. Keep arcs, sparks, flames and lighted tobacco away.
- For jump start, connect negative cable to loader engine last (never at the battery). After jump start, remove negative connection at the engine first.
- Exhaust gases can kill. Always ventilate.

SERVICE CHECKLIST AND SCHEDULE

EVERY 10 HRS (BEFORE STARTING THE LOADER)

- ENGINE OIL & FILTER - Check level and add as needed. Do not overfill. Change oil and filter after first 50 hrs, then refer to Operation & Maintenance Manual for proper change interval for your Model.
- ENGINE AIR FILTERS - Check condition indicator and/or display. Service only when required. Do not clean or reuse.
- ENGINE AIR SYSTEM - Check for leaks and damaged components.
- ENGINE COOLING SYSTEM - Clean debris from grill, oil cooler, air conditioner (if equipped), radiator and screens on both the rear door and engine cover (if equipped).
- FUEL FILTER - Remove trapped water. Refer to Operation & Maintenance Manual for proper replacement interval for your model. Do not overfill fuel filter.
- LOADER LIFT ARMS, LIFT LINKS, CYLINDERS, BOB-TACH PIVOT & WEDGES, STEERING CYLINDERS (AWS Machines Only) - Lubricate with multipurpose lithium based grease.
- SEAT BELT, SEAT BAY AND CONTROL INTERLOCKS - Check function. Repair or replace as needed.
- BICS - Check for proper function. Clean dirt and debris from moving parts. Lift and Tilt functions MUST NOT operate with seat raised.
- FRONT HORN / BACK-UP ALARM - Check for proper function.
- TIRES - Check air pressure. Inflate to MAXIMUM pressure shown on sidewall of tire.
- GENERAL - Check for loose or broken parts, damaged operator cab, instrument operation, loose wheel nuts or track sprocket nuts, oil leaks, damaged or missing safety signs (decals).
- HYDRAULIC FLUID - Check fluid level and add if required.
- HEATER AND AIR CONDITIONING FILTERS (If Equipped) - Clean or replace filters as needed.

EVERY 50 HRS

- HYDRAULIC HOSES AND TUBELINES - Check for damage and for leaks. Repair or replace as needed.
- FINAL DRIVE TRANSMISSION CHAINCASE (on Wheel Machines Only) - Check fluid level and add if required.
- PARKING BRAKE, HYDRAULIC & STEERING CONTROLS (pedal, Hand and/or Joystick) - Check for correct operation. Adjust as needed.
- WHEEL NUTS / TRACK DRIVE SPROCKETS - Check for loose nuts and tighten as needed.
- TRACK TENSION (Track Machines Only) - Check tension and adjust as needed.

EVERY 100 HRS

- SPARK ARRESTER - Empty spark chamber, (if equipped). See IMPORTANT message on this decal.
- BATTERY - Check battery for damage, fluid level, electrolyte level. Add distilled water as needed.

EVERY 250 HRS

- ENGINE / HYDROSTATIC DRIVE BELT - Check for wear or damage. Adjust or replace as needed, (if equipped).
- OTHER DRIVE BELTS (water pump/alternator and air conditioner - if equipped) - Check condition. Replace as needed.
- BICS - Check function of Lift Arm Bypass control.
- STEERING KING PINS (AWS Machines Only) - Lubricate with multipurpose lithium based grease.

EVERY 500 HRS

- HYDROSTATIC / HYDROSTATIC SYSTEM - Replace charge (line) filter. Replace reservoir breather cap.
- HYDROSTATIC MOTOR CARRIER (Track Machines Only) - Replace oil. See Operation & Maintenance Manual for oil specifications.
- STEERING VALVE INLINE FILTER (AWS Machines Only) - Replace filter.

EVERY 1000 HRS

- HYDRAULIC / HYDROSTATIC SYSTEM - Replace hydraulic filter.
- HYDRAULIC RESERVOIR - Replace fluid.
- FINAL DRIVE TRANSMISSION Chaincase (on Wheel Machines Only) - Replace fluid.
- WHEEL BEARING / OUTER SPINDLES (AWS Machines Only) - Flush wheel bearings, grease internal splines in hub yokes. (Dealer Service Only).
- ENGINE VALVES - Refer to Operation & Maintenance Manual for proper adjustment intervals for your Model.

EVERY 1500, 2000 & 3000 HRS

- See Operation & Maintenance Manual for information.

NOTES:

- Replace element sooner if hydraulic filter warning indicator remains on for more than 5 minutes after hydraulic fluid is at operating temperature.
- Service at first 50 Hours, then as scheduled.
- See Operation & Maintenance Manual for information, correct fluid applications, filter part number and location, and appropriate service interval for your Model.

IMPORTANT


This machine is factory equipped with a U.S.E.P.A. Tier 4i Stage II emission approved work aftertreatment system that must be maintained for proper function.

- WITH MUFFLER - The muffler spark arrester must be replaced every 100 hours of operation to keep it in working condition.
- WITH SELECTIVE CATALYST REDUCTION (SCR) AND/OR DIESEL OXIDATION CATALYST (DOC) - Do not remove or modify the DOC or SCR.
- The SCR must be maintained according to the instructions in the Operation & Maintenance Manual for the machine.
- WITH DIESEL PARTICULATE FILTER (DPF) - The DPF must be maintained according to the instructions in the Operation & Maintenance Manual for the machine.


If this machine is operated on flammable liquid, kerosene or grease (not used), the engine must be maintained according to the instructions in the Operation & Maintenance Manual for the machine. California state law section 4453 P.M.C. states to read book and regulations for good operator maintenance.

GENERAL LUBRICATION DIAGRAMS

← TYPICAL GREASE POINTS



RADIUS PATH MACHINE



VERTICAL PATH MACHINE

BE PARTS & SERVICE SMART

Use Genuine Bobcat Replacement Parts

SEE OPERATION & MAINTENANCE MANUAL FOR MORE INFORMATION AND INSTRUCTIONS.

AVERTISSEMENT

RISQUE DE BLESSURES OU DE MORT

- Gardez la porte fermée sauf pour l'entretien.
- Gardez le moteur à l'écart de tout matériel inflammable.
- Gardez le corps, les objets mobiles et les vêtements à l'écart des contacts électriques, des pièces mobiles, des pièces brûlantes et de l'échauffement.
- N'utilisez pas la chargeuse dans des lieux contenant des poussières ou des gaz explosifs ou avec des matériaux inflammables à proximité de l'échauffement.
- N'utilisez jamais d'éther ou de liquide d'ode au démarrage sur les moteurs diesel équipés de bougies de préchauffage ou de réchauffeur d'air d'admission. Utilisez uniquement des aides au démarrage approuvées par le fabricant du moteur.
- En cas de fuite, le liquide sous pression peut pénétrer dans la peau et provoquer des blessures graves.
- Portez des lunettes de protection car le liquide dans une bouteille provoqué des éclaboussures sur le visage et les vêtements, ne pas utiliser de produits d'entretien sur les yeux, le nez ou les vêtements, rincez abondamment à l'eau.
- En cas de contact sur les yeux, rincez abondamment et consultez immédiatement un médecin.
- La batterie gèlère des gaz inflammables et explosifs. Évitez d'allumer à l'écart des étincelles, des flammes et des cigarettes allumées.
- En cas de démarrage forcé, connectez le câble négatif au moteur de la chargeuse en dernier (jamais à la batterie). Après un démarrage forcé, retirez en premier la connexion négative au moteur.
- Les gaz d'échappement peuvent être mortels. Veillez à toujours aérer la zone.

LISTE DE VÉRIFICATION ET PÉRIODICITÉ DES ENTRETIENS

TOUTES LES 10 HEURES (AVANT DE DÉMARRER LA CHARGEUSE)

- **RULE ET FILTRE MOTEUR** - Vérifiez le niveau d'huile et faites l'appoint si nécessaire. Ne déposez pas le niveau d'huile. Remplacez le filtre à air tous les 50 heures.
- **FILTRES À AIR MOTEUR** - Vérifiez l'indicateur d'état et/ou l'affichage. Effectuez ce que l'entretien nécessite.
- N'utilisez pas de air comprimé pour nettoyer les éléments.
- **CIRCUIT DE RÉFROIDISSEMENT DU MOTEUR** - Vérifiez le niveau de liquide du réservoir, du refroidisseur d'huile, du démarreur (in case échéant) et du radiateur.
- **FILTRE D'ALIMENTATION** - Rincez l'eau. Reportez-vous au manuel d'utilisation et d'entretien pour connaître la périodicité appropriée de remplacement du filtre pour votre modèle. Ne préremplissez pas le filtre à carbure.
- **BRAS DE LEVAGE DE LA CHARGEUSE, ARTICULATIONS DE LEVAGE, VÉRINS, CALES ET AXES PIVOT DU BOB-TACH, VÉRINS DE DIRECTION** - Vérifiez le serrage des écrous et des boulons. Remplacez les pièces défectueuses.
- **CEINTURE DE SÉCURITÉ, ANCIEN DE SÉCURITÉ ET VERROUILLAGE DES COMMANDES** - Vérifiez leur bon fonctionnement. Effectuez les réparations ou les remplacements selon le besoin.
- **BIGU** - Vérifiez les saletés et les débris des pièces mobiles. Les fonctions de levage et de carage NE DOIVENT PAS fonctionner.
- **AVERTISSEUR AVANT /ALARME DE RECUL** - Vérifiez leur bon fonctionnement.
- **PNEUS** - Vérifiez la pression. Ouvrez-les à la pression MAXIMUM indiquée sur le flanc du pneu.
- **GÉNÉRALITÉS** - Contrôlez l'absence de pièces défectueuses ou cassées, le bon état de la chaîne de l'opérateur, le fonctionnement des instruments, le bon état des commandes et des commandes de sécurité, des commandes de sécurité, des commandes de sécurité, des commandes de sécurité.
- **FILTRES DU CHAUFFAGE ET DU CLIMATISSEUR (le cas échéant)** - Nettoyez ou remplacez les filtres au besoin.

TOUTES LES 50 H D'UTILISATION

- **FLOMBLES ET CONDUITES HYDRAULIQUES** - Vérifiez l'absence de dommages et de fuites. Effectuez les réparations ou les remplacements selon le besoin.
- **TRANSMISSION FINALE (CARTER DE CHÂÎNES, machines sur roues uniquement)** - Vérifiez le niveau d'huile et faites l'appoint si nécessaire.
- **FREIN DE STATIONNEMENT, COMMANDES HYDRAULIQUES ET DE DIRECTION (pédale, commandes manuelles et/ou manivelle)** - Vérifiez le bon fonctionnement.
- **BOUCLES DE SÉCURITÉ** - Vérifiez le bon fonctionnement des CHENILLES. Vérifiez le serrage des écrous et serrez-les au besoin.
- **TENSION DES CHENILLES** - Vérifiez la tension et ajustez les réglages nécessaires.

TOUTES LES 100 H D'UTILISATION

- **PARE-ÉTINCELLES** - Vérifiez que la batterie n'est pas endommagée, vérifiez les bris de câbles, les connexions et le niveau d'électrolyte. Faites l'appoint si nécessaire.
- **BATTERIE** - Vérifiez que la batterie n'est pas endommagée, vérifiez les bris de câbles, les connexions et le niveau d'électrolyte. Faites l'appoint si nécessaire.
- **COURROIE - HYDROSTATIQUE / MOTEUR** - Vérifiez au vile n'est ni endommagée. Ajustez ou remplacez au besoin, (le cas échéant).
- **AUTRES COURROIES (pompe à eau/alternateur et climatiseur - le cas échéant)** - Vérifiez /Vérif. Remplacez-le au besoin.
- **BIGU DE FUSÉE D'UTILISATION** - Vérifiez l'absence de dommages et de fuites.

TOUTES LES 500 H D'UTILISATION

- **CIRCUIT HYDRAULIQUE/HYDROSTATIQUE** - Remplacez le filtre de charge (ventilateur). Remplacez le bouton renfileur du réservoir.
- **PORTE-MOTEUR HYDROSTATIQUE (machines sur chenilles uniquement)** - Remplacez l'huile. Consultez le manuel d'utilisation et d'entretien pour les recommandations.
- **FILTRE EN LIGNE DE LA SOUPAPE DE DIRECTION (machines à roues directrices uniquement)** - Remplacez le filtre.
- **TOUTES LES 1000 H D'UTILISATION**
 - **CIRCUIT HYDRAULIQUE/HYDROSTATIQUE** - Remplacez le filtre hydraulique.
 - **RÉSÉRIEUR DE L'HYDRAULIQUE** - Remplacez le fluide.
 - **BOULONNEMENTS DE MONTAGE/CHAÎNES MÂLES (machines à roues directrices uniquement)** - Contrôlez à plein les roulements de roues, graissez les carter/roulements de moyeux, entretenez par le constructeur (uniquement).
 - **SOUPAPES DU MOTEUR** - Reportez-vous au manuel d'utilisation et d'entretien pour connaître la périodicité appropriée des réglages pour votre modèle.

TOUTES LES 1500 ET 1000 H D'UTILISATION

- Consultez le manuel d'utilisation et d'entretien pour les détails.

SCHEMAS GÉNÉRAUX DE GRAISSAGE

POINTS DE GRAISSAGE TYPQUES

CONSULTEZ LE MANUEL D'UTILISATION ET D'ENTRETIEN POUR PLUS D'INSTRUCTIONS ET D'INFORMATIONS.

IMPORTANT

Cette machine est équipée en usine d'un système d'échappement avec silencieux, approuvé par l'U.S.D.A. pour être utilisé dans des zones résidentielles. Pour plus de détails, consultez le manuel d'utilisation.


- **NEZÉ-BLINDÉ** - Le nezé-BLINDÉ est une caractéristique de la machine qui aide à réduire le bruit. Le nezé-BLINDÉ est une caractéristique de la machine qui aide à réduire le bruit. Le nezé-BLINDÉ est une caractéristique de la machine qui aide à réduire le bruit.
- **AVERTISSEUR AVANT /ALARME DE RECUL** - Vérifiez leur bon fonctionnement.
- **AVERTISSEUR AVANT /ALARME DE RECUL** - Vérifiez leur bon fonctionnement.

Si vous utilisez cette machine en forêt, sur terrain herbeux ou dans des lieux boisés, assurez-vous que vous êtes équipé d'un équipement de protection personnelle approprié. Le nezé-BLINDÉ est une caractéristique de la machine qui aide à réduire le bruit. Le nezé-BLINDÉ est une caractéristique de la machine qui aide à réduire le bruit. Le nezé-BLINDÉ est une caractéristique de la machine qui aide à réduire le bruit.

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MACHINE SIGN TRANSLATIONS (CONT'D)

Warning (7167993)



⚠ WARNING

TIPPING, ROLLOVER OR LOSS OF VISIBILITY CAN CAUSE SERIOUS INJURY OR DEATH

CARRY LOAD LOW



⚠ ADVERTENCIA

LOS TRASTORNOS O LA PÉRDIDA DE LA VISIBILIDAD PUEDEN PROVOCAR HERIDAS GRAVES O LA MUERTE

LLEVE LA CARGA BAJA



⚠ AVERTISSEMENT

UN BASCULEMENT, UN TONNEAU OU UNE PERTE DE VISIBILITÉ PEUVENT ENTRAÎNER DES BLESSURES GRAVES VOIRE MORTELLES

GARDEZ LA CHARGE PRÈS DU SOL

Warning (7169291)



⚠ WARNING

HIGH PRESSURE GAS CAN RELEASE ROD AND CAUSE SERIOUS INJURY OR DEATH. DO NOT OPEN CYLINDER.

93306 SW 7169291A enUS



⚠ ADVERTENCIA

EL GAS DE ALTA PRESIÓN PUEDE CAUSAR QUE LA VARILLA SE SUELTE Y PROVOCAR LESIONES GRAVES O LA MUERTE. NO ABRA EL CILINDRO.

73403 SW 7169291 esAR




⚠ AVERTISSEMENT

LE GAZ SOUS HAUTE PRESSION PEUT CAUSER UN MOUVEMENT DE LA TIGE ET ENTRAÎNER BLESSURES GRAVES, VOIRE MORTELLES. NE DÉSAMBLEZ PAS LE VÉRIN.

73403 SW 7169291 frCA

Danger (7167989)



⚠ DANGER

AVOID DEATH

- Keep out of this area when lift arms are raised unless supported by an approved lift arm support device.
- Moving lift arm control or failure of a part can cause lift arms to drop.



⚠ PELIGRO

EVITE MUERTES

- Manténgase alejado del área cuando los brazos de elevación estén elevados, a menos que cuenten con un dispositivo de sostén aprobado.
- Si se mueve el control de los brazos de elevación o si falla alguna de las piezas, es posible que éstos se caigan.



⚠ DANGER

RISQUE MORTEL

- Restez éloigné de cette zone si les bras de levage sont relevés, sauf s'ils sont maintenus par un arrêtoir de bras de levage approuvé.
- Le déplacement de la commande des bras de levage ou une pièce défectueuse peuvent provoquer la chute des bras de levage.


Danger (7167990)



⚠ DANGER

AVOID DEATH

- Attachment can be forced against the ground and cause front frame to raise.
- Never go under or reach under lift arms or lift cylinder without an approved lift arm support device installed.



⚠ PELIGRO

EVITE MUERTES

- El accesorio puede ejercer presión contra el suelo y hacer que la estructura delantera se eleve.
- Nunca se posicione por debajo de la parte inferior de los brazos o el cilindro de elevación sin un dispositivo de sostén aprobado.



⚠ DANGER

RISQUE MORTEL

- Un accessoire peut être forcé contre le sol et provoquer le soulèvement du cadre avant.
- Ne vous placez jamais et ne tendez jamais les mains sous les bras et vérins de levage, sauf s'ils sont maintenus par un arrêtoir de bras de levage approuvé.

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MACHINE SIGN TRANSLATIONS (CONT'D)

Danger (7167988)

	<p>! DANGER</p> <p>AVOID DEATH</p> <ul style="list-style-type: none"> • Disconnecting or loosening any hydraulic tubeline, hose, fitting, component or a part failure can cause lift arms to drop. • Keep out of this area when lift arms are raised unless supported by an approved lift arm support. Replace if damaged. 	<p>73161 SW 7167988 enUS</p>
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	<p>! PELIGRO</p> <p>EVITE MUERTES</p> <ul style="list-style-type: none"> • Si se desconecta o afloja algún tubo, manguera, accesorio o componente hidráulico o si falla alguna de las piezas, es posible que los brazos de elevación se caigan. • Manténgase alejado del área cuando los brazos de elevación estén elevados, a menos que cuenten con un dispositivo de sostén aprobado. Si se encuentran dañados, cámbielos. 	<p>73161 SW 7167988 esAR</p>
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	<p>! DANGER</p> <p>RISQUE MORTEL</p> <ul style="list-style-type: none"> • Le débranchement ou le desserrage de conduites, raccords, tuyaux ou composants hydrauliques ou une pièce hydraulique défailante peuvent entraîner une chute des bras de levage. • Restez éloigné de la zone où les bras de levage sont relevés, sauf s'ils sont maintenus par un arrêtoir de bras de levage approuvé. Remplacez-les en cas de dommages. 	<p>73161 SW 7167988 frCA</p>
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Warning (7168114)

! WARNING

7168114A enUS

75323 SW

Switch changes Drive and Lift Arm Functions.

! ADVERTENCIA

7168114A esAR

75323 SW

El interruptor cambia las Funciones de transmisión y del brazo de elevación.

! AVERTISSEMENT

7168114A frCA

75323 SW

Le commutateur change les fonctions de la traction et des bras de levage.

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Warning (7167994)

⚠ WARNING

AVOID INJURY OR DEATH

Never use the loader without instructions. Read Operation & Maintenance Manual and Handbook.	Never modify equipment or use attachments not approved by Bobcat Company.	On slopes, keep heavy end of loader uphill.
Fasten seat belt securely. Use seat bar. Keep feet on pedals or foot rests.	Do not travel or turn with lift arms up. Load unload and turn on flat level ground. Do not exceed Rated Operating Capacity (see sign on loader).	

73161 SW 7167994 enUS

⚠ ADVERTENCIA

EVITE LESIONES O LA MUERTE

Nunca utilice la cargadora sin leer las instrucciones. Lea el Manual de funcionamiento y mantenimiento.	Nunca modifique el equipo o utilice accesorios que no estén aprobados por Bobcat Company.	En las pendientes, mantenga el lado con la carga cuesta arriba.
Ajustese el cinturón de seguridad. Utilice la barra del asiento. Mantenga los pies sobre los pedales o sobre el área de apoyo de los pies.	No se desplace ni gire con los brazos de elevación elevados. Cargue, descargue y gire sobre superficies lisas y niveladas. No exceda la Capacidad máxima de operación (consulte las indicaciones en la cargadora).	

73161 SW 7167994 enES

⚠ AVERTISSEMENT

RISQUE DE BLESSURE OU DE MORT

N'utilisez jamais la chargeuse sans les instructions. Lisez le guide et le manuel d'utilisation et d'entretien.	Né modifiez jamais l'équipement et n'utilisez jamais d'accessoires qui ne sont pas approuvés par Bobcat Company.	Sur les pentes, maintenez le côté lourd de la chargeuse vers le haut.
Attachez bien votre ceinture de sécurité. Utilisez l'arcade de siège. Gardez les pieds sur les pédales et les repose-pieds.	Ne virez pas et ne déplacez pas la machine quand les bras sont relevés. Chargez, déchargez et virez uniquement sur un sol plat et horizontal. Ne dépassez jamais la capacité opérationnelle (consultez l'autocollant sur la chargeuse).	

73161 SW 7167994 enCA

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MACHINE SIGN TRANSLATIONS (CONT'D)

Warning (7168140)

⚠ WARNING

**AVOID INJURY OR DEATH
TO LEAVE THE LOADER:**

①  Lower the lift arms.
Put attachment flat on ground.

②  Stop the engine.

③  Engage the brake.

④  Raise seat bar.
Move pedals and hand controls until both lock.

73196 SW 7168140 enUS

⚠ ADVERTENCIA

**EVITE LESIONES O LA MUERTE
AL RETIRARSE DE LA CARGADORA:**

①  Baje los brazos de elevación.
Coloque el accesorio en el suelo.

②  Detenga el motor.

③  Conecte el freno.

④  Levante la barra del asiento.
Mueva los pedales y los controles manuales hasta que se bloqueen.

73196 SW 7168140 esAR

⚠ AVERTISSEMENT

**RISQUE DE BLESSURE OU DE MORT
POUR QUITTER LA CHARGEUSE :**

①  Baissez les bras de levage.
Placez l'accessoire à plat sur le sol.

②  Arrêtez le moteur.

③  Serrez le frein.

④  Relevez l'arceau de siège.
Bougez les commandes manuelles et celles au pied jusqu'à ce qu'elles se verrouillent.

73196 SW 7168140 frCA

Warning (7168142)

⚠ WARNING

**AVOID INJURY OR DEATH
TO LEAVE THE LOADER:**

①  Lower the lift arms.
Put attachment flat on ground.

②  Stop the engine.

③  Engage the brake.

④  Raise seat bar.

73196 SW 7168142 enUS

⚠ ADVERTENCIA

**EVITE LESIONES O LA MUERTE
AL RETIRARSE DE LA CARGADORA:**

①  Baje los brazos de elevación.
Coloque el accesorio en el suelo.

②  Detenga el motor.

③  Conecte el freno.

④  Levante la barra del asiento.

73196 SW 7168142 esAR

⚠ AVERTISSEMENT

**RISQUE DE BLESSURE OU DE MORT
POUR QUITTER LA CHARGEUSE :**

①  Baissez les bras de levage.
Placez l'accessoire à plat sur le sol.

②  Arrêtez le moteur.

③  Serrez le frein.

④  Relevez l'arceau de siège.

73196 SW 7168142 frCA

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Warning (7168138)

⚠ WARNING	⚠ ADVERTENCIA	⚠ AVERTISSEMENT
		
<p>UNEXPECTED LOADER, LIFT ARM OR ATTACHMENT MOVEMENT CAUSED BY CAB CONTACT WITH CONTROLS CAN CAUSE SERIOUS INJURY OR DEATH</p> <ul style="list-style-type: none">• STOP ENGINE before raising or lowering cab. <p><small>73196 SW 7168138 enUS</small></p>	<p>EL MOVIMIENTO INESPERADO DE LA CARGADORA, EL BRAZO DE ELEVACIÓN O EL ACCESORIO PROVOCADOS POR EL CONTACTO DE LA CABINA CON LOS CONTROLES PUEDEN PROVOCAR HERIDAS GRAVES O LA MUERTE</p> <ul style="list-style-type: none">• DETENGA EL MOTOR antes de elevar o bajar la cabina. <p><small>73196 SW 7168138 esAR</small></p>	<p>UN MOUVEMENT ACCIDENTEL DE L'ACCESSOIRE, DES BRAS DE LEVAGE OU DE LA CHARGEUSE PROVOQUÉ PAR UN CONTACT DES COMMANDES PAR LA CABINE PEUT ENTRÂNER DES BLESSURES GRAVES, VOIRE MORTELLES</p> <ul style="list-style-type: none">• ARRÊTEZ LE MOTEUR avant de relever ou de baisser la cabine. <p><small>73196 SW 7168138 frCA</small></p>

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Warning (7167996)

⚠ WARNING

AVOID INJURY OR DEATH

- Never carry riders.
- Never use loader as a man lift or work platform.

73161 SW 7167996 enUS

⚠ ADVERTENCIA

EVITE LESIONES O LA MUERTE

- Nunca lleve ocupantes.
- Nunca utilice la cargadora para levantar personas o como plataforma de trabajo.

73161 SW 7167996 esAR

⚠ AVERTISSEMENT

RISQUE DE BLESSURE OU DE MORT

- Ne transportez jamais de passagers.
- N'utilisez jamais la chargeuse pour soulever des personnes ni comme plate-forme de travail.

73161 SW 7167996 frCA

Warning (6737189)

⚠ WARNING

THIS VEHICLE IS EQUIPPED WITH A BACK-UP ALARM.

ALARM MUST SOUND!

WHEN OPERATING THIS VEHICLE IN REVERSE.

FAILURE TO MAINTAIN A CLEAR VIEW IN THE DIRECTION OF TRAVEL COULD RESULT IN SERIOUS INJURY OR DEATH.

THE OPERATOR IS RESPONSIBLE FOR THE SAFE OPERATION OF THIS VEHICLE.

93149 SW 6737189C enUS

⚠ ADVERTENCIA

ESTE VEHÍCULO DISPONE DE UNA ALARMA DE ALERTA DE RETROCESO.

¡LA ALARMA DEBE SONAR

CUANDO RETROCEDA ESTE VEHÍCULO!

NO MANTENER UNA VISIÓN CLARA EN LA DIRECCIÓN DE DESPLAZAMIENTO PUEDE RESULTAR EN LESIONES GRAVES O FATALIDADES.

EL OPERADOR ES RESPONSIBLE DE LA OPERACIÓN SEGURA DE ESTE VEHÍCULO.

93149 SW 6737189C esAR

⚠ AVERTISSEMENT

CE VÉHICULE EST ÉQUIPÉ D'UNE ALARME DE REcul.

L'ALARME DOIT RETENTIR!

LORSQUE VOUS UTILISEZ CE VÉHICULE EN MARCHE ARRIÈRE,

NE PAS AVOIR UNE VUE DÉGAGÉE DANS LE SENS DE LA MARCHÉ PEUT ENTRAÎNER DES BLESSURES GRAVES, VOIRE MORTELLES.

L'OPÉRATEUR EST RESPONSABLE DE LA SÉCURITÉ LORS DE L'UTILISATION DE CE VÉHICULE.

93149 SW 6737189C frCA

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MACHINE SIGN TRANSLATIONS (CONT'D)

Warning (7184346)

				<p>⚠ WARNING</p> <p>HITTING OBSTRUCTIONS AT HIGH RANGE SPEEDS CAN CAUSE SERIOUS INJURY OR DEATH</p> <p>Fasten shoulder belt for additional restraint when operating at high range speeds.</p> <p>76193 SW 7184346 enUS</p>
				<p>⚠ ADVERTENCIA</p> <p>LAS COLISIONES CONTRA OBSTRUCCIONES A ALTAS VELOCIDADES PUEDEN CAUSAR LESIONES GRAVES O LA MUERTA.</p> <p>Ajuste el cinturón de seguridad de hombro para mayor seguridad al trabajar a altas velocidades.</p> <p>76193 SW 7184346 esUS</p>
				<p>⚠ AVERTISSEMENT</p> <p>HEURTER DES OBSTACLES EN GAMME RAPIDE PEUT PROVOQUER DES BLESSURES GRAVES, VOIRE MORTELLES</p> <p>Bouclez la ceinture diagonale pour une protection supplémentaire en gamme rapide.</p> <p>76193 SW 7184346 frCA</p>

Danger (7170355)

			<p>7170355 enUS 7170355 SW 7170355 AR</p> <p>⚠ DANGER</p> <p>NE DÉBRANCHEZ PAS LES LIGNES HYDRAULIQUES EN POSITION ÉLEVÉE. LES BRAS DE LEVAGE PEUVENT CHÊTER.</p>	<p>⚠ DANGER</p> <p>AVOID DEATH</p> <ul style="list-style-type: none"> • Disconnecting hydraulic lines can cause the lift arms or attachment to drop. • Always use an approved lift arm support when lift arms are in a raised position. 	
			<p>7170355 esAR 7170355 SW 7170355 AR</p> <p>⚠ PELIGRO</p> <p>NO DESCONECTE LAS LÍNEAS HIDRÁULICAS EN POSICIÓN ELEVADA. LOS BRAZOS DE ELEVACIÓN PUEDEN CAER.</p>	<p>⚠ PELIGRO</p> <p>EVITE MUERTES</p> <ul style="list-style-type: none"> • Si se desconectan las líneas hidráulicas, es posible que los brazos de elevación o los accesorios se caigan. • Utilice siempre un dispositivo de sostén aprobado de los brazos de elevación cuando éstos estén elevados. 	
			<p>7170355 frCA 7170355 SW 7170355 AR</p> <p>⚠ DANGER</p> <p>NE DÉBRANCHEZ PAS LES CONDUITES HYDRAULIQUES EN POSITION ÉLEVÉE. LES BRAS DE LEVAGE PEUVENT CHÊTER.</p>	<p>⚠ DANGER</p> <p>RISQUE MORTEL</p> <ul style="list-style-type: none"> • Le débranchement des conduites hydrauliques peut provoquer la chute des bras de levage ou de l'accessoire. • Utilisez toujours un arrêt de bras de levage approuvé lorsque les bras sont en position relevée. 	

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Lift Arm Support Device (6706558)

TO ENGAGE LIFT ARM SUPPORT DEVICE

1. Remove attachment from loader.
2. Unhook spring from pin. Hold lift arm support device. Remove pin.
3. Lower the lift arm support device to the top of the cylinder.
4. Hook spring into slot on top of lift arm support device.
5. Enter loader, fasten seat belt, lower seat bar and start engine.
6. Raise lift arms until lift arm support device drops on cylinder rod.
7. Lower lift arms slowly until movement stops.
8. Stop engine. Raise seat bar. Move pedals until both pedals lock. Leave loader.
9. Install pin into rear of lift arm support device below cylinder rod.

TO DISENGAGE LIFT ARM SUPPORT DEVICE

1. Remove pin.
2. Hook spring into bracket below lift arm (Hook in top hole for Models 953 and 963).
3. Enter loader, fasten seat belt, lower seat bar and start engine.
4. Raise lift arms until lift arm support device raises off cylinder rod.
5. Lower lift arms. Stop engine. Raise seat bar. Move pedals until both pedals lock. Leave loader.
6. Unhook spring from bracket.
7. Raise lift arm support device to storage position. Insert pin through lift arm support device and bracket.
8. Hook spring to pin.

CMO ENGANCHAR EL DISPOSITIVO DE SOSTEN DEL BRAZO DE ELEVACION

1. Retire el accesorio de la cargadora.
2. Desenganche el resorte de la clavija. Sostenga el dispositivo de soporte del brazo de elevación. Retire la clavija.
3. Baje el dispositivo de sostén del brazo de elevación hasta la parte superior del cilindro.
4. Enganche el resorte en la ranura sobre la parte superior del dispositivo de sostén del brazo de elevación.
5. Ingrese la cargadora, ajústese el cinturón de seguridad, baje la barra del asiento y encienda el motor.
6. Eleve los brazos de elevación hasta que el dispositivo de sostén del brazo de elevación caiga sobre la varilla del cilindro.
7. Baje los brazos de elevación lentamente hasta que el movimiento se detenga.
8. Detenga el motor. Eleve la barra del asiento. Mueva los pedales hasta que ambos se bloqueen. Retírese de la cargadora.
9. Instale la clavija en la parte trasera del dispositivo de sostén del brazo de elevación debajo de la varilla del cilindro.

CMO DESENGANCHAR EL DISPOSITIVO DE SOSTEN DEL BRAZO DE ELEVACION

1. Retire la clavija.
2. Enganche el resorte en el soporte debajo del brazo de elevación (enganche el orificio superior en los modelos 953 y 963).
3. Ingrese la cargadora, ajústese el cinturón de seguridad, baje la barra del asiento y encienda el motor.
4. Eleve los brazos de elevación hasta que el dispositivo de sostén del brazo de elevación se eleve fuera de la varilla del cilindro.
5. Baje los brazos de elevación. Detenga el motor. Eleve la barra del asiento. Mueva los pedales hasta que ambos se bloqueen. Retírese de la cargadora.
6. Desenganche el resorte del soporte.
7. Eleve el dispositivo de sostén del brazo de elevación a la posición de almacenamiento.
8. Introduzca la clavija a través del dispositivo de sostén del brazo de elevación y al soporte.
9. Enganche el resorte a la clavija.

ENLICHENEMENT DE L'ARRÉTOIR DE BRAS DE LEVAGE

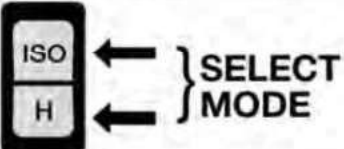
1. Retirez l'accessoire de la chargeuse.
2. Débranchez le ressort de la goupille. Tenez l'arrêt de bras de levage. Retirez la goupille.
3. Abaissez l'arrêt de bras de levage jusqu'à la partie supérieure du vérin.
4. Accrochez le ressort en la fente sur l'arrêt de bras de levage.
5. Prenez place dans la chargeuse, bouclez la ceinture, abaissez l'arceau de siège et mettez le moteur en marche.
6. Relevez les bras de levage jusqu'à ce que l'arrêt de bras de levage tombe sur la tige du vérin.
7. Abaissez lentement les bras de levage jusqu'à ce qu'ils s'arrêtent.
8. Arrêtez le moteur. Relevez l'arceau de siège. Bougez les pédales jusqu'à ce qu'elles se verrouillent. Quittez la chargeuse.
9. Installez la goupille à l'arrière de l'arrêt de bras de levage sous la tige du vérin.

DÉSENCHÈNEMENT DE L'ARRÉTOIR DE BRAS DE LEVAGE

1. Retirez la goupille.
2. Accrochez le ressort sur la bride sous le bras de levage (accrochez-le au trou supérieur dans le cas des modèles 953 et 963).
3. Prenez place dans la chargeuse, bouclez la ceinture, abaissez l'arceau de siège et mettez le moteur en marche.
4. Abaissez les bras de levage jusqu'à ce que l'arrêt de bras de levage se lève hors de la tige du vérin.
5. Abaissez les bras de levage. Arrêtez le moteur. Relevez l'arceau de siège. Bougez les pédales jusqu'à ce qu'elles se verrouillent. Quittez la chargeuse.
6. Débranchez le ressort de la bride.
7. Relevez l'arrêt de bras de levage en position de rangement.
8. Insérez la goupille dans l'arrêt de bras de levage et la bride.
9. Accrochez le ressort à la goupille.

Warning (7168024)

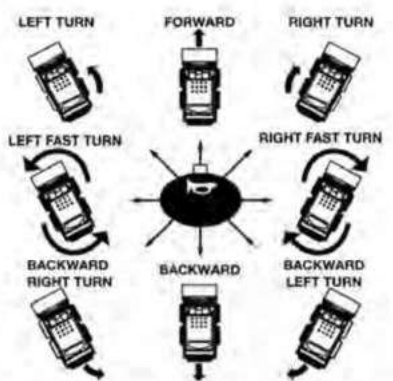
⚠ WARNING



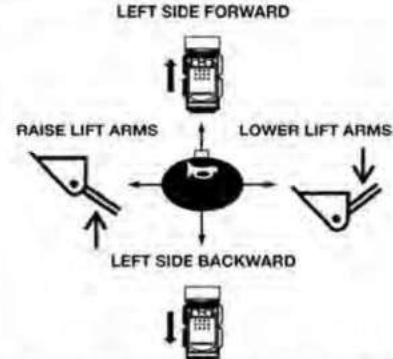
ACCIDENTAL LOADER MOVEMENT CAN CAUSE SERIOUS INJURY OR DEATH

- Drive and lift arm functions operate on different joysticks in each control mode.
- Know and understand the selected control mode before operating.

LEFT JOYSTICK - ISO



LEFT JOYSTICK - H



73168 SW
7168024 enUS

⚠ ADVERTENCIA



EL MOVIMIENTO ACCIDENTAL DE LA CARGADORA PUEDE PROVOCAR HERIDAS GRAVES O LA MUERTE

- Las funciones de transmisión y del brazo de elevación trabajan con diferentes palancas en cada modo de control.
- Tenga presente el modo de control seleccionado antes de comenzar la operación.

PALANCA IZQUIERDA - ISO



PALANCA IZQUIERDA - H



73168 SW
7168024 esAR

⚠ AVERTISSEMENT



UN MOUVEMENT ACCIDENTEL DE LA CHARGEUSE PEUT PROVOQUER DES BLESSURES GRAVES, VOIRE MORTELLES

- Les fonctions de traction et de levage se commandent sur un manipulateur différent selon le mode.
- Vous devez connaître et comprendre le mode de commande choisi avant d'utiliser la machine.

MANIPULATEUR GAUCHE - ISO



MANIPULATEUR GAUCHE - H



73168 SW
7168024 frCA

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Warning (7142141)

⚠ WARNING



FAILURE OF THE LIFT ASSEMBLY CAN CAUSE SERIOUS INJURY OR DEATH.

BEFORE LIFTING LOADER:

1. Check the hardware and fasteners of the Single Point Lift and Operator Cab (ROPS) for proper torque.
2. Inspect Single Point Lift for damage or cracked welds. Repair or replace components as necessary.

- No riders on loader during lifting. Keep 15 ft (5 m) away while lifting.
- See Operation & Maintenance Manual for more information.

71738 SW 7142141A enUS

⚠ ADVERTENCIA



UNA FALLA DEL CONJUNTO ELEVADOR PUEDE PROVOCAR LESIONES GRAVES O FATALIDADES.

ANTES DE LEVANTAR EL CARGADOR:

1. Revise el hardware y sujetadores del elevador de una punta y si la cabina del operador (ROPS) tiene el torque adecuado.
2. Inspeccione si el elevador de una punta está averiado o tiene soldaduras agrietadas. Repare o reponga los componentes, si es del caso.

- No transporte personas en el cargador mientras lo levanta. Manténgalos a 15 pies (5 m) de distancia mientras lo levanta.
- Para mayor información, ver el manual de operación y mantenimiento.

71738 SW 7142141A es

⚠ AVERTISSEMENT



UNE DÉFAILLANCE DE L'ENSEMBLE DE LEVAGE PEUT ENTRAÎNER DES BLESSURES GRAVES, VOIRE MORTELLES.

AVANT DE SOULEVER LA CHARGEUSE :

1. Vérifiez que le couple de serrage de la visserie de fixation et des fixations de l'ensemble de levage à point unique et de la cabine de l'opérateur (ROPS) est correct.
2. Vérifiez que l'ensemble de levage à point unique n'est pas endommagé et que ses soudures ne sont pas fissurées. Réparez les composants endommagés ou remplacez-les selon le besoin.

- Personne ne doit se trouver sur la chargeuse durant son levage. Maintenez toute personne à une distance d'au moins 5 m pendant le levage.
- Consultez le manuel & d'entretien et d'utilisation pour plus d'informations.

71738 SW 7142141A fr

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Warning (7168019)

⚠ WARNING



FAILURE OF THE LIFT ASSEMBLY CAN CAUSE SERIOUS INJURY OR DEATH

BEFORE LIFTING LOADER:

1. Check the hardware and fasteners at all lift points for proper torque.
2. Inspect lift points for damage or cracked welds. Repair or replace components as necessary.

- No riders on loader and keep 15 ft (5m) away while lifting.
- See Operation & Maintenance Manual for more information.

70395 SW  7168019 enUS 

⚠ ADVERTENCIA



UNA FALLO EN EL CONJUNTO DE ELEVACIÓN PUEDE PROVOCAR HERIDAS GRAVES O LA MUERTE

ANTES DE LEVANTAR LA PALA MECÁNICA:

1. Verifique los herrajes y sujetadores en todos los puntos de elevación para garantizar que la torsión sea la correcta.
2. Controle que los puntos de elevación no estén dañados ni haya grietas en la soldadura. Repare o reemplace los componentes según sea necesario.

- No debe haber ocupantes en la cargadora. Manténgase a una distancia de 15 pies (5 m) durante la elevación.
- Consulte el Manual de funcionamiento y mantenimiento para obtener más información.

70395 SW  7168019 esAR 

⚠ AVERTISSEMENT



UNE DÉFAILLANCE DE L'ENSEMBLE DE LEVAGE PEUT ENTRAÎNER DES BLESSURES GRAVES, VOIRE MORTELLES.

AVANT DE SOULEVER LA CHARGEUSE :

1. Vérifiez que le couple de serrage de la visserie et des fixations est approprié.
2. Vérifiez que les points de levage ne sont pas endommagés et que leurs soudures ne sont pas fissurées. Réparez les composants endommagés ou remplacez-les selon le besoin.

- Pas de passager sur la chargeuse et gardez toute personne à une distance d'au moins 5 m pendant le levage.
- Consultez le manuel d'entretien et d'utilisation pour plus d'informations.

70395 SW  7168019 frCA 

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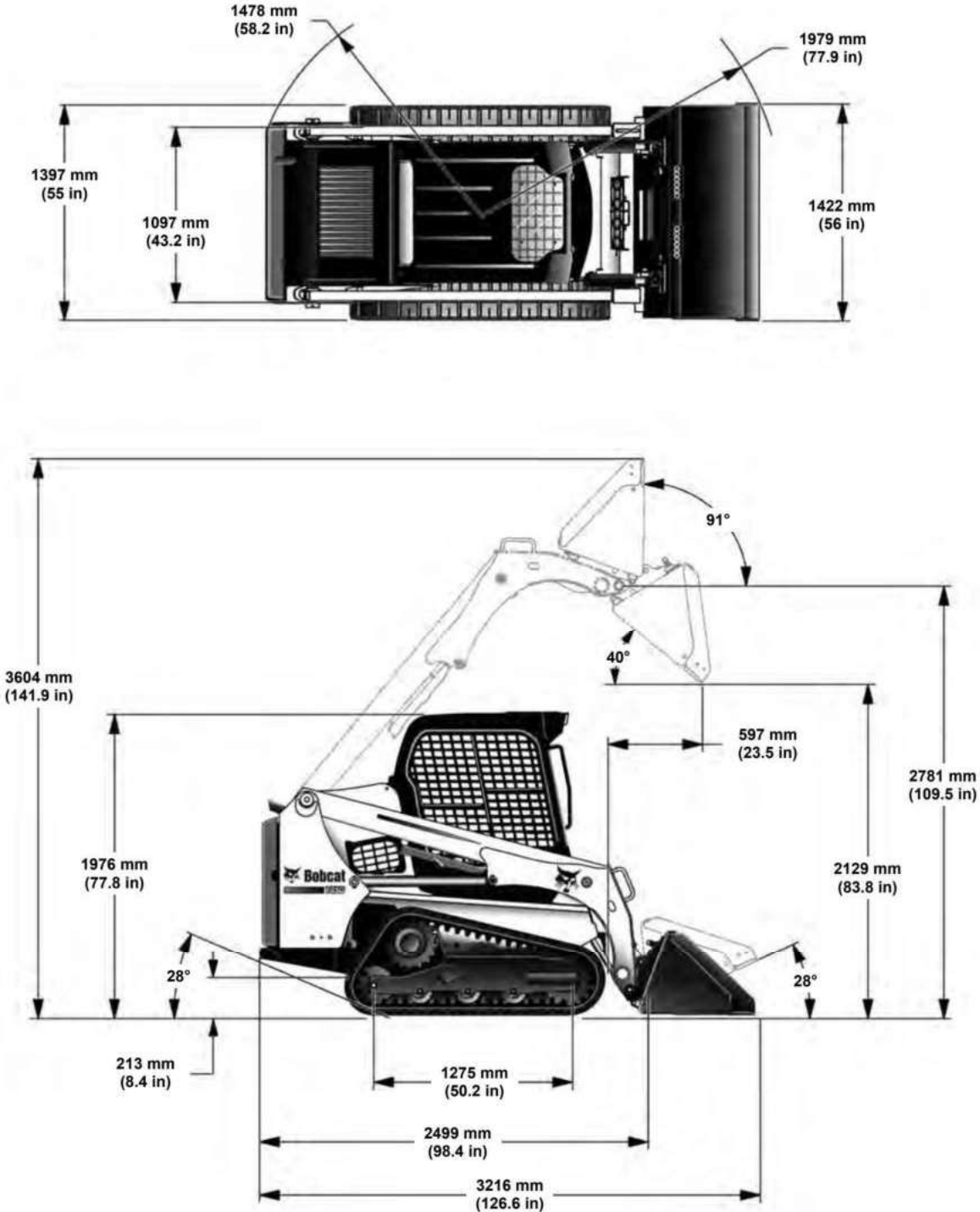
SPECIFICATIONS

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(T450) LOADER SPECIFICATIONS

Machine Dimensions

- Dimensions are given for loader equipped with standard tracks and 56 in. Construction and Industrial bucket and may vary with other bucket types.
- Where applicable, specifications conform to SAE or ISO standards and are subject to change without notice.



NA9143

Changes of structure or weight distribution of the loader can cause changes in control and steering response, and can cause failure of the loader parts.

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(T450) LOADER SPECIFICATIONS (CONT'D)

Performance

Rated Operating Capacity	635 kg (1400 lb)
with 200 Pound Frame Mounted Counterweight Kit	680 kg (1500 lb)
Tipping Load	1814 kg (4000 lb)
Operating Weight	2789 kg (6148 lb)
Breakout Force – Lift	1564 kg (3450 lb)
Breakout Force – Tilt	1627 kg (3588 lb)
Travel Speed:	
– Single Speed Loader	0 – 11,7 km/h (0 – 7.3 mph)
– Two-Speed Loader (Option):	
Low Range	0 – 11,7 km/h (0 – 7.3 mph)
High Range	0 – 17,7 km/h (0 – 11.0 mph)

Engine

Make / Model	Bobcat Engine / 2,4L Bobcat Engine Tier 4
Fuel / Cooling	Diesel / Liquid
Horsepower:	
– ISO 9249 EEC / SAE J1349 Net	43,4 kW (58.2 hp) @ 2600 rpm
– ISO 14396 Gross	45,5 kW (61.1 hp) @ 2600 rpm
– SAE J1995 Gross	46,2 kW (61.9 hp) @ 2600 rpm
– Rated Power	45,5 kW (61.0 hp) @ 2600 rpm
Torque:	
– ISO 9249 EEC / SAE J1349 Net	213,5 N•m (157.5 ft-lb) @ 1800 rpm
– ISO 14396 Gross	225,2 N•m (166.1 ft-lb) @ 1800 rpm
– SAE J1995 Gross	228,2 N•m (168.3 ft-lb) @ 1800 rpm
– Rated Torque	225,1 N•m (166.0 ft-lb) @ 1800 rpm
Low Idle rpm	1125 – 1175
High Idle rpm	2600
Number of Cylinders	4
Displacement	2392,5 cm ³ (146.0 in ³)
Bore / Stroke	90 mm / 94 mm (3.54 in / 3.70 in)
Lubrication	Gear Pump Pressure System with Filter
Crankcase Ventilation	Closed Breathing
Air Cleaner	Dry replaceable paper cartridge with separate safety element
Ignition	Diesel – Compression
Air Induction	Turbo-Charged and Charged Air Cooled
Engine Coolant	Propylene Glycol / Water Mixture
Starting Aid	Glow plugs automatically activated as needed in RUN position

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(T450) LOADER SPECIFICATIONS (CONT'D)

Drive System

Main Drive	Fully hydrostatic, rubber track drive
Transmission	Infinitely variable tandem hydrostatic piston pumps, driving two fully reversing hydrostatic motors
Tracks (Tension)	Grease cylinder and spring

Controls

Machine Steering	Direction and speed controlled by two hand operated steering levers or optional joystick(s)
Loader Hydraulics: – Lift and Tilt – Front Auxiliary – Rear Auxiliary (Option)	Controlled by separate foot pedals or optional Advanced Control System (ACS) or optional Selectable Joystick Controls (SJC) Controlled by electrical switch on Right Hand steering lever or joystick Controlled by electrical switch on Left Hand steering lever or joystick
Auxiliary Pressure Release	Pressure relieved through quick couplers; Push couplers in, hold for 5 seconds
Engine	Hand operated speed control, additional foot operated speed control pedal with SJC option; key-type start switch or optional Keyless Start Panel or optional Deluxe Instrumentation Panel and function error shutdown
Service Brake	Two independent hydrostatic systems controlled by two hand operated steering levers or optional joystick(s)
Secondary Brake	One of the hydrostatic transmissions
Parking Brake	Spring applied pressure release multiple-disc brake activated by manually operated switch on left instrument panel

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(T450) LOADER SPECIFICATIONS (CONT'D)**Hydraulic System**

Pump Type	Engine driven, gear type
Pump Capacity	63,2 L/min (16.7 U.S. gpm)
System Relief at Quick Couplers	22,4 – 23,1 MPa (224 – 231 bar) (3250 – 3350 psi)
Filter (Hydraulic / Hydrostatic)	Replaceable beta 10 micron = 200, drop in element
Filter (Charge)	Replaceable beta 10 micron = 200, spin-on element
Hydraulic Cylinders:	Double-acting; tilt cylinders have cushioning feature on dump and rollback
Lift Cylinder (2):	
Bore Diameter	50,8 mm (2.00 in)
Rod Diameter	31,8 mm (1.25 in)
Stroke	665,2 mm (26.19 in)
Tilt Cylinder (2):	
Bore Diameter	60,4 mm (2.38 in)
Rod Diameter	31,8 mm (1.25 in)
Stroke	353,8 mm (13.93 in)
Control Valve – Standard	3-Spool, open center, manually operated with spring detent for lift float; Electrically controlled auxiliary spool
Control Valve – ACS and SJC	3-Spool, open center with electric actuator controlled lift with float and tilt; Electrically controlled auxiliary spool
Fluid Lines	SAE Standard tubelines, hoses, and fittings
Fluid Type	BOBCAT FLUID, Hydraulic / Hydrostatic 6903117 – (Two – 2.5 U.S. gal) 6903118 – (5 U.S. gal) 6903119 – (55 U.S. gal)
Hydraulic Function Time:	
Raise Lift Arms	2.6 seconds
Lower Lift Arms	2.4 seconds
Bucket Dump	2.0 seconds
Bucket Rollback	1.5 seconds

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(T450) LOADER SPECIFICATIONS (CONT'D)

Electrical System

Alternator	Belt driven, 90 amperes, open frame
Battery	12 volt, 600 cold cranking amperes @ -18°C (0°F), 115 minute reserve capacity @ 25 amperes
Starter	12 volt, gear type, 2,7 kW (3.62 hp)
Instrumentation	<p style="text-align: center;">Gauges: Engine Coolant Temperature and Fuel Level</p> <p style="text-align: center;">Warning lights: Fuel Level, Seat Belt, Engine Coolant Temperature, Engine Malfunction, Hydraulic System Malfunction, Diesel Particulate Filter (DPF) / Diesel Exhaust Fluid (DEF), and General Warning</p> <p style="text-align: center;">Indicators: BICS™ Functions, Two-Speed, 3-Point Restraint, and Turn Signals</p> <p style="text-align: center;">Data Display: Operating Hours, Engine rpm, Speed Management Setting, Maintenance Clock Countdown, Battery Voltage, Service Codes, Engine Preheat Countdown, Lift and Tilt Compensation Setting, Steering Drift Compensation Setting, and Drive Response Setting</p> <p style="text-align: center;">Other: Audible Alarm, Lights, and Option / Accessory Switches</p> <p style="text-align: center;">Optional Deluxe Instrumentation Panel: *Additional displays for: Engine rpm, Engine Coolant Temperature, Engine Oil Pressure, System Voltage, Hydraulic Fluid Temperature, and Hydrostatic Charge Pressure *Additional Features Included: Keyless Start, Digital Clock, Job Clock, Password Lockout, Multiple-Language Display, Help Screens, Diagnostic Capability, and Engine / Hydraulic Systems Shutdown Function</p>

Capacities

Fuel	65,5 L (17.3 U.S. gal)
Engine Oil with Filter Change	8,6 L (9.1 qt)
Engine Cooling System with Heater	12,3 L (3.2 U.S. gal)
Engine Cooling System without Heater	11,3 L (3.0 U.S. gal)
Hydraulic / Hydrostatic Reservoir	5,3 L (1.4 U.S. gal)
Hydraulic / Hydrostatic System	21,0 L (5.5 U.S. gal)
Hydrostatic Drive Motor (Each)	345 - 375 mL (11.7 - 12.7 U.S. fl oz)
Air Conditioning Refrigerant (R-134a)	0,68 kg (1.5 lb)

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(T450) LOADER SPECIFICATIONS (CONT'D)

Tracks

Standard	300 mm (11.8 in) Rubber, C-Pattern
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Ground Pressure

Standard Track – 300 mm (11.8 in)	0,032 MPa (0,32 bar) (4.66 psi)
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WARRANTY

WARRANTY219

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WARRANTY

Bobcat Loaders

Bobcat Company warrants to its authorized dealers and authorized dealers of Bobcat Equipment Ltd., who in turn warrant to the owner, that each new Bobcat loader will be free from proven defects in material and workmanship with respect to (i) all components of the product except as otherwise specified herein for twelve (12) months, (ii) the drive belt from the hydrostatic pump to the engine, for thirty six (36) months, provided that after the initial twelve month warranty period, such warranty shall be limited to parts only and does not include labor, (iii) tracks and Bobcat brand tires, for twelve (12) months on a prorated basis based on the remaining depth of the track or tire at the time any defect is discovered, and (iv) Bobcat brand batteries, for an additional twelve (12) months after the initial twelve month warranty period, provided that Bobcat Company shall only reimburse a fixed portion of the cost of replacing the battery during such additional twelve months. The foregoing time periods shall all commence after delivery by the authorized Bobcat dealer to the original buyer.

During the warranty period, the authorized Bobcat dealer shall repair or replace, at Bobcat Company's option, without charge for parts and labor, any part of the Bobcat product except as otherwise specified herein which fails because of defects in material or workmanship. The owner shall provide the authorized Bobcat dealer with prompt written notice of the defect and allow reasonable time for repair or replacement. Bobcat Company may, at its option, require failed parts to be returned to the factory. Travel time of mechanics and transportation of the Bobcat product to the authorized Bobcat dealer for warranty work are the responsibility of the owner. The remedies provided in this warranty are exclusive.

This warranty does not cover replacement of scheduled service items such as oil, filters, tune-up parts, and other high-wear items. This warranty does not cover damages resulting from abuse, accidents, alterations, use of the Bobcat product with any accessory or attachment not approved by Bobcat Company, air flow obstructions, or failure to maintain or use the Bobcat product according to the instructions applicable to it.

THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES AND CONDITIONS, EXCEPT THE WARRANTY OF TITLE. BOBCAT COMPANY DISCLAIMS ALL OTHER WARRANTIES AND CONDITIONS, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL BOBCAT COMPANY OR THE AUTHORIZED BOBCAT DEALER BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES WHATSOEVER, INCLUDING, BUT NOT LIMITED TO, LOSS OR INTERRUPTION OF BUSINESS, LOST PROFITS, OR LOSS OF MACHINE USE, WHETHER BASED ON CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY, STATUTE OR OTHERWISE, EVEN IF BOBCAT COMPANY OR THE AUTHORIZED BOBCAT DEALER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. THE TOTAL LIABILITY OF BOBCAT COMPANY AND THE AUTHORIZED BOBCAT DEALERS WITH RESPECT TO THE PRODUCT AND SERVICES FURNISHED HEREUNDER SHALL NOT EXCEED THE PURCHASE PRICE OF THE PRODUCT UPON WHICH SUCH LIABILITY IS BASED.



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Bobcat Company

FEDERAL & CALIFORNIA EMISSION CONTROL SYSTEMS LIMITED WARRANTY for NON-ROAD ENGINES (CI)

OWNER'S WARRANTY RIGHTS AND OBLIGATIONS

The U.S. Environmental Protection Agency (EPA), the California Air Resources Board (ARB), and Bobcat Company are pleased to explain the Federal and California Emission Control System Warranty on your 2014MY to 2016MY non-road engine. DOOSAN INFRACORE has designed, built and equipped the engine so as to conform at the time of sale with all applicable regulations of the EPA and of the California ARB. In California, new heavy-duty off-road engines must be designed, built and equipped to meet the State's stringent anti-smog standards.

Bobcat Company must warrant to the initial owner, and each subsequent owner, the emission control system on your engine for the periods of time listed below provided there has been no abuse, neglect, improper maintenance or unapproved modifications of your engine. Your emission control system may include those parts listed below:

1. Fuel Metering System

Fuel Supply Pump (HP Pump), Injector,
Common Rail, Glow Plug

2. Air-Induction System

Intake Manifold, Turbocharger System

3. Exhaust Gas Recirculation (EGR) System

EGR Valve, EGR Cooler

4. Catalyst or Thermal Reactor System

Diesel Oxidation Catalyst (DOC), Exhaust Manifold

5. Positive Crankcase Ventilation (PCV) System

Right Head Cover

6. Electronic Control System

ECU, Cam / Crank Sensor,
Coolant Temperature Sensor, MAF Sensor,
MAP Sensor (Manifold Pressure Sensor),
Inlet Boost Temperature Sensor,
Fuel Temperature Sensor,
Common Rail Pressure Sensor

7. Miscellaneous Items Used In Above Systems

Temperature and time sensitive valve and switches
Solenoids and wiring harnesses
Hoses, clamps, fittings and tubing, sealing gasket
Pulleys, belts and idlers
Emission control information labels

Where a warrantable condition exists, Bobcat Company will repair your heavy-duty off-road engine at no cost to you including diagnosis, parts, and labor.

MANUFACTURER'S WARRANTY COVERAGE

The 2014MY to 2016MY heavy-duty off-road engines are warranted for **five years or 3,000 hours** of operation, whichever occurs first. If any emission-related part on your engine is defective, the part will be repaired or replaced by Bobcat Company.

The warranty period shall begin on the date the machine is delivered to the first retail customer.

OWNER'S WARRANTY RESPONSIBILITIES

As the heavy-duty off-road engine owner, you are responsible for the performance of the **required maintenance listed in the Operation and Maintenance Manual**. Bobcat Company recommends that you retain all receipts covering maintenance on your heavy-duty off-road engine, but Bobcat Company cannot deny warranty solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the heavy-duty off-road engine owner, you should however be aware that Bobcat Company may deny you warranty coverage if your heavy-duty off-road engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

Your engine is designed to operate on **Ultra Low Sulfur Diesel Fuel Only**. Use of any other fuel may result in your engine no longer operating in compliance with the EPA's emissions requirements.

You are responsible for initiating the warranty process. The EPA and California ARB suggest that you present your heavy-duty off-road engine to your Bobcat dealer as soon as a problem exists. The warranty repairs should be completed by the dealer as expeditiously as possible.

If you have any questions regarding your warranty rights and responsibilities, you should contact your nearest authorized Bobcat dealer. To locate a Bobcat dealer, visit www.bobcat.com or call 1-800-743-4340, or contact:

Bobcat Company Service
150 6th St SE
Gwinner, ND 58040

6990972 (03-14)



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