

**T2556**

**S/N 3630 11001  
& above**

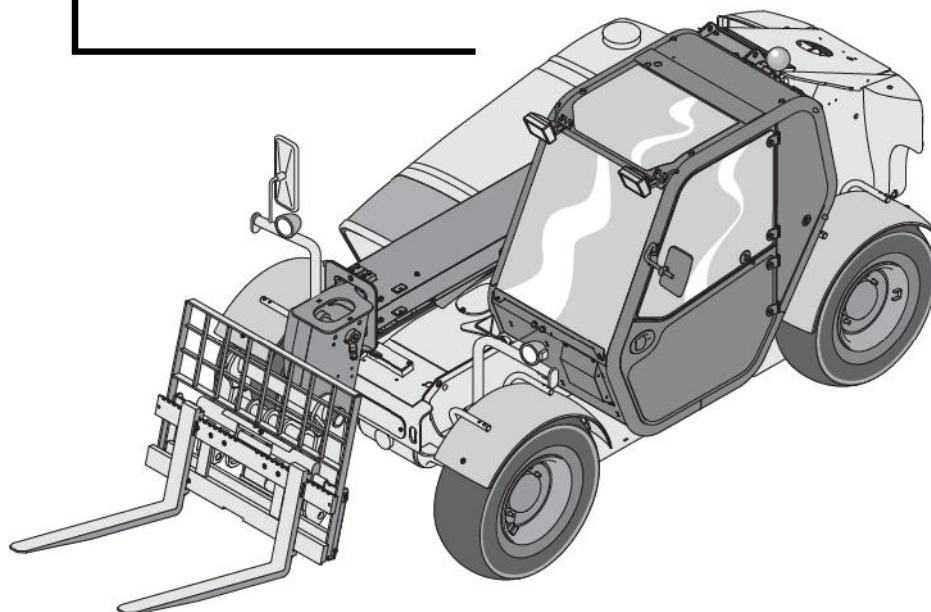
**T2566**

**S/N 3631 11001  
& above**




**Bobcat®**

**SERVICE  
MANUAL**



# MAINTENANCE SAFETY

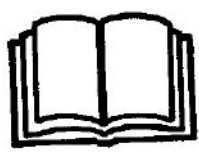


## WARNING

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-2003-0903

CORRECT




B-10731a

**⚠** Never service the Bobcat Telescopic Handler without instructions.



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

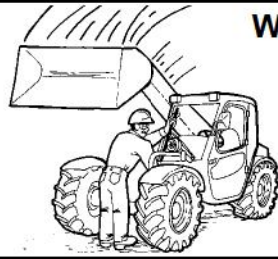
CORRECT



B-16082

**⚠** Cleaning and maintenance are required daily.

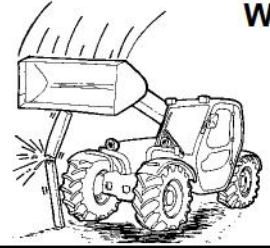
WRONG



B-16080

**⚠** Disconnecting or loosening any hydraulic tubeline, hose, fitting, component or a part failure can cause boom to drop. Do not go under boom when raised unless supported by an approved boom stop. Replace if damaged.

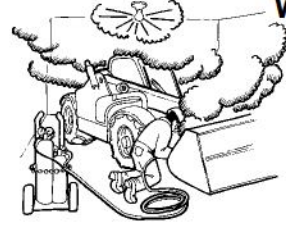
WRONG



B-16079

**⚠** Never work on Telescopic Handler with boom up unless boom is held by an approved boom stop. Replace if damaged.  
**⚠** Never modify equipment or add attachments not approved by Bobcat Company.


WRONG



B-16081

**⚠** 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



B-16078

**⚠** 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.

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.

MSW12-0805

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**SAFETY &  
MAINTENANCE**

**HYDRAULIC  
SYSTEM**

**HYDROSTATIC  
SYSTEM**

**DRIVE  
SYSTEM**

**MAIN FRAME**

**ELECTRICAL  
SYSTEM &  
ANALYSIS**

**ENGINE  
SERVICE**

**HVAC**

**SPECIFICATIONS**

# FORWORD

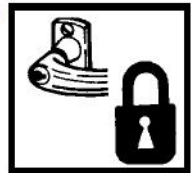
This manual is for the Bobcat telescopic handler mechanic. It provides necessary servicing and adjustment procedures for the Bobcat telescopic handler and its component parts and systems. Refer to the Operation & Maintenance Manual for operating instructions, Starting procedure, daily checks, etc.

A general inspection of the following items must be made after the telescopic handler has had service or repair:

1. Check that ROPS/FOPS (including right side window) is in good condition and is not modified.



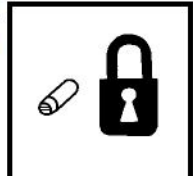
9. Enclosure door latches must open and close freely.



2. Check that ROPS mounting hardware is tightened and is Bobcat approved.



10. Attachment locking pins must function correctly and be in good condition.



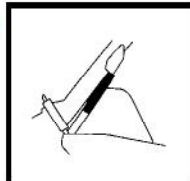
3. The seat belt must be correctly installed, functional and in good condition.



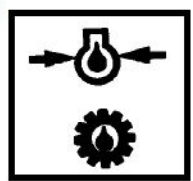
11. Safety treads must be in good condition.



4. Check boom support device, replace if damaged.



12. Check for correct function of indicator lamps and gauges.



5. Machine signs must be legible and in the correct location.



13. Check hydraulic fluid level, engine oil level and fuel supply.



6. Check tires for wear and pressure. Use only approved tires.



14. Inspect for fuel, oil or hydraulic fluid leaks.



7. Check for correct function of the work lights.



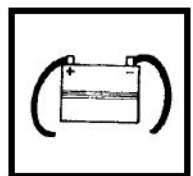
15. Lubricate the telescopic handler.



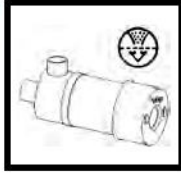
8. The parking brake must function correctly.



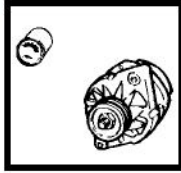
16. Check the condition of the battery and cables.



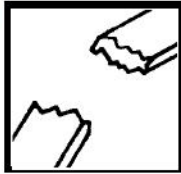
17. Inspect the air cleaner for damage or leaks. Check the condition of the element.



18. Check the electrical charging system.



19. Inspect for loosen or broken parts or connections.



20. Operate the telescopic handler and check all functions.



21. Check for any field modification not completed.



22. Recommend to the owner that all necessary corrections be made before the machine is returned to service.



## SAFETY INSTRUCTIONS



Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, 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-2003-0199



Warnings on the machine and in the manuals are for your safety. Failure to obey warnings can cause injury or death.

W-2044-1285



This notice identifies procedures which must be followed to avoid damage to the machine.

I-2019-0284

The following publications provide information on the safe use and maintenance of the telescopic handler and attachments:

- The Delivery Report is used to assure that complete instructions have been given to the new owner and that the machine is in safe operating condition.
- The Operation & Maintenance Manual delivered with the telescopic handler gives operating information as well as routine maintenance and service procedures. It is a part of the telescopic handler and must stay with the machine when it is sold. Replacement Operation & Maintenance Manuals can be ordered from your Bobcat telescopic handler dealer.
- The telescopic handler has machine signs (decals) which instruct on the safe operation and care. The signs and their locations are shown in the Operation & Maintenance Manual. Replacement signs are available from your Bobcat telescopic handler dealer.

- The telescopic handler has a plastic Operator's Handbook fastened to the operator cab. Its brief instructions are convenient to the operator. The Handbook is available from your dealer in an English edition or one of many other languages. See your Bobcat dealer for more information on translated versions.
- The EMI Safety Manual (available in Spanish) delivered with the telescopic handler gives general safety information.
- The Service Manual and Parts Manual are available from your dealer for use by mechanics to do shop-type service and repair work
- The telescopic handler Operator Training Course is available through your local dealer. This course is intended to provide rules and practices for correct operation of the Bobcat telescopic handler. The course is available in English and Spanish version.
- The Service Safety Training Course is available from your Bobcat dealer. This course provides information for safe and correct service procedures for Bobcat telescopic handler.
- The Bobcat telescopic handler Safety Video is available from your Bobcat dealer.



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

S115-0803

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## SAFETY INSTRUCTIONS (CONT'D)

### FIRE PREVENTION

The machines has components that are at high temperatures under normal operating conditions. The primary source of high temperatures is the engine and exhaust system. The electrical system, if damaged or incorrectly maintained, can be a source of arcs or sparks.

Flammable debris (leaves, straw, etc.) must be removed regularly. If flammable debris is allowed to accumulate, it can cause a fire hazard. Clean often to avoid this accumulation. Flammable debris in the engine compartment is a potential fire hazard.

- Do not use the machine where exhaust, arcs, sparks or hot components can contact flammable material, explosive dust or gases.
- The operator cab, engine compartment and engine cooling system must be inspected every day and cleaned if necessary to prevent fire hazards and overheating.
- Check all electrical wiring and connections for damage. Keep the battery terminals clean and tight. Repair or replace any damaged part.
- Check fuel and hydraulic tubes, hoses and fittings for damage and leakage. Never use open flame or bare skin to check for leaks. Tighten or replace any parts that show leakage. Always clean fluid spills. Do not use gasoline or diesel fuel for cleaning parts. Use commercial nonflammable solvents.
- Do not use ether or starting fluids on any engine which has glow plugs or thermal starting systems. These starting aids can cause explosion and injure you or bystanders.
- Always clean the machine, disconnect the battery, and disconnect the wiring from the electronic controllers before welding. Cover rubber hoses, battery and all other flammable parts. Keep a fire extinguisher near the machine when welding. Have good ventilation when grinding or welding painted parts. Wear dust mask when grinding painted parts. Toxic dust or gas can be produced.
- Stop the engine and let it cool before adding fuel. No smoking!
- Use the procedure in the Operation & Maintenance Manual for connecting the battery and for jump starting.

Figure 1



- Know where fire extinguishers and first aid kits are located and how to use them. Fire extinguishers are available from your Bobcat dealer. The fire extinguisher can be installed in the location shown in **[Figure 1]**.

S116-0803

## SERIAL NUMBER LOCATIONS

Always use the serial number of the telescopic handler when requesting service information or when ordering parts. Early or later models (identification made by serial number) may use different parts, or it may be necessary to use a different procedure in doing a specific service operation.

### telescopic handler Serial Number

Figure 2

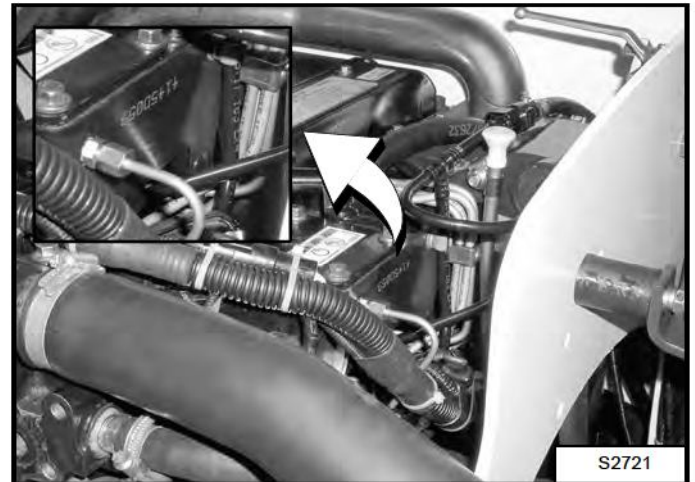


The front, on the right side of the chassis [Figure 2].

### Engine Serial Number

#### Earlier Models

Figure 3



The engine serial number is stamped on a plate near the injection pump or at the rear of the cylinder block [Figure 3]. Always use the full number when ordering replacement parts.

#### Later Models

Figure 4



The engine serial number can be found on the cylinder block [Figure 4] in front of you when opening the engine cover. Always use the full number when ordering replacement parts.

#### Other Serial Numbers

Some components may also have serial numbers. Always use these serial numbers when requesting parts.

## Delivery Report

The Delivery Report must be filled out by the dealer and signed by the owner or operator when the telescopic handler is delivered. An explanation of the form must be given to the owner. Make sure it is filled out completely [Figure 5].

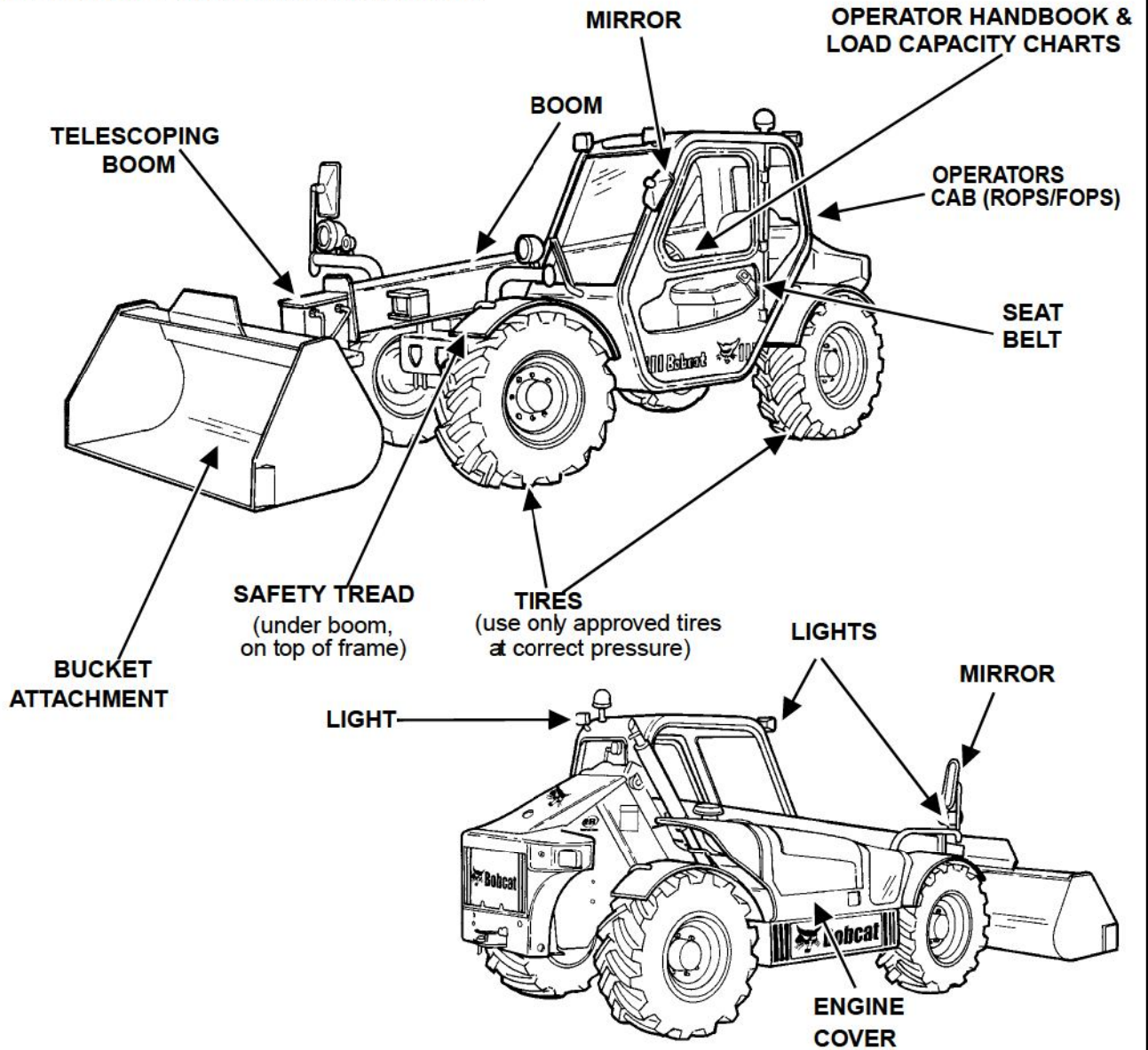
Figure 5

DELIVERY REPORT

WARNING

B-16315

## BOBCAT TELESCOPIC HANDLER IDENTIFICATION



S2750  
S2751

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**SAFETY &  
MAINTENANCE**

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## LIFTING AND BLOCKING THE TELESCOPIC HANDLER

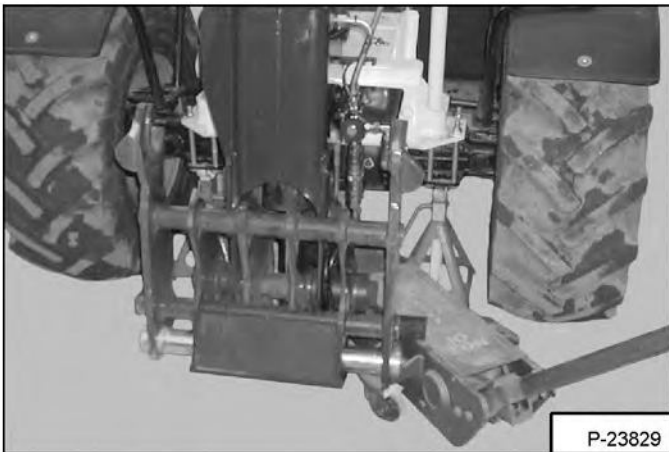
### Procedure

# WARNING

Put jackstands under the front axles and rear corners of the frame before running the engine for service. Failure to use jackstands can allow the machine to fall or move and cause injury or death.

W-2017-0286

Figure 10-10-1



Always park the machine on a level surface.

STOP the engine. Put the floor jack under the center of the front axle. Lift the Versa HANDLER and install jackstands [Figure 10-10-1].

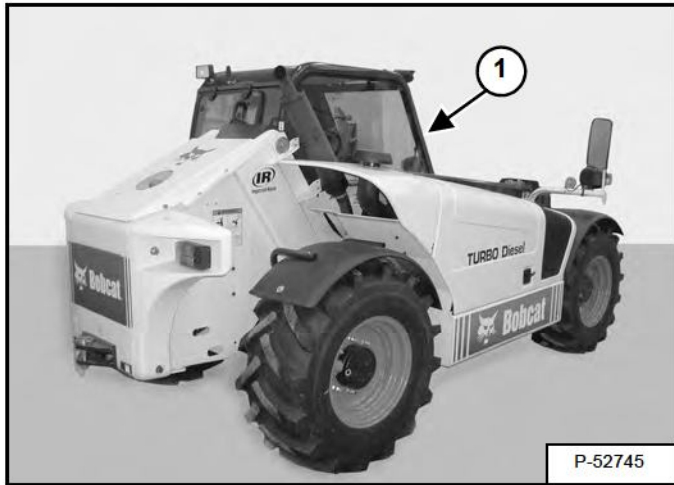
Figure 10-10-2



Put the floor jack under the center of the rear axle. Lift the Versa HANDLER and install jackstands [Figure 10-10-2].

## OPERATOR CAB

Figure 10-20-1



The Telescopic Handler has an operator cab (ROPS and FOPS) (Item 1) [Figure 10-20-1] to protect the operator from rollover and falling objects. Check with your dealer if the operator cab has been damaged. Never operate without right window. The seat belt must be worn for roll over protection.

ROPS/FOPS - Roll Over Protective Structure per SAE J1040 and ISO 3471, and Falling Object Protective Structure per SAE J1043 and ISO 3449 (FOPS Level II).

# WARNING

Never modify operator cab by welding, grinding, drilling holes or adding attachments unless instructed to do so by Bobcat. Do not operate without right window. Changes to the cab can cause loss of operator protection from rollover and falling objects, and result in serious injury or death.

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## Emergency Exit

Figure 10-20-2



Turn the handle (Inset) [Figure 10-20-2] and push the rear window open. (Models with enclosed cab only.) Exit through the rear window opening [Figure 10-20-2].

## OPERATOR CAB (CONT'D)

### Cab Door

Figure 10-20-3

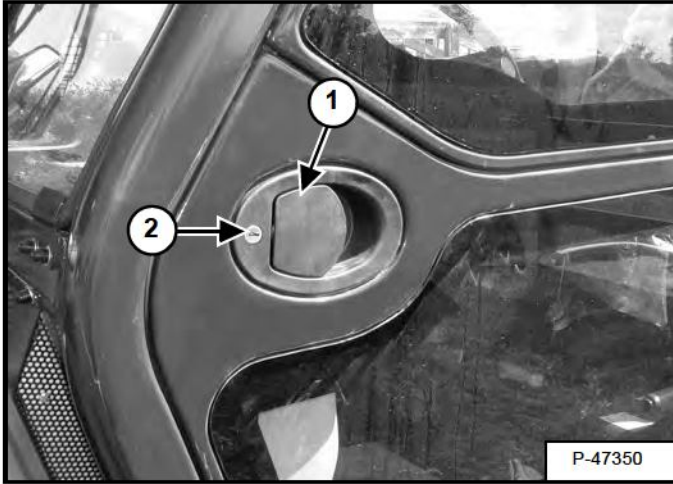
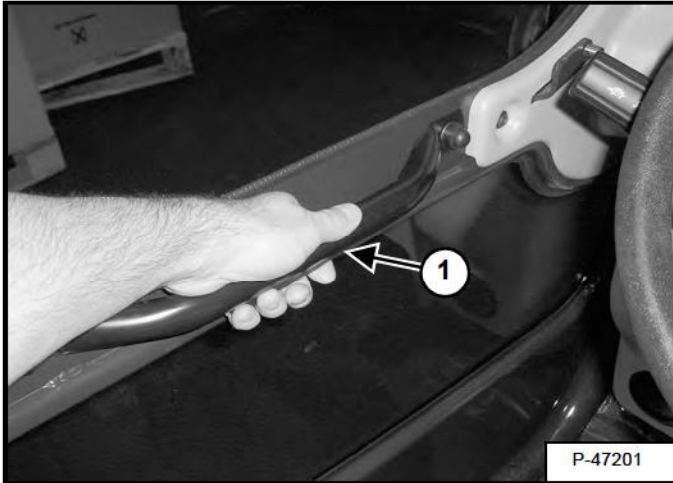


Figure 10-20-4

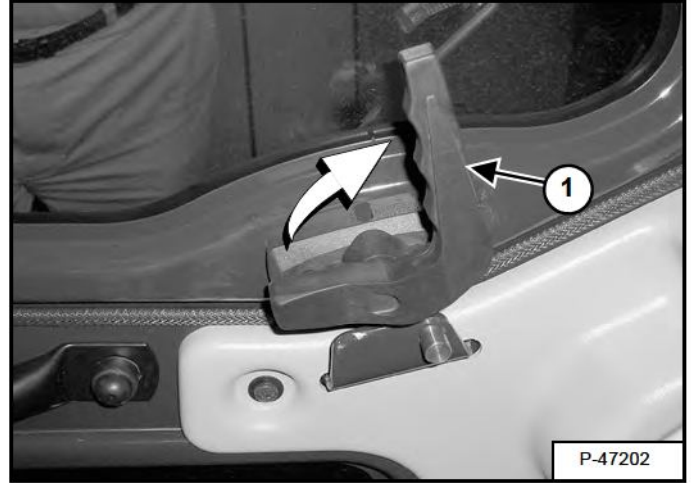


The cab door can be opened from the outside of the cab using the latch (Item 1) and open from the inside of the cab when you squeeze the latch (Item 1) [Figure 10-20-4] (as shown).

The cab door can be locked (Item 2) [Figure 10-20-3] with the start key.

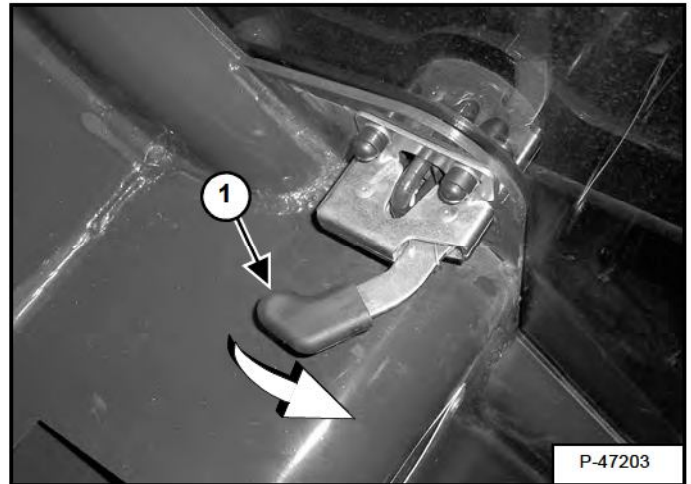
### Cab Door Window

Figure 10-20-5



Turn the handle (Item 1) [Figure 10-20-5] (as shown). Push open the window fully until it latches against the cab.

Figure 10-20-6



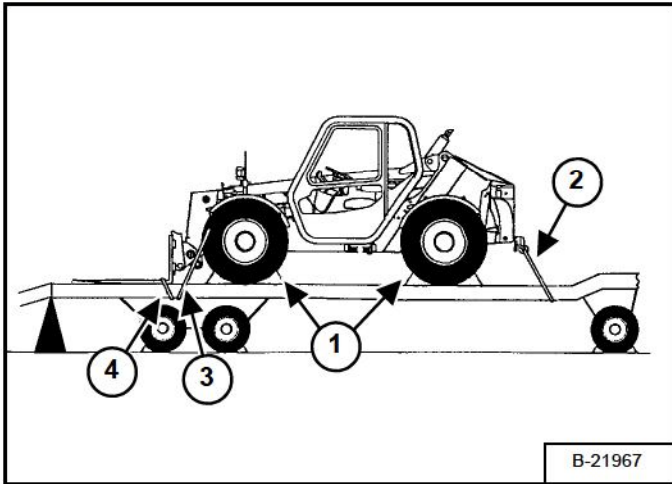
Pull the lever (Item 1) [Figure 10-20-6] inside the cab to disengage the latch and close the window.

## TRANSPORTING THE TELESCOPIC HANDLER

### Procedure

Always drive the Telescopic Handler backwards (heavy end up) onto the transport vehicle.

Figure 10-30-1



The rear of the trailer must be blocked or supported [Figure 10-30-1] when loading or unloading the Telescopic Handler to prevent the front end of the trailer from raising up.

Be sure the transport and towing vehicles are of adequate size and capacity. (See "Performance Specifications" on page SPEC-10-2 for weight of the Telescopic Handler).

Fasten the Telescopic Handler to the transport vehicle to prevent it from moving during sudden stops or when going up or down slopes.

- Block the wheels (Item 1) [Figure 10-30-1].
- Fasten the machine frame to the transport vehicle (Items 2 & 3) [Figure 10-30-1].
- Attach the forks or bucket attachment to the transport vehicle (Item 4) [Figure 10-30-1].

## WARNING


Adequately designed ramps of sufficient strength are needed to support the weight of the machine when loading onto a transport vehicle. Wood ramps can break and cause personal injury.

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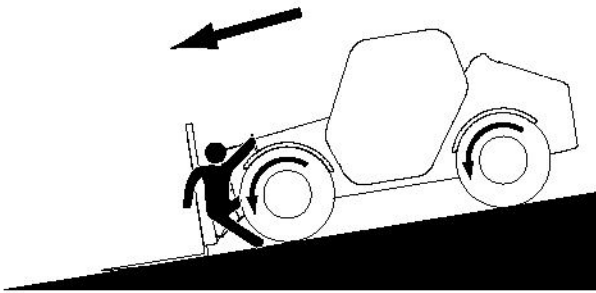
**TOWING THE TELESCOPIC HANDLER (For S/N 363011001 - 363012000 and S/N 363111001 - 363112000)**

**Procedure**

The Telescopic Handler can be towed a short distance such as removing it from mud or loading onto a transport vehicle.



# WARNING



**Unexpected Machine Movement  
Can Cause Serious Injury or Death**

Before adjusting screws to bypass the park brake system:

- Block wheels to prevent roll away.

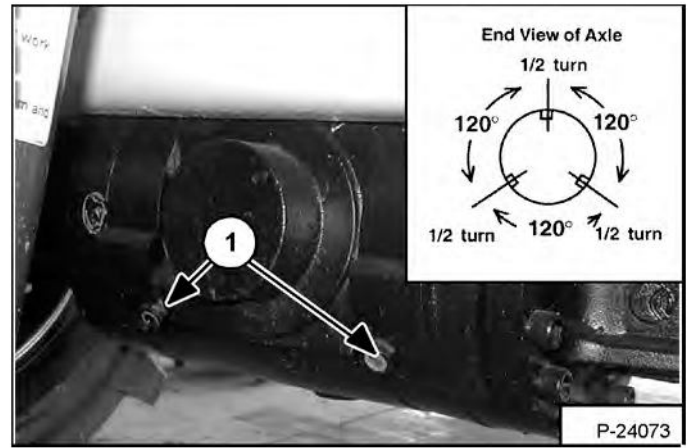
Before operating machine:

- Return adjustment screws to the operating position.

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Block the wheels to prevent the machine from rolling.

**Figure 10-40-1**



**Releasing Brake Disks:** To release the brake disks, turn each of the six (6) screws (item 1) [Figure 10-40-1] in only one half turn at a time; then repeat until all six screws are all the way in. (It will take 4 & 1/2 to 5 turns to fully release the brakes.) Record the number of turns so that you can return them to the same position after towing.

**NOTE:** This procedure is required on the front axle only.

**NOTE:** If one screw is turned all the way in before you start turning the others, the brake can be damaged.

There are three screws on each side (right and left) located 120° apart [Figure 10-40-1].

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**TOWING THE TELESCOPIC HANDLER (For S/N 363011001 - 363012000 and S/N 363111001 - 363112000) (CONT'D)**

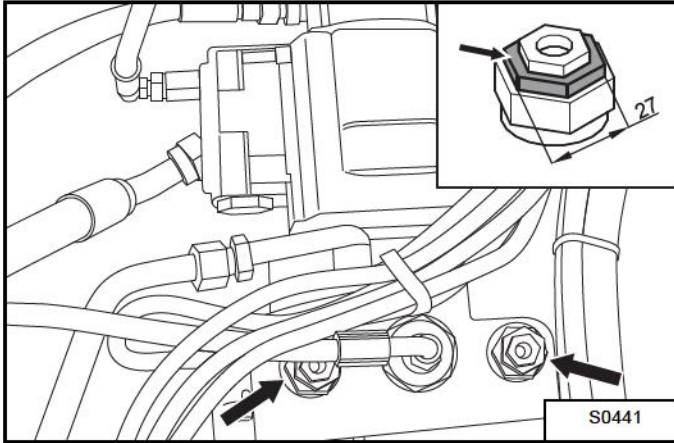
**Procedure (Cont'd)**

*Disengaging the hydrostatic transmission*

It is impossible for oil to circulate in a hydrostatic transmission in a closed circuit when the machine is not running, this operation involves making oil circulation possible:

For machines without optional tow valve:

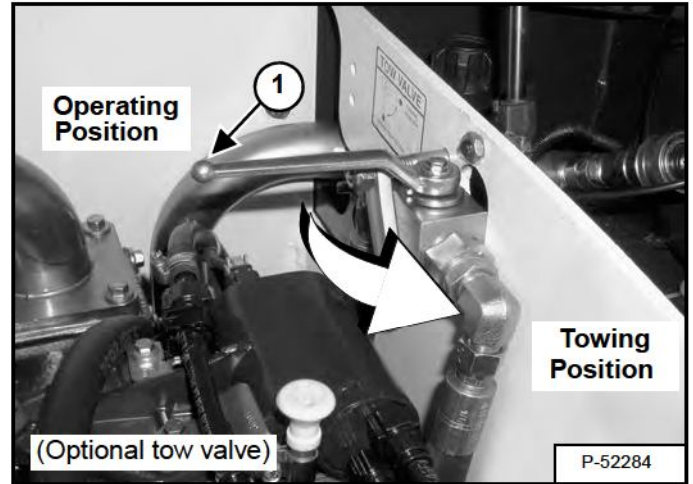
**Figure 10-40-2**



- There are two identical multi-function valves [Figure 10-40-2] on the hydrostatic transmission pump.
- Each valve has three 6-sided nuts of different sizes.
- On each valve unscrew the nut from the middle 2.5 turns.

For machines with optional tow valve:

**Figure 10-40-3**



Raise the engine cover.

Turn the tow valve counterclockwise 90° (Item 1) [Figure 10-40-3] to TOWING POSITION.

Tow the Telescopic Handler at a slow speed.

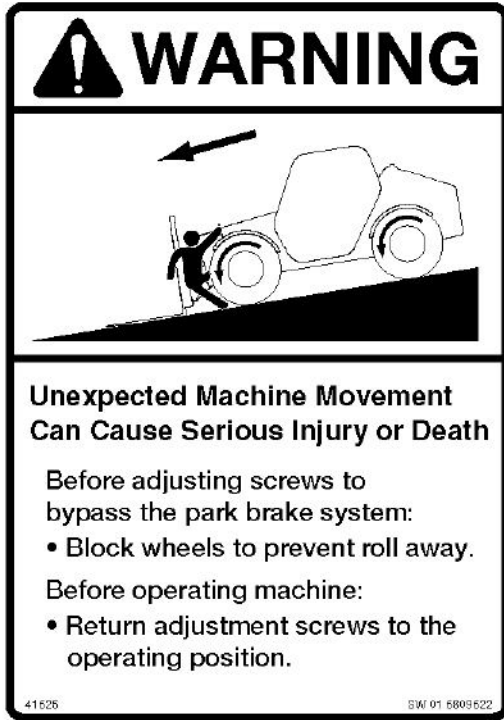
*Engaging Brake Disks:* After towing is completed, turn the tow valve (item 1) [Figure 10-40-3] clockwise 90° to the OPERATING POSITION.

On the front axle, turn all six screws out, 1/2 turn at a time, to their original position.

**TOWING THE TELESCOPIC HANDLER (S/N 363012001 & Above, S/N 363112001 & Above)**

**Procedure**

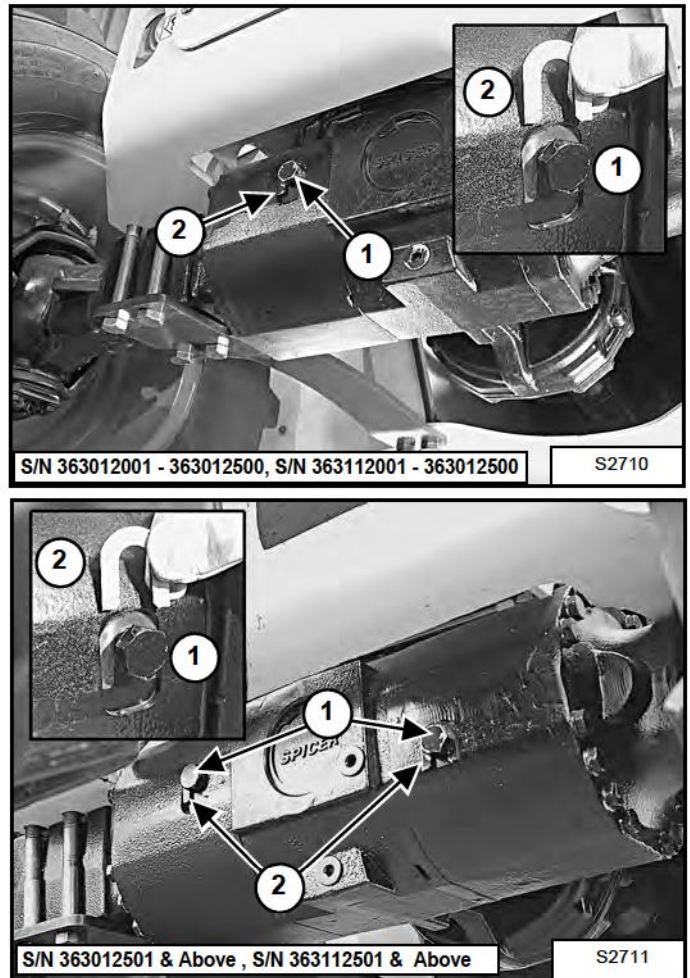
The Telescopic Handler can be towed a short distance such as removing it from mud or loading onto a transport vehicle.



Block the wheels to prevent the machine from rolling.

*Releasing Brake Disks:*

**Figure 10-41-1**



Loosen the four (two)\* bolts (Item 1) until the slotted spacer (Item 2) [Figure 10-41-1] can be removed from under the bolt head (the bolts and washers are located on both the front and rear side of front axle).

Remove the washer (Item 2) [Figure 10-41-1] and save for reuse.

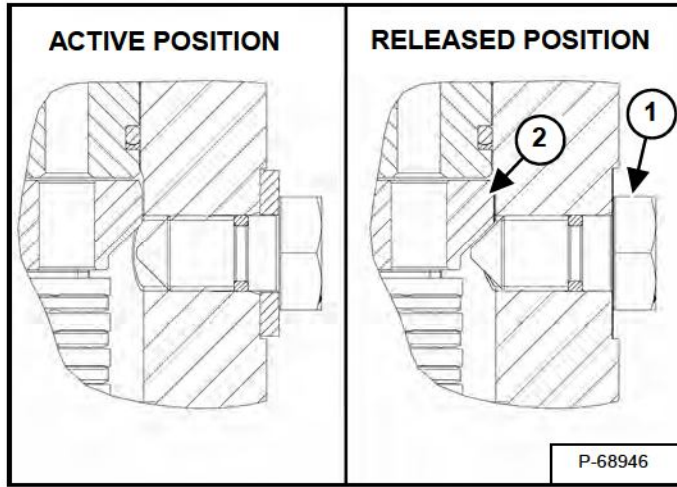
\* Machines with S/N 363012001 - 363012500 and S/N 363112001 - 363112500 only have brakes on the right hand side of the front axle.

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**TOWING THE Telescopic Handler (S/N 363012001 & Above, S/N 363112001 & Above) (CONT'D)**

**Procedure (Cont'd)**

**Figure 10-41-2**



After removing the washer, tighten the bolt (Item 1) [Figure 10-41-1] and [Figure 10-41-2] to hold the park brake piston (Item 2) [Figure 10-41-2] in the released position.

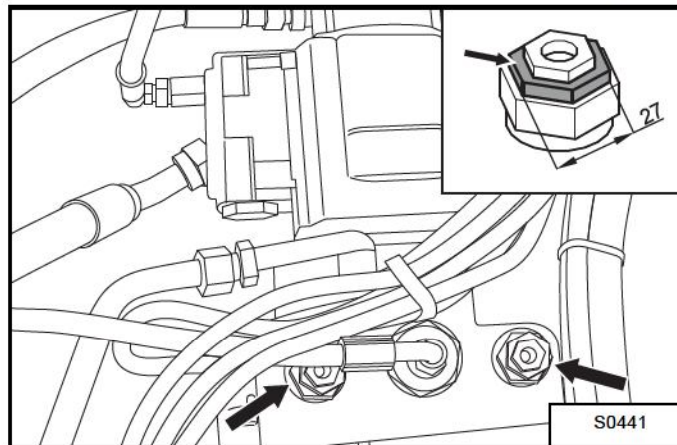
*Disengaging the hydrostatic transmission*

It is impossible for oil to circulate in a hydrostatic transmission in a closed circuit when the machine is not running, this operation involves making oil circulation possible:

For machines without optional tow valve:

- There are two identical multi-function valves on the hydrostatic transmission pump.

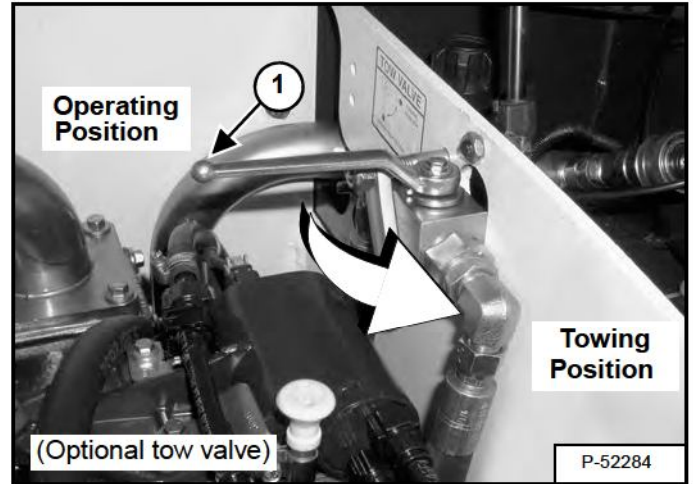
**Figure 1**



- Each valve has three 6-sided nuts of different sizes.
- On each valve unscrew the nut from the middle 2.5 turns.

For machines with optional tow valve:

**Figure 10-41-3**



Raise the engine cover.

Turn the tow valve counterclockwise 90° (Item 1) [Figure 10-41-3] to TOWING POSITION.

Tow the Telescopic Handler at a slow speed.

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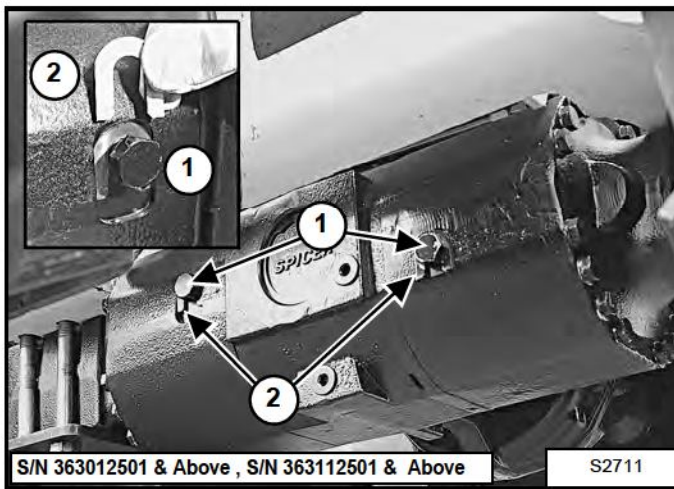
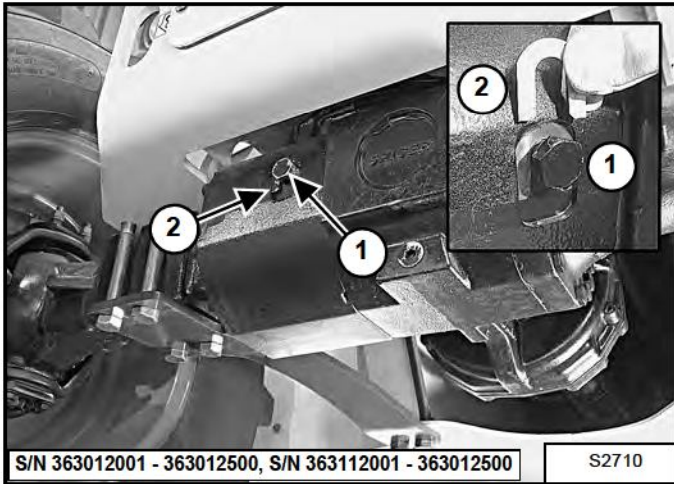
**TOWING THE Telescopic Handler (S/N 363012001 & Above, S/N 363112001 & Above) (CONT'D)**

**Procedure (Cont'd)**

*Engaging Brake Disks:*

Block the wheels to prevent the machine from rolling.

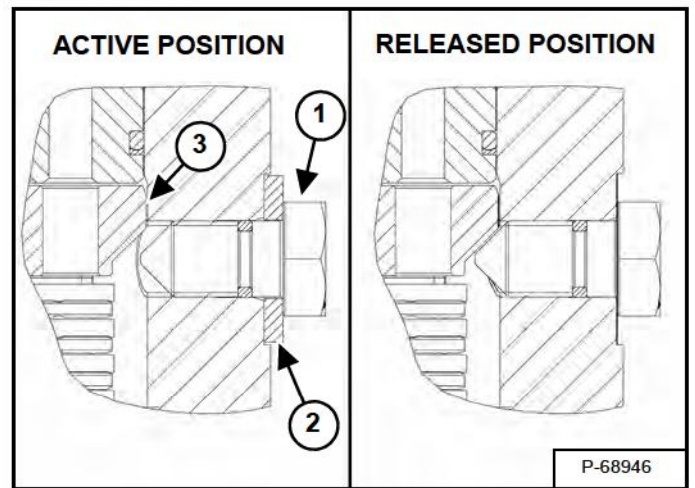
**Figure 10-41-4**



Loosen the four (two)\* bolts (Item 1) until the spacer (Item 2) [Figure 10-41-4] can be installed under the bolt head (the bolts and washers are located on both the front and rear side of front axle).

\*Machines with S/N 363012001 - 363012500 and S/N 363112001 - 363112500 only have brakes on the right hand side of the front axle.

**Figure 10-41-5**




Tighten the bolt (Item 1) to hold the washer (Item 2) [Figure 10-41-5] and [Figure 10-41-5].

Tighten the bolt to 70 - 85 ft. - lb. (95 - 115 N•m) torque.

This will allow the park brake piston (Item 3) [Figure 10-41-5] to be active again.

## SERVICE SCHEDULE

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 Telescopic Handler.



# WARNING

**Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, 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-2003-0199

SERVICE SCHEDULE		HOURS					
ITEM	SERVICE REQUIRED	10	50	100	250	500	1000
Engine Oil	Check the oil level and add oil as needed.						
Hydraulic Fluid	Check fluid level and add as needed.						
Articulation Pins	Lubricate with multi-purpose lithium based grease.						
Safety Signs, Safety Tread and Mirrors	Check for damaged signs (decals), safety tread and mirrors. Replace if damaged or worn.						
Fuel Filter	Clean the sediment bowl/water trap.						
Nuts & Bolts	Check for loose nuts and bolts. Tighten as needed.						
Seat Belt	Check the condition of the seat belt. Clean dirt and debris from moving parts.						
Brakes	Check for function. Service as necessary.						
Back-up Alarm	Check for function. Replace as necessary.						
Tires	Check for wear or damage. Inflate to correct pressure. Be sure all tires are inflated to the same pressure. Use only approved tires.						
Engine Air Filter And Air System	Check condition indicator, replace element when required and empty dust cup as needed. Check air system for leaks. See air cleaner section for more information.						
Engine Cooling System	Clean debris from oil cooler, radiator and air conditioner condenser. Check coolant level cold in reservoir. Add premixed coolant as needed (See "ENGINE COOLING SYSTEM" on page 10-70-1). Check cooling system for leaks.						
King Pins, U-Joints, Axle Oscillation (Front/Rear), Attach. Frame Pivot(s), Tilt/Lift Cyl., Boom Pivot, Leveling Cyl. (if equipped)	Lubricate with multi-purpose lithium based grease.						
Telescopic Boom Slide	Lubricate with multi-purpose lithium based grease. Check wear blocks for adjustment or replacement.						
Hydraulic Hoses, Tubelines & Connections	Check condition of hoses, tubelines and connectors. Repair or replace as needed.						
Battery	Check electrolyte level. Add distilled water as needed.						
Wheel Nuts	Check wheel nut torque. Tighten as needed [221 ft.-lbs. (300 Nm)].	†					
Alt. & Air Cond. Belt (if equipped)	Check belt tension and adjust as needed.		●				
Engine Oil and Filter	Replace the engine oil and filter. See "Capacities" on page SPEC-10-3 for correct capacity. Use a genuine Bobcat filter.		●				
Fuel Filter	Replace the fuel filter element. Use a genuine Bobcat filter.		●				
Hydraulic Fluid Filter	Replace the hydraulic filter element. Use a genuine Bobcat filter.		●				
Hydrostatic Fluid Filter	Replace the hydraulic filter element. Use a genuine Bobcat filter.		●				
Hydraulic Fluid and Filter	Replace the hydraulic fluid and filter element. See SPECIFICATIONS.						
Front & Rear Axle Fluid	Replace the axle fluid. See SPECIFICATIONS.			◆		◇	
Engine Coolant	Check freeze protection of antifreeze -34 F (-30 C). Flush cooling system and replace with premixed coolant (See "ENGINE COOLING SYSTEM" on page 10-70-1).						
Telescopic Boom Wear Blocks	Check for wear and adjust as needed. Replace as necessary.						
Pivot Pins and Bushings	Check for wear on the pivot pins and bushings.						

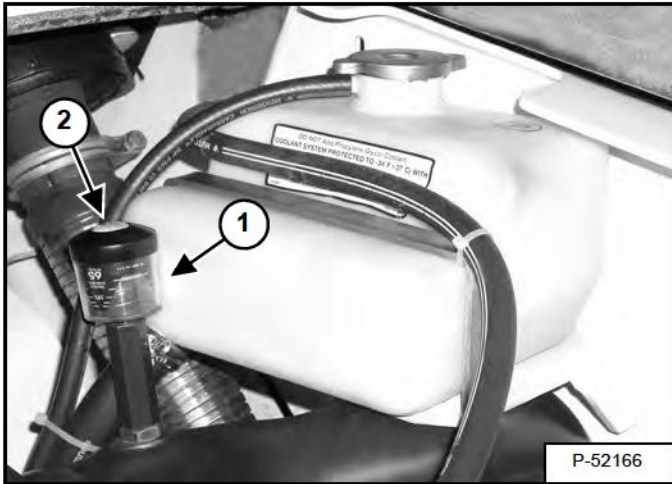
- † Check wheel nut torque every 8 hours for the first 24 hours.
- Perform service first time, then as indicated in chart.
- ◆ Check level.
- ◇ Replace fluid first time, then as indicated in chart.
- Or every 6 months
- Or every 12 months

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## AIR CLEANER SERVICE

### Replacing Filter Element

Figure 10-60-1

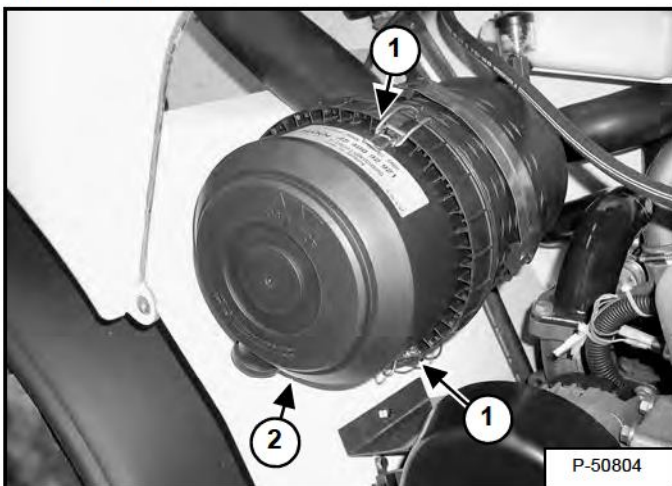


Replace the large (outer) filter element only when the red ring shows in the window of the condition indicator (Item 1) [Figure 10-60-1].

**NOTE:** Before replacing the filter element, push the button on the condition indicator (Item 2) [Figure 10-60-1]. Start the engine. If the red ring does not show, do not replace the filter element.

Replace the inner filter every third time the outer filter is replaced or when the red ring still shows in the indicator window after the outer filter has been replaced.

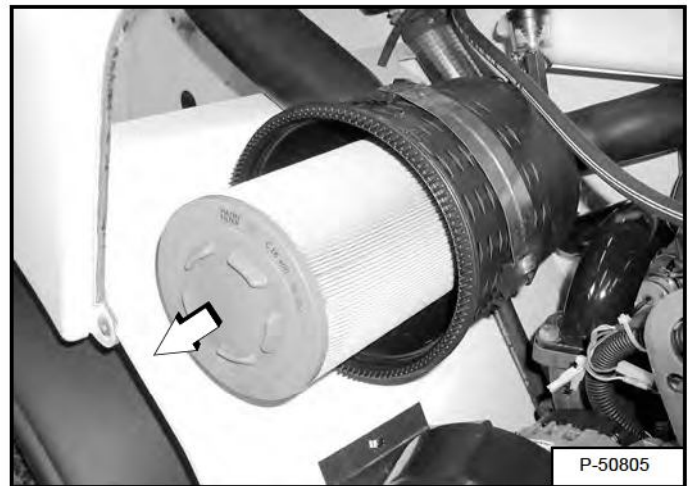
Figure 10-60-2



Loosen the filter housing clamps (Item 1) [Figure 10-60-2].

Release the fastener and remove the cover (Item 2) [Figure 10-60-2].

Figure 10-60-3



Pull the element straight out [Figure 10-60-3].

**NOTE:** Make sure all sealing surfaces are free of dirt and debris.

Install a new outer element.

Install the dust cover and fasten [Figure 10-60-3].

Connect the filter housing clamps.

## AIR CLEANER SERVICE (CONT'D)

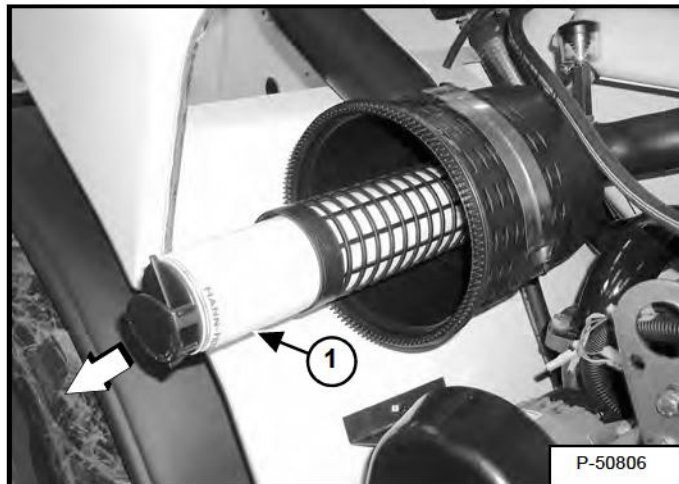
### Replacing Filter Element (Cont'd)

#### *Inner Filter*

Remove the outer element.

**NOTE:** Make sure all sealing surfaces are free of dirt and debris.

Figure 10-60-4



Remove the inner filter (Item 1) [Figure 10-60-4] and install a new element.

Install the outer element.

Install the dust cover and fasten [Figure 10-60-4].

Connect the filter housing clamp (Item 1) [Figure 10-60-4].



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## ENGINE COOLING SYSTEM

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



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.

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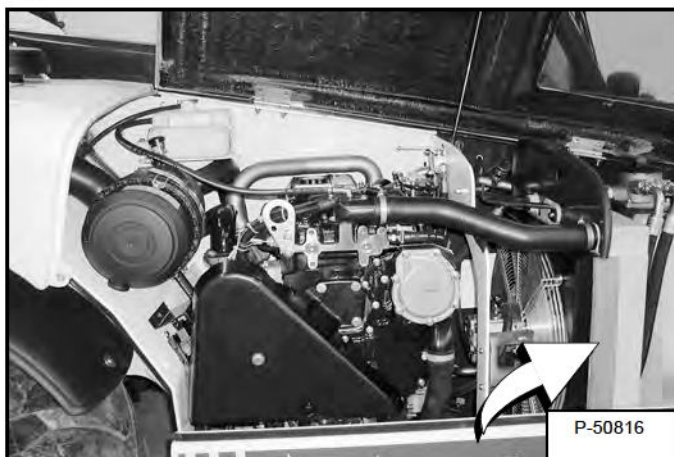
### Cleaning The Cooling System

Figure 10-70-1



Open the engine cover (Item 1) [Figure 10-70-1].

Figure 10-70-2



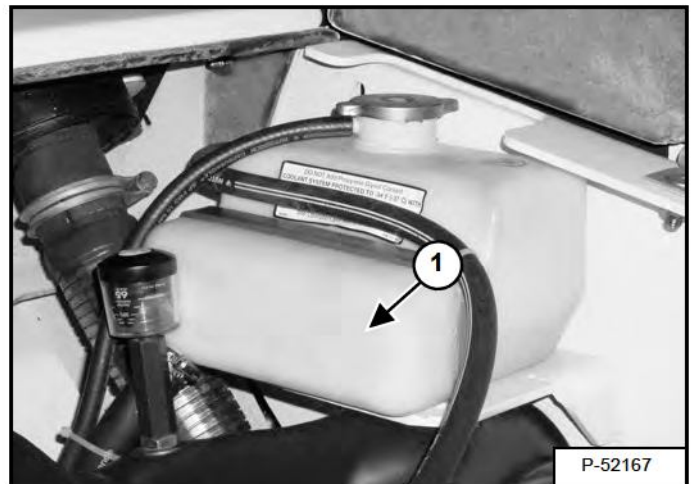
Use low air pressure or water pressure to clean the radiator and oil cooler [Figure 10-70-2].

### Checking The Coolant Level

Open the engine cover.

Check the coolant level in the coolant reservoir.

Figure 10-70-3



The coolant level must be between the MIN and MAX marks (Item 1) [Figure 10-70-3] on the coolant reservoir when the engine is cold.

Close the engine cover.



### 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.

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