

T35120SL MP

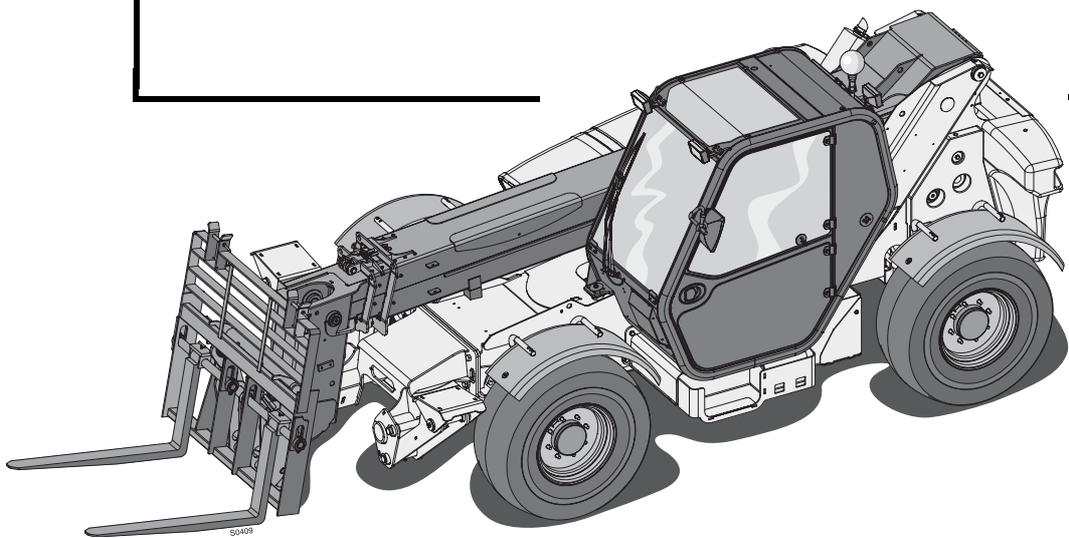
S/N A8GS 11001

& above



Bobcat®

**SERVICE
MANUAL**



Product: 2008 Bobcat T35120SL MP Telescopic Handler Service Repair Workshop Manual
Full Download: <https://www.arepairmanual.com/downloads/2008-bobcat-t35120sl-mp-telescopic-handler-service-repair-workshop-manual/>



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MAINTENANCE SAFETY

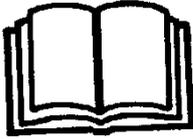


WARNING

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



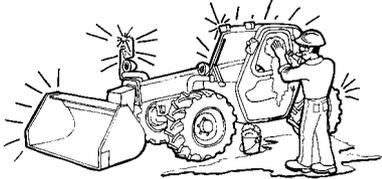
B-10731a

- ⚠ 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.

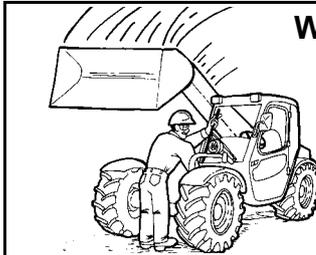
CORRECT



B-16082

- ⚠ Cleaning and maintenance are required daily.

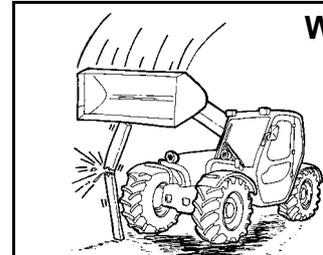
WRONG



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.

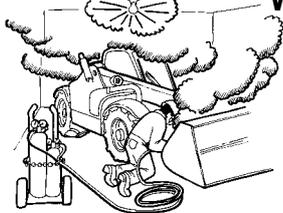
WRONG



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.

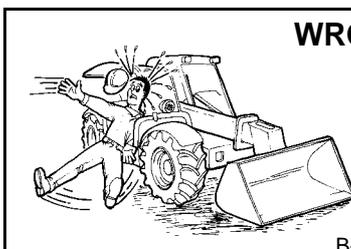
WRONG



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



Bobcat®

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**SAFETY AND
MAINTENANCE**

**HYDRAULIC
SYSTEM**

**HYDROSTATIC
SYSTEM**

**DRIVE
SYSTEM**

MAIN FRAME

**ELECTRICAL
SYSTEM AND
ANALYSIS**

**ENGINE
SERVICE**

HVAC

SPECIFICATIONS

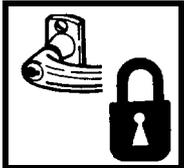
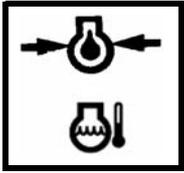
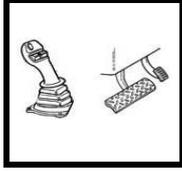
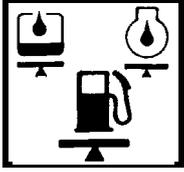


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FOREWORD

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:

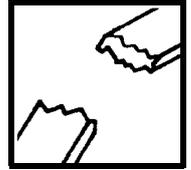
- | | | | |
|--|---|---|---|
| <p>1. Check that ROPS/FOPS (including right side window) is in good condition and is not modified.</p> |  | <p>8. The parking brake must function correctly.</p> |  |
| <p>2. Check that ROPS mounting hardware is tightened and is Bobcat approved.</p> |  | <p>9. Enclosure door latches must open and close freely.</p> |  |
| <p>3. The seat belt must be correctly installed, functional and in good condition.</p> |  | <p>10. Attachment locking pins must function correctly and be in good condition. Bob-Tach wedges and linkages (if equipped) must function correctly and be in good condition.</p> |  |
| <p>4. Check boom stop, replace if damaged.</p> |  | <p>11. Safety treads must be in good condition.</p> |  |
| <p>5. Machine signs (decals) must be legible and in the correct location.</p> |  | <p>12. Check for correct function of indicator lamps and gauges.</p> |  |
| <p>6. Joystick control lever and foot pedals must return to neutral.</p> |  | <p>13. Check hydraulic fluid level, engine oil level and fuel supply.</p> |  |
| <p>7. Check for correct function of the work lights.</p> |  | <p>14. Inspect for fuel, oil or hydraulic fluid leaks.</p> |  |

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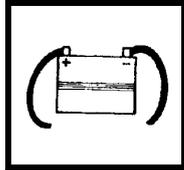
15. Lubricate the Telescopic Handler.



20. Inspect for loose or broken parts or connections.



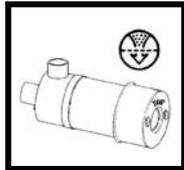
16. Check the condition of the battery and cables.



21. Check for any field modification not completed.



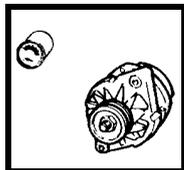
17. Inspect the air cleaner for damage or leaks. Check the condition of the element.



22. Operate the machine and check all functions.



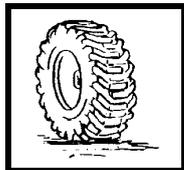
18. Check the electrical charging system.



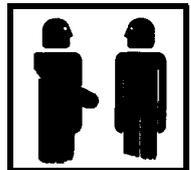
23. Check function or condition of all equipped options and accessories (examples: back-up alarm, fire extinguisher, rotating beacon, front stabilizers, etc.).



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



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



FW VH-0308 SM

SAFETY INSTRUCTIONS



Safety Alert Symbol

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

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

IMPORTANT

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

I-2019-0284

DANGER

The signal word DANGER on the machine and in the manuals indicates a hazardous situation which, if not avoided, will result in death or serious injury.

D-1002-1107

WARNING

The signal word WARNING on the machine and in the manuals indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

W-2044-1107

The following publications provide information on the safe use and maintenance of the Bobcat machine 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 machine or attachment contains operating information as well as routine maintenance and service procedures. It is a part of the machine and can be stored in a container provided on the machine. Replacement Operation & Maintenance Manuals can be ordered from your Bobcat dealer.
- Machine signs (decals) instruct on the safe operation and care of your Bobcat machine or attachment. The signs and their locations are shown in the Operation & Maintenance Manual. Replacement signs are available from your Bobcat dealer.
- The Service Manual and Parts Manual are available from your dealer for use by mechanics to do shop-type service and repair work.

The dealer and owner / operator review the recommended uses of the product when delivered. If the owner / operator will be using the machine for a different application(s) he or she must ask the dealer for recommendations on the new use.



Cutting or drilling concrete containing sand or rock containing quartz may result in exposure to silica dust.

SI VH-0308 SM

FIRE PREVENTION



Maintenance

The machine and some attachments have 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.

The operator's area, engine compartment and engine cooling system must be inspected every day and cleaned if necessary to prevent fire hazards and overheating.

All fuels, most lubricants and some coolants mixtures are flammable. Flammable fluids that are leaking or spilled onto hot surfaces or onto electrical components can cause a fire.

Operation

Do not use the machine where exhaust, arcs, sparks or hot components can contact flammable material, explosive dust or gases.

Electrical



Check all electrical wiring and connections for damage. Keep the battery terminals clean and tight. Repair or replace any damaged part or wires that are loose or frayed.

Battery gas can explode and cause serious injury. Use the procedure in the Operation & Maintenance Manual for connecting the battery and for jump starting. Do not jump start or charge a frozen or damaged battery. Keep any open flames or sparks away from batteries. Do not smoke in battery charging area.

Hydraulic System

Check hydraulic tubes, hoses and fittings for damage and leakage. Never use open flame or bare skin to check for leaks. Hydraulic tubes and hoses must be properly routed and have adequate support and secure clamps. 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.

Fueling



Stop the engine and let it cool before adding fuel. No smoking! Do not refuel a machine near open flames or sparks. Fill the fuel tank outdoors.

Starting

Do not use ether or starting fluids on any engine that has glow plugs. These starting aids can cause explosion and injure you or bystanders.

Use the procedure in the Operation & Maintenance Manual for connecting the battery and for jump starting.

SI VH-0308 SM

FIRE PREVENTION (CONT'D)

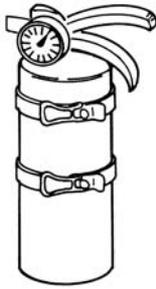
Welding And Grinding

Always clean the machine and attachment, disconnect the battery, and disconnect the wiring from the Bobcat 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.

Dust generated from repairing nonmetallic parts such as hoods, fenders or covers can be flammable or explosive. Repair such components in a well ventilated area away from open flames or sparks.

Fire Extinguishers



Know where fire extinguishers and first aid kits are located and how to use them. Inspect the fire extinguisher and service the fire extinguisher regularly. Obey the recommendations on the instructions plate.

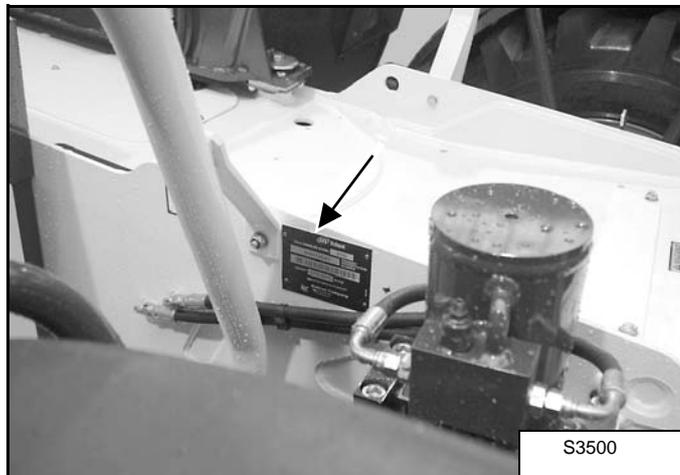
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SERIAL NUMBER LOCATIONS

Always use the serial number of the Telescopic Handler when requesting service information or when ordering parts.

Telescopic Handler Serial Number

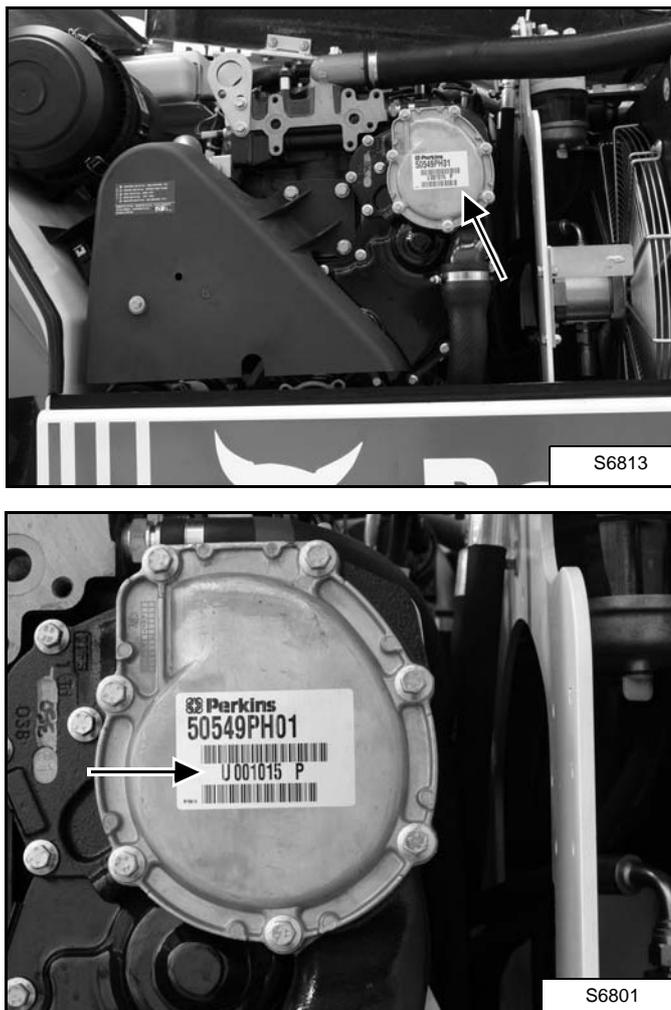
Figure 1



The front, on the right side of the chassis [Figure 1].

Engine Serial Number

Figure 2



The engine serial number can be found on the water pump [Figure 2] 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

Figure 3

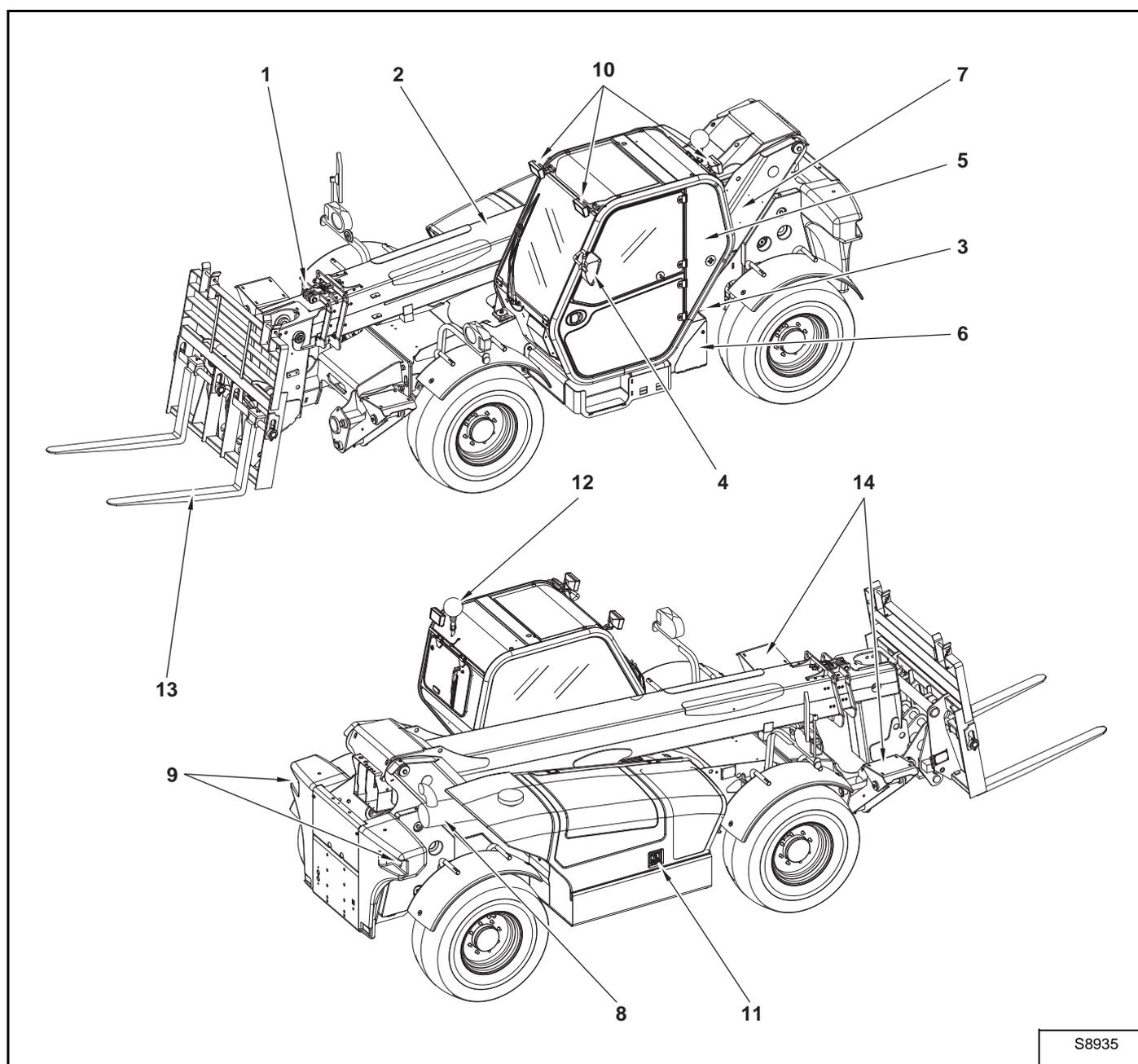
The diagram shows a form layout for a 'DELIVERY REPORT'. It includes a title box at the top right, a 'WARNING' section with a dark header, and several areas with horizontal lines for text entry. A reference code 'B-16315' is located at the bottom right of the form's bounding box.

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 3].

IDENTIFICATION OF THE TELESCOPIC HANDLER

Reference	Designation
1	Telescopic boom
2	Boom
3	Fuel tank
4	Mirror
5	Operator Cab
6	Battery compartment
7	Boom stop (opt.)
8	Engine exhaust
9	Lights
10	Working Lights
11	Engine cover
12	Rotating beacon
13	Pallet forks
14	Stabilizers

Figure 4



S8935

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LIFTING AND BLOCKING THE TELESCOPIC HANDLER

Procedure

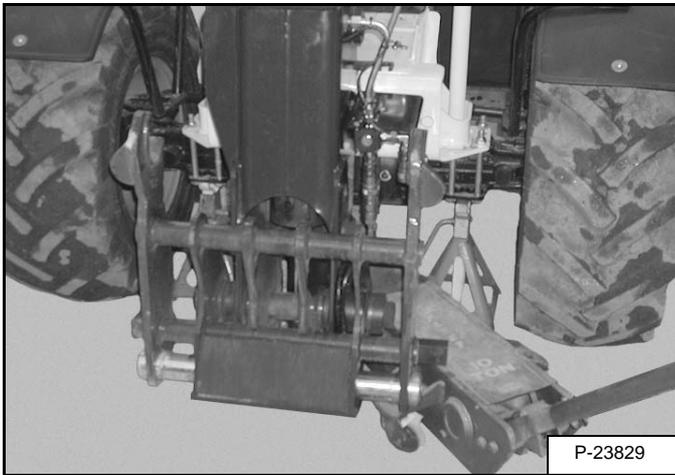
Always park the machine on a level surface.

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.

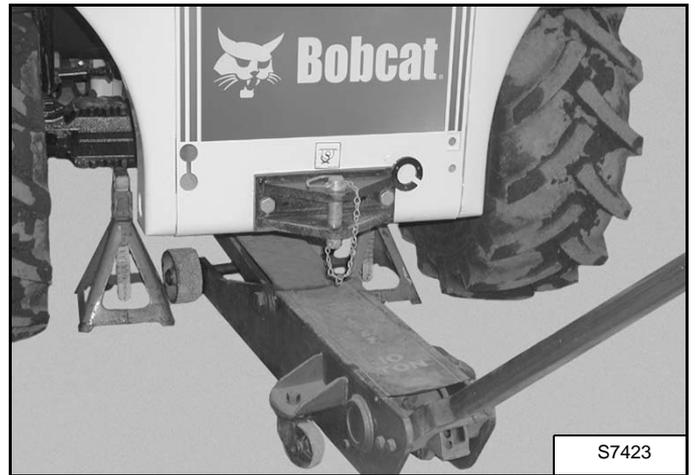
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Figure 40-30-1



STOP the engine. Put the floor jack under the center of the front axle. Lift the Telescopic Handler and install jackstands [Figure 40-30-1].

Figure 10-10-1



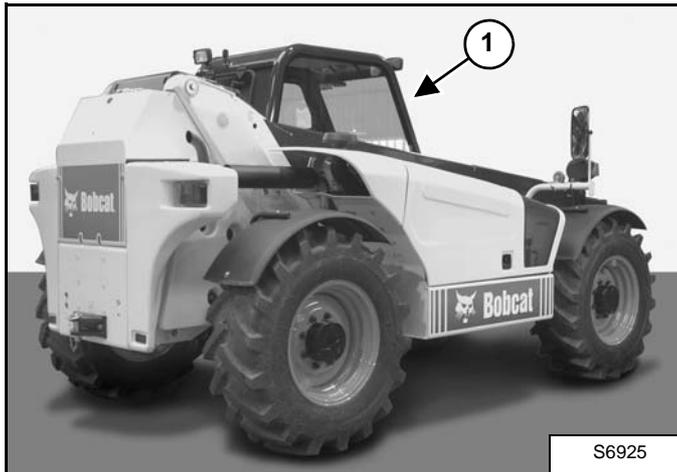
Put the floor jack under the center of the rear axle. Lift the Telescopic Handler and install jackstands [Figure 10-10-1].



Bobcat®

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).

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.

WARNING

Never modify operator cab or canopy 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 or canopy can cause loss of operator protection from rollover and falling objects, and result in serious injury or death.

W-2396-1202

OPERATOR CAB (CONT'D)

Cab Door

Figure 10-20-3

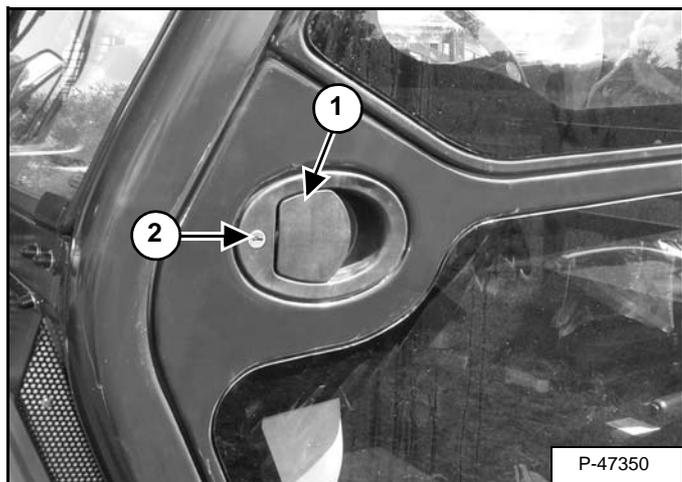
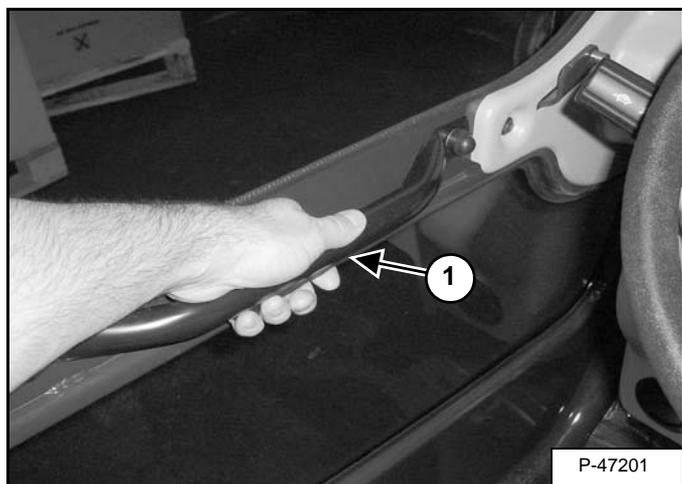


Figure 10-20-4

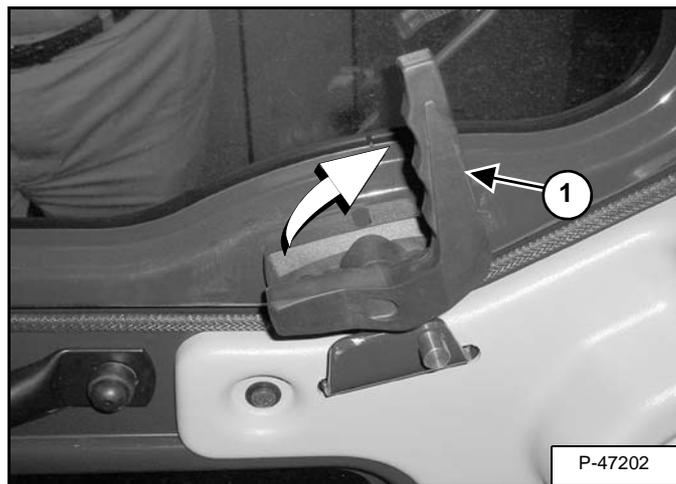


The cab door can be opened from the outside of the cab using the latch (Item 1) [Figure 10-20-3] and open from the inside of the cab when you squeeze the latch (Item 1) [Figure 10-20-4] (as shown).

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

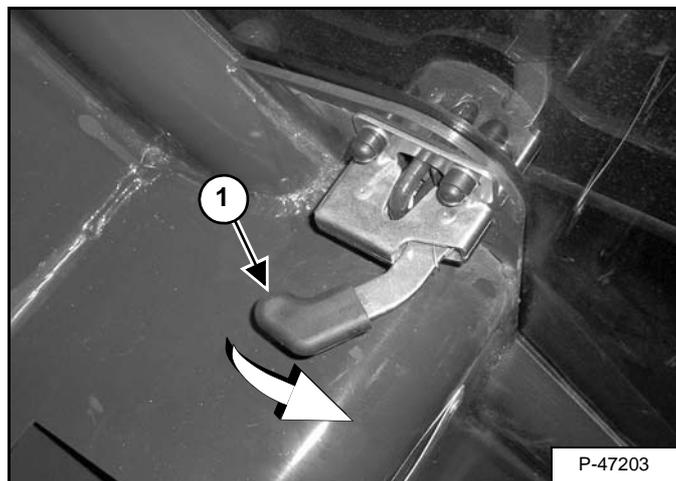
Cab Door Window

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



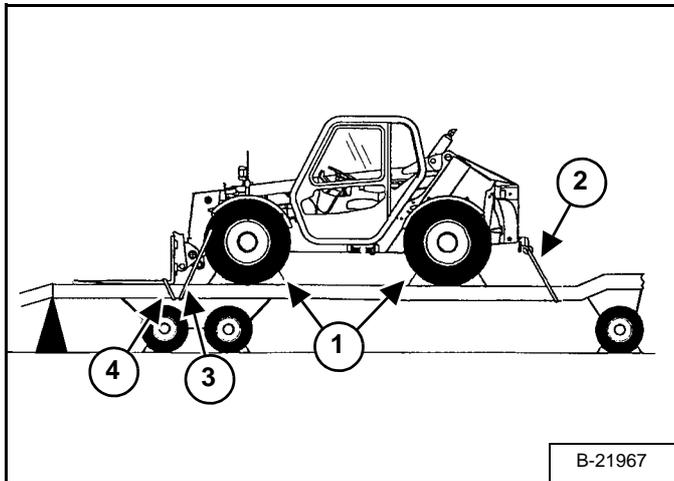
Pull the lever (Item 1) [Figure 10-20-6] inside the cab to disengage the latch and close the window.

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 "Telescopic Handler SPECIFICATIONS" on page SPEC-10-1 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 and 3) [Figure 10-30-1].
- Attach the forks or bucket attachment to the transport vehicle (Item 4) [Figure 10-30-1].

WARNING

AVOID SERIOUS INJURY OR DEATH

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.

W-2058-0807



Bobcat®

TOWING THE TELESCOPIC HANDLER

Preparing for towing

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

The machine must be prepared before towing.

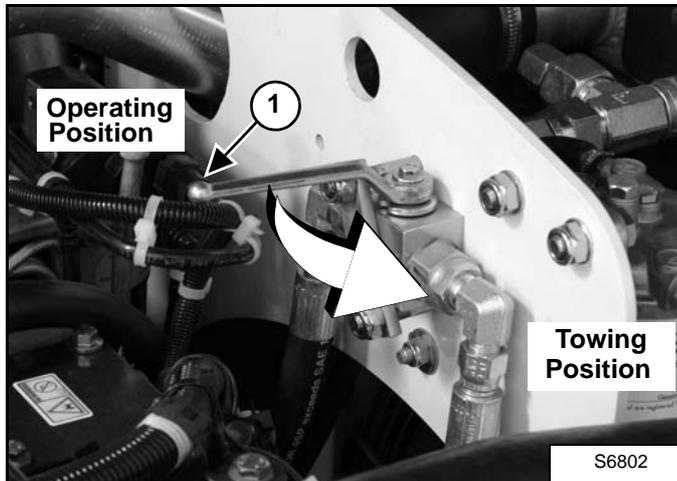
WARNING

- Before towing, the machine must be immobilised using chocks in front of the wheels or any other means independent of the machine. Do not apply the handbrake.
- After this operation, the handbrake will not work and it will no longer be possible to lock the machine with the hydrostatic transmission.

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:

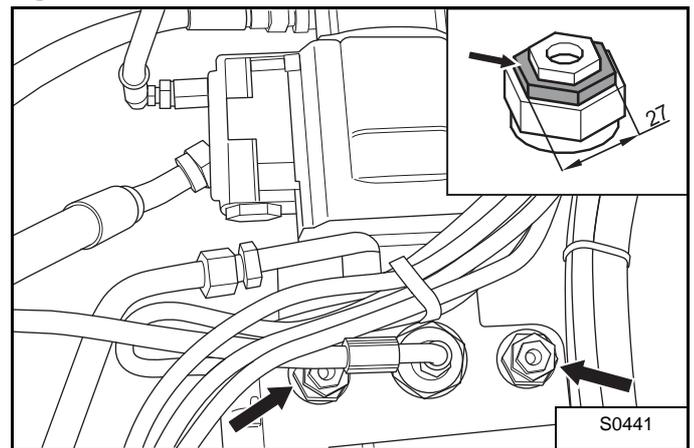
Figure 10-40-1



If the optional tow valve is installed, simply raise the engine cover and turn the valve counterclockwise 90° (Item 1) [Figure 10-40-1] to TOWING POSITION.

Follow the below procedure if the optional tow valve is not installed:

Figure 10-40-2



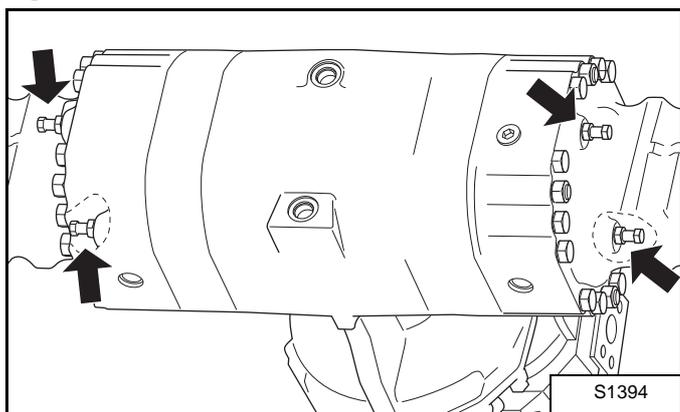
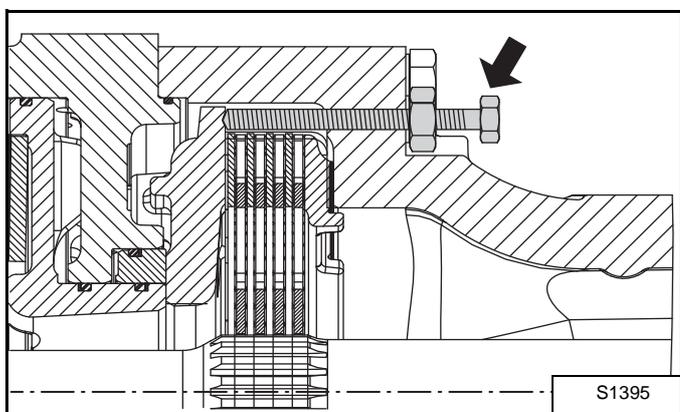
- Locate the two identical multi-function valves on the hydrostatic transmission pump [Figure 10-40-2]. Each valve has three 6-sided nuts of different sizes.
- Unscrew the middle screw of each valve 2.5 turns. This action will bypass the oil flow from the hydrostatic transmission.

Releasing the handbrake

As the machine's brakes are tightened by lack of hydraulic pressure (= handbraked position), this operation involves releasing the brakes mechanically. Only the front axle has brakes.

The following procedure describes how to untighten the brakes.

- Release the handbrake. This will open the hydraulic circuit. It is not possible to manually release the brakes when the hydraulic circuit is closed.
- At each end of the central part of the front axle are two screws (see **[Figure 10-40-3]**). When screwed in, these screws will remove the spring pressure that block the brake disks. **[Figure 10-40-4]** shows the function of such a screw inside the axle. The work will first be carried out on the two screws on one side of the front axle then on the other side:
 - Loosen the locking nuts of the screws and create some clearance for the screws.
 - Gradually screw (quarter turn by quarter turn) each of the two screws alternatively until they bite.
 - Repeat the above steps on the other side of the front axle.

Figure 10-40-3**Figure 10-40-4**

The brakes are now released for towing the vehicle.

IMPORTANT

The vehicle will not be able to brake until the screws are returned to their original position.

Tow the Telescopic Handler at slow speed.

After towing:

- Re-engage the hydrostatic transmission by reversing the procedure "Disengaging the hydrostatic transmission" on page 10-40-1.
- Re-activate the brakes by reversing the procedure: "Releasing the handbrake" on page 10-40-2.

LUBRICANTS AND FLUIDS

		All Bobcat Equipment							Only for TLS and AL	
		ENGINE 				HYDRAULIC/HYDROSTATIC 		ANTIFREEZE COOLANT 	AXLE TRANSMISSION 	BRAKE FLUID 
Packaging	Lineart	Bobcat Engine Power SAE 0W/30	Bobcat Engine Power SAE 10W/30	Bobcat Engine Power SAE 15W/40	Bobcat Engine Power SAE 20W/50	Bobcat Superior SH Hydraulic/Hydrostatic	Bobcat Bio Hydraulic Hydraulic/Hydrostatic	Bobcat PG Coolant 4 Seasons	Bobcat Axle Transmission Oil	Bobcat Brake Fluid LHM
										
5 L Can		6987500A	6904840A	6904841A	6987501A	6904842A	6904843A	6904844A	6904845A	6904846A
25 L Container		6987500B	6904840B	6904841B	6987501B	6904842B	6904843B	6904844B	6904845B	-
209 L Drum		6987500C	6904840C	6904841C	6987501C	6904842C	6904843C	6904844C	6904845C	-
1000 L Tank		6987500D	6904840D	6904841D	6987501D	6904842D	6904843D	6904844D	6904845D	-
400 gr Grease		Bobcat Multi-Purpose Grease				6903122				
		Bobcat Supreme HD Grease				6687884				
		Bobcat Extreme HP Grease				6687885				

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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.

 <b style="font-size: 24px; margin-left: 10px;">WARNING	<p>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.</p> <p style="text-align: right; font-size: 10px;">W-2003-0199</p>
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Operation	Hours				
	10	50	200	500	1000 (3)
Diesel engine					
Cleaning the air filter's main cartridge (4)					
Replacing the air filter's main cartridge (4)					
Replacing the air filter's safety cartridge (4)					
Checking the cooling fluid level					
Checking the cooling fluid					
Checking the radiators are clean					
Checking the engine oil level					
Draining and changing oil and filter of the engine					
Replacing the lubricating oil filter cartridge					
Checking the state and tension of the alternator belt (2)					
Replacing the fuel filter cartridge (2)					
Hydraulic system					
Checking the hydraulic oil level					
Draining and changing the hydraulic oil (3)					
Replacing the hydraulic filter cartridge (2)					
Replacing the hydraulic oil tank vent valve (2)					
Checking the tightness of hydraulic lines and connections					
Mechanical transmission					
Checking the condition of tyres					
Checking the tyre pressure					
Checking the tightness of wheel nuts (1)					
Checking the vent valves on the two axles are clean					
Lubricating the rear axle rolling element bearings					
Lubricating the axle steering pivots					
Checking the oil level in the front axle central casing				monthly	
Checking the oil level in the reducer box				monthly	
Checking the oil level in the rear axle central casing				monthly	
Checking the oil level on both axles' gear reducers					
Draining and changing the oil in the front axle central casing (2)					
Draining and changing the oil in the reducer box (2)					
Draining and changing the oil on the rear axle central casing (2)					
Draining and changing the oil on two axles gear reducers (2)					
Structure					
Cleaning dust out of the cab filter					
Replacing the cab filter					
Lubricating the hinge pins					
Lubricating the boom's guide rail shoes					
Checking the tightness of screws and bolts					
Checking wear on the boom's guide rail shoes					
Checking wear on flanges and hinge pins					
Checking the tension of telescoping chains					
Checking the wear of telescoping chains					
Electrical system					
Checking the battery fluid level					
Checking the condition of fuses, diodes and relays					
Checking the working order of controls, lighting and signalling					
Checking the working order of indicator lights, indicators and controls					
Checking the condition of electric connections					

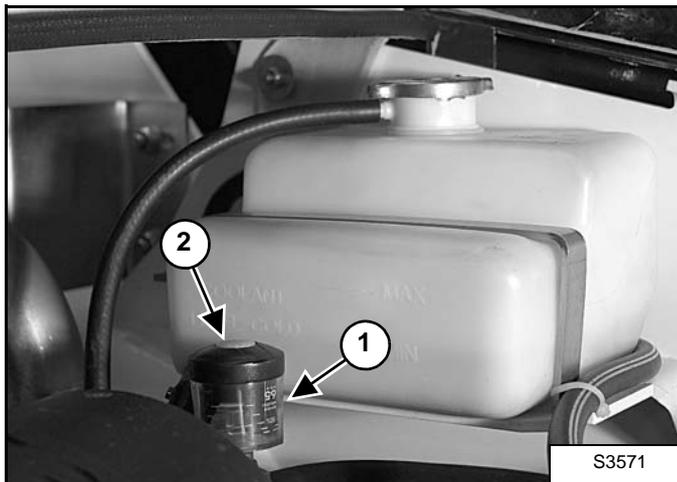
- (1) Check wheel nut torque every 8 hours for the first 24 hours.
 (2) First maintenance after 50 hours then according to the table.
 (3) Or every 12 months.

- (4) Frequency may vary in certain dusty environments.
 (5) To be replaced after 250 hours if the fuel filter bowl is badly fouled.

AIR CLEANER SERVICE

Replacing Filter Element

Figure 10-60-1

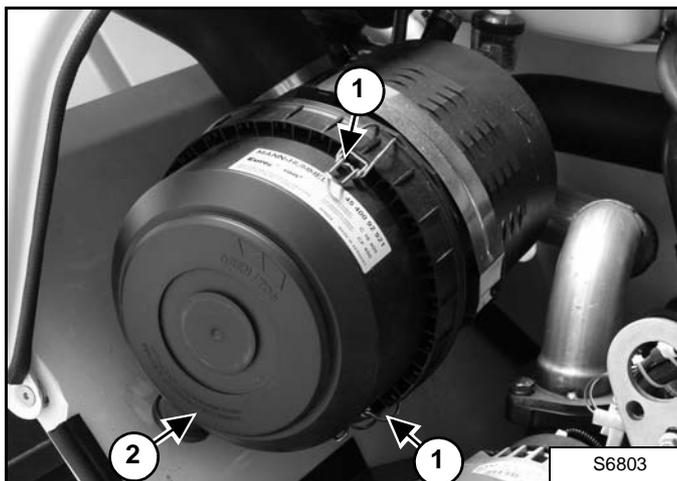


Replace the large (outer) filter element only when the red ring shows in the window of the condition indicator (Item 1) [Figure 10-60-1].

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.

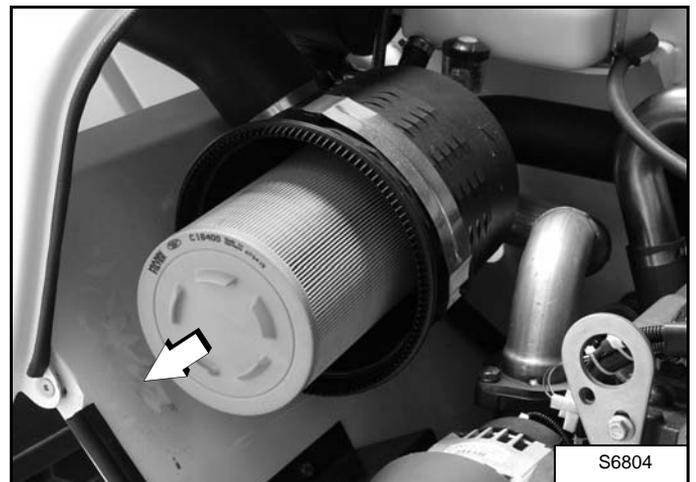
Figure 10-60-2



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.

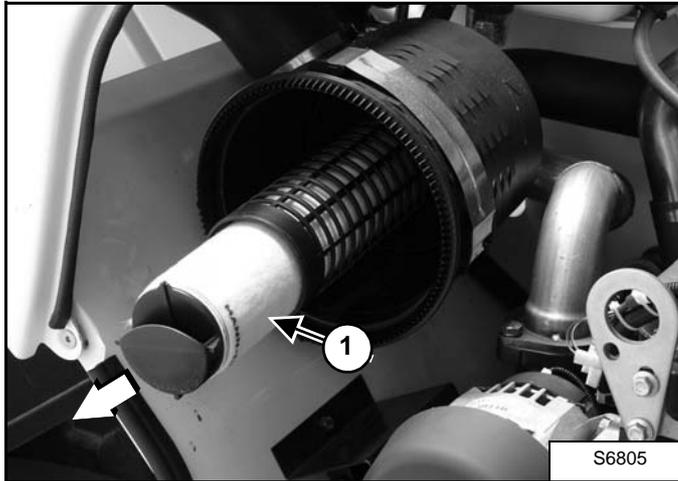
Replacing Filter Element (Cont'd)

Inner Filter

Remove the outer element.

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

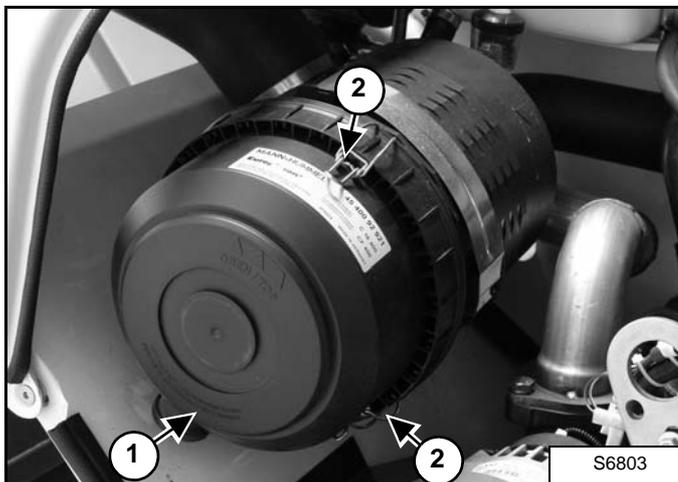
Figure 10-60-4



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

Install the outer element.

Figure 10-60-5



Install the dust cover (Item 1) [Figure 10-60-5] and fasten.

Connect the filter housing clamps (Item 2) [Figure 10-60-5].