

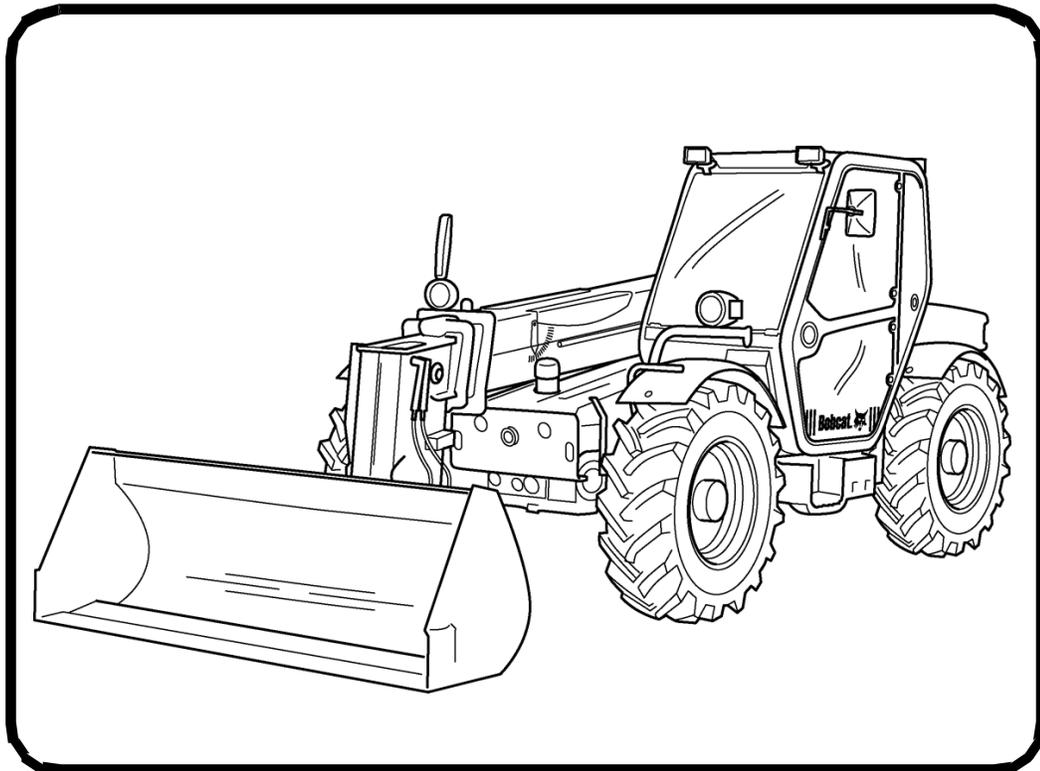


Bobcat®

Service Manual

V638 VersaHANDLER®

S/N A8HM11001 & Above (with Cab)
S/N A8HN11001 & Above (with Canopy)



Product: 2010 Bobcat V638 VersaHANDLER Service Repair Workshop Manual
Full Download: <https://www.arepairmanual.com/downloads/2010-bobcat-v638-versahandler-service-repair-workshop-manual/>

Sample of manual. Download All 937 pages at:
<https://www.arepairmanual.com/downloads/2010-bobcat-v638-versahandler-service-repair-workshop-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-2003-0807

CORRECT



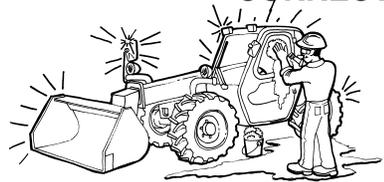
P-90216

- ⚠ Never service the Bobcat VersaHANDLER 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.

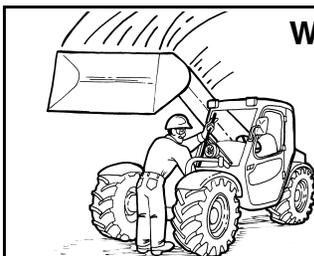
CORRECT



B-16082

- ⚠ Cleaning and maintenance are required daily.

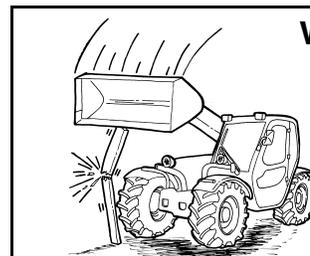
WRONG



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.

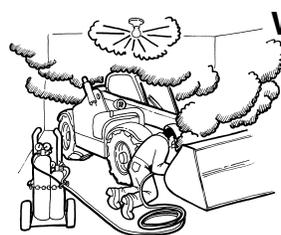
WRONG



B-16079

- ⚠ Never work on VersaHANDLER 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.

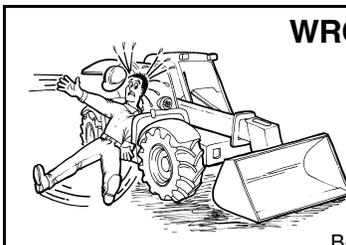
WRONG



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**.

MSW12-0409



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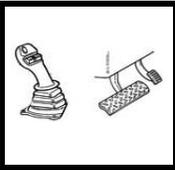
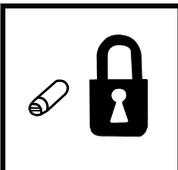
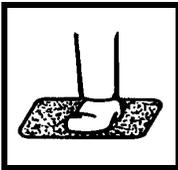
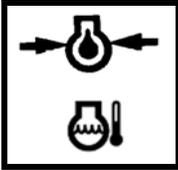


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FOREWORD

This manual is for the Bobcat VersaHANDLER mechanic. It provides necessary servicing and adjustment procedures for the Bobcat VersaHANDLER 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 VersaHANDLER has had service or repair:

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

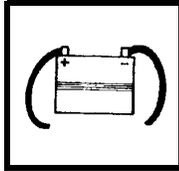
15. Lubricate the VersaHANDLER.



20. Check for any field modification not completed.



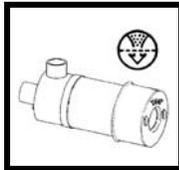
16. Check the condition of the battery and cables.



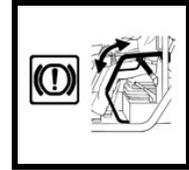
20. Operate the machine and check all functions.



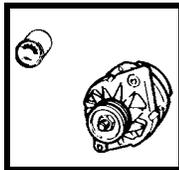
17. Inspect the air cleaner for damage or leaks. Check the condition of the element.



21. Check for correct function of the Lateral Operator Restraint System (LORS) if equipped.



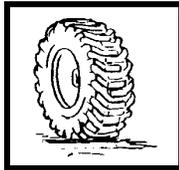
18. Check the electrical charging system.



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



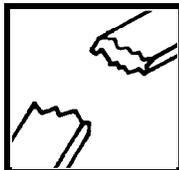
19. Check tires for wear and pressure. Use only approved tires.



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



20. Inspect for loose or broken parts or connections.



**CALIFORNIA
PROPOSITION 65 WARNING**

Diesel engine exhaust and some of its constituents are known to the state of California to cause cancer, birth defects and other reproductive harm.

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-2003-0807

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.
- An Operator's Handbook fastened to the operator cab. It's 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 AEM Safety Manual delivered with the machine 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 VersaHANDLER Operator Training Course is available through your local dealer or at www.training.bobcat.com or www.bobcat.com. This course is intended to provide rules and practices of correct operation of the VersaHANDLER.
- The VersaHANDLER Safety Video is available from your Bobcat dealer or at www.training.bobcat.com or www.bobcat.com.

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.

SI VH EMEA-0409 SM

SAFETY INSTRUCTIONS (CONT'D)



Cutting or drilling concrete containing sand or rock containing quartz can result in exposure to silica dust. Use a respirator, water spray or other means to control dust.

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.

SI VH EMEA-0409 SM

FIRE PREVENTION (CONT'D)

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.

Spark Arrester Exhaust System

The spark arrester exhaust system is designed to control the emission of hot particles from the engine and exhaust system, but the muffler and the exhaust gases are still hot.

Check the spark arrester exhaust system regularly to make sure it is maintained and working properly. Use the procedure in the Operation & Maintenance Manual for cleaning the spark arrester muffler (if equipped).

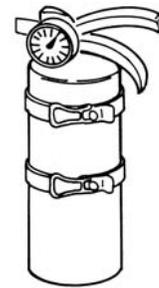
Welding And Grinding

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.

SERIAL NUMBER LOCATION

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

VersaHANDLER Serial Number

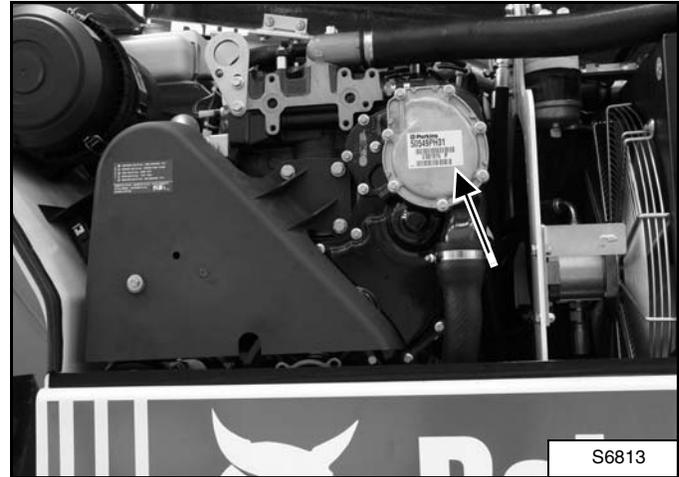
Figure 1



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 can also have serial numbers. Always use these serial numbers when requesting parts.

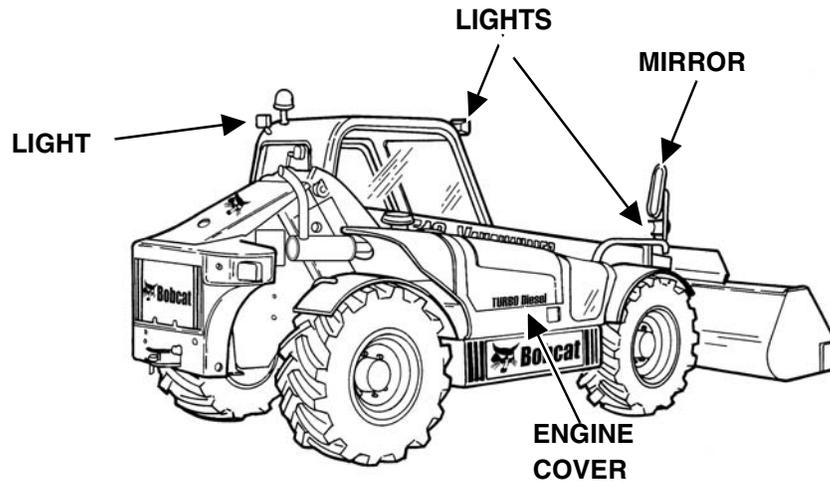
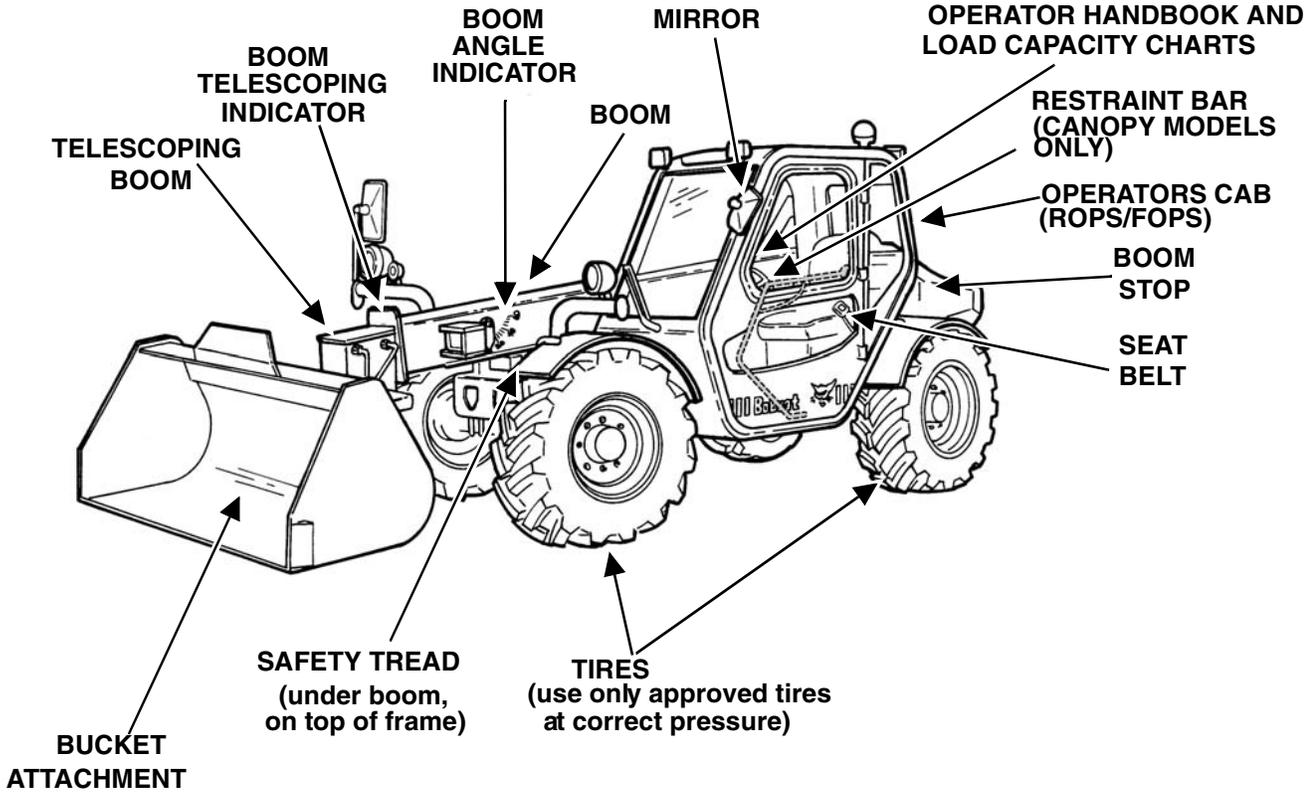
DELIVERY REPORT

Figure 3

The diagram shows a form layout for a 'DELIVERY REPORT'. The form is enclosed in a rectangular border. At the top right, the title 'DELIVERY REPORT' is printed. Below the title, there are two columns of horizontal lines representing text input fields. On the left side, there is a prominent black rectangular box with the word 'WARNING' in white capital letters. Below this box, there are more horizontal lines for text. At the bottom right of the form, there is a small rectangular box containing the alphanumeric code 'B-16315'.

The Delivery Report must be filled out by the dealer and signed by the owner or operator when the VersaHANDLER is delivered. An explanation of the form must be given to the owner. Make sure it is filled out completely **[Figure 3]**.

BOBCAT VERSAHANDLER IDENTIFICATION



S6922
S6923

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LIFTING AND BLOCKING THE VERSAHANDLER

Procedure

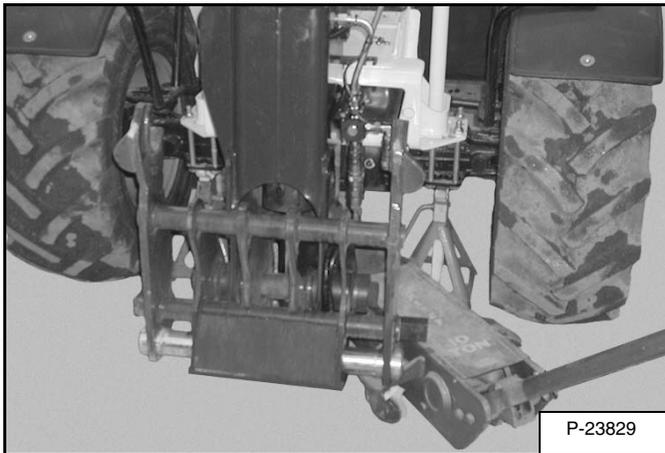
Always park the machine on a level surface.

WARNING

The seat bar system must deactivate the lift, and tilt control functions when the seat bar is up. Service the system if joysticks do not deactivate.

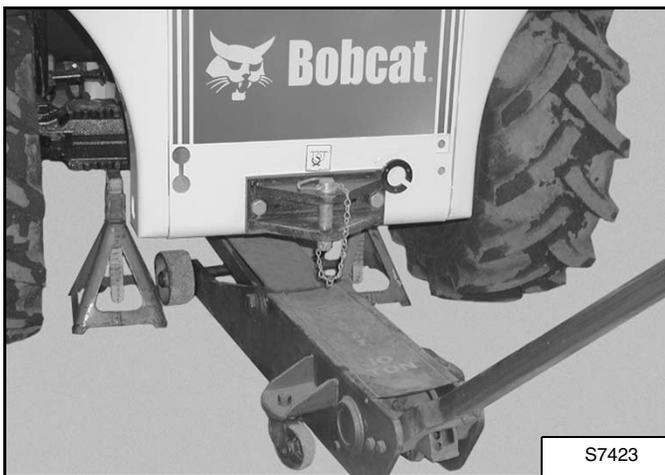
W-2461-0603

Figure 10-10-1



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

Figure 10-10-2



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



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OPERATOR CAB / CANOPY

Figure 10-20-1



The VersaHANDLER has an operator cab or canopy (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 or canopy 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 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 / CANOPY (CONT'D)

Cab Door

Figure 10-20-2

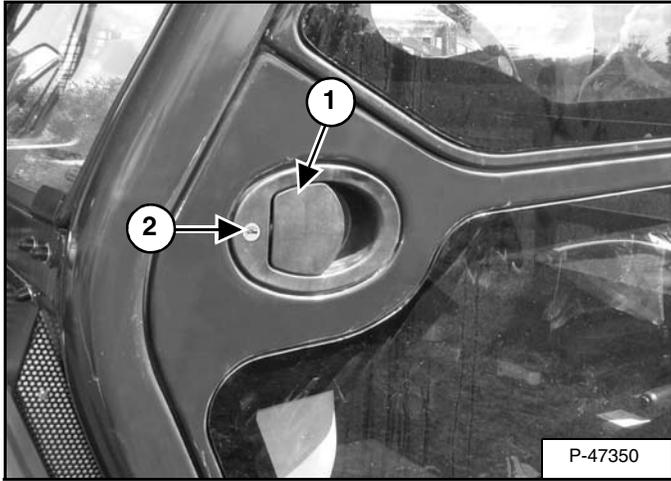
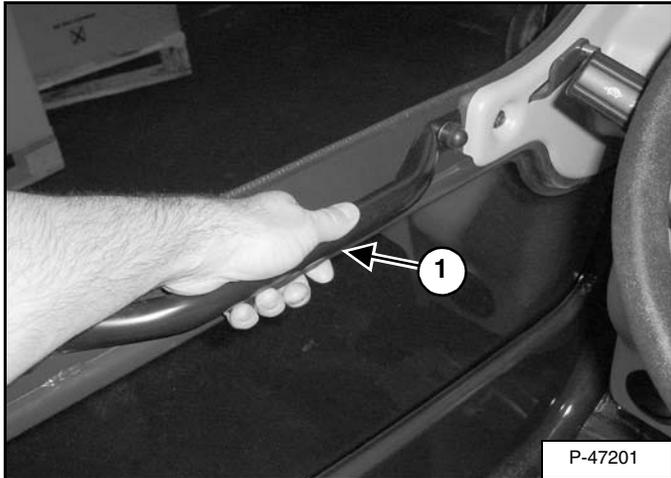


Figure 10-20-3

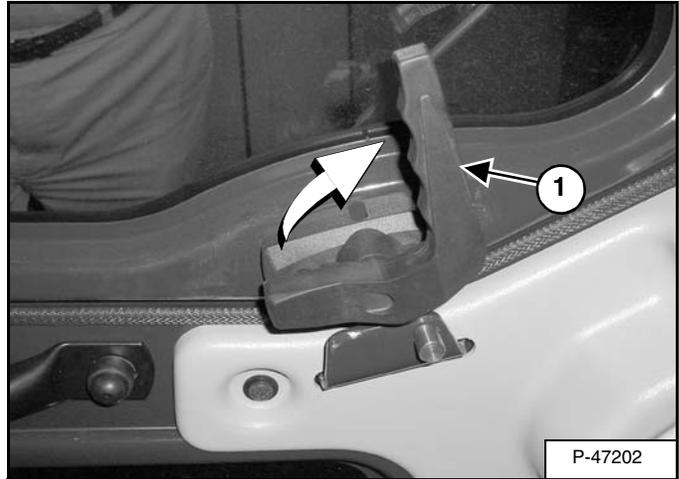


The cab door can be opened from the outside of the cab using the latch (Item 1) [Figure 10-20-2] and open from the inside of the cab when you squeeze the latch (Item 1) [Figure 10-20-3].

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

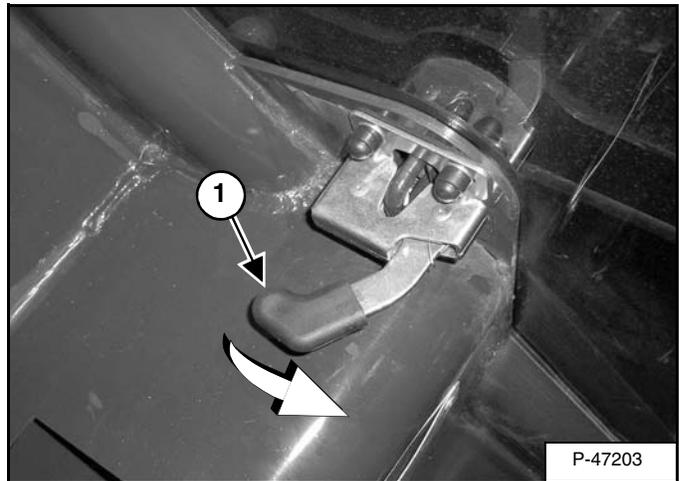
Cab Door Window

Figure 10-20-4



Turn the handle (Item 1) [Figure 10-20-4]. Push open the window fully until it latches against the cab.

Figure 10-20-5



Pull the lever (Item 1) [Figure 10-20-5] inside the cab to disengage the latch and close the window.

TRANSPORTING THE VERSAHANDLER ON A TRAILER

Loading And Unloading

Figure 10-30-1



The VersaHANDLER must be loaded backward on the trailer.

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

Be sure the transport and towing vehicles are of adequate size and capacity. For the weight of VersaHANDLER (See Performance Specifications on Page SPEC-10-2.)

WARNING

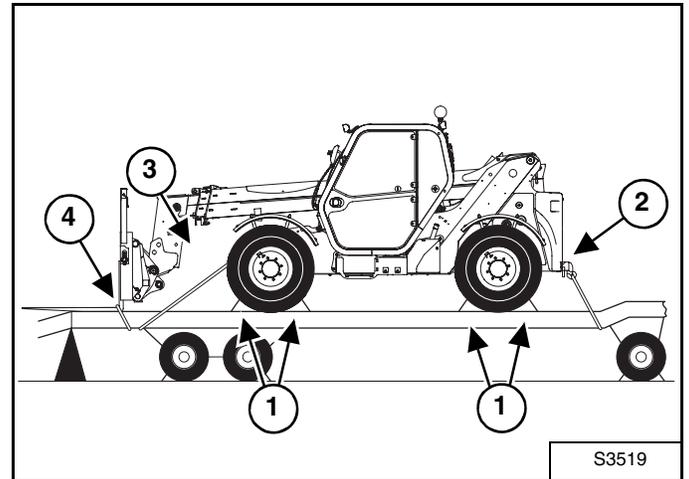
AVOID SERIOUS INJURY OR DEATH

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

Fastening

Figure 10-30-2



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



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TOWING THE VERSAHANDLER

Procedure

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



UNEXPECTED MACHINE MOVEMENT CAN CAUSE SERIOUS INJURY OR DEATH

- Block wheels to prevent roll away before adjusting screws to bypass the park brake system.
- Return adjustment screws to the operating position before operating the machine.

W-2808-0909

Block the wheels to prevent the machine from rolling.

Releasing The Parking Brake Discs

The brakes are engaged by spring pressure and released by hydraulic pressure. The park brake must be released manually before towing. Only the front axle has brakes.

The following procedure describes how to release the brakes:

Figure 10-40-1

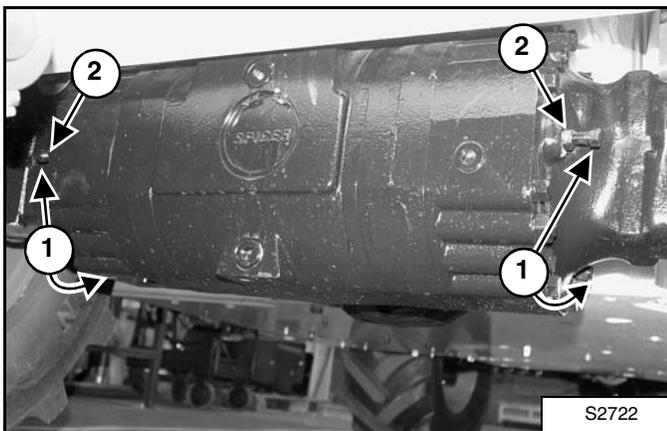
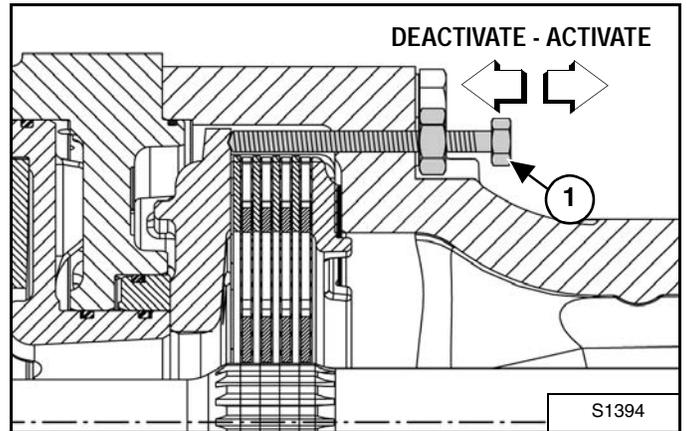


Figure 10-40-2



At each end of the central part of the front axle are two bolts (see (Item 1) [Figure 10-40-1] and (Item 1) [Figure 10-40-2]). When screwed in, these bolts will remove the spring pressure that engages the brake disks.

[Figure 10-40-2] shows the function of such a bolt inside the axle.

The work will first be carried out on the two bolts on one side of the front axle then the two bolts on the other side:

Loosen the locking nuts (Item 2) [Figure 10-40-1] of the bolts and create some clearance for the bolts.

Turn the two bolts (Item 1) [Figure 10-40-1] IN, 1/4 turn at a time, alternating between the two bolts until the bolts are firmly seated.

Repeat this on the two opposite side bolts on the front axle.

The brakes are now released for towing the vehicle.

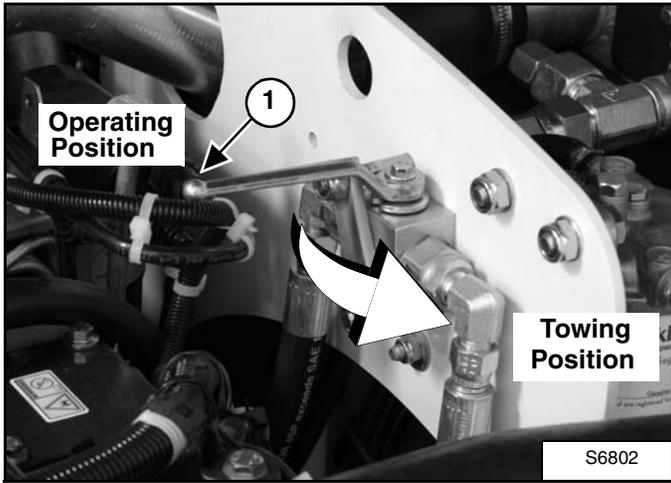
Please note that the vehicle will not be able to brake until the bolts are returned to their original position.

TOWING THE VERSAHANDLER (CONT'D)

Engaging Brake Disks

Procedure (Cont'd)

Figure 10-40-3



Raise the engine cover.

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

Tow the VersaHANDLER at a slow speed.

! WARNING

UNEXPECTED MACHINE MOVEMENT CAN CAUSE SERIOUS INJURY OR DEATH

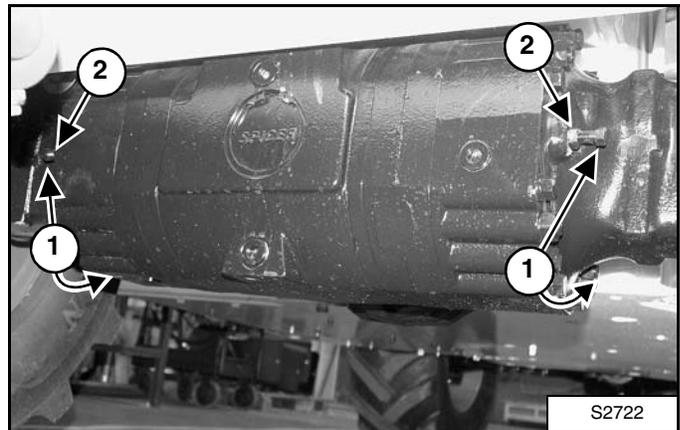
- Block wheels to prevent roll away before adjusting screws to bypass the park brake system.
- Return adjustment screws to the operating position before operating the machine.

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Block the wheels to prevent the machine from rolling.

After towing is completed, turn the tow valve (Item 1) [Figure 10-40-3] clockwise 90° to the OPERATING POSITION.

Figure 10-40-4



To reactivate the park brake, release the 4 bolts (see (Item 1) [Figure 10-40-4] on the front axle to their original position (turn the two bolts out, 1/4 turn at a time, until no resistance can be felt. Repeat this procedure for the opposite side two bolts).

Make sure that all 4 bolts have been turned out until they can easily be loosened by hand. Tighten the locking nuts (Item 2) [Figure 10-40-4].

This will allow the park brake piston to be active again.

SERVICE SCHEDULE

Chart

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 VersaHANDLER.



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.

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SERVICE SCHEDULE		HOURS					
ITEM	SERVICE REQUIRED	10	50	100	250	500	[5] 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 multipurpose 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 and Bolts	Check for loose nuts and bolts. Tighten as needed.						
Seat Belt	Check the condition of the seat belt.						
Brakes	Check for function. Service as necessary.						
Back-up Alarm (if equipped)	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.						
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.) Check cooling system for leaks.						
King Pins, Axle Oscillation (Front/Rear), Attach. Frame Pivot(s), Tilt/Lift Cyl., Boom Pivot, Levelling Cyl (if equipped).	Lubricate with multipurpose lithium based grease.						
Telescopic Boom Slide	Lubricate with multipurpose lithium based grease. Check wear blocks for adjustment or replacement.						
Hydraulic Hoses, Tubelines and 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.-lb. (300 N•m)].	[1]					
Boom Chain	Check and apply chain lubricant as needed. Check chain tension and wear. Adjust or replace as necessary.						
Alt. & Air Cond. Belt (if equipped)	Check belt tension and adjust as needed.		[2]				
Door hinges	Lubricate door hinges with multipurpose lithium based grease.						
Engine Oil and Filter	Replace the engine oil and filter. See SPECIFICATIONS for correct capacity. Use a genuine Bobcat filter.		[2]				
Engine Air Filter	Replace the outer filter element. Use a genuine Bobcat filter.		[2]				
Fuel Filter, secondary	Replace the secondary fuel filter element. Use a genuine Bobcat filter.		[2]				
Fuel Filter, primary	Replace the primary fuel filter (pre-filter) element. Use a genuine Bobcat filter.		[2]				
Hydraulic Fluid Filter	Replace the hydraulic filter element. Use a genuine Bobcat filter.		[2]				
Hydraulic Tank Breather	Replace the hydraulic tank breather.						
Hydraulic Fluid and Filter	Replace the hydraulic fluid and filter element. See SPECIFICATIONS.						
Front and Rear Axle Fluid	Replace the axle fluid. See SPECIFICATIONS.			[3]		[4]	
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.						
Engine valve lash	Check and adjust as needed.						
Stabilizers (If Equipped): Cylinders and pivots	Lubricate with multipurpose lithium based grease.						
Engine Coolant	Check freeze protection of antifreeze -34°F (-30°C). Flush cooling system and replace with premixed coolant	Every 2 years					

[1] Check wheel nut torque every 8 hours for the first 24 hours.

[2] Perform service first time, then as indicated in chart.

[3] Check level.

[4] Replace fluid first time, then as indicated in chart.

[5] Or every 12 months.



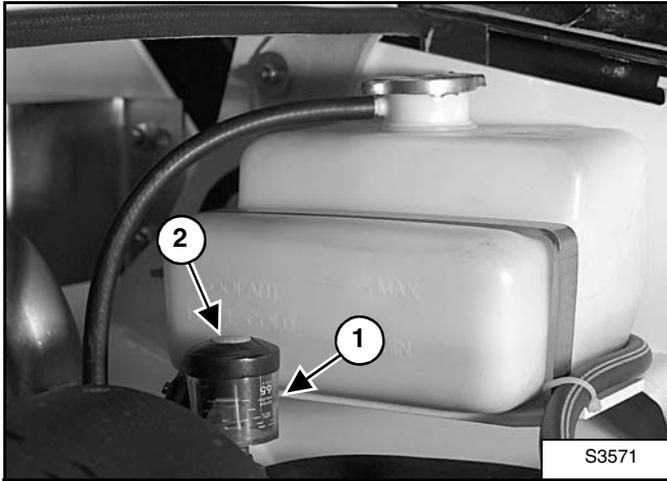
Bobcat®

AIR CLEANER SERVICE

Replacing Filter Element(s)

Outer Filter

Figure 10-60-1

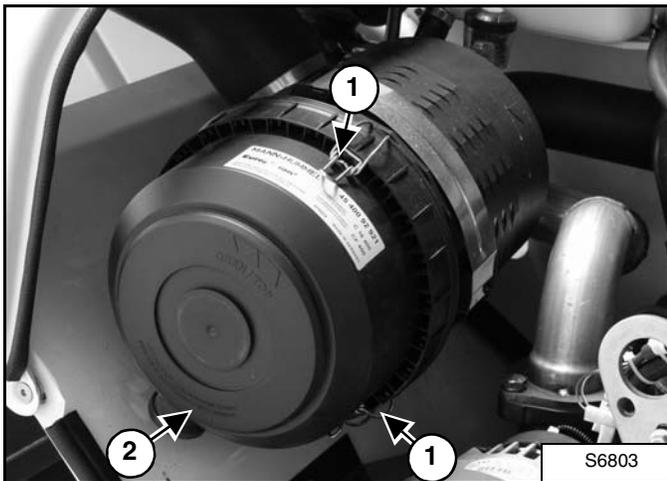


Replace the large (outer) filter element only when the red ring shows in the window of the condition indicator (Item 1) [Figure 10-60-1].

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.

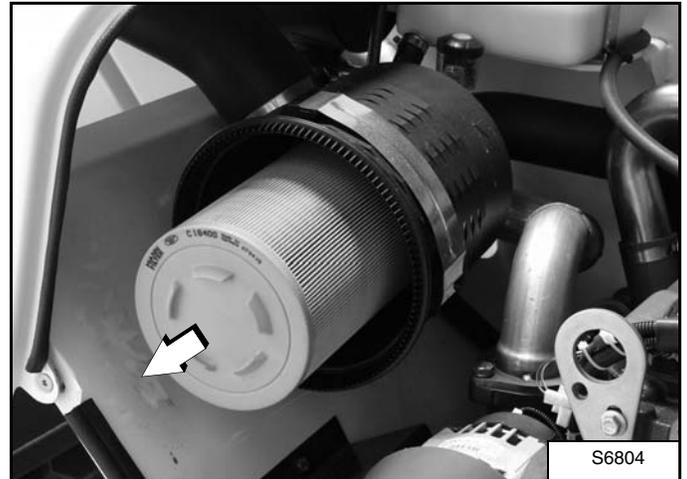
Figure 10-60-1



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

Release the fastener and remove the cover (Item 2) [Figure 10-60-1].

Figure 10-60-2



Pull the element straight out [Figure 10-60-2].

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

Install a new outer element.

Install the dust cover and fasten [Figure 10-60-1].

Connect the filter housing clamps.

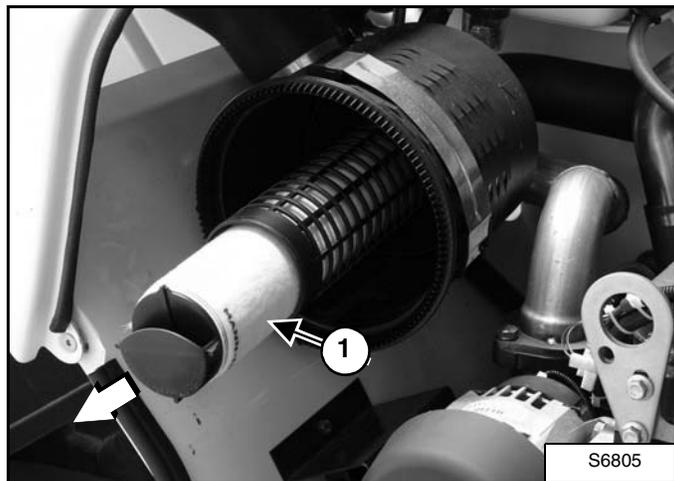
Product 2010 Bobcat V638 VersaHANDLER Service Repair Workshop Manual
Full Download: <https://www.arepairmanual.com/downloads/2010-bobcat-v638-versahandler-service-repair-workshop-manual/>
AIR CLEANER SERVICE (CONT'D)
Replacing Filter Element (Cont'd)

Inner Filter

Remove the outer element.

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

Figure 10-60-3



Remove the inner filter (Item 1) [Figure 10-60-3] and install a new element.

Install the outer element.

Install the dust cover and fasten [Figure 10-60-1].

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