

# V518



# Bobcat®

## VersaHANDLER

# Service Manual

S/N 367012501 & Above  
S/N 367311001 & Above



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# MAINTENANCE SAFETY

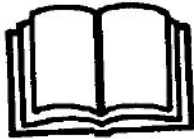


## WARNING

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



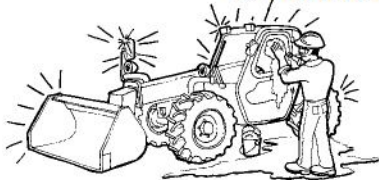
B-10731a

⚠ Never service the Bobcat 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.

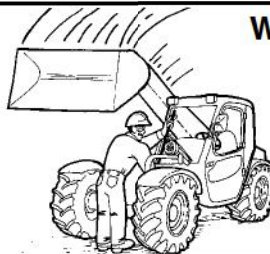
### CORRECT



B-16082

⚠ Cleaning and maintenance are required daily.

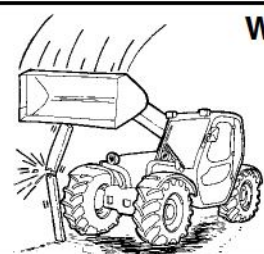
### WRONG



B-16080

⚠ Disconnecting or loosening any hydraulic tube, 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.

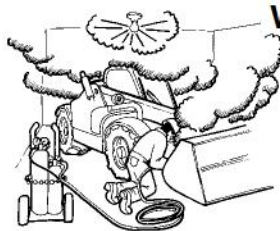
### WRONG



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.

MSW12-0805

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**SAFETY &  
MAINTENANCE**

**HYDRAULIC  
SYSTEM**

**HYDROSTATIC  
SYSTEM**

**DRIVE  
SYSTEM**

**MAIN FRAME**

**ELECTRICAL  
SYSTEM &  
ANALYSIS**

**ENGINE  
SERVICE**

**HVAC**

**SPECIFICATION**

# 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.



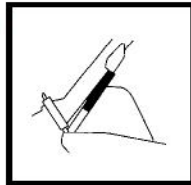
2. Check that ROPS mounting hardware is tightened and is Bobcat approved.



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



4. Check boom support device, replace if damaged.



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



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



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.



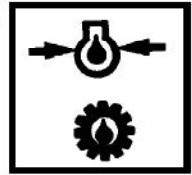
10. Attachment locking pins must function correctly and be in good condition.



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.



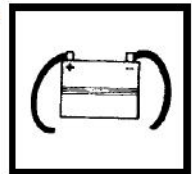
14. Inspect for fuel, oil or hydraulic fluid leaks.



15. Lubricate the VersaHANDLER.

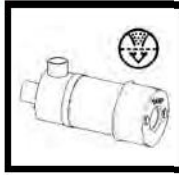


16. Check the condition of the battery and cables.

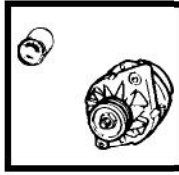


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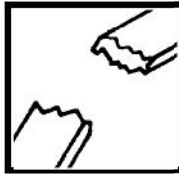
17. Inspect the air cleaner for damage or leaks. Check the condition of the element.



18. Check the electrical charging system.



19. Inspect for loosen or broken parts or connections.



20. Operate the VersaHANDLER 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.



23. Check that LORS™ is in good condition and is not modified.



**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.

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## 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



## WARNING

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

W-2044-1285

## IMPORTANT

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 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](http://www.training.bobcat.com) or [www.bobcat.com](http://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](http://www.training.bobcat.com) or [www.bobcat.com](http://www.bobcat.com).

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V518 VersaHANDLER  
Service Manual



## SAFETY INSTRUCTIONS (CONT'D)

### Fire Prevention

The machine and attachments have components that are at high temperature 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.

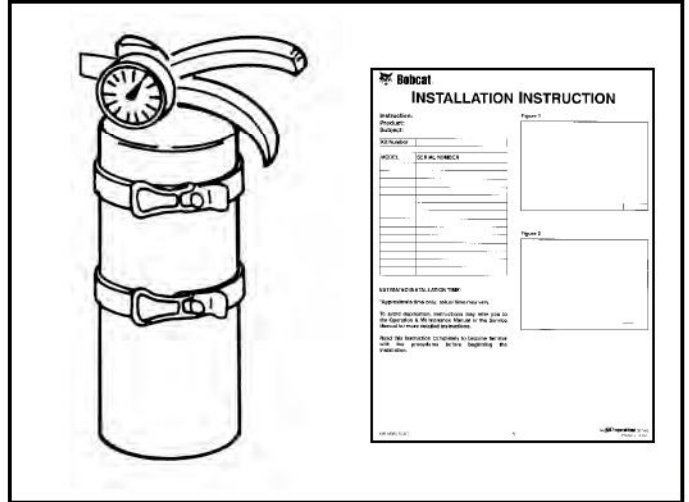
Flammable debris (leaves, straw, etc.) must be removed regularly. If flammable debris is allowed to accumulate, it will increase fire hazard. Clean often to avoid this accumulation. Flammable debris in the engine compartment is a potential hazard.

The spark arrestor muffler 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.

- 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 hazard 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. These starting aids can cause explosion and injure you or bystanders.
- Always clean the machine, disconnect the battery, and disconnect the wiring from the 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 a 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.
- Use the procedure in the Operation & Maintenance Manual for cleaning the spark arrestor muffler (if equipped).

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 [Figure 1].

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## SERIAL NUMBER LOCATIONS

Always use the serial number of the VersaHANDLER 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.

### VersaHANDLER Serial Number

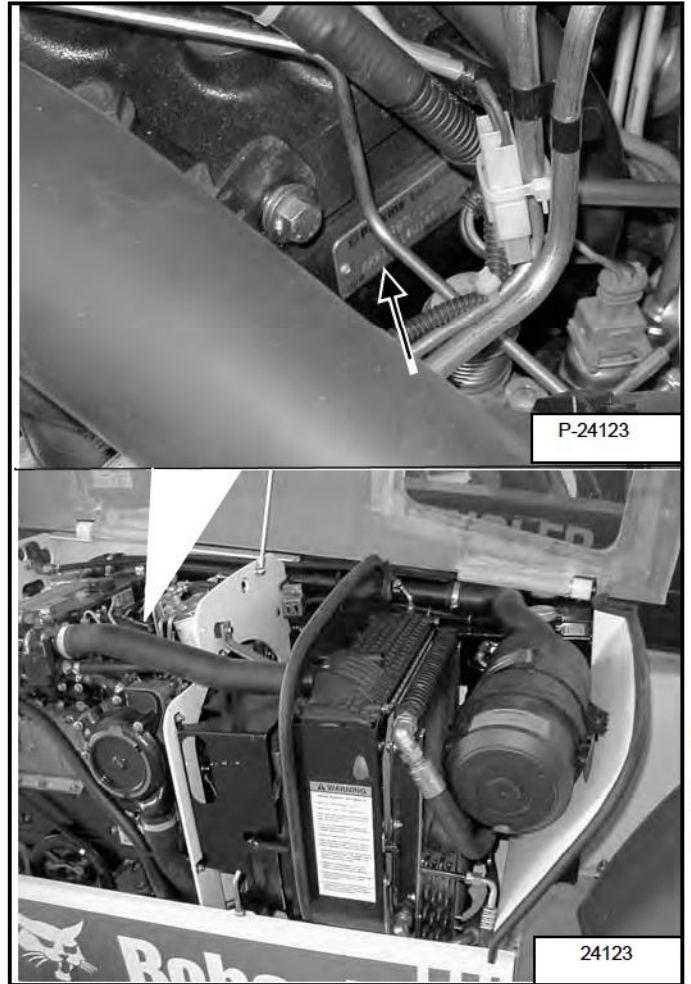
Figure 2



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

### Engine Serial Number

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.

### Other Serial Numbers

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

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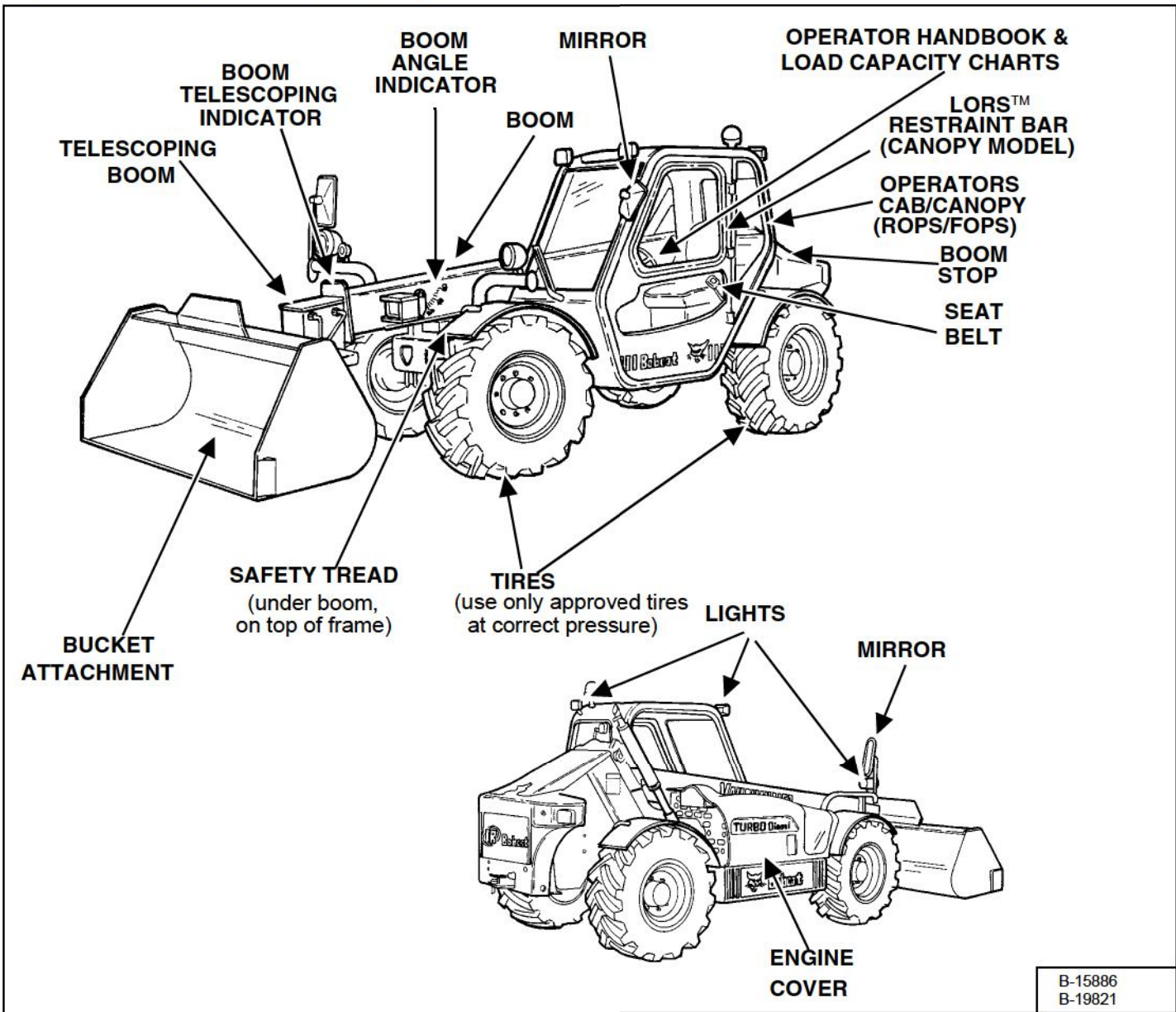
## DELIVERY REPORT

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 4].

Figure 4

B-16315

## BOBCAT VersaHANDLER IDENTIFICATION



B-15886  
B-19821

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## SAFETY AND MAINTENANCE

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**SAFETY &  
MAINTENANCE**

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## LIFTING AND BLOCKING THE VERSAHANDLER

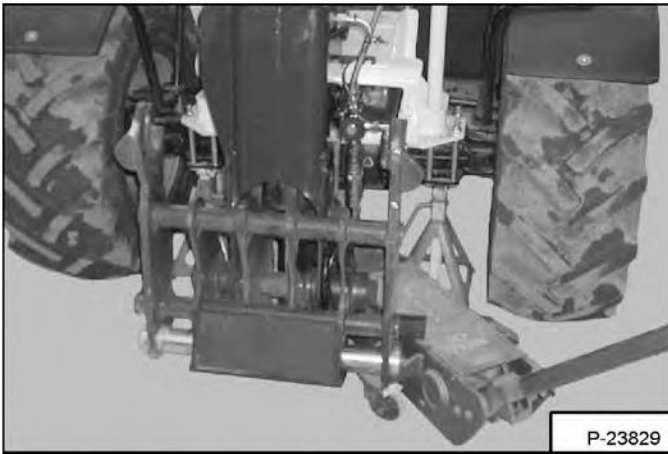
### Procedure



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].

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