

T300

TURBO

T300

TURBO

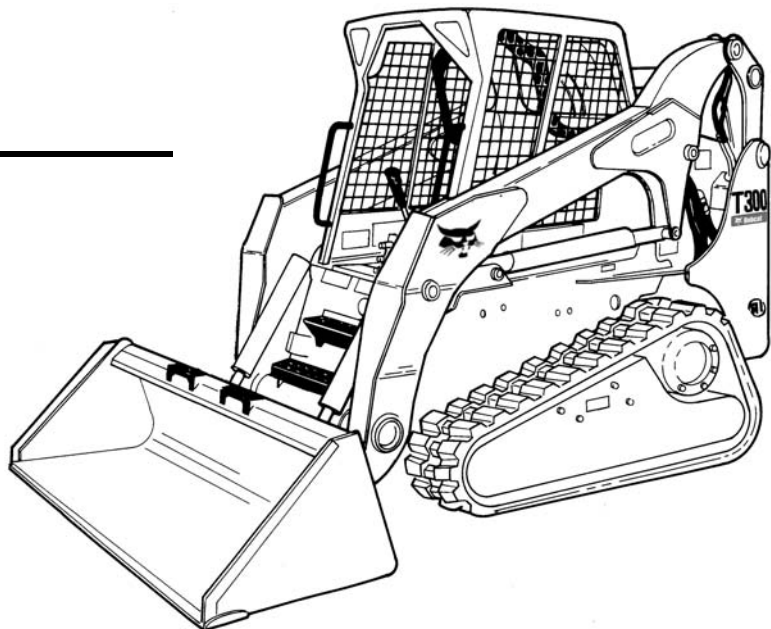
HIGH FLOW



Bobcat®

Service Manual

S/N 525411001 & Above
S/N 525511001 & Above



EQUIPPED WITH
BOBCAT INTERLOCK
CONTROL SYSTEM (BICS™)

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**SAFETY &
MAINTENANCE**

**HYDRAULIC
SYSTEM**

**HYDROSTATIC
SYSTEM**

**DRIVE
SYSTEM**

MAIN FRAME

**ELECTRICAL
SYSTEM &
ANALYSIS**

**ENGINE
SERVICE**

HVAC

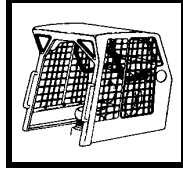
SPECIFICATIONS

FOREWORD

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

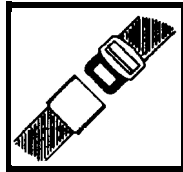
1. Check that the ROPS/FOPS (Including side screens) is in good condition and is not modified.



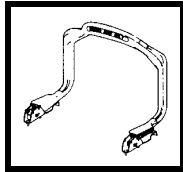
2. Check that ROPS mounting hardware is tightened and is Bobcat approved.



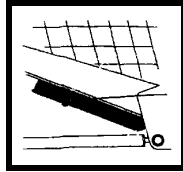
3. The seat belt must be correctly installed, functional and in good condition.



4. The seat bar must be correctly adjusted, clean and lubricated.



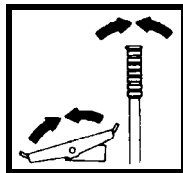
5. Check lift arm support device, replace if damaged.



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



7. Steering levers and foot pedals must return to neutral.



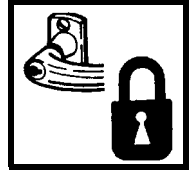
8. Check for correct function of the work lights



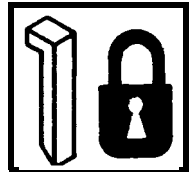
9. The parking brake must function correctly.



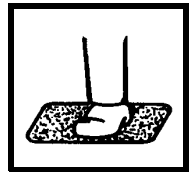
10. Enclosure door latches must open and close freely.



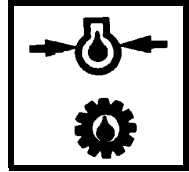
11. Bob-Tach wedges and linkages must function correctly and be in good condition.



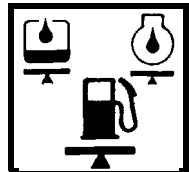
12. Safety treads must be in good condition.



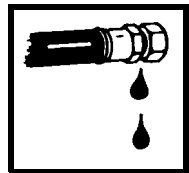
13. Check for correct function of indicator lamps (Optional on some models).



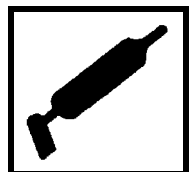
14. Check hydraulic fluid level, engine oil level and fuel supply.



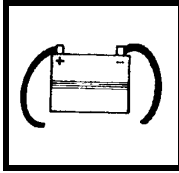
15. Inspect for fuel, oil or hydraulic fluid leaks.



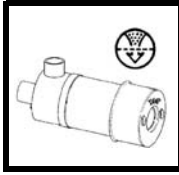
16. Lubricate the loader.



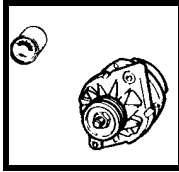
17. Check the condition of the battery and cables.



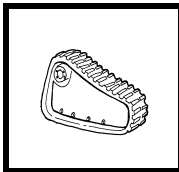
18. Inspect the air cleaner for damage or leaks. Check the condition of the element.



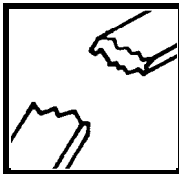
19. Check the electrical charging system.



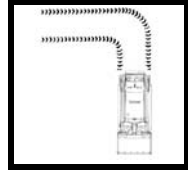
20. Check tracks for wear and tension.



21. Inspect for loose or broken parts or connections.



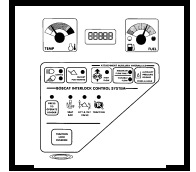
22. Operate the loader and check all functions.



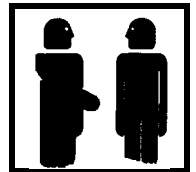
23. Check for any field modification not completed.



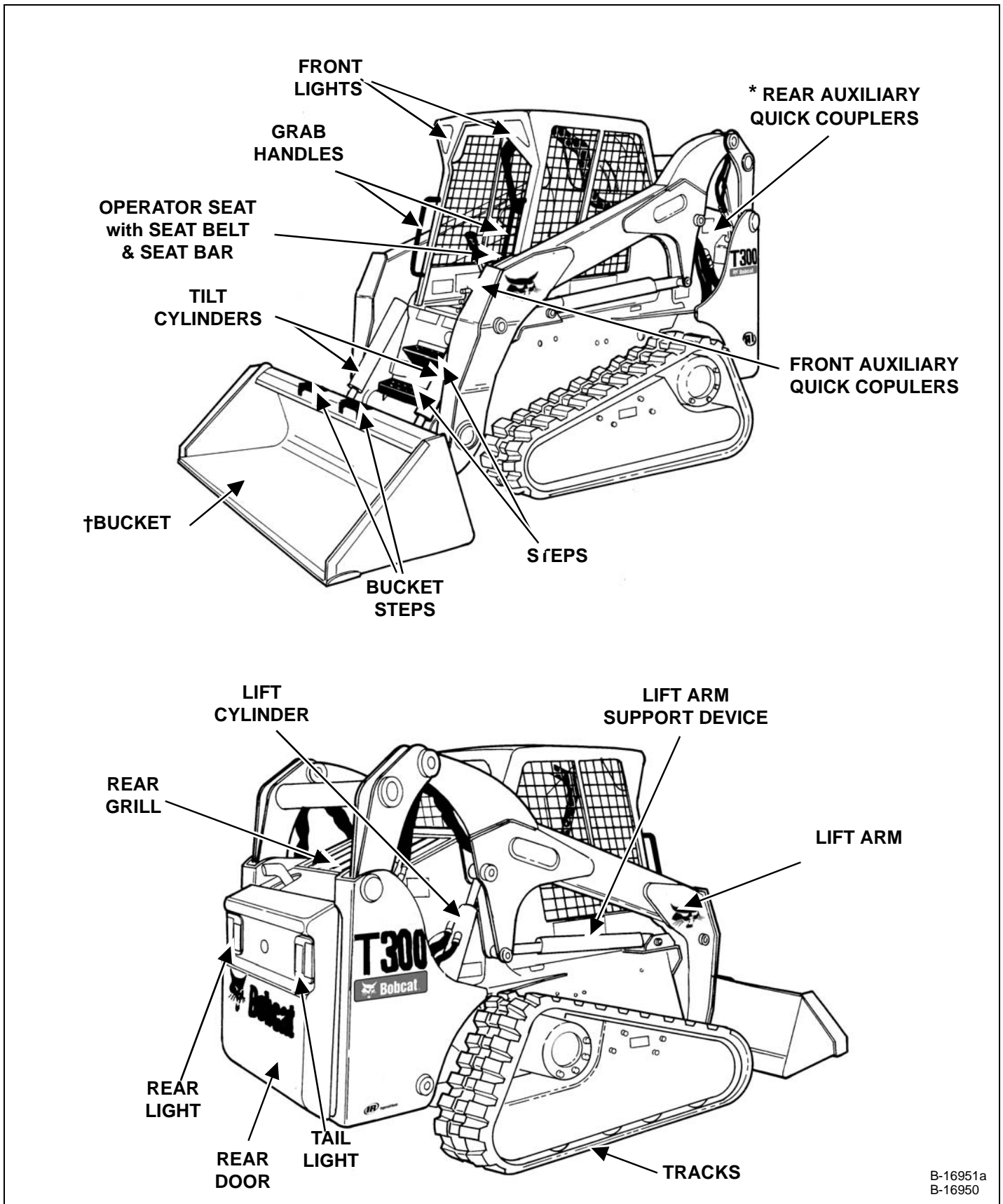
24. Check for correct function of the Bobcat Interlock Control System (BICST™) before the machine is returned to the customer.



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



LOADER IDENTIFICATION



B-16951a
B-16950

* Option or Field Accessory

† Many buckets and other attachments are available.

SAFETY AND MAINTENANCE

SAFETY & MAINTENANCE

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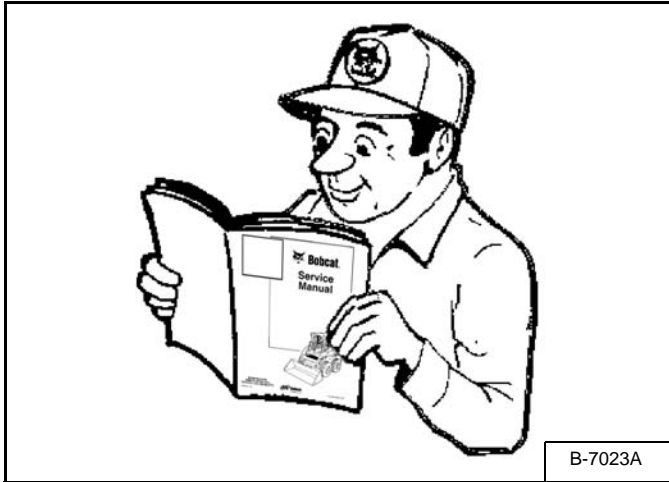
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TIGHTEN ALL HARDWARE PER SIZE TO GRADE 5 TORQUE (SEE STANDARD TORQUE SPECIFICATIONS FOR BOLTS, SECTION SPEC-01) UNLESS OTHERWISE SPECIFIED.

LIFTING AND BLOCKING THE LOADER

Procedure

Figure 10-10-1



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

Read the Removal & Installation, Disassembly & Assembly, etc. completely to become familiar with the procedure before beginning [Figure 10-10-1].

Always park the loader on a level surface.



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 10-10-2



Lift the rear of the loader and install jackstands [Figure 10-10-2].

Figure 10-10-3



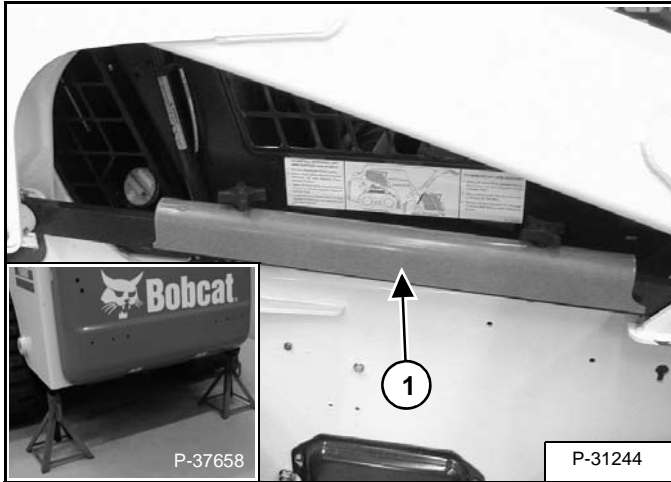
Lift the front of the loader and put jackstands under the axle tubes [Figure 10-10-3].

NOTE: Make sure the jackstands do not touch the tracks.

LIFT ARM SUPPORT DEVICE

Installing The Lift Arm Support Device

Figure 10-20-1



WARNING


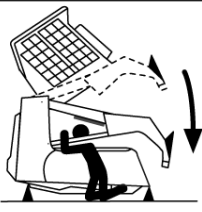
Never work on a machine with the lift arms up unless the lift arms are secured by an approved lift arm support device. Failure to use an approved lift arm support device can allow the lift arms or attachment to fall and cause injury or death.

W-2059-0598

WARNING

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

W-2271-1197

 DANGER	
AVOID DEATH <ul style="list-style-type: none">• Disconnecting or loosening any hydraulic tubeline, hose, fitting, component or a part failure can cause lift arms to drop.• Keep out of this area when lift arms are raised unless supported by an approved lift arm support. Replace if damaged. <small>67116 SW 6717343A enUS</small>	

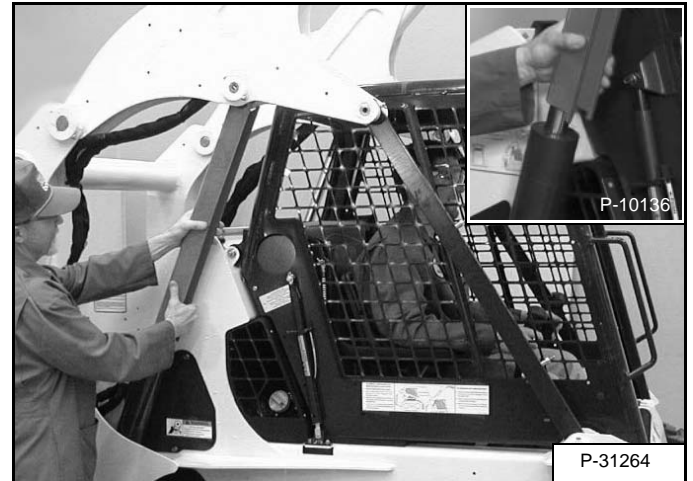
Put jackstands under the rear corners of the loader frame (Inset) [Figure 10-20-1].

Remove the lift arm support device (Item 1) [Figure 10-20-1] from the storage position.

The operator must stay in the operator seat with the seat belt fastened and the seat bar lowered, until the lift arm support device is installed.

Start the engine and raise the lift arms all the way up.

Figure 10-20-2



Have a second person install the lift arm support device over the rod of one of the lift cylinders [Figure 10-20-2].

The lift arm support device must be tight against the cylinder rod. The tabs of the lift arm support device must be under the cylinder as shown (Inset) [Figure 10-20-2].

LIFT ARM SUPPORT DEVICE (CONT'D)

Installing The Lift Arm Support Device (Cont'd)

Figure 10-20-3



Lower the lift arms slowly until the lift arm support device is held between the lift arms and lift cylinder [Figure 10-20-3].

Removing The Lift Arm Support Device

The operator must be in the operator's seat, with the seat belt fastened and seat bar lowered, until the lift arm support device is removed and the lift arms are lowered all the way.

Start the engine, raise the lift arms all the way up.

Have a second person remove the lift arm support device.

Lower the lift arms all the way and stop the engine.

Return the lift arm support device to storage position and secure with clamping knobs.

Remove the jackstands.

OPERATOR CAB

Description

The Bobcat loader has an operator cab (ROPS and FOPS) as standard equipment to protect the operator from rollover and falling objects. Check with your dealer if the operator cab has been damaged. 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, Level I. Level II is available.

Level I - Protection from falling bricks, small concrete blocks, and hand tools encountered in operations such as highway maintenance, landscaping, and other construction site services.

Level II - Protection from falling trees, rocks; for machines involved in site clearing, overhead demolition or forestry.

Raising The Operator Cab

Figure 10-30-1

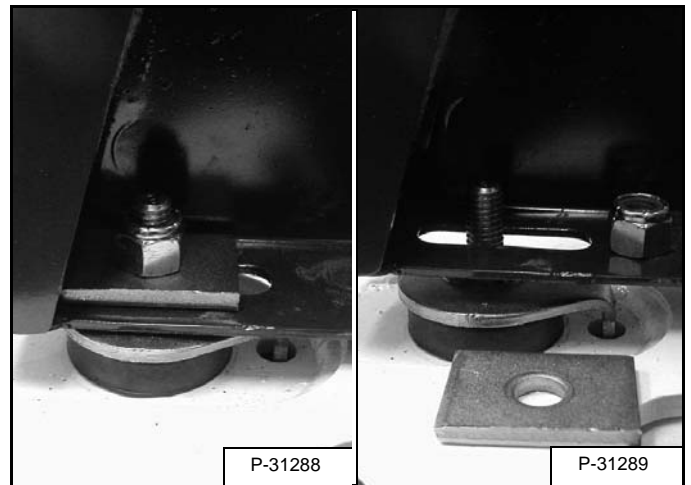


Always stop the engine before raising or lowering the cab.

Stop the loader on a level surface. Lower the lift arms. If the lift arms must be up while raising the operator cab, install the lift arm support device. (See Installing The Lift Arm Support Device on Page 10-20-1.)

Install jackstands under the rear of the loader frame [Figure 10-30-1].

Figure 10-30-2



Loosen the nut (both sides) at the front corner of the operator cab [Figure 10-30-2].

Remove the nuts and plates [Figure 10-30-2] (both sides).

Figure 10-30-3



Lift on the grab handle and bottom of the operator cab slowly until the cab is all the way up and the latching mechanism engages [Figure 10-30-3].

OPERATOR CAB (CONT'D)

Raising The Operator Cab (Cont'd)

Advanced Hand Control Only

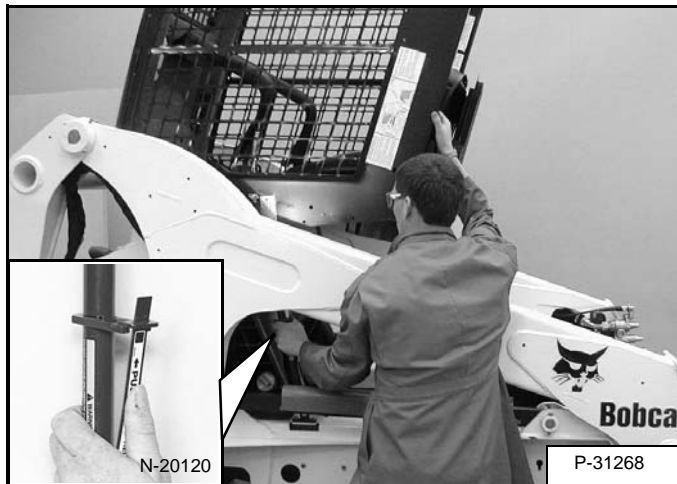


Never modify operator cab by welding, grinding, drilling holes or adding attachments unless instructed to do so by Bobcat. Changes to the cab can cause loss of operator protection from rollover and falling objects, and result in injury or death.

W-2069-1299

Lowering The Operator Cab

Figure 10-30-4



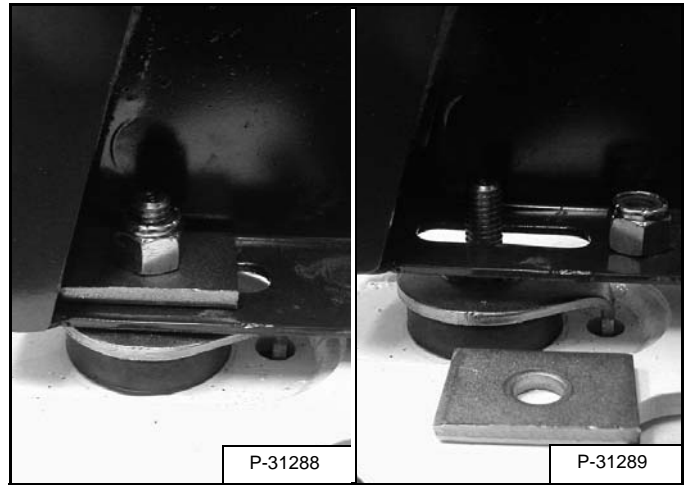
Always stop the engine before raising or lowering the cab.

NOTE: Make sure the seat bar is fully raised or lowered when lowering the cab. Always use the grab handles to lower the cab.

Pull down on the bottom of the operator cab until it stops at the latching mechanism [Figure 10-30-4].

Release the latching mechanism (Inset) [Figure 10-30-4] and pull the cab all the way down.

Figure 10-30-5



Install the plates and nuts [Figure 10-30-5] (both sides).

Tighten the nuts to 40-50 ft.-lb. (54-68 N•m) torque.

Emergency Exit

Figure 10-30-6



The front opening on the operator cab and rear window provide exits.

REAR WINDOW (If Equipped)

Pull on the tag on the top of the rear window to remove the rubber cord [Figure 10-30-6].

OPERATOR CAB (CONT'D)

Emergency Exit (Cont'd)

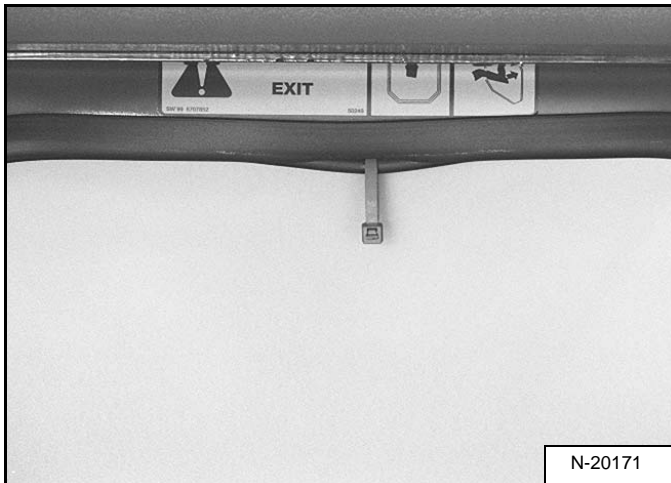
Figure 10-30-7



Push the rear window out of the rear of the operator cab.

Exit through the rear of the operator cab [Figure 10-30-7].

Figure 10-30-8



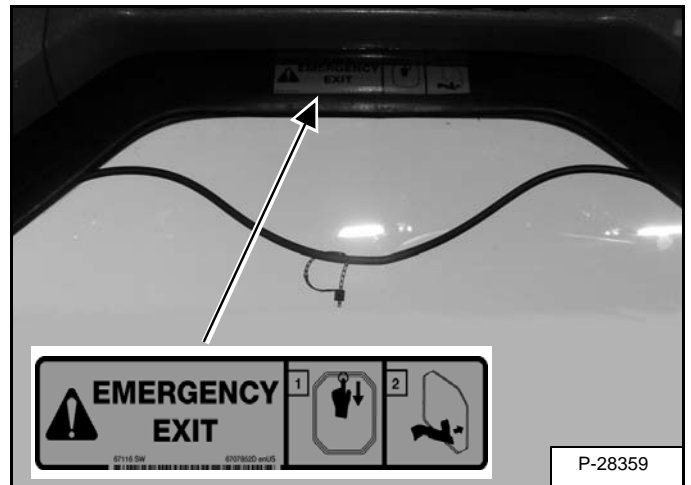
FRONT DOOR (If Equipped)

NOTE: When an Operator Cab Enclosure Kit is installed, the window of the front door can be used as an emergency exit [Figure 10-30-8].

NOTE: When the special applications kit is installed, the front door cannot be used for an emergency exit.

Pull the plastic loop at the top of the window in the front door to remove the rubber cord [Figure 10-30-8].

Figure 10-30-9



Push the window out with your foot [Figure 10-30-9] at any corner of the window.

Exit through the front door.

TRANSPORTING THE BOBCAT LOADER

Procedure

Figure 10-40-1



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.

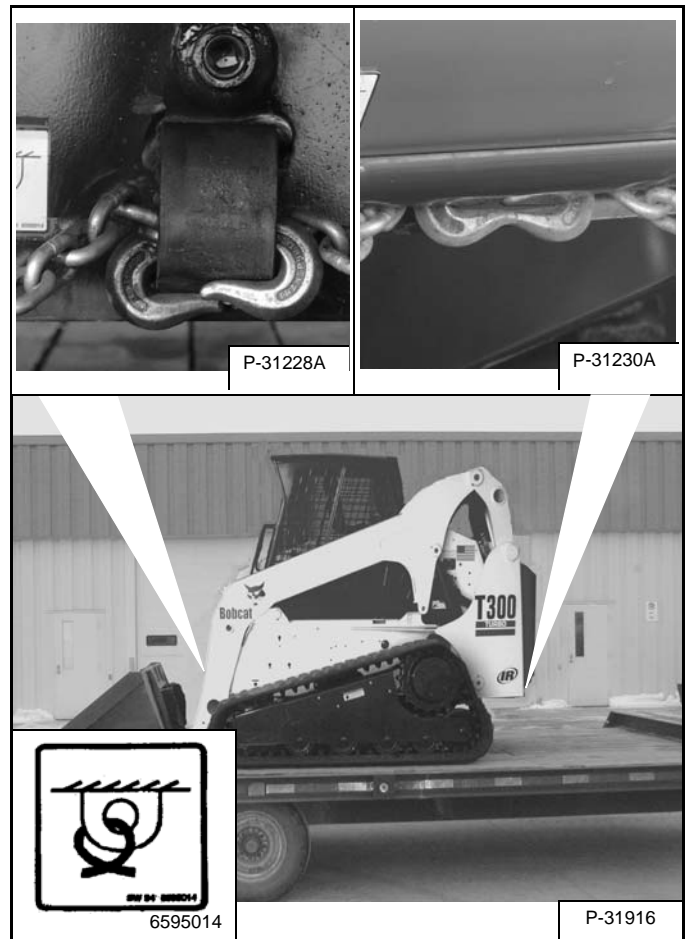
W-2058-0494

A loader with an empty bucket or no attachment must be loaded backward onto the transport vehicle [Figure 10-40-1].

Be sure the transport and towing vehicles are of adequate size and capacity (See Capacities on Page SPEC-10-4.).

The rear of the trailer must be blocked or supported [Figure 10-40-1] when loading or unloading the loader to prevent the front end of the trailer from raising up.

Figure 10-40-2



Use the following procedure to fasten the Bobcat loader to the transport vehicle to prevent the loader from moving during sudden stops or when going up or down slopes [Figure 10-40-2].

- Lower the bucket or attachment to the floor.
- Stop the engine.
- Engage the parking brake.
- Install chains at the front and rear loader tie down positions (Inset) [Figure 10-40-2].
- Fasten each end of the chain to the transport vehicle.

TOWING THE LOADER

Procedure

Because of the design of the loader, there is not a recommended towing procedure.

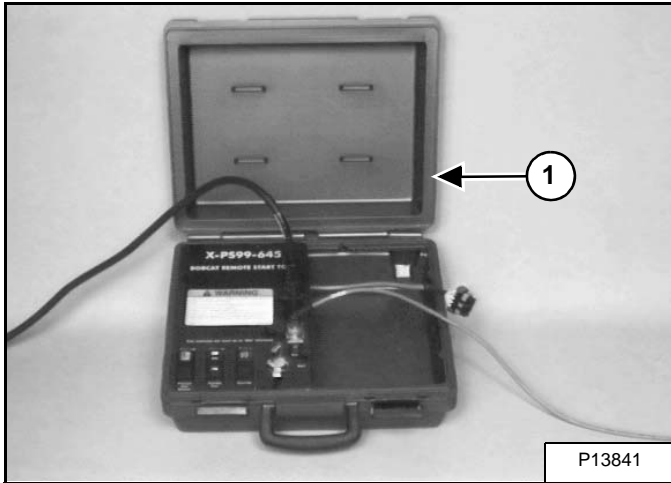
- The loader can be lifted onto a transport vehicle.
- The loader can be skidded a short distance to move for service (EXAMPLE: Move onto a transport vehicle.) without damage to the hydrostatic system. (The tires/tracks will not turn.) There might be slight wear to the tires/tracks when the loader is skidded.

The towing chain (or cable) must be rated at 1 & 1/2 times the weight of the loader. (See LOADER SPECIFICATIONS (T300) on Page SPEC-10-1.)

REMOTE START

Procedure For Loader W/O Attachments Control Harness

Figure 10-60-1



The tool listed will be need to do the following procedure:

MEL1563 - Remote Start Tool Kit

The remote start (Item 1) [Figure 10-60-1] is required when the operator cab is in the raised position for service and the service technician needs to turn the key switch on or start the engine. Example: adjusting the steering linkage.

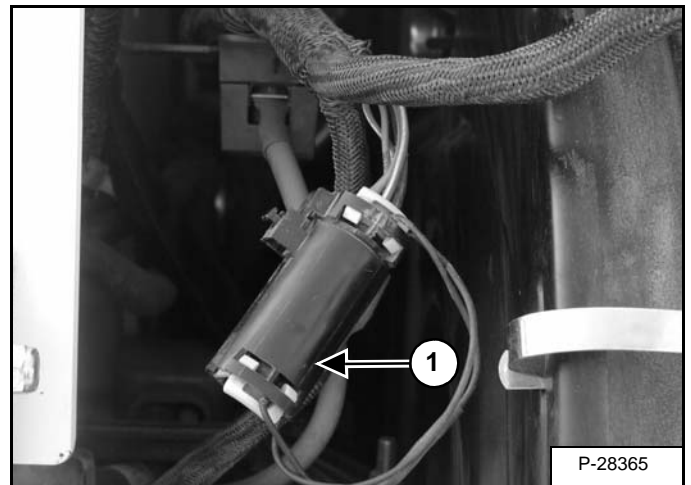
Lift and block the loader. (See Procedure on Page 10-10-1.)

Raise the lift arms (if required by the procedure) and install an approved lift arm support device. (See Installing The Lift Arm Support Device on Page 10-20-1.)

Raise the operator cab (if required by the procedure). (See Raising The Operator Cab on Page 10-30-1.)

Open the rear door of the loader.

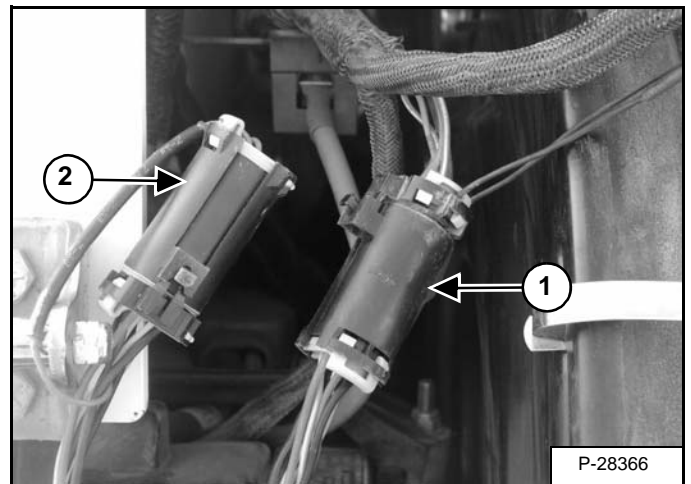
Figure 10-60-2



Remove the cap (Item 1) [Figure 10-60-2] from the loader harness.

When the remote start procedure is completed, replace the loader connector cap (Item 1) [Figure 10-60-2].

Figure 10-60-3



Connect the remote start tool to the engine harness connector (Item 1) [Figure 10-60-3].

The connector (Item 2) [Figure 10-60-3] from the remote start harness is not used in the remote start procedure and should remain capped.

NOTE: The key switch on the right-hand side operator panel must be in the off position or the Remote Start Kit will not operate.

REMOTE START (CONT'D)

Procedure For Loader W/O Attachments Control Harness (Cont'd)

⚠ WARNING

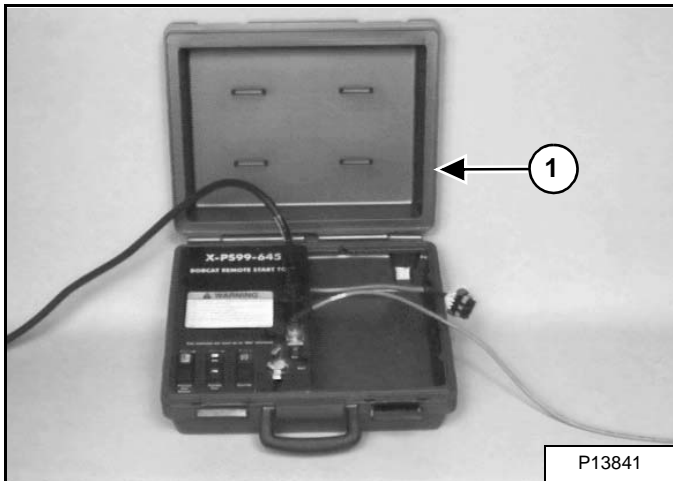
AVOID INJURY OR DEATH

With the 7-pin connector plugged into the loader and the Remote Start Key Switch in the OFF position, the loader can still be started from the operator panel inside the cab. Placing the key switch of the remote start tool in the run position disconnects the operator panel key switch from the start circuit. If the service technician will be working in the engine area it is important to remove the operator panel keys.

W-2357-0899

Procedure For Loader With Attachments Control Harness

Figure 10-60-4



The tool listed will be need to do the following procedure:

MEL1563 - Remote Start Tool Kit

The remote start (Item 1) [Figure 10-60-4] is required when the operator cab is in the raised position for service and the service technician needs to turn the key switch on or start the engine. Example: adjusting the steering linkage.

Lift and block the loader. (See Procedure on Page 10-10-1.)

Raise the lift arms (if required by the procedure) and install an approved lift arm support device. (See Installing The Lift Arm Support Device on Page 10-20-1.)

Raise the operator cab (if required by the procedure). (See Raising The Operator Cab on Page 10-30-1.)

Open the rear door of the loader.

Figure 10-60-5

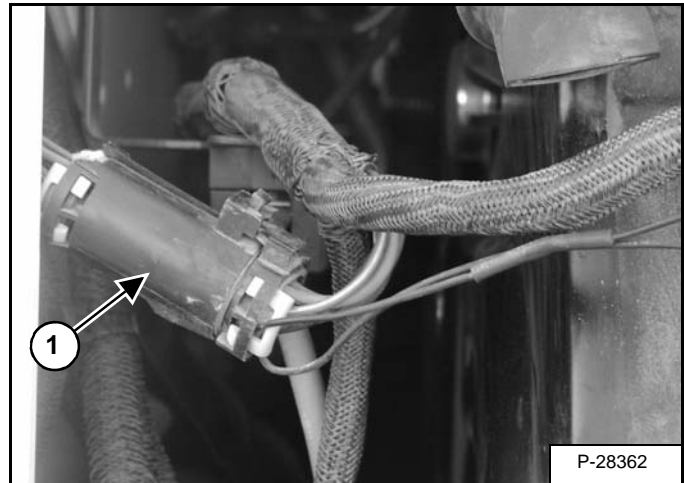
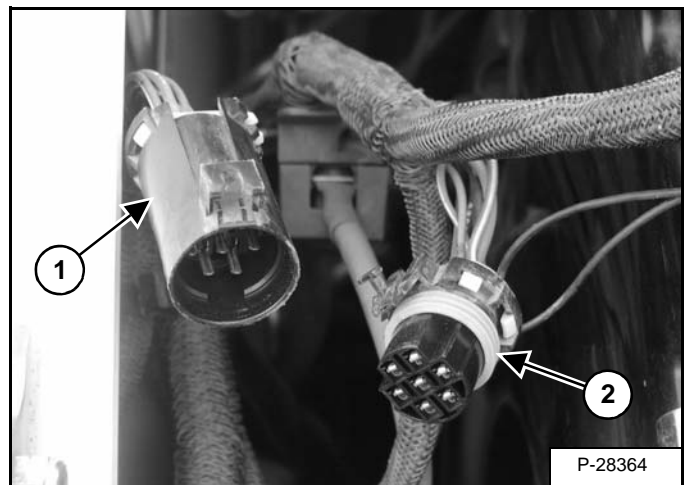


Figure 10-60-6

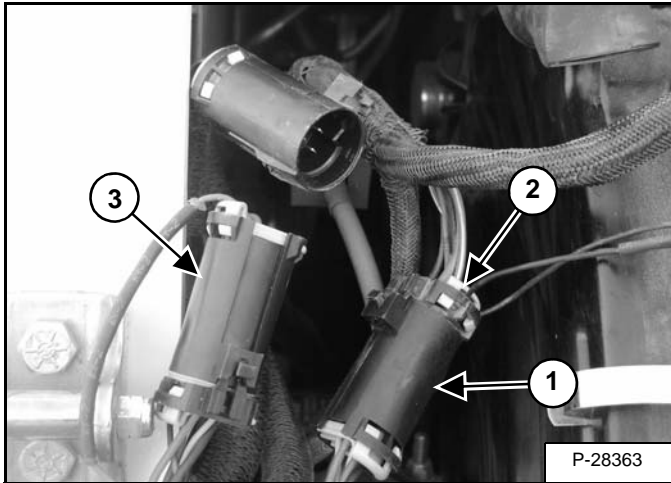


Disconnect the attachment control harness (Item 1) [Figure 10-60-5] & [Figure 10-60-6] from the loader harness (Item 2) [Figure 10-60-6].

REMOTE START (CONT'D)

Procedure for Loader With Attachments Control Harness (Cont'd)

Figure 10-60-7



Connect the remote start tool (Item 1) [Figure 10-60-7] to the loader harness connector (Item 2) [Figure 10-60-6].

The connector (Item 3) [Figure 10-60-7] on the remote start harness is not used in the remote start procedure and should remain capped.

NOTE: The key switch on the right-hand side operator panel must be in the off position or the Remote Start Kit will not operate.



WARNING

AVOID INJURY OR DEATH

With the 7-pin connector plugged into the loader and the Remote Start Key Switch in the OFF position, the loader can still be started from the operator panel inside the cab. Placing the key switch of the remote start tool in the run position disconnects the operator panel key switch from the start circuit. If the service technician will be working in the engine area it is important to remove the operator panel keys.

W-2357-0899

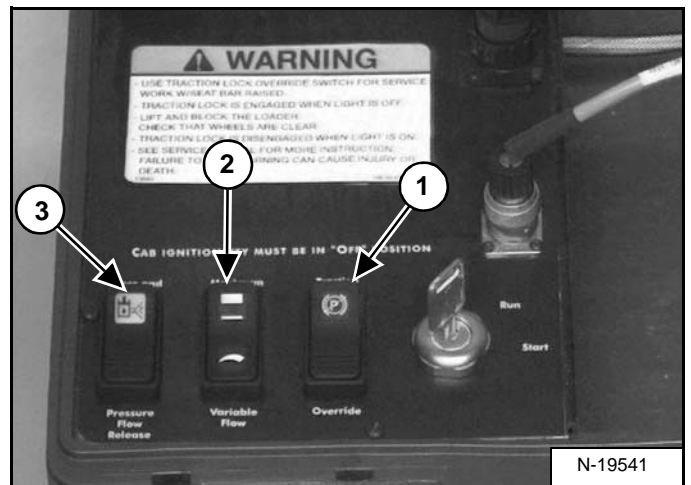
Procedure

Figure 10-60-8



The remote start tool (Item 1) [Figure 10-60-8] has three rocker switches.

Figure 10-60-9



The traction lock switch (Item 1) [Figure 10-60-9] is used to turn traction lock on or off. Push the switch to the override position. The switch will illuminate to indicate traction lock **VERRIDE**, in this position the wheels are able to turn.

The maximum flow/variable flow switch (Item 2) [Figure 10-60-9] is used to activate the auxiliary hydraulics. Pressing the switch once will activate variable flow. Pressing the switch again will activate maximum flow. The switch will illuminate to indicate which flow rate is active. Pressing the switch a third time will turn the flow OFF. The switch is used when checking pressures and flow rate.

The auxiliary pressure release (Item 3) [Figure 10-60-9] is used to release hydraulic pressure to the rear auxiliary couplers, and right hand auxiliary. (If so equipped.) To release pressure; push and hold the switch for three seconds.



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