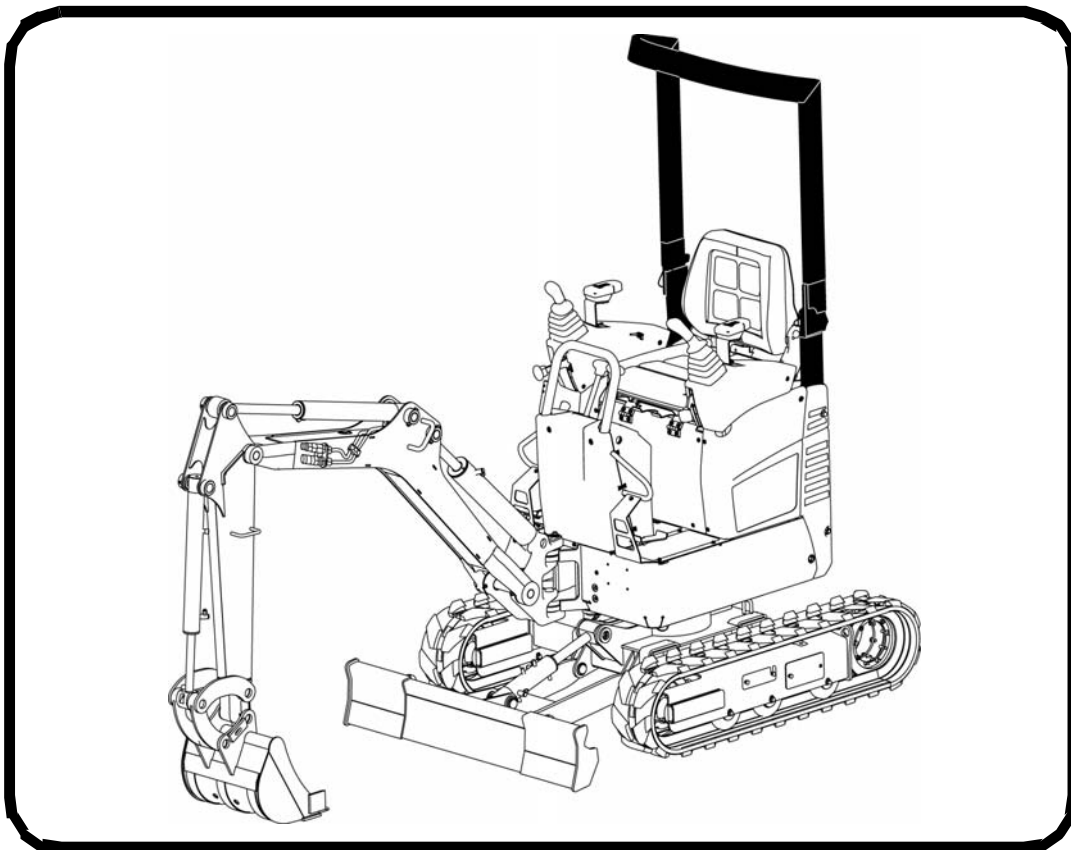




Service Manual

418 Compact Excavator

S/N AB4711001 & Above



Sample of manual. Download All 595 pages at:

<https://www.arepairmanual.com/downloads/2010-bobcat-418-compact-excavator-service-repair-workshop-manuals-n-ab4711001-above/>

Product: 2010 Bobcat 418 Compact Excavator Service Repair Workshop Manual(S/N AB4711001 & Above)
Full Download: <https://www.arepairmanual.com/downloads/2010-bobcat-418-compact-excavator-service-repair-workshop-manuals-n-ab4711001-above/>

Sample of manual. Download All 595 pages at:
<https://www.arepairmanual.com/downloads/2010-bobcat-418-compact-excavator-service-repair-workshop-manuals-n-ab4711001-above/>

MAINTENANCE SAFETY



WARNING

Training is necessary before operating or servicing machine. Read and understand the Operation and Maintenance Manual, Operator's Handbook and signs (stickers) 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



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

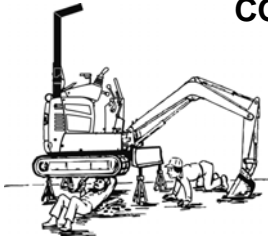
CORRECT



P-90216

⚠ Never service the Bobcat Compact Excavator without instructions.

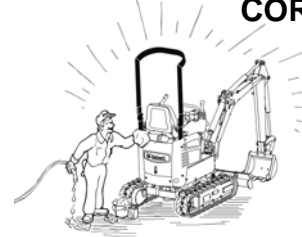
CORRECT



RI075

⚠ Use the correct procedure to lift and support the excavator.

CORRECT



RI072

⚠ Cleaning and maintenance are required daily.

WRONG



RI076

⚠ Have good ventilation when welding or grinding painted parts.
⚠ Wear dust mask when grinding painted parts. Toxic dust and gas can be produced.

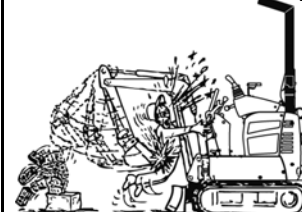
WRONG



RI073

⚠ Vent exhaust to outside when engine must be run for service.
⚠ Exhaust system must be tightly sealed. Exhaust fumes can kill without warning.

WRONG



RI077

⚠ Always lower the bucket and blade to the ground before doing any maintenance.
⚠ Never modify equipment or add attachments not approved by Bobcat Company.

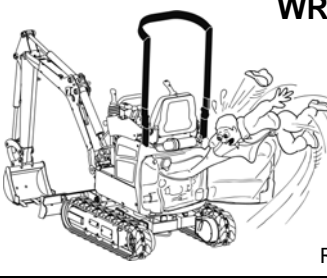
WRONG



RI074

⚠ Stop, cool and clean engine of flammable materials before checking fluids.
⚠ Never service or adjust machine with the engine running unless instructed to do so in the manual.
⚠ Avoid contact with leaking hydraulic fluid or diesel fuel under pressure. It can penetrate the skin or eyes.
⚠ Never fill fuel tank with engine running, while smoking, or when near open flame.

WRONG



RI071

⚠ Keep body, jewellery 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 protections approved for type of welding.
⚠ Keep tailgate closed except for service. Close and latch tailgate before operating the excavator.

WRONG



B-19798

⚠ 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 and Maintenance Manual can be performed by the owner/operator without any specific technical training. Maintenance procedures which are **not** in the Operation and Maintenance Manual must be performed **ONLY BY QUALIFIED BOBCAT SERVICE PERSONNEL**. Always use genuine Bobcat replacement parts.



Bobcat®

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**SAFETY AND
MAINTENANCE**

**HYDRAULIC
SYSTEM**

UNDERCARRIAGE

**UPPERSTRUCTURE
AND SWING
SECTION**

**ELECTRICAL
SYSTEM AND
ANALYSIS**

**ENGINE
SERVICE**

SPECIFICATIONS

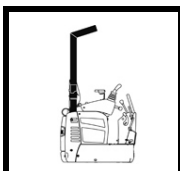


FOREWORD

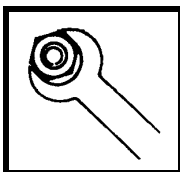
This manual is for the Bobcat excavator mechanic. It provides necessary servicing and adjustment procedures for the Bobcat excavator and its component parts and systems. Refer to the Operation & Maintenance Manual for operating instructions, starting procedure, daily checks, etc.

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

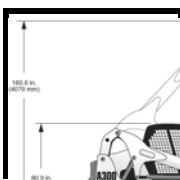
1. Check that the fold-down TOPS is in good condition and is not modified.



2. Check that fold-down TOPS mounting hardware is tightened and is Bobcat approved.



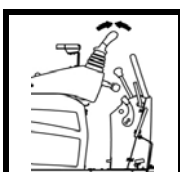
3. The seat belt must be correctly installed, functional and in good condition.



4. Machine signs (decals) must be legible and in the correct location.



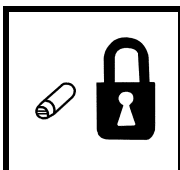
5. Travel levers, control levers and foot pedals must return to neutral. Check that the pedal locks are in working order.



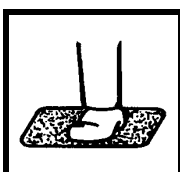
6. Check for correct function of the work lights.



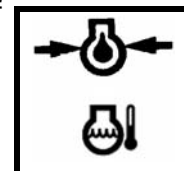
7. Attachment locking pins must function correctly and be in good condition.



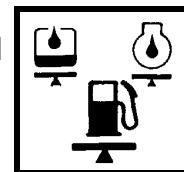
8. Safety treads must be in good condition.



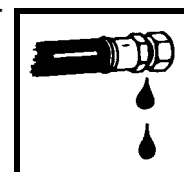
9. Check for correct function of indicator lamps.



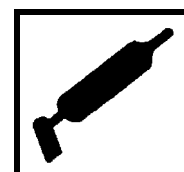
10. Check hydraulic fluid level, engine oil level and fuel supply.



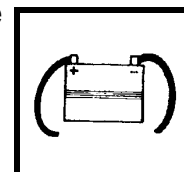
11. Inspect for fuel, oil or hydraulic fluid leaks.



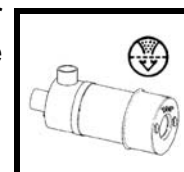
12. Lubricate the excavator.



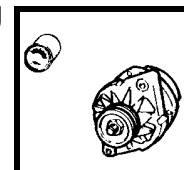
13. Check the condition of the battery and cables.



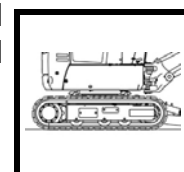
14. Inspect the air cleaner for damage or leaks. Check the condition of the element.



15. Check the electrical charging system.

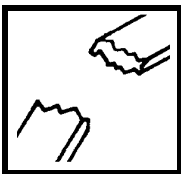


16. Check tracks for wear and tension. Use only approved tracks.

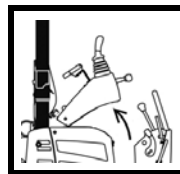


FW EXC UC-0508 SM

17. Inspect for loose or broken parts or connections.



20. Check the control console interlocks for correct function.



18. Check for any field modification not completed.



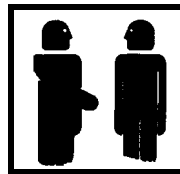
21. Check function or condition of all equipped options and accessories (examples: boom light, motion alarm, etc.).



19. Operate the machine and check all functions.



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



**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-2003-0903

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.
- 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 Compact Excavator 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 Bobcat excavator. The course is available in English and Spanish versions.
- Service Safety Training Courses are available from your Bobcat dealer or at www.training.bobcat.com or www.bobcat.com. They provide information for safe and correct service procedures.
- The Bobcat compact excavator Safety Video is available from your Bobcat dealer or at www.training.bobcat.com or www.bobcat.com.

SI EXC-0308 SM

SAFETY INSTRUCTIONS (CONT'D)

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. Do not exceed Permissible Exposure Limits (PEL) to silica dust as determined by OSHA or other job site Rules and Regulations. Use a respirator, water spray or other means to control dust. Silica dust can cause lung disease and is known to the state of California to cause cancer.

Call Before You Dig
Dial 811 (USA Only)
1-888-258-0808 (USA & Canada)

When you call, you will be directed to a location in your state / province, or city for information about buried lines (telephone, cable TV, water, sewer, gas, etc.).

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.

Spark Arrestor Exhaust System

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

FIRE PREVENTION (CONT'D)

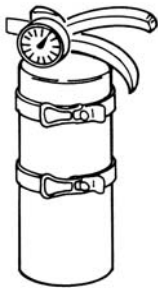
Welding And Grinding

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



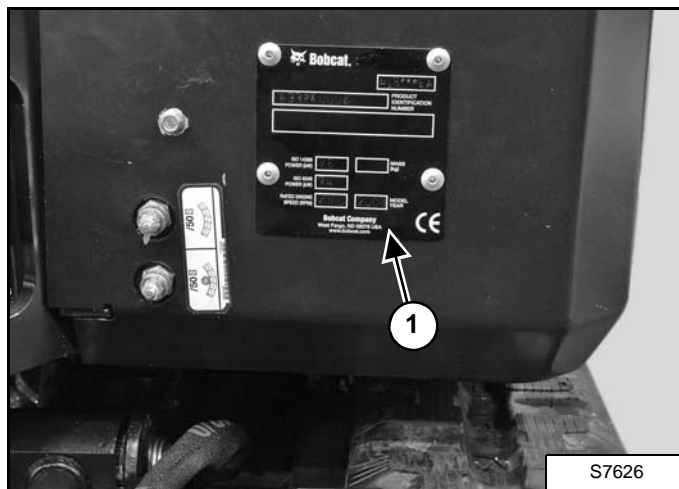
Know where fire extinguishers and first aid kits are located and how to use them. Inspect the fire extinguisher and service the fire extinguisher regularly. Obey the recommendations on the instructions plate.

SERIAL NUMBER LOCATIONS

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

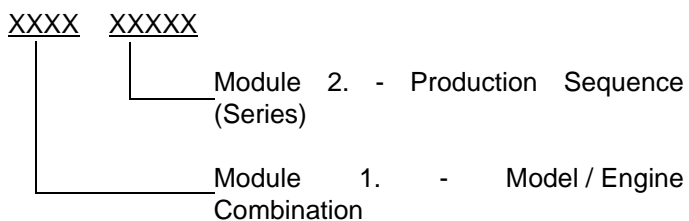
Excavator Serial Number

Figure 1



The excavator serial number plate (Item 1) [Figure 1] is located on the front left hand corner of the frame.

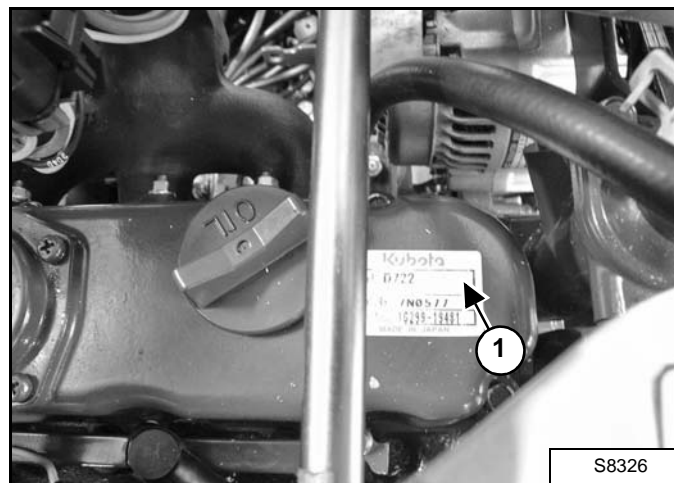
Explanation of Excavator Serial Number:



1. The four-digit Model / Engine Combination Module number identifies the model number and engine combination.
2. The five-digit Production Sequence Number identifies the order in which the excavator is produced.

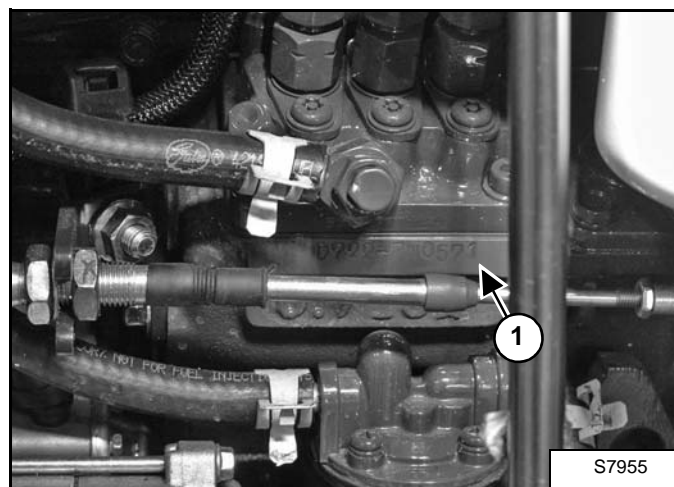
Engine Serial Number

Figure 2



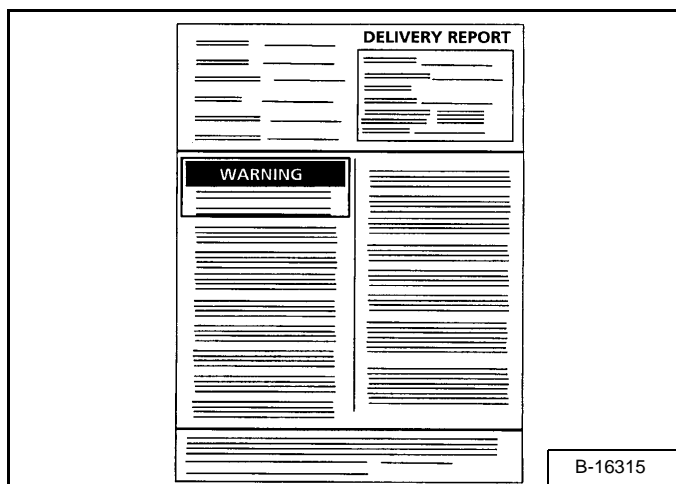
The engine serial number plate (Item 1) [Figure 2] is located on top of the engine.

Figure 3



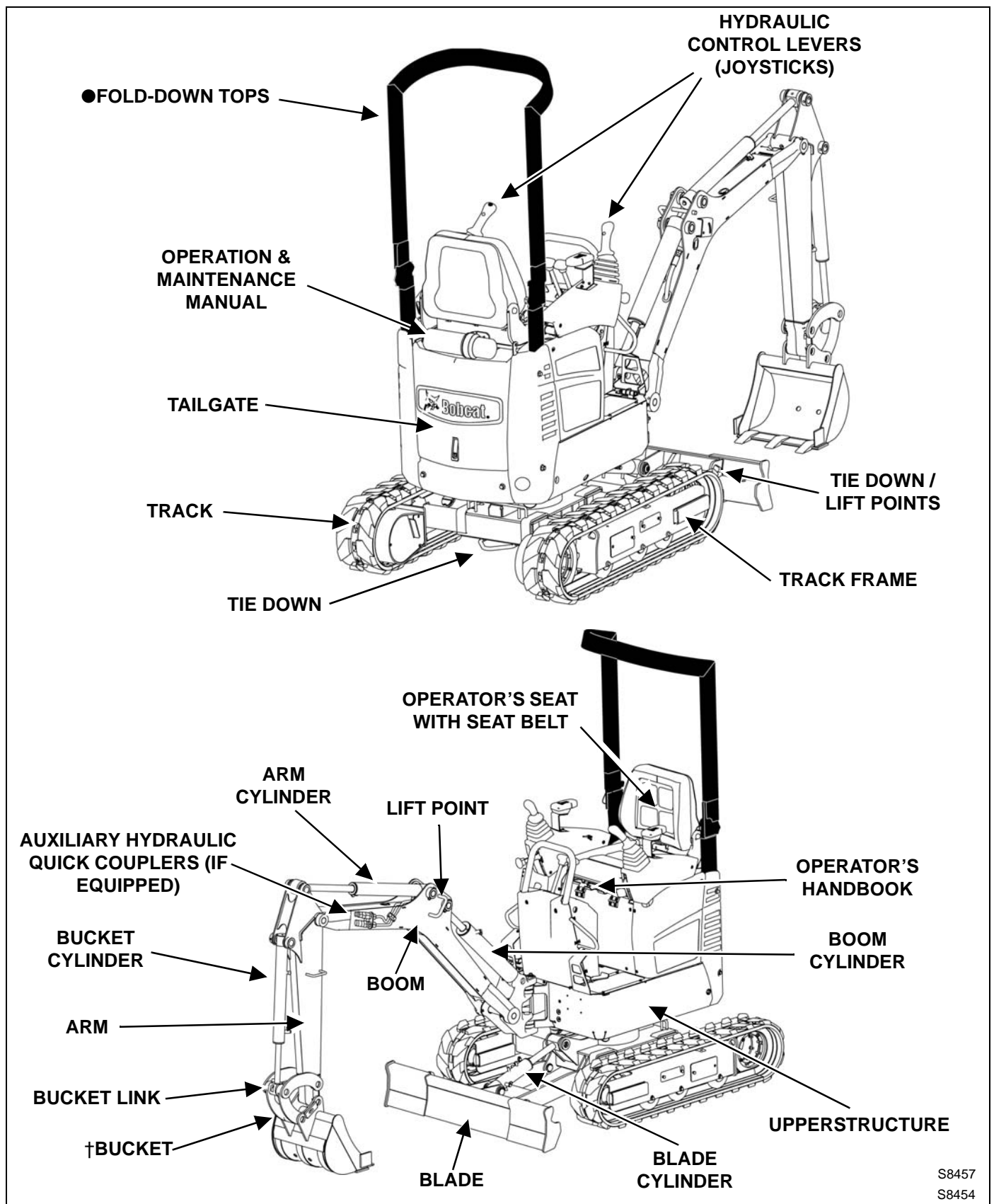
The engine serial number (Item 1) [Figure 3] is engraved on the engine just below the fuel injection pump.

Figure 4



The Delivery Report must be filled out by the dealer and signed by the owner or operator when the excavator is delivered. An explanation of the form must be given to the owner. Make sure it is filled out completely **[Figure 4]**.

BOBCAT EXCAVATOR IDENTIFICATION



S8457
S8454

●TOPS (Tip Over Protective Structure) as standard equipment. The TOPS meets ISO 12117.

†Several different buckets and other attachments are available from your Bobcat Excavator dealer.



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| STOPPING THE ENGINE AND LEAVING THE EXCAVATOR ... | 10-180-1 |
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| TRANSPORTING THE EXCAVATOR ON A TRAILER | 10-20-1 |
| Fastening To Transport Vehicle | 10-20-2 |
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LIFTING AND BLOCKING THE EXCAVATOR

Procedure

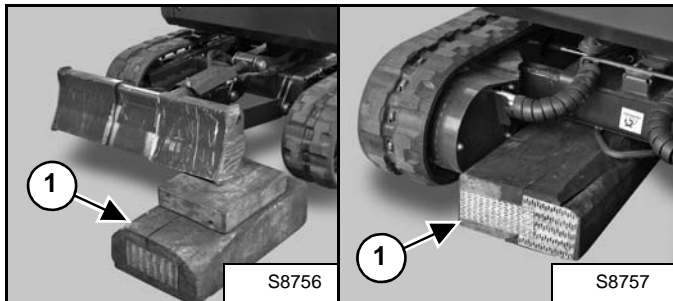
Always park the machine on a level surface.

Figure 10-10-1



Raise one side of the machine (approximately 4 inches) using the boom and arm as shown in [Figure 10-10-1].

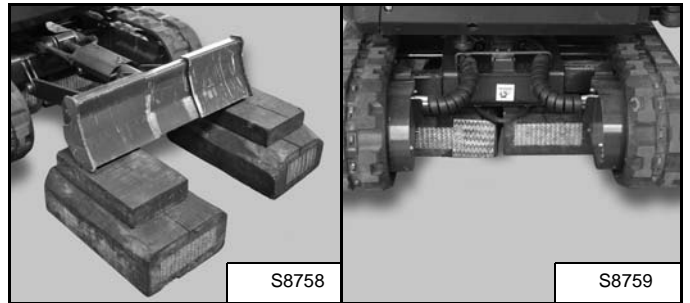
Figure 10-10-2



Raise the blade fully and install wooden blocks (Item 1) [Figure 10-10-2] or jackstands under the blade and the track frame. Lower the machine until all machine weight is on the wooden blocks or jackstands.

Rotate the upperstructure 180° and repeat procedure for other side.

Figure 10-10-3



The machine must be blocked up as shown in [Figure 10-10-3].

Stop the engine.

WARNING

Put jackstands under the blade and rear corners of the undercarriage before working under the machine. Failure to block up the machine may allow it to move or fall and result in injury or death.

W-2218-1195

WARNING

AVOID INJURY

Keep fingers and hands out of pinch points when checking the track tension.

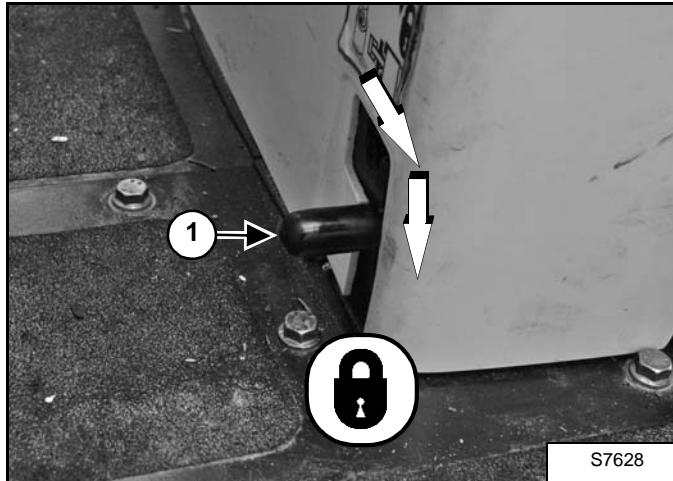
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UPPERSTRUCTURE SLEW LOCK

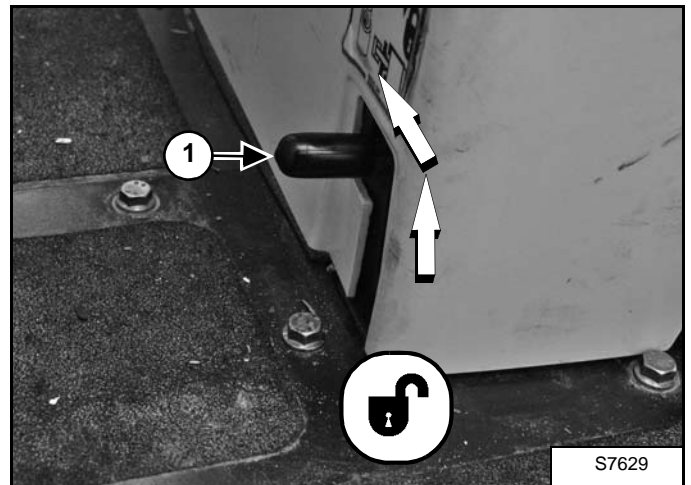
Figure 10-11-1



Move the lever (Item 1) [Figure 10-11-1] to the right and down to engage the Upperstructure Slew Lock. Fit the lever properly to fully engage the Slew Lock. When the Slew Lock is engaged (locked), the upperstructure of the excavator is locked to the track frame and will not rotate.

NOTE: The upperstructure must be in the straight forward or straight backward position for the upperstructure to lock.

Figure 10-11-2



Move the lever (Item 1) [Figure 10-11-2] up and to the left to disengage the upperstructure from the track frame. Fit the lever properly to fully disengage the Slew Lock.



WARNING

AVOID INJURY

The upperstructure slew lock lever must be engaged when transporting the machine.

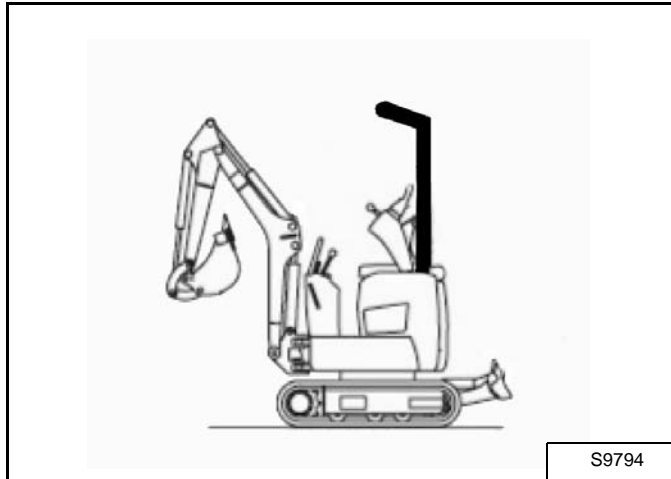
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LIFTING THE EXCAVATOR

Figure 10-12-1



Fully extend the cylinders of the bucket and arm. Fully retract the boom cylinder [Figure 10-12-1].

Raise the blade all the way [Figure 10-12-1].

Turn the upperstructure so that the boom is at the opposite end as the blade [Figure 10-12-1].

Put all the controls in neutral and engage the upperstructure slew lock. (See UPPERSTRUCTURE SLEW LOCK on Page 10-11-1.)

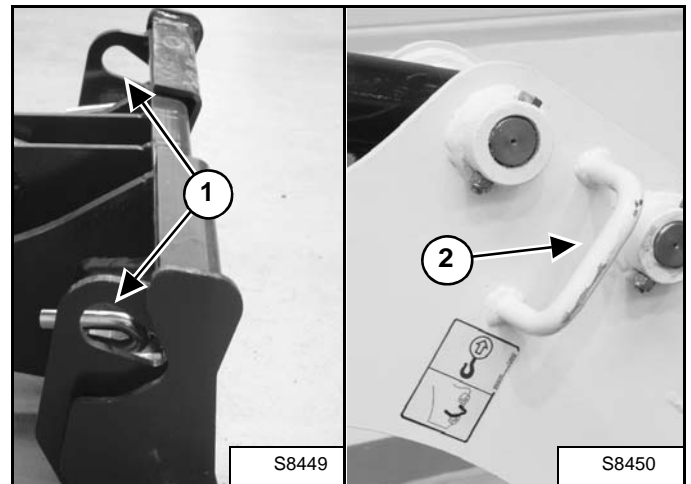
WARNING

AVOID INJURY OR DEATH

- Use a lifting fixture with sufficient capacity for the weight of the excavator plus any added attachments.
- Maintain center of gravity and balance when lifting.
- Do not swing boom or upperstructure. Engage the upperstructure slew lock.
- Never lift with operator on machine.

W-2202-0607

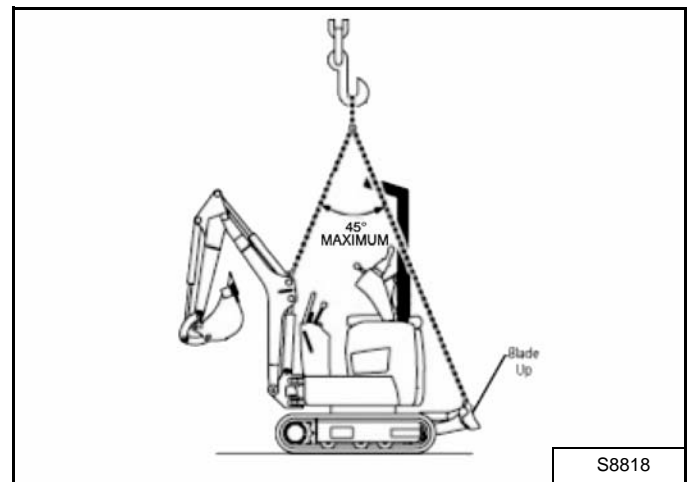
Figure 10-12-2



Fasten the chains to the ends of the blade (Item 1) [Figure 10-12-2] and up to a lifting fixture above the fold-down TOPS.

Fasten a chain in the hook of the boom (Item 2) [Figure 10-12-2] and up to the lifting fixture.

Figure 10-12-3



The maximum angle between the front and rear chains must not exceed 45° [Figure 10-12-3].



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TRANSPORTING THE EXCAVATOR ON A TRAILER

Loading And Unloading

When transporting the machine, observe the rules, motor vehicle laws and vehicle limit ordinances. Use a transportation and towing vehicle of adequate length and capacity.

Secure the parking brakes and block the wheels of the transport vehicle.

Align the ramps with the center of the transport vehicle. Secure the ramps to the truck (or trailer) bed and be sure ramp angle does not exceed 15 degrees.

Use metal loading ramps with a slip resistant surface that are the correct length and width, and can support the weight of the machine.

The rear of the trailer must be blocked or supported when loading or unloading the excavator to prevent the front of the transport vehicle from raising.

Determine the direction of the track movement before moving the machine (blade forward). Engage the upperstructure slew lock. (See UPPERSTRUCTURE SLEW LOCK on Page 10-11-1.)

Figure 10-20-1



Move the machine forward onto the transport vehicle [Figure 10-20-1].

Do not change direction of the machine while it is on the ramps.

Lower the boom, arm, bucket and blade to the transport vehicle.

Stop the engine and remove the key.

Put blocks under the front and rear of the tracks shoes.



WARNING

AVOID SERIOUS INJURY OR DEATH

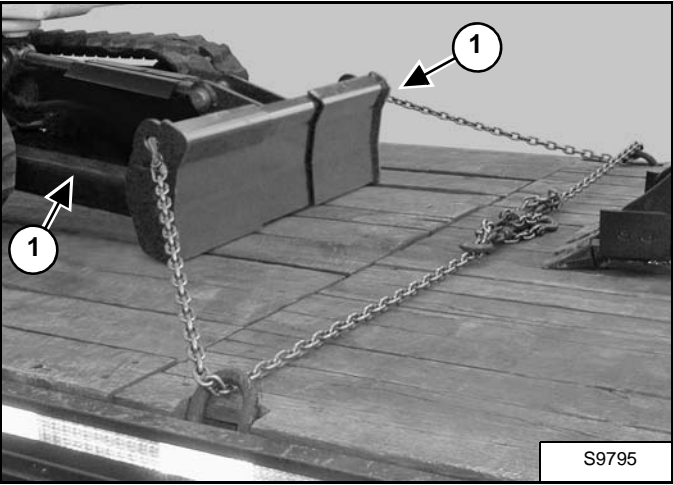
Adequately designed ramps of sufficient strength are needed to support the weight of the machine when loading onto a transport vehicle. Wood ramps can break and cause personal injury.

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TRANSPORTING THE EXCAVATOR (CONT'D)

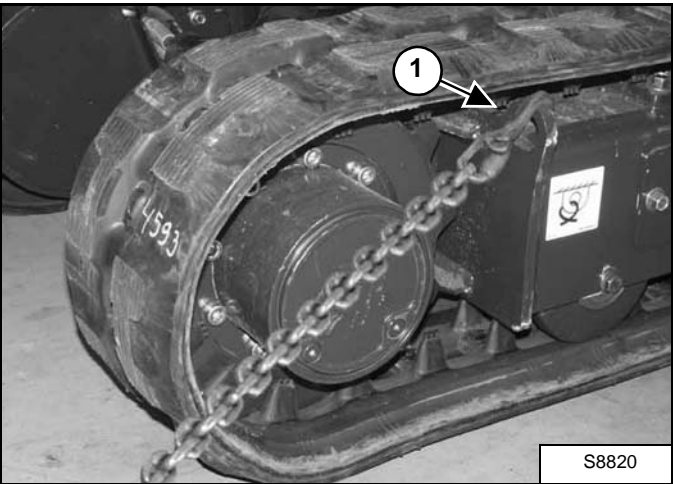
Fastening To Transport Vehicle

Figure 10-20-2



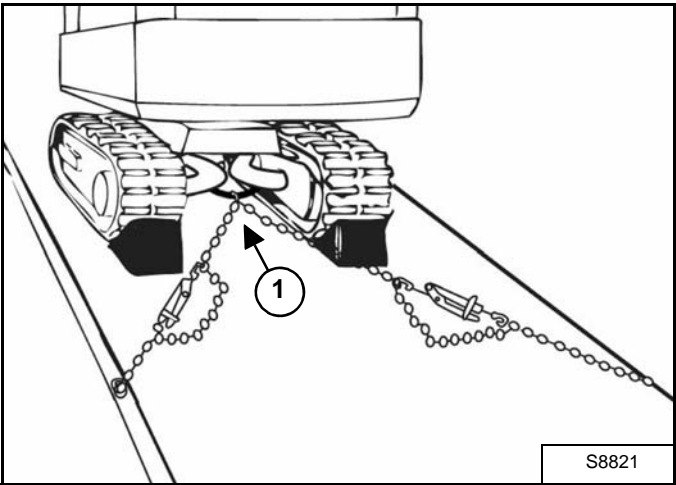
Fasten chains to the front corners of the blade (Item 1) [Figure 10-20-2].

Figure 10-20-3



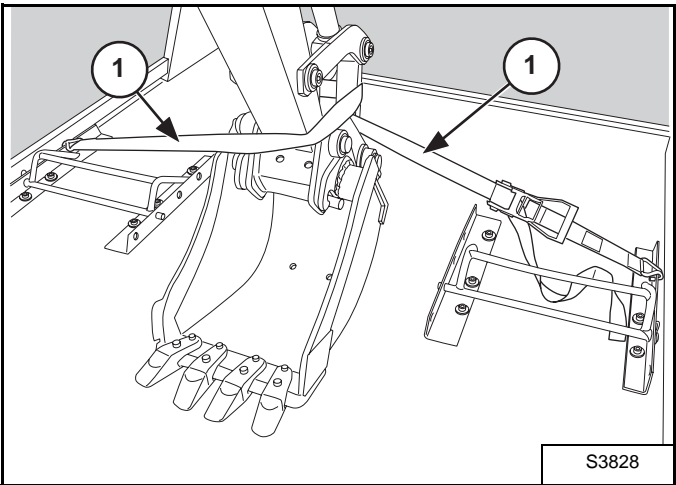
Fasten chains to both sides of the track frame (Item 1) [Figure 10-20-3] or the tie down loop at the rear of the undercarriage (Item 1) [Figure 10-20-4].

Figure 10-20-4



Use chain binders to tighten the chains and then safely tie the chain binder levers to prevent loosening.

Figure 10-20-5



When on the transport vehicle, loop the chains through the holes in the mounting frame.

Loop the chain (Item 1) [Figure 10-20-5] around the bucket link.

FOLD-DOWN TOPS

TOPS Position

! WARNING

AVOID INJURY OR DEATH

Use the Tip Over Protective Structure (TOPS). TOPS changes not approved by Bobcat Company can cause loss of operator protection and result in injury or death. The TOPS must be in the raised position with the seat belt fastened. There is no tip-over protection when the TOPS is in the lowered position.

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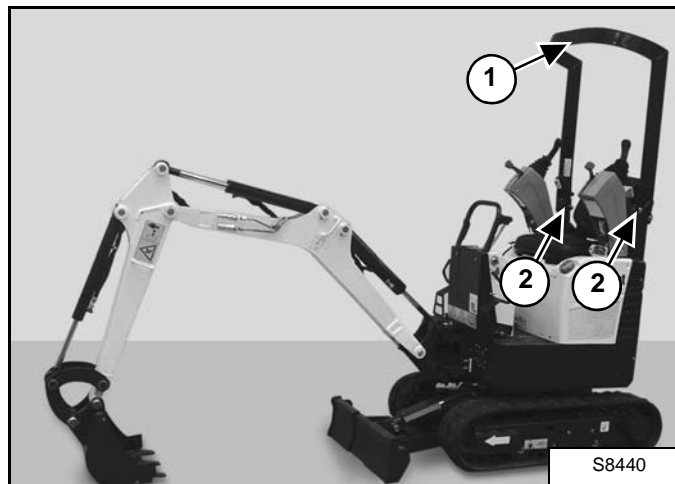
The excavator can be temporarily used with the TOPS lowered for access through height restricted openings.

Do not fasten seat belt when the TOPS is in the DOWN position.

Stop the engine, exit the machine and put the TOPS in the UP and LOCKED position after passing through height restricted opening.

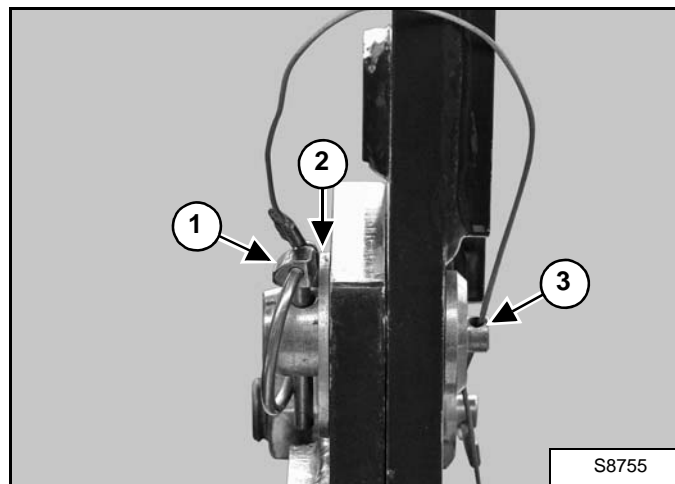
Lowering The Fold-Down TOPS

Figure 10-30-1



The excavator is equipped with a Tip-Over Protective Structure (TOPS) (Item 1) [Figure 10-30-1].

Figure 10-30-2



Remove the retainer clip (Item 1), washer (Item 2) and pin (Item 3) [Figure 10-30-2] on both sides of the fold-down TOPS (Item 2) [Figure 10-30-1].

Figure 10-30-3

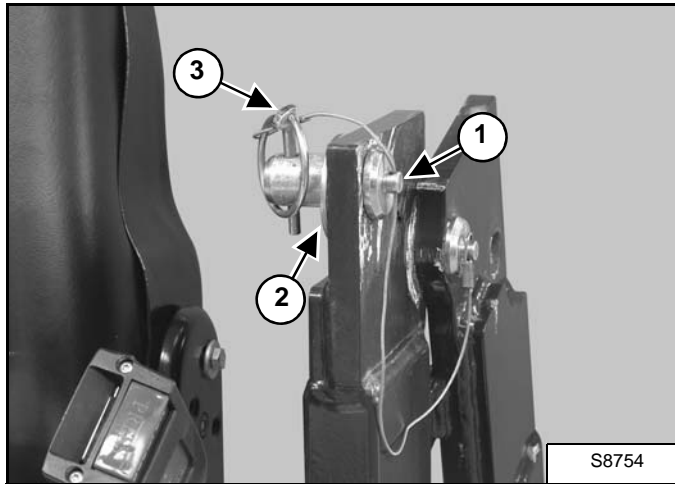


Lower the fold-down TOPS (Item 1) [Figure 10-30-3].

FOLD-DOWN TOPS (CONT'D)

Lowering The Fold-Down TOPS (Cont'd)

Figure 10-30-4

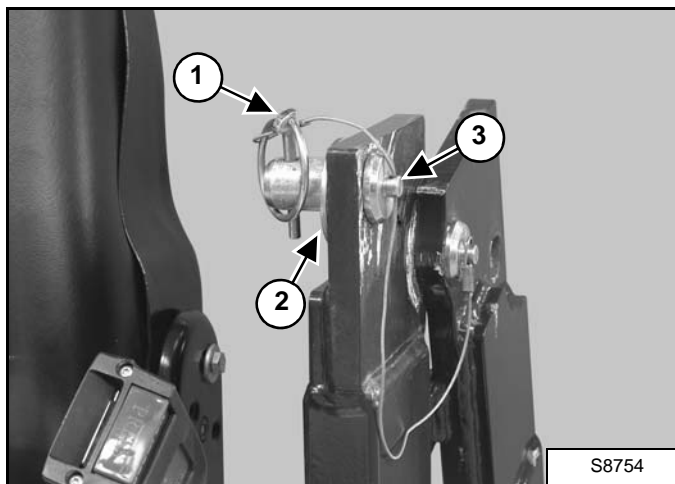


Reinstall the pin (Item 1) [Figure 10-30-4] into the TOPS hole.

Reinstall the washer (Item 2) and retainer clip (Item 3) within the pin (Item 1) [Figure 10-30-4].

Raising The Fold-Down TOPS

Figure 10-30-5



Remove the retainer clip (Item 1) and washer (Item 2) [Figure 10-30-5].

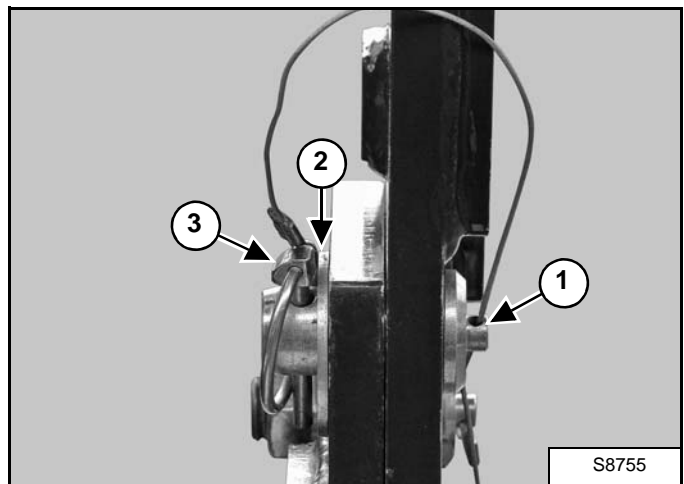
Remove the pin (Item 3) [Figure 10-30-5] from the TOPS hole.

Figure 10-30-6



Raise the fold-down TOPS (Item 1) [Figure 10-30-6].

Figure 10-30-7



Install the pin (Item 1) [Figure 10-30-7] into the TOPS hole.

Install the washer (Item 2) and retainer clip (Item 3) [Figure 10-30-7].



WARNING

AVOID INJURY OR DEATH

Use the Tip Over Protective Structure (TOPS). TOPS changes not approved by Bobcat Company can cause loss of operator protection and result in injury or death. The TOPS must be in the raised position with the seat belt fastened. There is no tip-over protection when the TOPS is in the lowered position.

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