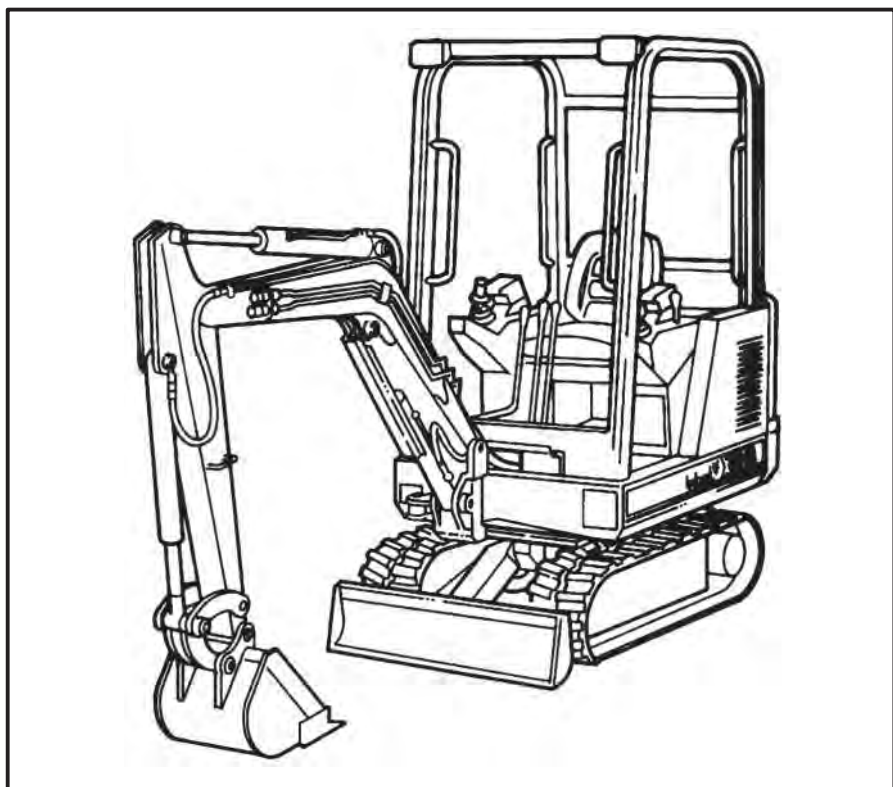


X 320/322

Excavator

Service Manual

(S/N 562313001 & Above)
(S/N 517811001 & Above)



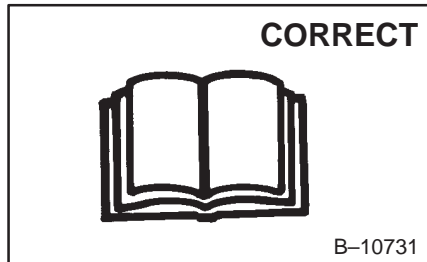
MAINTENANCE SAFETY


WARNING

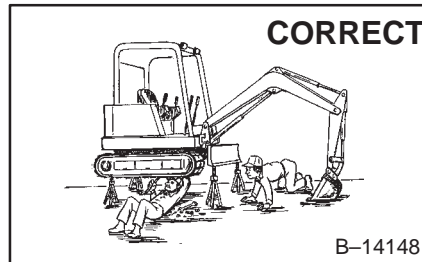
Instructions are necessary before operating or servicing machine, Read and understand the Operation & Maintenance Manual, Handbook and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.


W-2003-0199

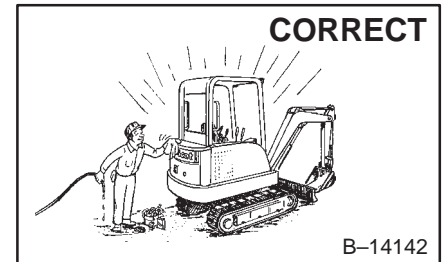
 **Safety Alert Symbol:** This symbol is used for important safety messages. When you see this symbol, follow the safety message to avoid personal injury or death.




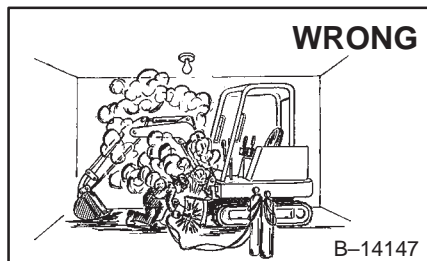
 Never service the Bobcat Hydraulic Excavator without instructions.





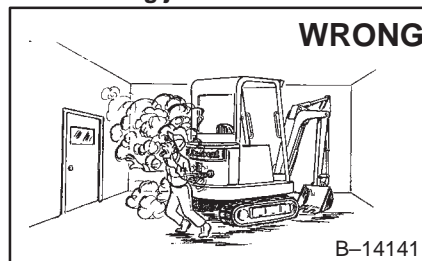
 Use the correct procedure to lift and support the excavator. Always lift the blade fully before installing jackstands.





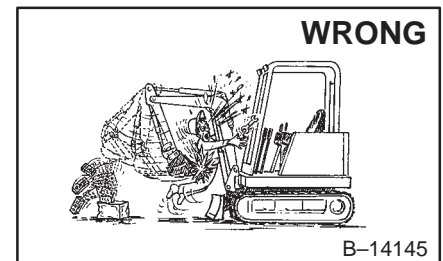
 Cleaning and maintenance are required daily.





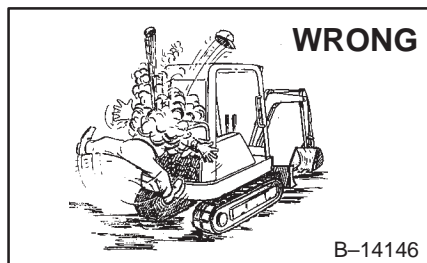
 Have good ventilation when welding or grinding painted parts.
 Wear dust mask when grinding painted parts. Toxic dust and gas can be produced.







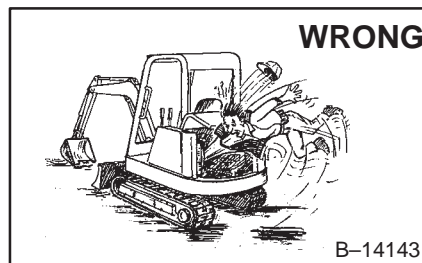
 Vent exhaust to outside when engine must be run for service.
 Exhaust system must be tightly sealed. Exhaust fumes can kill without warning.






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






 Stop, cool and clean engine of flammable materials before checking fluid.
 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.



 Keep body, jewelry and clothing away from moving parts, electrical contacts, 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.
 Keep rear door closed except for service. Close and latch door before operating the excavator.



 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 this manual must be performed **ONLY BY QUALIFIED BOBCAT SERVICE PERSONNEL**. Always use **genuine Bobcat replacement parts**.



Bobcat®

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**PREVENTIVE
MAINTENANCE**

**HYDRAULIC
SYSTEM**

**DRIVE
SYSTEM**

**UPPER WORKS
& SWING
SYSTEM**

**MAIN FRAME
& TRACKS**

**ELECTRICAL
SYSTEM**

**ENGINE
SERVICE**

**TECHNICAL
DATA**



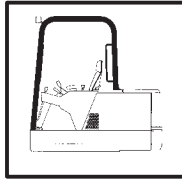
Bobcat®

FOREWORD

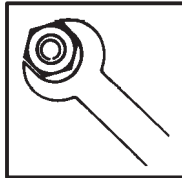
This manual is for the Bobcat hydraulic excavator mechanic. It provides necessary servicing and adjustment procedures for the hydraulic excavator and its component parts and systems. Refer to the Operation & Maintenance Manual for operating instructions, starting procedure, daily checks, etc.

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

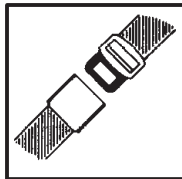
1. Check that the ROPS/TOPS/FOGS is in good condition and is not modified.



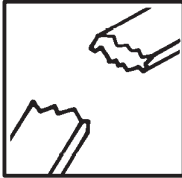
2. Check that ROPS/TOPS mounting hardware is tightened and is Melroe approved.



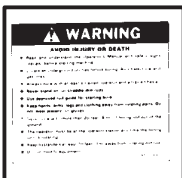
3. The seat belt must be correctly installed, functional and in good condition.



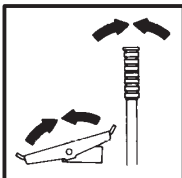
4. Inspect for loose or broken parts or connections.



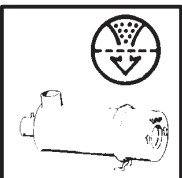
5. Machine signs must be legible and in the correct location.



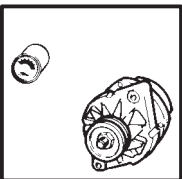
6. Steering levers, control levers and foot pedals must return to neutral. Check that foot pedals lock and control lever locks are in working condition.



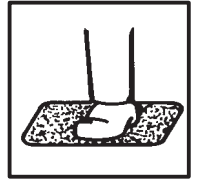
7. Inspect the air cleaner for damage or leaks. Check the condition of the element.



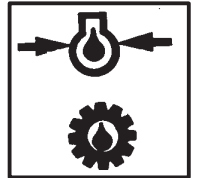
8. Check the electrical charging system.



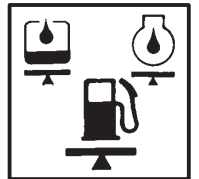
9. Safety treads must in good condition.



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



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



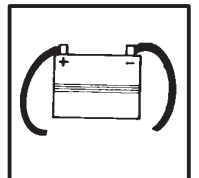
12. Inspect for fuel, oil or hydraulic fluid leaks.



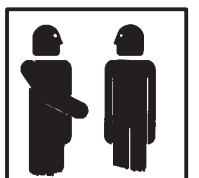
13. Lubricate the excavator.



14. Check the condition of the battery and cables.



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

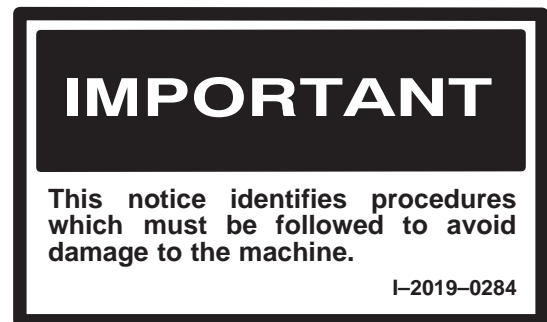


**CALIFORNIA
PROPOSITION 65 WARNING**
Diesel engine exhaust and some of its constituents are known to the state of California to cause cancer, birth defects and other reproductive harm.



Bobcat®

SAFETY INSTRUCTIONS



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.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.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.bobcat.com.

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.



Call Before You Dig

1-888-258-0808

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

SAFETY INSTRUCTIONS (Cont'd)

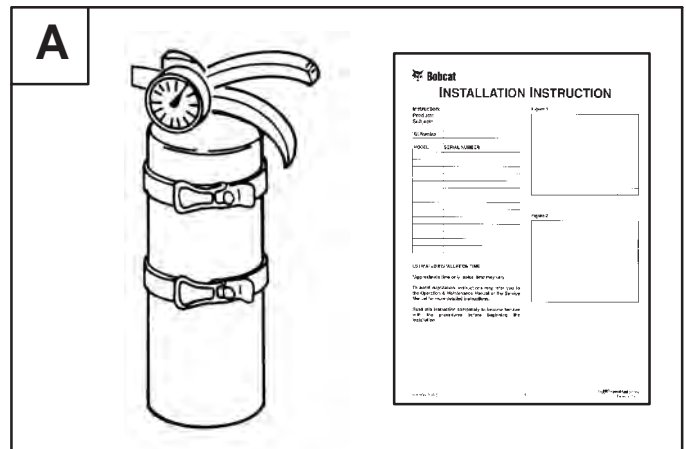
FIRE PREVENTION

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).
- Know where fire extinguishers and first aid kits are located and how to use them. Fire extinguishers are available from your Bobcat® dealer **[A]**.



SERIAL NUMBER LOCATIONS

Always use the FULL serial number (including the first four digits) when requesting service 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.

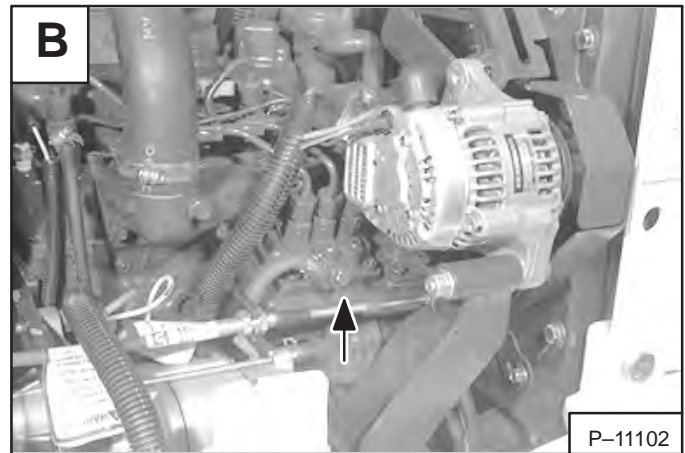
HYDRAULIC EXCAVATOR SERIAL NUMBER

The excavator serial number is on the right front side of the machine frame [A].



ENGINE SERIAL NUMBER

The engine serial number is located on the engine block, near the fuel injection pump [B].

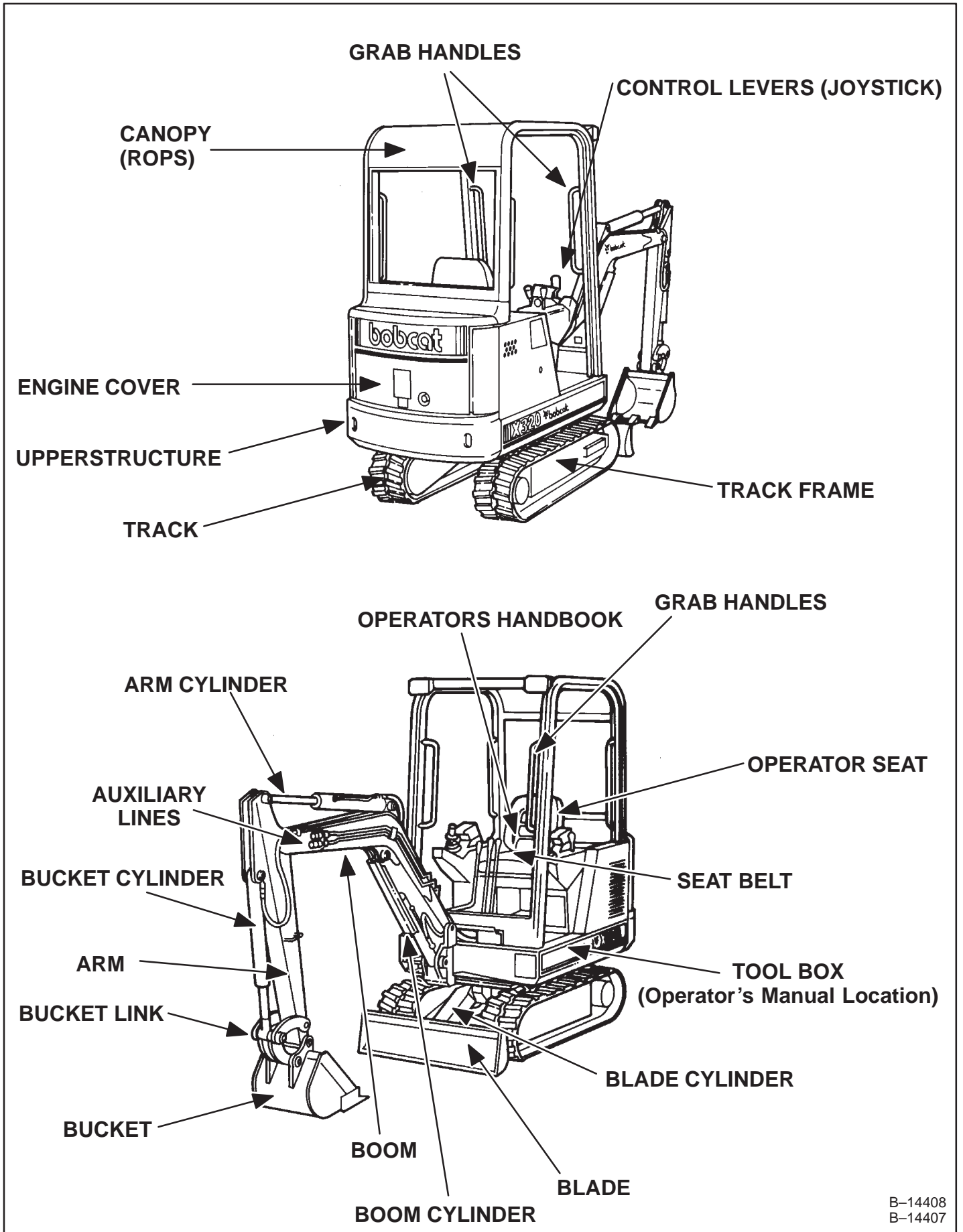


DELIVERY REPORT

The Delivery Report items must be explained to the owner/operator by the dealer. The dealer is to fill out the form and the owner/operator signs the form to indicate his understanding [C].

A diagram of a form titled "DELIVERY REPORT". The form is divided into several sections. At the top right is a section labeled "DELIVERY REPORT" with several lines for text. Below this is a section labeled "WARNING" with a bold header and several lines for text. The bottom of the form has a large section with many horizontal lines for text. A small white box with the text "C" is in the top left corner of the form area.

HYDRAULIC EXCAVATOR IDENTIFICATION



B-14408
B-14407

Dear

**Thanks very much for your visiting and
patience.**

Want to get more information,

Please click here, Go back to the page.

**After your payment, you will have instant access to
your download.**

The Download Link will also be sent to your e-mail.

You will get the complete manual

Have any questions

please write to me

admin@servicemanualperfect.com