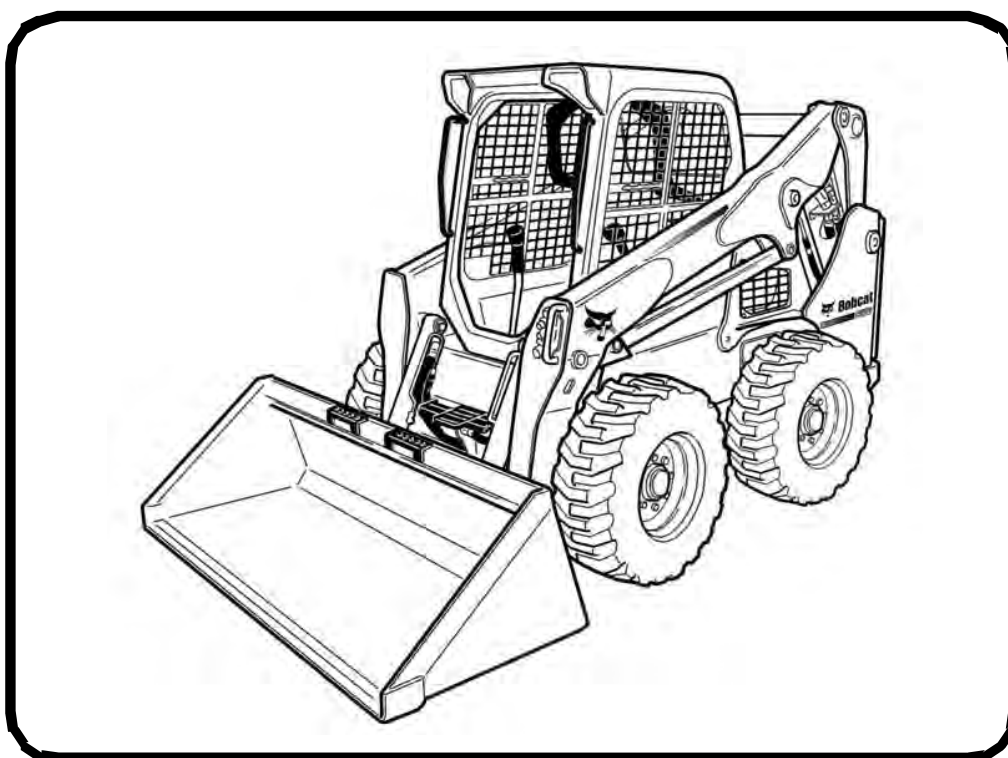




Service Manual

S590 Skid-Steer Loader

S/N AR9R11001 & Above
S/N B3H111001 & Above



EQUIPPED WITH
BOBCAT INTERLOCK
CONTROL SYSTEM (BICS™)



MAINTENANCE SAFETY



WARNING

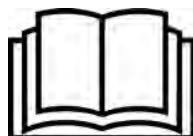
Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, Operator's Handbook and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after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

W-2003-0807



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 Skid-Steer Loader without instructions.

CORRECT



NA1694

Use the correct procedure to lift or lower operator cab.

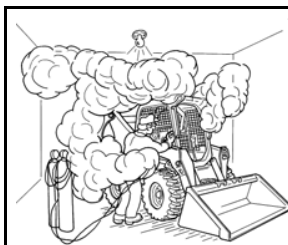
CORRECT



NA1693

Cleaning and maintenance are required daily.

WRONG



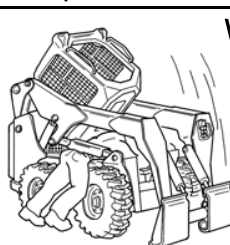
NA1674

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.

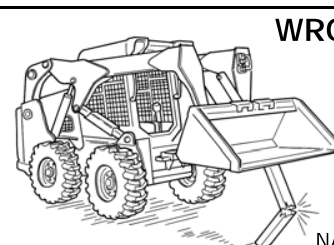
WRONG



NA1695

Disconnecting or loosening any hydraulic tubeline, hose, fitting, component or a part failure can cause lift arms to drop. Do not go under lift arms when raised unless supported by an approved lift arm support device. Replace if damaged.

WRONG



NA1680

Never work on loader with lift arms up unless lift arms are held by an approved lift arm support device. Replace if damaged.

Never modify equipment or add attachments not approved by Bobcat Company.

WRONG



NA1682

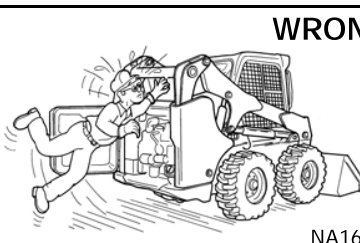
Stop, cool and clean engine of flammable materials before checking fluids.

Never service or adjust loader 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



NA1683

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.

Keep rear door closed except for service. Close and latch door before operating the loader.

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. The Service Safety Training Course is available from your Bobcat dealer.

MSW39-0609

**Thanks very much for your reading,
Want to get more information,
Please click here, Then get the complete
manual**

JustClickHere 

NOTE:

**If there is no response to click on the link above,
please download the PDF document first, and then
click on it.**

**Have any questions please write to me:
admin@servicemanualperfect.com**



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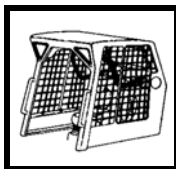


FOREWORD

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.



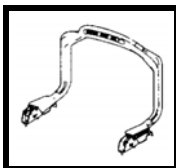
2. Check that ROPS mounting hardware is tightened and is Bobcat approved.



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



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



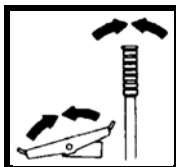
5. Check lift arm support device, replace if damaged.



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



7. Steering levers, hand controls and foot pedals must return to neutral (as applicable).



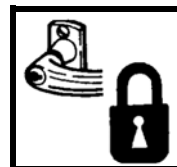
8. Check for correct function of the work lights.



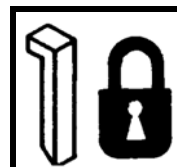
9. The parking brake must function correctly.



10. Enclosure door latches must open and close freely.



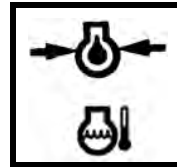
11. Bob-Tach® wedges and linkages must function correctly and be in good condition.



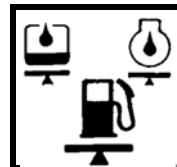
12. Safety treads must be in good condition.



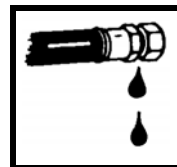
13. Check for correct function of indicator lamps.



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



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

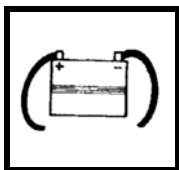


16. Lubricate the loader.

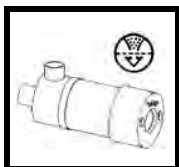


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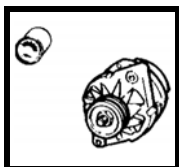
17. Check the condition of the battery and cables.



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



19. Check the electrical charging system.



20. Check tires for wear and pressure. Check tracks for wear and tension. Use only approved tires or tracks.



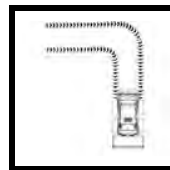
21. Inspect for loose or broken parts or connections.



22. Check for any field modification not completed.



23. Operate the machine and check all functions.



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



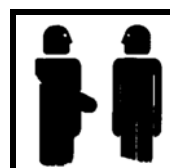
25. Check for proper function of front horn and back-up alarm (if equipped).



26. Check function or condition of all equipped options and accessories (examples: fire extinguisher, rotating beacon, lift kits, etc.).



27. 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



AVOID INJURY OR DEATH

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

W-2003-0807



This notice identifies procedures which must be followed to avoid damage to the machine.

I-2019-0284



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



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 Skid-Steer Loader Operator Training Course is available through your local dealer or at **bobcat.com/training** or **bobcat.com**. This course is intended to provide rules and practices of correct operation of the skid-steer loader. The course is available in English and Spanish versions.
- Service Safety Training Courses are available from your Bobcat dealer or at **bobcat.com/training** or **bobcat.com**. They provide information for safe and correct service procedures.
- The Skid-Steer Loader Safety Video is available from your Bobcat dealer or at **bobcat.com/training** or **bobcat.com**.

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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.

Ultra Low Sulfur Diesel (ULSD) poses a greater static ignition hazard than earlier diesel formulations with higher Sulfur content. Avoid death or serious injury from fire or explosion. Consult with your fuel or fuel system supplier to ensure the delivery system is in compliance with fueling standards for proper grounding and bonding practices.

Starting

Do not use ether or starting fluids on any engine that has glow plugs or air intake heater. These starting aids can cause explosion and injure you or bystanders.

Use the procedure in the Operation & Maintenance Manual for connecting the battery and for jump starting.

Spark Arrester Exhaust System

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

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

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FIRE PREVENTION (CONT'D)

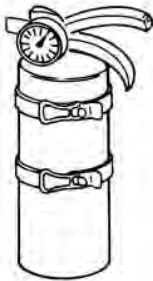
Welding And Grinding

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



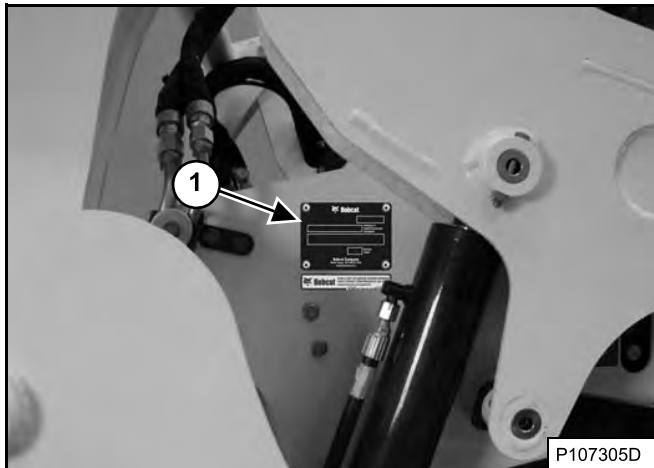
Know where fire extinguishers and first aid kits are located and how to use them. Inspect the fire extinguisher and service the fire extinguisher regularly. Obey the recommendations on the instructions plate.

SERIAL NUMBER LOCATIONS

Always use the serial number of the loader when requesting service information or when ordering parts. Early or later models (identification made by serial number) may use different parts, or there may be different procedures to follow when performing a specific service operation.

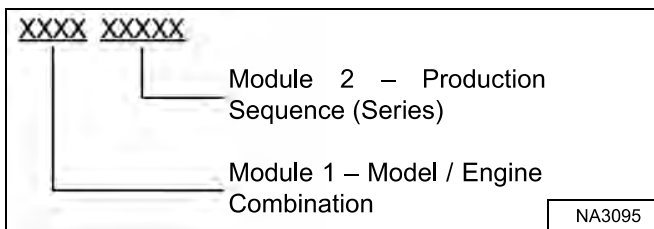
Loader Serial Number

Figure 1



The loader serial number plate (Item 1) [Figure 1] is located on the outside of the loader frame.

Figure 2

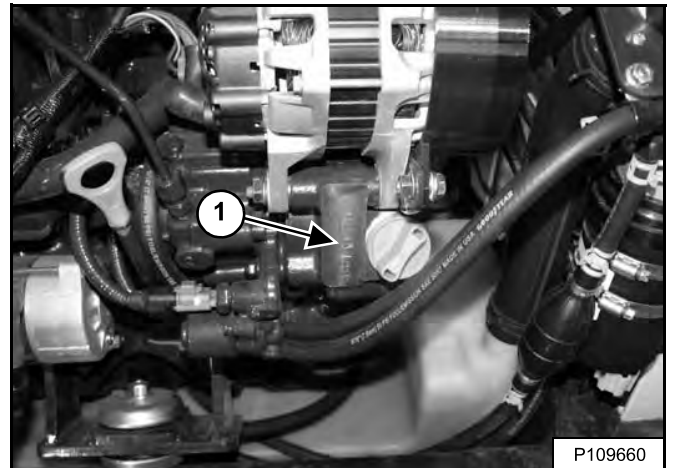


Explanation of loader Serial Number [Figure 2]:

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 loader is produced.

Engine Serial Number

Figure 3



The engine serial number (Item 1) [Figure 3] is located on the side of the engine next to the oil fill cap.

DELIVERY REPORT

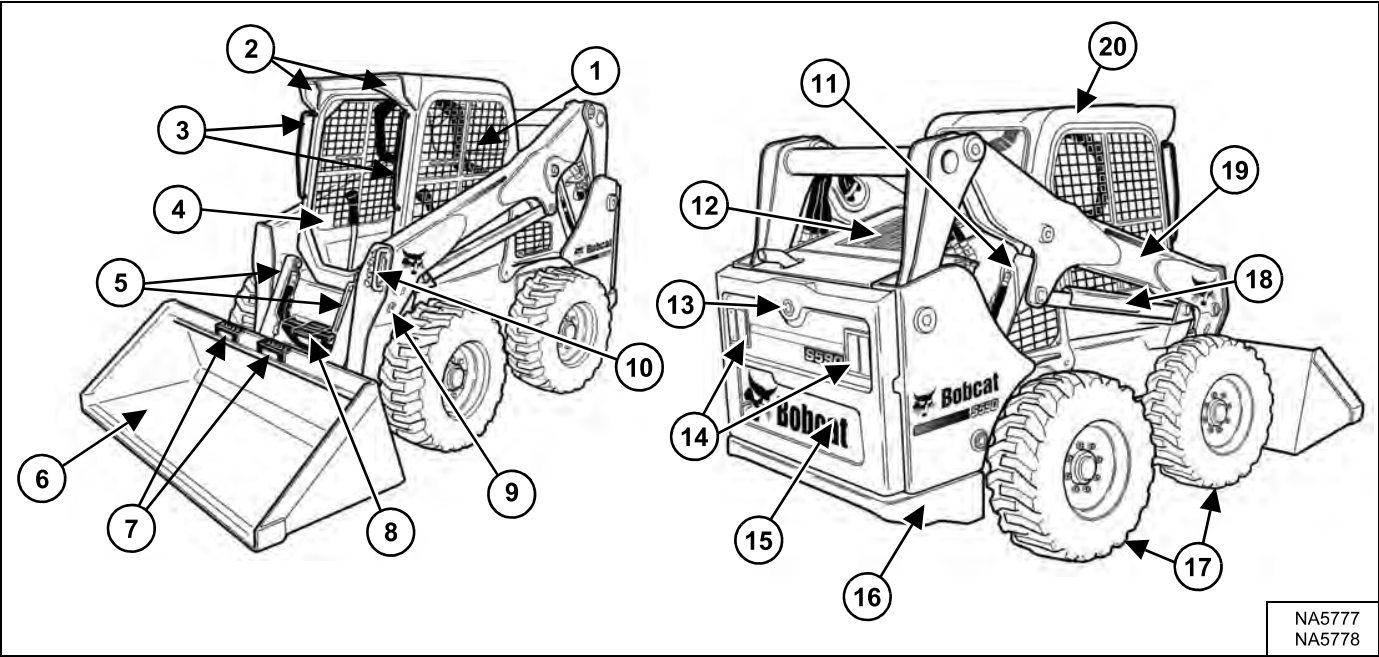
Figure 4

 Bobcat Service		Delivery Report Loader Dealer Number: _____ Dealer Name: _____	
PERFORMANCE DATA		Sales Representative Name: _____	
Model: _____ Serial Number: _____ Year: _____ Color: _____ Engine: _____ Transmission: _____ Hydraulic System: _____	Engine Type: _____ Engine Power (HP): _____ Engine Speed (RPM): _____ Engine Hours: _____ Engine Oil: _____ Engine Filter: _____ Engine Water: _____ Engine Air: _____ Engine Fuel: _____ Engine Exhaust: _____ Engine Cooling: _____ Engine Lubrication: _____ Engine Maintenance: _____ Engine Inspection: _____ Engine Repair: _____ Engine Replacement: _____ Engine Removal: _____ Engine Installation: _____ Engine Testing: _____ Engine Operation: _____ Engine Shutdown: _____ Engine Start: _____ Engine Stop: _____ Engine Restart: _____ Engine Idle: _____ Engine Load: _____ Engine Unload: _____ Engine Full Load: _____ Engine No Load: _____ Engine Partial Load: _____ Engine Full Speed: _____ Engine No Speed: _____ Engine Full Power: _____ Engine No Power: _____ Engine Full Torque: _____ Engine No Torque: _____ Engine Full RPM: _____ Engine No RPM: _____ Engine Full Hours: _____ Engine No Hours: _____ Engine Full Oil: _____ Engine No Oil: _____ Engine Full Filter: _____ Engine No Filter: _____ Engine Full Water: _____ Engine No Water: _____ Engine Full Air: _____ Engine No Air: _____ Engine Full Fuel: _____ Engine No Fuel: _____ Engine Full Exhaust: _____ Engine No Exhaust: _____ Engine Full Cooling: _____ Engine No Cooling: _____ Engine Full Lubrication: _____ Engine No Lubrication: _____ Engine Full Maintenance: _____ Engine No Maintenance: _____ Engine Full Inspection: _____ Engine No Inspection: _____ Engine Full Repair: _____ Engine No Repair: _____ Engine Full Replacement: _____ Engine No Replacement: _____ Engine Full Removal: _____ Engine No Removal: _____ Engine Full Installation: _____ Engine No Installation: _____ Engine Full Testing: _____ Engine No Testing: _____ Engine Full Operation: _____ Engine No Operation: _____ Engine Full Shutdown: _____ Engine No Shutdown: _____ Engine Full Start: _____ Engine No Start: _____ Engine Full Stop: _____ Engine No Stop: _____ Engine Full Restart: _____ Engine No Restart: _____ Engine Full Idle: _____ Engine No Idle: _____ Engine Full Load: _____ Engine No Load: _____ Engine Full Unload: _____ Engine No Unload: _____ Engine Full Full Load: _____ Engine No Full Load: _____ Engine Full No Load: _____ Engine No No Load: _____ Engine Full Partial Load: _____ Engine No Partial Load: _____ Engine Full Full Speed: _____ Engine No Full Speed: _____ Engine Full No Speed: _____ Engine No No Speed: _____ Engine Full Full Power: _____ Engine No Full Power: _____ Engine Full No Power: _____ Engine No No Power: _____ Engine Full Full Torque: _____ Engine No Full Torque: _____ Engine Full No Torque: _____ Engine No No Torque: _____ Engine Full Full RPM: _____ Engine No Full RPM: _____ Engine Full No RPM: _____ Engine No No RPM: _____ Engine Full Full Hours: _____ Engine No Full Hours: _____ Engine Full No Hours: _____ Engine No No Hours: _____ Engine Full Full Oil: _____ Engine No Full Oil: _____ Engine Full No Oil: _____ Engine No No Oil: _____ Engine Full Full Filter: _____ Engine No Full Filter: _____ Engine Full No Filter: _____ Engine No No Filter: _____ Engine Full Full Water: _____ Engine No Full Water: _____ Engine Full No Water: _____ Engine No No Water: _____ Engine Full Full Air: _____ Engine No Full Air: _____ Engine Full No Air: _____ Engine No No Air: _____ Engine Full Full Fuel: _____ Engine No Full Fuel: _____ Engine Full No Fuel: _____ Engine No No Fuel: _____ Engine Full Full Exhaust: _____ Engine No Full Exhaust: _____ Engine Full No Exhaust: _____ Engine No No Exhaust: _____ Engine Full Full Cooling: _____ Engine No Full Cooling: _____ Engine Full No Cooling: _____ Engine No No Cooling: _____ Engine Full Full Lubrication: _____ Engine No Full Lubrication: _____ Engine Full No Lubrication: _____ Engine No No Lubrication: _____ Engine Full Full Maintenance: _____ Engine No Full Maintenance: _____ Engine Full No Maintenance: _____ Engine No No Maintenance: _____ Engine Full Full Inspection: _____ Engine No Full Inspection: _____ Engine Full No Inspection: _____ Engine No No Inspection: _____ Engine Full Full Repair: _____ Engine No Full Repair: _____ Engine Full No Repair: _____ Engine No No Repair: _____ Engine Full Full Replacement: _____ Engine No Full Replacement: _____ Engine Full No Replacement: _____ Engine No No Replacement: _____ Engine Full Full Removal: _____ Engine No Full Removal: _____ Engine Full No Removal: _____ Engine No No Removal: _____ Engine Full Full Installation: _____ Engine No Full Installation: _____ Engine Full No Installation: _____ Engine No No Installation: _____ Engine Full Full Testing: _____ Engine No Full Testing: _____ Engine Full No Testing: _____ Engine No No Testing: _____ Engine Full Full Operation: _____ Engine No Full Operation: _____ Engine Full No Operation: _____ Engine No No Operation: _____ Engine Full Full Shutdown: _____ Engine No Full Shutdown: _____ Engine Full No Shutdown: _____ Engine No No Shutdown: _____ Engine Full Full Start: _____ Engine No Full Start: _____ Engine Full No Start: _____ Engine No No Start: _____ Engine Full Full Stop: _____ Engine No Full Stop: _____ Engine Full No Stop: _____ Engine No No Stop: _____ Engine Full Full Restart: _____ Engine No Full Restart: _____ Engine Full No Restart: _____ Engine No No Restart: _____ Engine Full Full Idle: _____ Engine No Full Idle: _____ Engine Full No Idle: _____ Engine No No Idle: _____ Engine Full Full Load: _____ Engine No Full Load: _____ Engine Full No Load: _____ Engine No No Load: _____ Engine Full Full Unload: _____ Engine No Full Unload: _____ Engine Full No Unload: _____ Engine No No Unload: _____ Engine Full Full Full Load: _____ Engine No Full Full Load: _____ Engine Full No Full Load: _____ Engine No No Full Load: _____ Engine Full Full No Load: _____ Engine No Full No Load: _____ Engine Full Full Partial Load: _____ Engine No Full Partial Load: _____ Engine Full No Partial Load: _____ Engine No No Partial Load: _____ Engine Full Full Full Speed: _____ Engine No Full Full Speed: _____ Engine Full No Full Speed: _____ Engine No No Full Speed: _____ Engine Full Full Full Power: _____ Engine No Full Full Power: _____ Engine Full No Full Power: _____ Engine No No Full Power: _____ Engine Full Full Full Torque: _____ Engine No Full Full Torque: _____ Engine Full No Full Torque: _____ Engine No No Full Torque: _____ Engine Full Full Full RPM: _____ Engine No Full Full RPM: _____ Engine Full No Full RPM: _____ Engine No No Full RPM: _____ Engine Full Full Full Hours: _____ Engine No Full Full Hours: _____ Engine Full No Full Hours: _____ Engine No No Full Hours: _____ Engine Full Full Full Oil: _____ Engine No Full Full Oil: _____ Engine Full No Full Oil: _____ Engine No No Full Oil: _____ Engine Full Full Full Filter: _____ Engine No Full Full Filter: _____ Engine Full No Full Filter: _____ Engine No No Full Filter: _____ Engine Full Full Full Water: _____ Engine No Full Full Water: _____ Engine Full No Full Water: _____ Engine No No Full Water: _____ Engine Full Full Full Air: _____ Engine No Full Full Air: _____ Engine Full No Full Air: _____ Engine No No Full Air: _____ Engine Full Full Full Fuel: _____ Engine No Full Full Fuel: _____ Engine Full No Full Fuel: _____ Engine No No Full Fuel: _____ Engine Full Full Full Exhaust: _____ Engine No Full Full Exhaust: _____ Engine Full No Full Exhaust: _____ Engine No No Full Exhaust: _____ Engine Full Full Full Cooling: _____ Engine No Full Full Cooling: _____ Engine Full No Full Cooling: _____ Engine No No Full Cooling: _____ Engine Full Full Full Lubrication: _____ Engine No Full Full Lubrication: _____ Engine Full No Full Lubrication: _____ Engine No No Full Lubrication: _____ Engine Full Full Full Maintenance: _____ Engine No Full Full Maintenance:		

The delivery report **[Figure 4]** contains a list of items that must be explained or shown to the owner or operator by the dealer when the Bobcat loader is delivered.

The delivery report must be reviewed and signed by the owner or operator and the dealer.

LOADER IDENTIFICATION



ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	Operation & Maintenance Manual and Operator's Handbook	11	Lift Cylinder (Both Sides)
2	Front Lights	12	Rear Grille
3	Grab Handles	13	Back-up Alarm
4	Operator Seat with Seat Belt and Seat Bar	14	Rear Work Lights and Taillights
5	Tilt Cylinders	15	Rear Door
6	Bucket [A]	16	Rear Tie-down (Both Sides) Front Tie-down located behind Bucket
7	Bucket Steps	17	Tires [C]
8	Step	18	Lift Arm Support Device
9	Alternate Front Tie-down (Both Sides)	19	Lift Arm
10	Front Auxiliary Quick Couplers	20	Operator Cab (ROPS and FOPS) [B]

[A] Bucket – Several different buckets and other attachments are available for the Bobcat loader.
[B] ROPS – Roll-Over Protective Structure per ISO 3471 and FOPS – Falling-Object Protective Structure per ISO 3449, Level I. Level II is available.
[C] Tires – Standard tires are shown. Several different tire styles and sizes are available for the Bobcat loader.

