

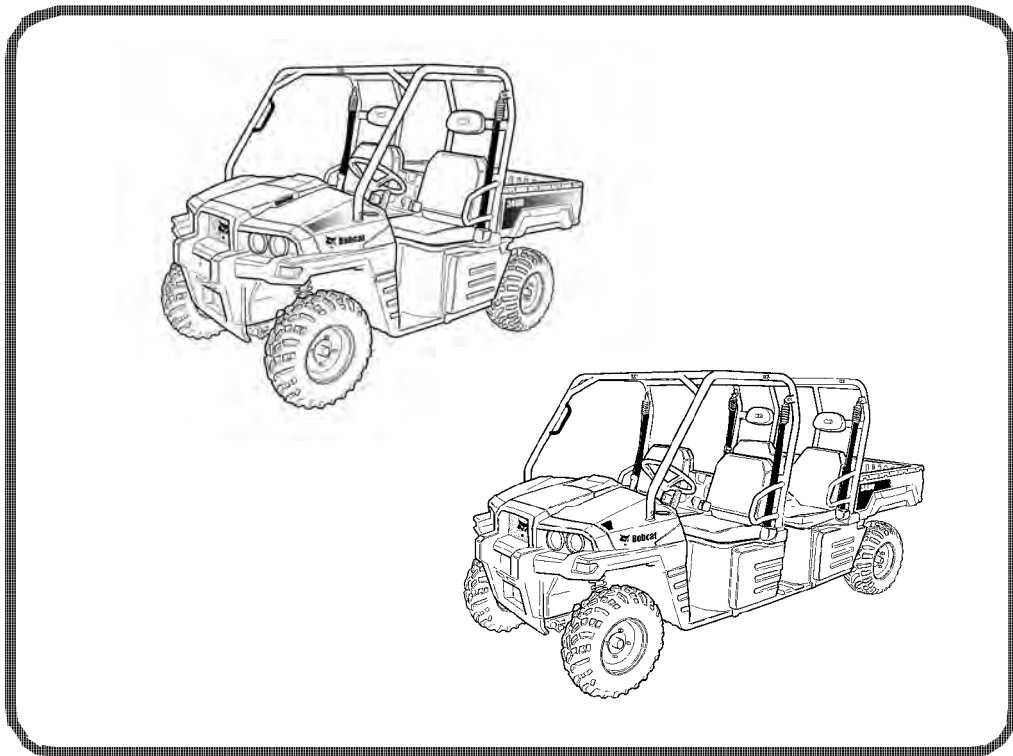


Bobcat®

Service Manual

3400, 3400XL Utility Vehicle

S/N B3FL11001 & Above
S/N B3FL17001 & Above
S/N B3FN11001 & Above
S/N B3FN17001 & Above



Dealer Copy -- Not for Resale



MAINTENANCE SAFETY



WARNING

Instructions are necessary before operating or servicing the utility vehicle. Read and understand the Operation & Maintenance Manual and signs (decals) on utility vehicle. 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-2859-0510



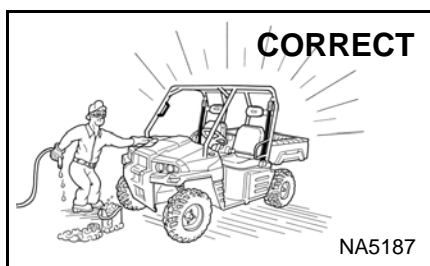
Safety Alert Symbol: This symbol with a warning statement, means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.

CORRECT



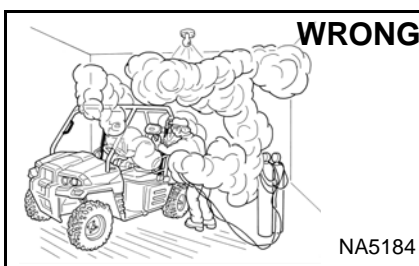
P-90216

⚠ Never service the utility vehicle without instructions.



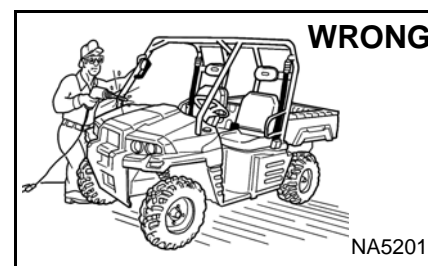
NA5187

⚠ Cleaning and maintenance are required daily.



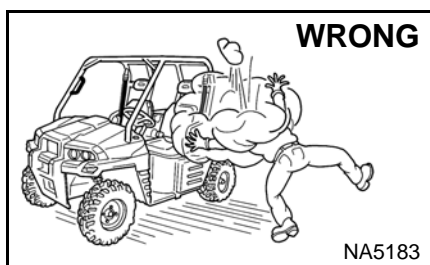
NA5184

- ⚠ 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.



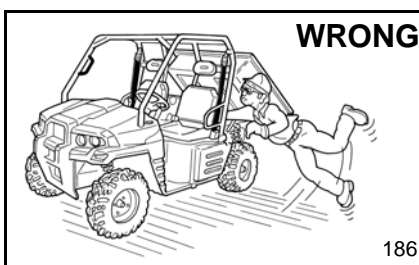
NA5201

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



NA5183

- ⚠ Stop, cool and clean engine of flammable materials before checking fluids.
- ⚠ Never service or adjust utility vehicle with the engine running unless instructed to do so in the manual.
- ⚠ Never fill fuel tank with engine running, while smoking or when near open flame.



186

- ⚠ 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 access doors closed except for service.



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**.

MSW41-0510

CONTENTS

SAFETY & MAINTENANCE	10-01
DRIVE SYSTEM	20-01
MAINFRAME	30-01
ELECTRICAL SYSTEM & ANALYSIS	40-01
ENGINE SERVICE	50-01
SPECIFICATIONS	SPEC-01
ALPHABETICAL INDEX	INDEX-01

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FOREWORD

FOREWORD	1-7
SAFETY INSTRUCTIONS	1-9
FIRE PREVENTION	1-11
Maintenance	1-11
Operation	1-11
Electrical	1-11
Fueling	1-11
Starting	1-11
Spark Arrester Exhaust System	1-11
Welding And Grinding	1-11
Fire Extinguishers	1-12
SERIAL NUMBER LOCATIONS	1-13
Utility Vehicle Serial Number	1-13
Engine Serial Number	1-13
DELIVERY REPORT	1-14
UTILITY VEHICLE IDENTIFICATION (3400)	1-15
UTILITY VEHICLE IDENTIFICATION (3400XL)	1-16

FOREWORD

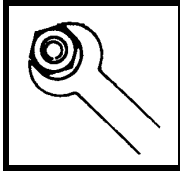
This manual is for the Utility Vehicle mechanic. It provides necessary servicing and adjustment procedures for the Utility Vehicle and its component parts and systems. Refer to the for operating instructions, starting procedure, daily checks, etc.

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

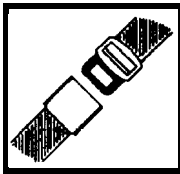
1. Check that the ROPS is in good condition and is not modified.



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



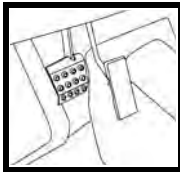
3. The operator and passenger seat belts must be correctly installed, functional and in good condition.



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



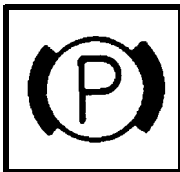
5. Foot pedals must return to neutral.



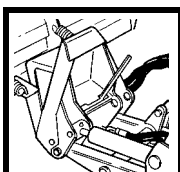
6. Check for correct function of the head lights and tail lights.



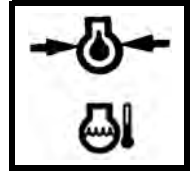
7. The parking brake must function correctly.



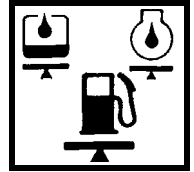
8. RapidLink™ must function correctly and be in good condition (3450 only).



9. Check for correct function of indicator lamps.



10. Check hydraulic fluid level, engine oil level and fuel supply (3450 only).



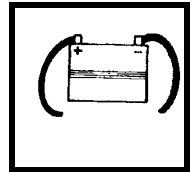
11. Inspect for fluid, oil or hydraulic fluid leaks (3450 only).



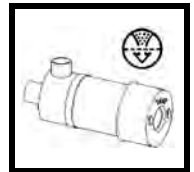
12. Lubricate the machine.



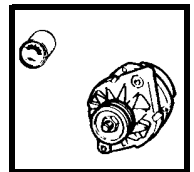
13. Check the condition of the battery and cables.



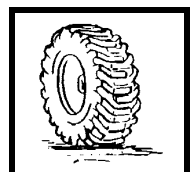
14. Inspect the air cleaner for damage or leaks. Check the condition of the element.



15. Check the electrical charging system.



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



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17. Inspect for loose or broken parts or connections.



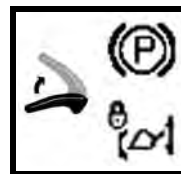
18. Check for any field modification not completed.



19. Operate the vehicle and check all functions.



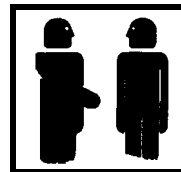
20. Check for correct function of the Start Interlock System before the machine is returned to the customer.



21. Check function or condition of all equipped options and accessories.



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

Operator must have instructions before operating the utility vehicle. Untrained operators can cause injury or death.

W-2855-0510

IMPORTANT

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

I-2317-0510



DANGER

The signal word **DANGER** on the utility vehicle and in the manuals indicates a hazardous situation which, if not avoided, will result in death or serious injury.

D-1022-0510



WARNING

The signal word **WARNING** on the utility vehicle and in the manuals indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

W-2856-0510

The following publications provide information on the safe use and maintenance of the Bobcat utility vehicle and attachments:

- The Delivery Report is used to assure that complete instructions have been given to the new owner and that the vehicle is in safe operating condition.
- The Operation & Maintenance Manual delivered with the vehicle or attachment contains operating information as well as routine maintenance and service procedures. It is a part of the vehicle and can be stored in a container provided on the vehicle. Replacement Operation & Maintenance Manuals can be ordered from your Bobcat dealer.
- Safety signs (decals) instruct on the safe operation and care of your Bobcat utility vehicle 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 Service Manual and Parts Manual are available from your dealer for use by mechanics to do shop-type service and repair work.
- The Utility Vehicle 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 utility vehicle. The course is available in English and Spanish versions.
- The Utility Vehicle Safety Video is available from your Bobcat dealer or at www.training.bobcat.com or www.bobcat.com.

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FIRE PREVENTION



Maintenance

The utility vehicle and some attachments and accessories 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 utility vehicle where exhaust, arcs, sparks or hot components can contact flammable material, explosive dust or gases. Do not park this vehicle near open flames or pilot lights.

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.

Fueling



Stop the engine and let it cool before adding fuel. No smoking! Do not refuel a utility vehicle 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

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

Welding And Grinding

Always clean the utility vehicle attachments and accessories, disconnect the battery, and disconnect the wiring from the Bobcat controllers before welding. Cover fuel tank, rubber hoses, battery and all other flammable parts. Keep a fire extinguisher near the utility vehicle 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.

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FIRE PREVENTION (CONT'D)

Fire Extinguishers



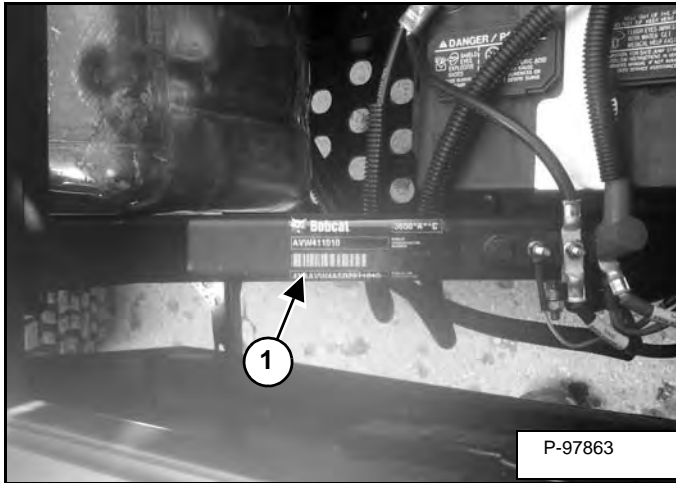
Know where fire extinguishers and first aid kits are located and how to use them. Inspect the fire extinguisher and service the fire extinguisher regularly. Obey the recommendations on the instructions plate.

SERIAL NUMBER LOCATIONS

Always use the serial number of the utility vehicle when requesting service information or when ordering parts. Early or later models (identification made by serial number) may use different parts, or it may be necessary to use a different procedure in doing a specific service operation.

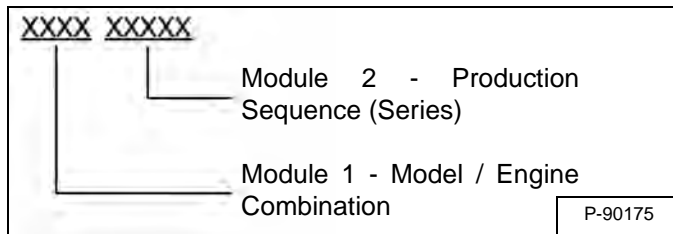
Utility Vehicle Serial Number

Figure 1



The utility vehicle serial number plate is located on the frame, under the passenger seat by the battery [Figure 1].

Figure 2

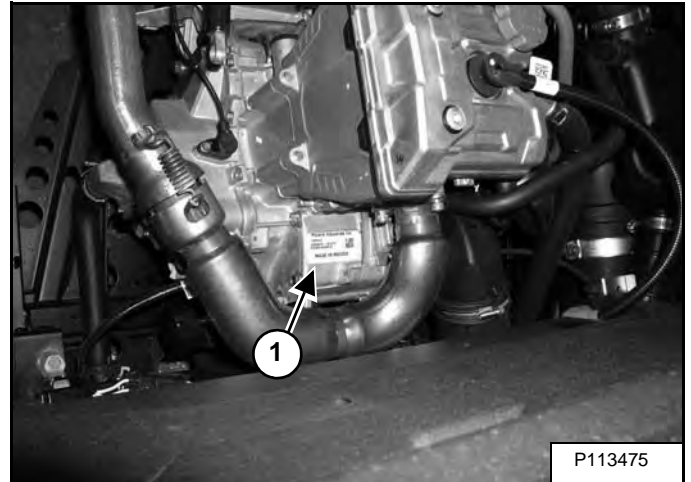


Explanation of utility vehicle Serial Number [Figure 2]:

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 which the utility vehicle is produced.

Engine Serial Number

Figure 3



The engine serial number is located on the engine block (Item 1) [Figure 3].

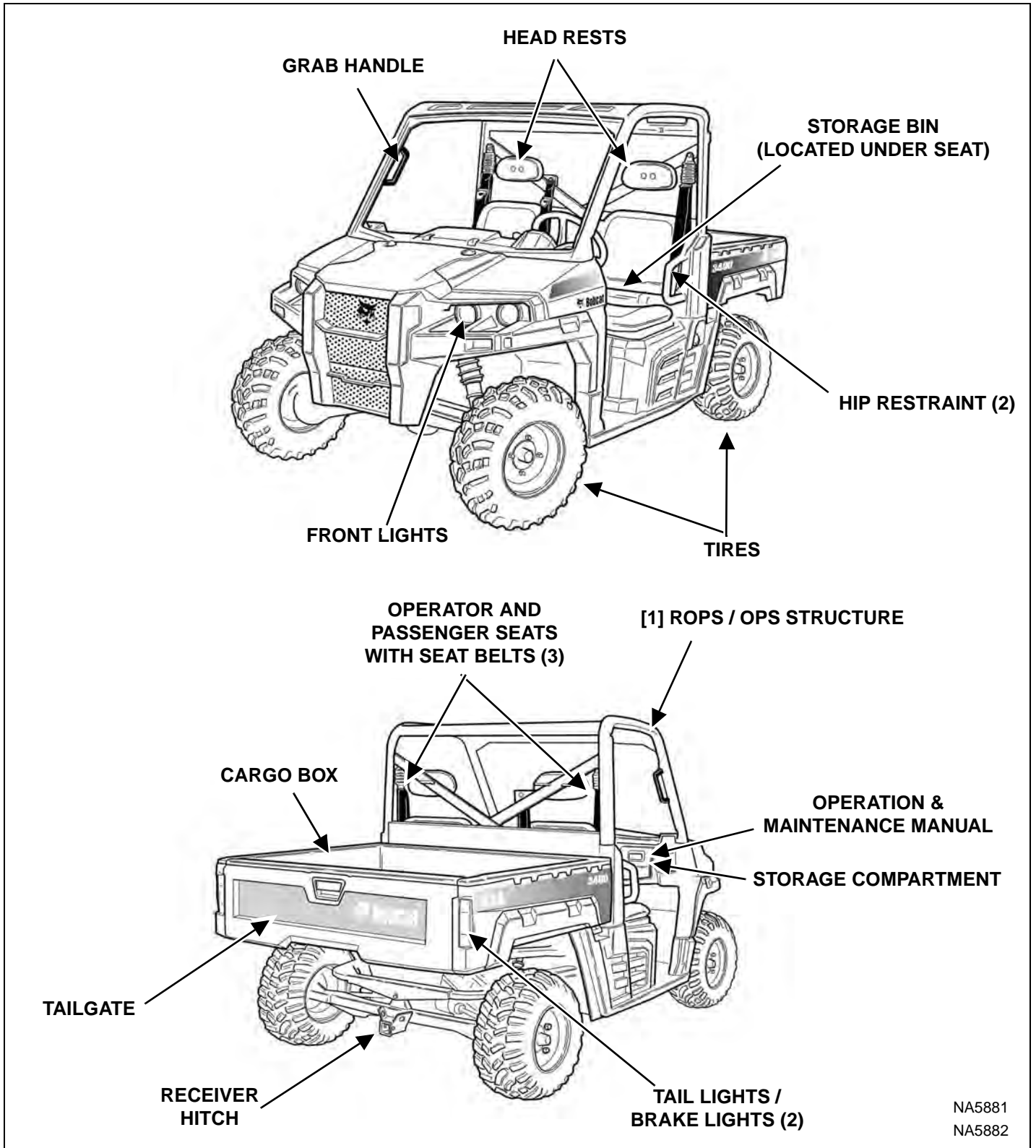
DELIVERY REPORT

Figure 4

The diagram shows a form titled "DELIVERY REPORT". The form is divided into several sections. At the top right, the title "DELIVERY REPORT" is printed. Below the title, there are several horizontal lines representing text input fields. A prominent section on the left side is labeled "WARNING" in a dark box with white text. Below this, there are more horizontal lines. At the bottom right of the form, there is a small box containing the alphanumeric code "B-16315".

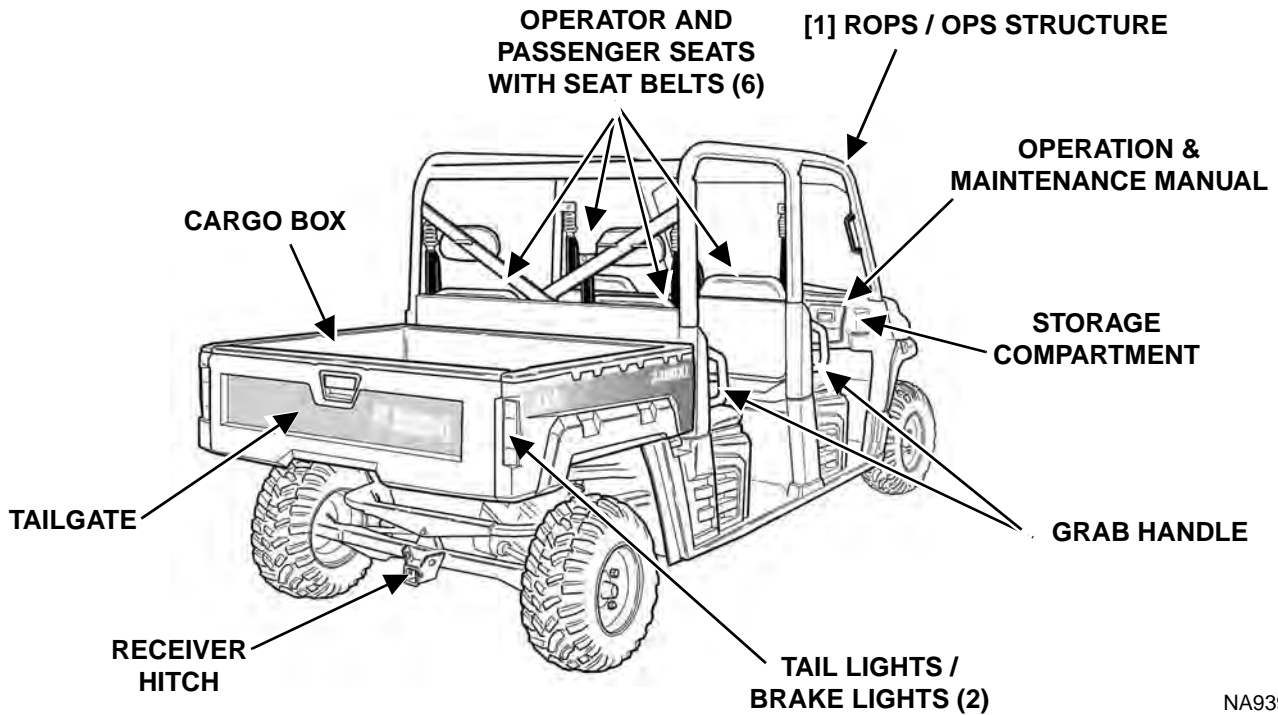
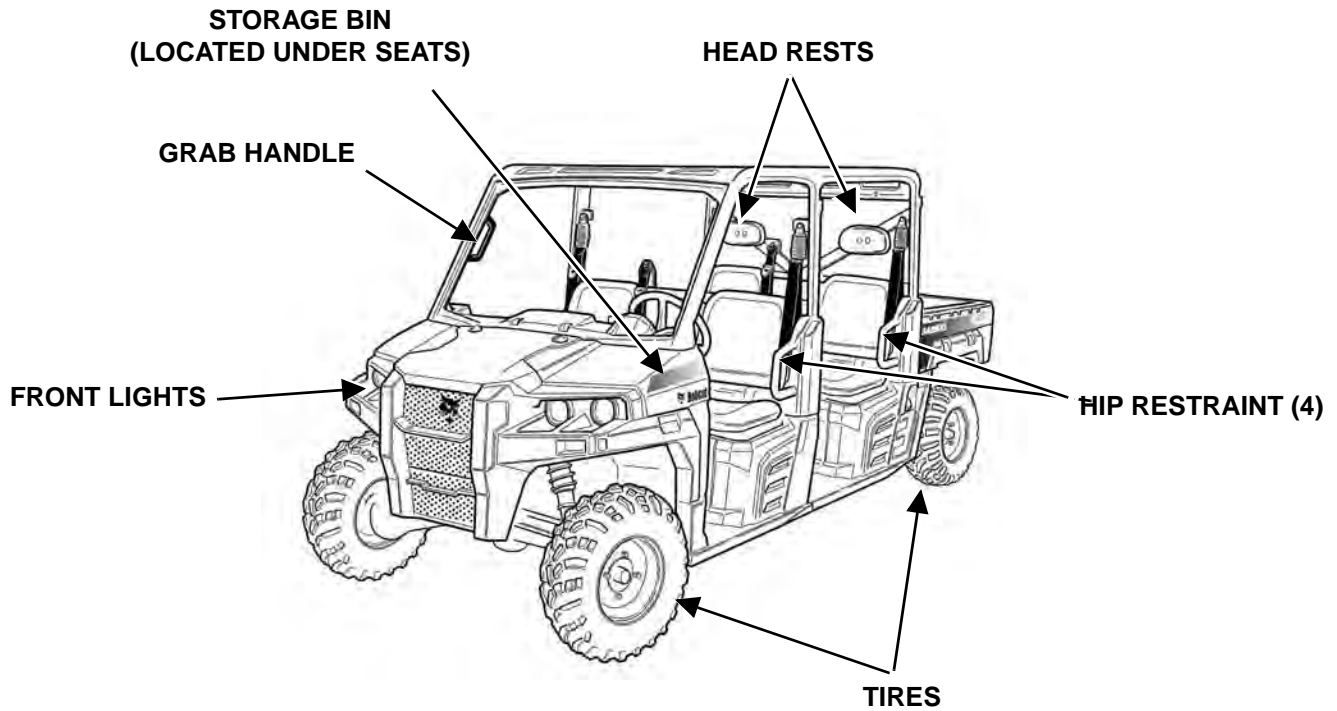
The delivery report **[Figure 4]** must be completed by the dealer and signed by the owner or operator when the Bobcat utility vehicle is delivered. An explanation of the form must be given to the owner.

UTILITY VEHICLE IDENTIFICATION (3400)



[1] ROPS - Roll-Over Protective Structure, per OSHA 1928.53: 2006.
OPS - Occupant Protective Structure per ANSI/OPEI B71.9-2012.

UTILITY VEHICLE IDENTIFICATION (3400XL)



NA9393
NA9394

[1] ROPS - Roll-Over Protective Structure, per OSHA 1928.53: 2006.
OPS - Occupant Protective Structure per ANSI/OPEI B71.9-2012.

SAFETY & MAINTENANCE

LIFTING AND BLOCKING THE UTILITY VEHICLE	10-10-1
Procedure	10-10-1
ROLLOVER PROTECTIVE STRUCTURE (ROPS)	10-20-1
Description	10-20-1
TRANSPORTING THE UTILITY VEHICLE ON A TRAILER	10-30-1
Loading And Unloading	10-30-1
Fastening	10-30-1
TOWING THE UTILITY VEHICLE	10-40-1
Procedure	10-40-1
SERVICE SCHEDULE	10-50-1
Maintenance Intervals	10-50-1
AIR CLEANER SERVICE	10-60-1
Pre-Filter Element	10-60-1
Replacing Filter Element	10-60-2
ENGINE COOLING SYSTEM	10-70-1
Checking Level	10-70-1
Cleaning	10-70-2
Removing And Replacing Coolant	10-70-3
FUEL SYSTEM	10-80-1
Fuel Specifications	10-80-1
Filling The Fuel Tank	10-80-2
Filling A Portable Fuel Container	10-80-2
ENGINE LUBRICATION SYSTEM	10-90-1
Checking And Adding Engine Oil	10-90-1
Engine Oil	10-90-1
Removing And Replacing Oil And Filter	10-90-2
CONTINUOUS VARIABLE TRANSMISSION (CVT)	10-100-1
CVT Drying	10-100-1
CVT Filter	10-100-2
GEARCASE	10-110-1
Checking Transmission Fluid	10-110-1
Transmission Fluid	10-110-1
Adding Transmission Fluid	10-110-1
Removing And Replacing Transmission Fluid	10-110-1
Checking Front Gearcase Fluid	10-110-2
Front Gearcase Fluid	10-110-3
Adding Front Gearcase Fluid	10-110-3
Removing And Replacing Front Gearcase Fluid	10-110-3

TIRE MAINTENANCE	10-120-1
Tires	10-120-1
Tire Tread Depth	10-120-1
Axle And Wheel Nut Torque	10-120-1
Wheel Removal And Installation	10-120-1
Mounting	10-120-2
Tire Pressure	10-120-2
SPARK ARRESTER MUFFLER	10-130-1
Cleaning Procedure	10-130-1
UTILITY VEHICLE STORAGE AND RETURN TO SERVICE	10-140-1
Storage	10-140-1
Return To Service	10-140-1
STOPPING THE ENGINE AND LEAVING THE UTILITY VEHICLE	10-150-1
Procedure	10-150-1
SEAT BELT	10-160-1
Inspection And Maintenance	10-160-1
LUBRICATING THE UTILITY VEHICLE	10-170-3
Lubrication Locations	10-170-3

LIFTING AND BLOCKING THE UTILITY VEHICLE

Procedure

For service work under the utility vehicle, or to remove the wheels, always support the utility vehicle with jackstands or blocks of adequate capacity for weight of utility vehicle. (See Performance on Page SPEC-10-5.)

Always park the utility vehicle on a flat level surface.

Stop the engine and put the gear selector in PARK.

If removing wheel(s), loosen the wheel nuts slightly before lifting the vehicle.



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.

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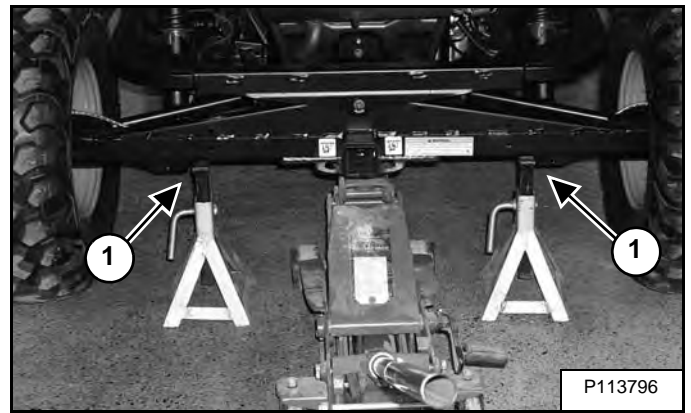
Figure 10-10-1



Place the jackstands (Item 1) [Figure 10-10-1] under the frame at the front of the utility vehicle.

NOTE: When lifting the utility vehicle, place the jack under front frame [Figure 10-10-1].

Figure 10-10-2



Place the jackstands (Item 1) [Figure 10-10-2] under the rear frame of the utility vehicle.

NOTE: When lifting the utility vehicle, place the jack under the rear frame [Figure 10-10-2].

ROLLOVER PROTECTIVE STRUCTURE (ROPS)

Description

Figure 10-20-1



The utility vehicle has a Roll-Over Protective Structure (ROPS) / Occupant Protective Structure (OPS) to provide protection from rollover [Figure 10-20-1]. The seat belts must be worn for ROPS / OPS protection.

Check the ROPS / OPS, mounting and hardware for damage. Never modify the ROPS / OPS. Replace the ROPS / OPS and hardware if damaged.

ROPS - Roll-Over Protective Structure per OSHA 1928.53: 2006

OPS - Occupant Protective Structure per ANSI/OPEI B71.9-2012.

! WARNING

AVOID INJURY OR DEATH

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

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Figure 10-20-2

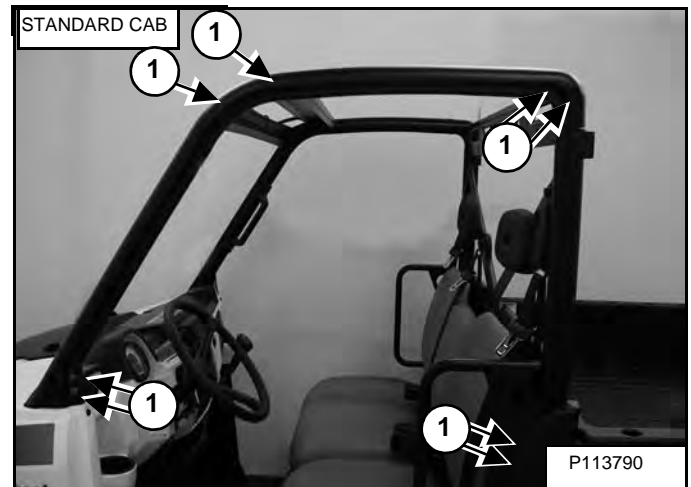
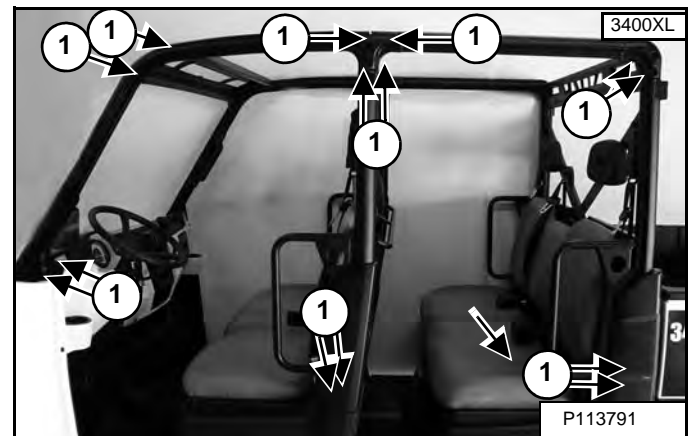


Figure 10-20-3



Make sure all ROPS mounting hardware [Figure 10-20-2], [Figure 10-20-3] is tight (both sides).

NOTE: For 3400 Standard machine, there are 8 locations on each side (16 total) to check the torque. For the 3400XL, there are 14 locations on each side (28 total) to check the torque.

The correct torque for ROPS tube to ROPS tube mounting hardware (Item 1) [Figure 10-20-2] and [Figure 10-20-3] is 48,8 N•m (36 ft-lb).

NOTE: The side panels (behind the seat(s)) will need to be removed to access the lower hardware on the ROPS structures.



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TRANSPORTING THE UTILITY VEHICLE ON A TRAILER

Loading And Unloading



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.

W-2058-0807

Be sure the transport and towing vehicles are of adequate size and capacity for the weight of utility vehicle. (See Performance on Page SPEC-10-5.)

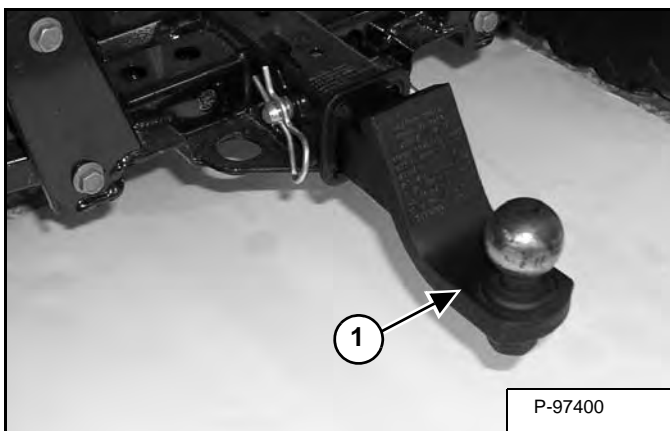
Figure 10-30-1



The Utility Vehicle can be loaded or unloaded forward or backward [Figure 10-30-1].

The rear of the trailer must be blocked or supported [Figure 10-30-1] when loading or unloading to prevent the front end of the trailer from raising up.

Figure 10-30-2



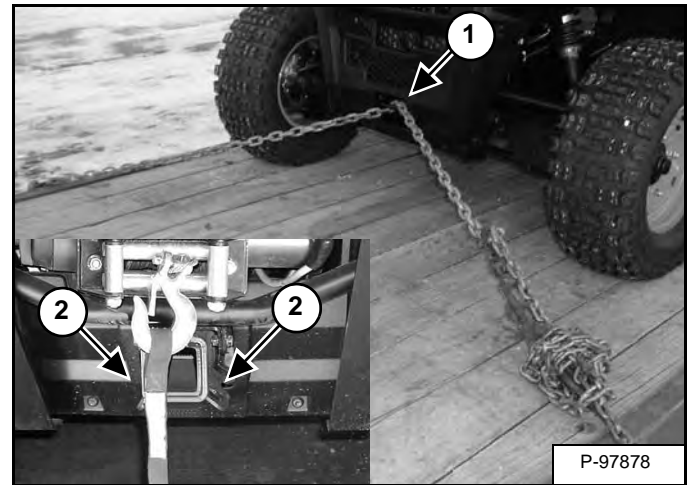
It may be necessary to remove items installed in the receiver hitch (Item 1) [Figure 10-30-2] before loading or unloading to prevent them from hitting the ground.

Fastening

Use the following procedure to fasten the utility vehicle to the transport vehicle to prevent it from moving during turns, sudden stops or when going up and down slopes.

Put the gear selector to PARK, stop the engine and remove the key.

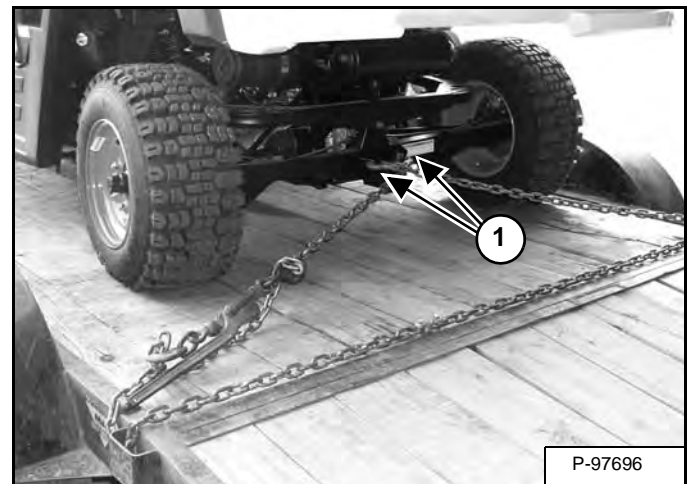
Figure 10-30-3



Fasten the front of utility vehicle using the front tie down point (Item 1) [Figure 10-30-3].

If equipped with the front receiver hitch, connect chains to front receiver hitch loops (Item 2) [Figure 10-30-3]

Figure 10-30-4



Fasten the rear of utility vehicle using the receiver hitch safety chain loops (Item 1) [Figure 10-30-4] as the tie down point.

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

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