

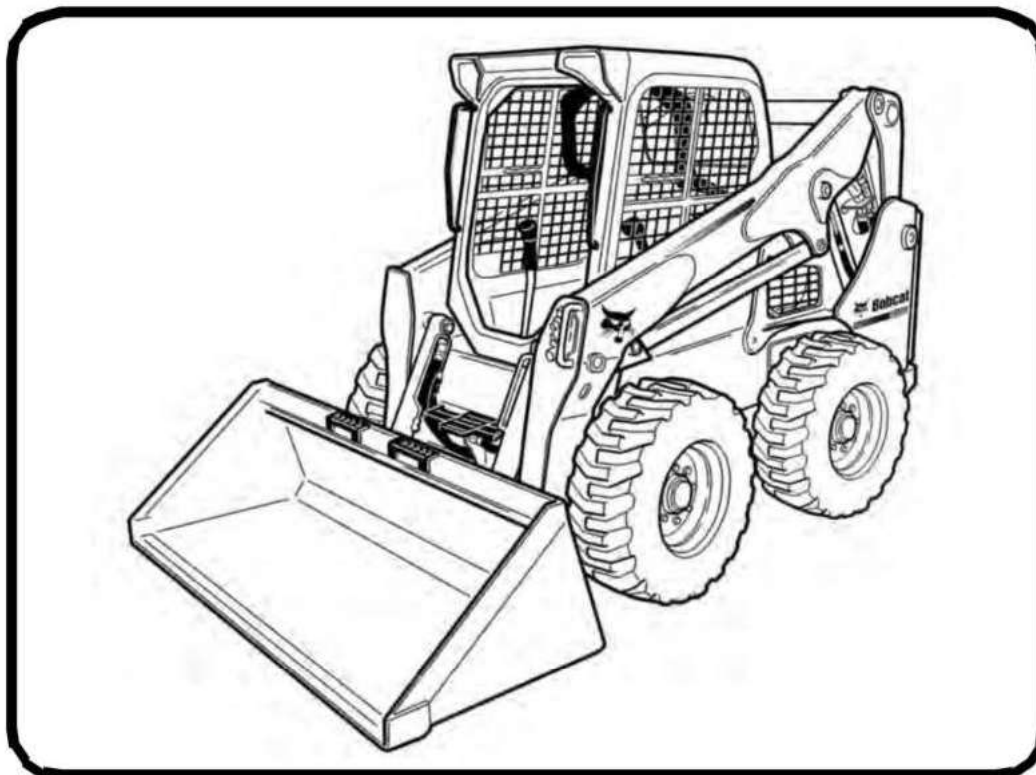


Bobcat®

EN

Operation & Maintenance Manual S590 Skid-Steer Loader

S/N ANMP11001 & Above
S/N AZNE11001 & Above



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EQUIPPED WITH
BOBCAT INTERLOCK
CONTROL SYSTEM (BICS™)



OPERATOR SAFETY WARNINGS



WARNING

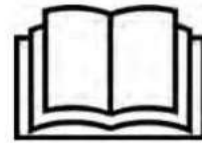
Operator must have instructions before operating the machine. Untrained operators can cause injury or death.

W-2001-0502



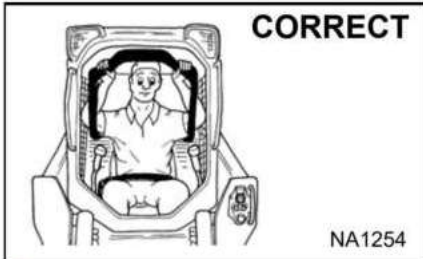
Safety Alert Symbol: This symbol with a warning statement, means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.

CORRECT



P-90216

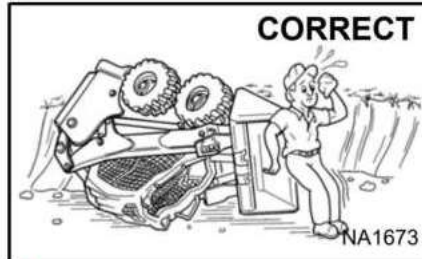
⚠ Never use the loader without instructions. See machine signs (decals), Operation & Maintenance Manual, and Operator's Handbook.



CORRECT

NA1254

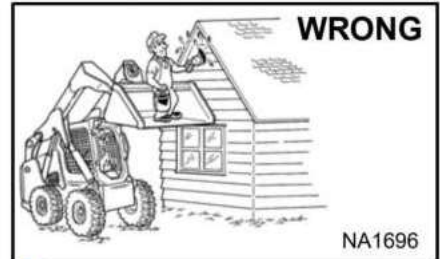
⚠ Always use the seat bar and fasten seat belt snugly.
⚠ Always keep feet on the foot pedals or footrests when operating loader.



CORRECT

NA1673

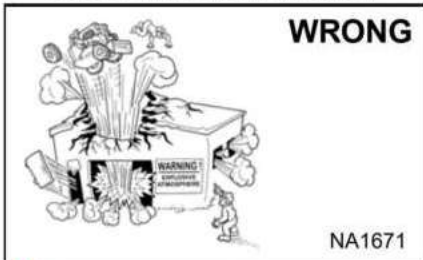
⚠ Never use loader without operator cab with ROPS and FOPS approval. Fasten your seat belt.



WRONG

NA1696

⚠ Never use loader as man lift or elevating device for personnel.



WRONG

NA1671

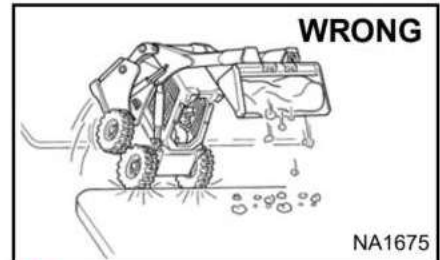
⚠ Do not use loader in atmosphere with explosive dust, explosive gas, or where exhaust can contact flammable material.



WRONG

NA1698

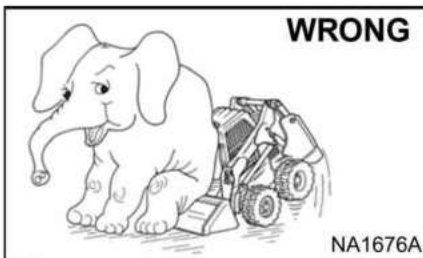
⚠ Never carry riders.
⚠ Keep bystanders away from work area.



WRONG

NA1675

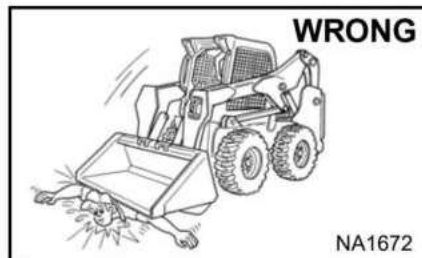
⚠ Always carry bucket or attachments as low as possible.
⚠ Do not travel or turn with lift arms up.
⚠ Load, unload, and turn on flat level ground.



WRONG

NA1676A

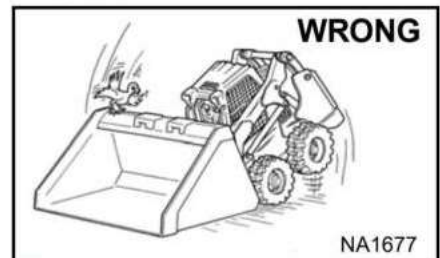
⚠ Never exceed Rated Operating Capacity.



WRONG

NA1672

⚠ Never leave loader with engine running or with lift arms up.
⚠ To park, engage parking brake and put attachment flat on the ground.



WRONG

NA1677

⚠ Never modify equipment.
⚠ Use only attachments approved by Bobcat Company for this model loader.

SAFETY EQUIPMENT

The Bobcat® loader must be equipped with safety items necessary for each job. Ask your Bobcat dealer for information on the availability and safe use of attachments and accessories.

1. SEAT BELT: Check belt fasteners and check for damaged webbing or buckle.
2. SEAT BAR: When up, it must lock the loader controls.
3. OPERATOR CAB (ROPS and FOPS): It must be on the loader with all fasteners tight.
4. OPERATOR'S HANDBOOK: Must be in the cab.
5. SAFETY SIGNS (DECALS): Replace if damaged.
6. SAFETY TREADS: Replace if damaged.
7. GRAB HANDLES: Replace if damaged.
8. LIFT ARM SUPPORT DEVICE: Replace if damaged.
9. PARKING BRAKE
10. BOBCAT INTERLOCK CONTROL SYSTEM (BICS)

OSW68-0117

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REFERENCE INFORMATION

Write the correct information for YOUR Bobcat loader in the spaces below. Always use these numbers when referring to your Bobcat loader.

Loader Serial Number _____
Engine Serial Number _____

NOTES:

YOUR BOBCAT DEALER:

ADDRESS:

PHONE:

Bobcat Company
P.O. Box 128
Gwinner, ND 58040-0128
UNITED STATES OF AMERICA



Doosan Bobcat EMEA s.r.o.
U Kodetky 1978
26312 Dobris
CZECH REPUBLIC

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FOREWORD

This Operation & Maintenance Manual was written to give the owner / operator instructions on the safe operation and maintenance of the Bobcat loader. READ AND UNDERSTAND THIS OPERATION & MAINTENANCE MANUAL BEFORE OPERATING YOUR BOBCAT LOADER. If you have any questions, see your Bobcat dealer. This manual may illustrate options and accessories not installed on your loader.


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Contents of EC Declaration of Conformity

This information is provided in the operators manual to comply with clause 1.7.4.2(c) of Annex I of Machinery Directive 2006/42/EC.


The official EC Declaration of Conformity is supplied in a separate document.

<p>Manufacturer</p>  <p>Bobcat Company World Headquarters 250 East Beaton Drive West Fargo, ND 58078-6000 UNITED STATES OF AMERICA</p>	<p>Directive 2000/14/EC: Noise Emission in the Environment by Equipment For Use Outdoors</p> <p>Notified Body Technical and Test Institute for Construction Prague, Czech Republic Notified Body Number: 1020</p> <p>EC Certificate No. 1020-090-022395</p> <p>Conformity Assessment Procedure(s) 2000/14/EC, Annex VIII, Full Quality Assurance</p> <p>Sound Power Levels [Lw(A)]</p> <table style="width: 100%; border: none;"> <tr> <td style="padding-right: 20px;">Measured Sound Power</td> <td style="text-align: right;">100 dBA</td> </tr> <tr> <td>Guaranteed Sound Power</td> <td style="text-align: right;">101 dBA</td> </tr> </table>	Measured Sound Power	100 dBA	Guaranteed Sound Power	101 dBA
Measured Sound Power	100 dBA				
Guaranteed Sound Power	101 dBA				
<p>Technical Documentation Homologation Manager Doosan Bobcat EMEA s.r.o. U Kodetky 1810 26312 Dobris CZECH REPUBLIC</p>	<p>Equipment conforms to CE Directive(s) Listed Below 2006/42/EC: Machinery Directive 2004/108/EC: Electromagnetic Compatibility Directive</p>				
<p>Description of Equipment Type of Equipment: Wheeled Loader Model Name: S590 Model Code: ANMP Lot Series: 11001</p> <p>Engine Manufacturer: Kubota Engine Model: V2607-DI-T-EU3 Engine Power: 48,5 kW @ 2700 RPM</p>	<p>Declaration of Conformance This equipment conforms to the requirements specified in all the EC Directives listed in this declaration.</p>				
<p>Effective From:</p> <p>11 September 2012</p>					

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<p>Declaration of Conformance This equipment conforms to the requirements specified in all the EC Directives listed in this declaration.</p>					
<p>Effective From:</p> <p>7 January 2013</p>					

DECLARATION OF CONFORMITY (CONT'D)



Homologation Manager
Doosan Bobcat Engineering s.r.o.
U Kodetky 1978
26312 Dobris
Czech Republic

Declaration of conformity with Article 14 of Regulation (EU) No 517/2014 of the European Parliament and of the Council

We Doosan Bobcat EMEA s.r.o. with VAT number CZ26489201, acting in its capacity as EU only representative for the import of goods from Doosan Infracore Co., Ltd with its address at Doosan Tower, 275, Jangchungdan-ro, Jung-gu, Seoul, 100-730, Korea, declare under our sole responsibility that when placing on the market pre-charged equipment, which we import to or manufacture in the Union, the hydrofluorocarbons contained in that equipment are accounted for within the quota system referred to in Chapter IV of Regulation (EU) No 517/2014 as:

A. we hold authorisation(s) issued in accordance with Article 18(2) of Regulation (EU) No 517/2014 and registered in the registry referred to in Article 17 of that Regulation, at the time of release for free circulation to use the quota of a producer or importer of hydrofluorocarbons subject to Article 15 of Regulation (EU) No 517/2014 that cover(s) the quantity of hydrofluorocarbons contained in the equipment.

B. *[for importers of equipment only]* the hydrofluorocarbons contained in the equipment have been placed on the market in the Union, subsequently exported and charged into the equipment outside the Union, and the undertaking that placed the hydrofluorocarbons on the market made a declaration stating that the quantity of hydrofluorocarbons has been or will be reported as placed on the market in the Union and that it has not been and will not be reported as direct supply for export in the meaning of Article 15(2)(c) of Regulation (EU) No 517/2014 pursuant to Article 19 of Regulation (EU) No 517/2014 and Section 5C of the Annex to Commission Implementing Regulation (EU) No 1191/2014 (2).

C. *[for equipment manufactured in the Union only]* the hydrofluorocarbons charged into the equipment were placed on the market by a producer or importer of hydrofluorocarbons subject to Article 15 of Regulation (EU) No 517/2014.

Dobroslav Rak

30th January, 2017

Doosan Bobcat EMEA s.r.o. | Identification No. 264 89 201 | Prague Commercial Register Section C, Entry 85459



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BOBCAT COMPANY IS ISO 9001 CERTIFIED








ISO 9001 is an international standard that specifies requirements for a quality management system that controls the processes and procedures which we use to design, develop, manufacture, and distribute Bobcat products.

British Standards Institute (**BSI**) is the Certified Registrar Bobcat Company chose to assess the company's compliance with the ISO 9001 at Bobcat's manufacturing facilities in Gwinner, North Dakota (U.S.A.), Pontchâteau (France), and the Bobcat corporate offices (Gwinner, Bismarck, and West Fargo) in North Dakota. **TÜV Rheinland** is the Certified Registrar Bobcat Company chose to assess the company's compliance with the ISO 9001 at Bobcat's manufacturing facility in Dobris (Czech Republic). Only certified assessors, like BSI and TÜV Rheinland, can grant registrations.

ISO 9001 means that as a company we say what we do and do what we say. In other words, we have established procedures and policies, and we provide evidence that the procedures and policies are followed.

REGULAR MAINTENANCE ITEMS

 <p>ENGINE OIL FILTER (6 Pack) 6675517</p>	 <p>BATTERY 7306047</p>
 <p>FUEL FILTER 6667352</p>	 <p>HYDRAULIC FILTER 7024037</p>
 <p>AIR FILTER, Outer 6666375</p>	 <p>HYDRAULIC CHARGE FILTER 6692337 (Earlier Models) 6686926 (Later Models)</p>
 <p>AIR FILTER, Inner 6666376</p>	 <p>HYDRAULIC FILL / BREATHER CAP 6727475</p>

NOTE: Always verify Part Numbers with your Bobcat dealer.

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REGULAR MAINTENANCE ITEMS (CONT'D)

Fluids, Lubricants And Fuel

The fluids, lubricants and fuel described below are those used in the factory and apply to operating conditions in European temperate climate areas. Please see your Bobcat dealer for requirements in other climate areas.

Read and understand the preventive maintenance required before adding or replacing any fluids or lubricants. (See PREVENTIVE MAINTENANCE on Page 118.)

ENGINE SYSTEMS				
Machine Components	Fluids And Lubricants	T° Range	Packaging**	Part Number
Engine	- Bobcat Engine Power SAE 10W30 CI4 / ACEA E7	-35°C - +30°C	A, B, C, D	6987789
	- Bobcat Engine Power SAE 15W40 CI4 / ACEA E7	-20°C - +40°C	A, B, C, D	6987790
	- Bobcat Engine Power SAE 10W30 CJ4 / ACEA E9	-25°C - +30°C	A, B, C, D	6987818*
	- Bobcat Engine Power SAE 15W40 CJ4 / ACEA E9	-20°C - +40°C	A, B, C, D	6987819
Cooling Circuit	- Bobcat PG Coolant Concentrated	-36°C	B, C, D	6987813*
	- Bobcat PG Coolant 4 Seasons	-36°C	A, B, C, D	6987793
Fuel Tank	- High-quality diesel fuel that meets EN590 (See FUEL SYSTEM on Page 144.)	-	-	*

HYDRAULIC / HYDROSTATIC SYSTEMS				
Machine Components	Fluids And Lubricants	T° Range	Packaging**	Part Number
Hydraulic Fluid Tank	- Bobcat Superior SH Hydraulic / Hydrostatic	-35°C - +50°C	A, B, C, D	6987791*
	- Bobcat Biodegradable Hydraulic / Hydrostatic	-35°C - +50°C	A, B, C, D	6987792

MECHANICAL SYSTEMS				
Machine Components	Fluids And Lubricants	Drop Point	Packaging**	Part Number
All Mechanical Systems	- Bobcat Multipurpose Grease	From 260°C	E	6987888*
	- Bobcat Supreme HD Grease	From 280°C	E	6987889
	- Bobcat Extreme HP Grease	From 260°C	E	6987890

(*) Factory Filled Fluids And Lubricants

(**) Packaging Available:

A = 5 L Can

B = 25 L Container

C = 209 L Drum

D = 1000 L Tank

E = 400 g Tube

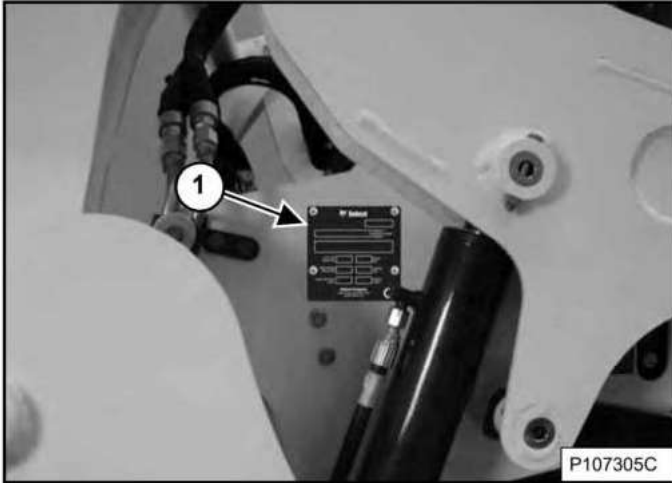
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SERIAL NUMBER LOCATIONS

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

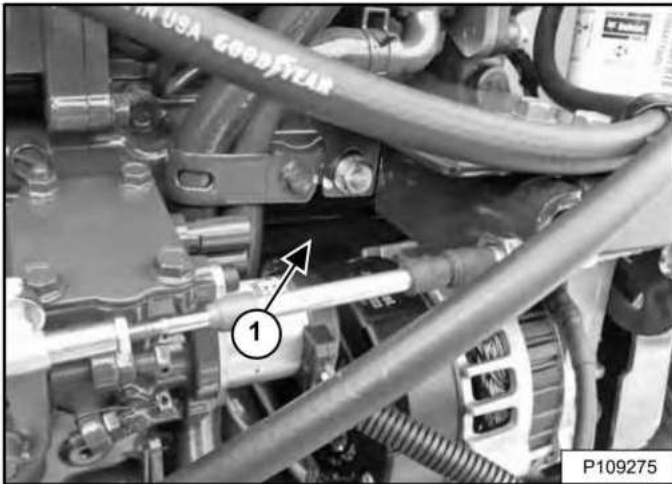
Figure 1



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

Engine Serial Number

Figure 2



The engine serial number (Item 1) [Figure 2] is located on the side of the engine behind the alternator.

DELIVERY REPORT

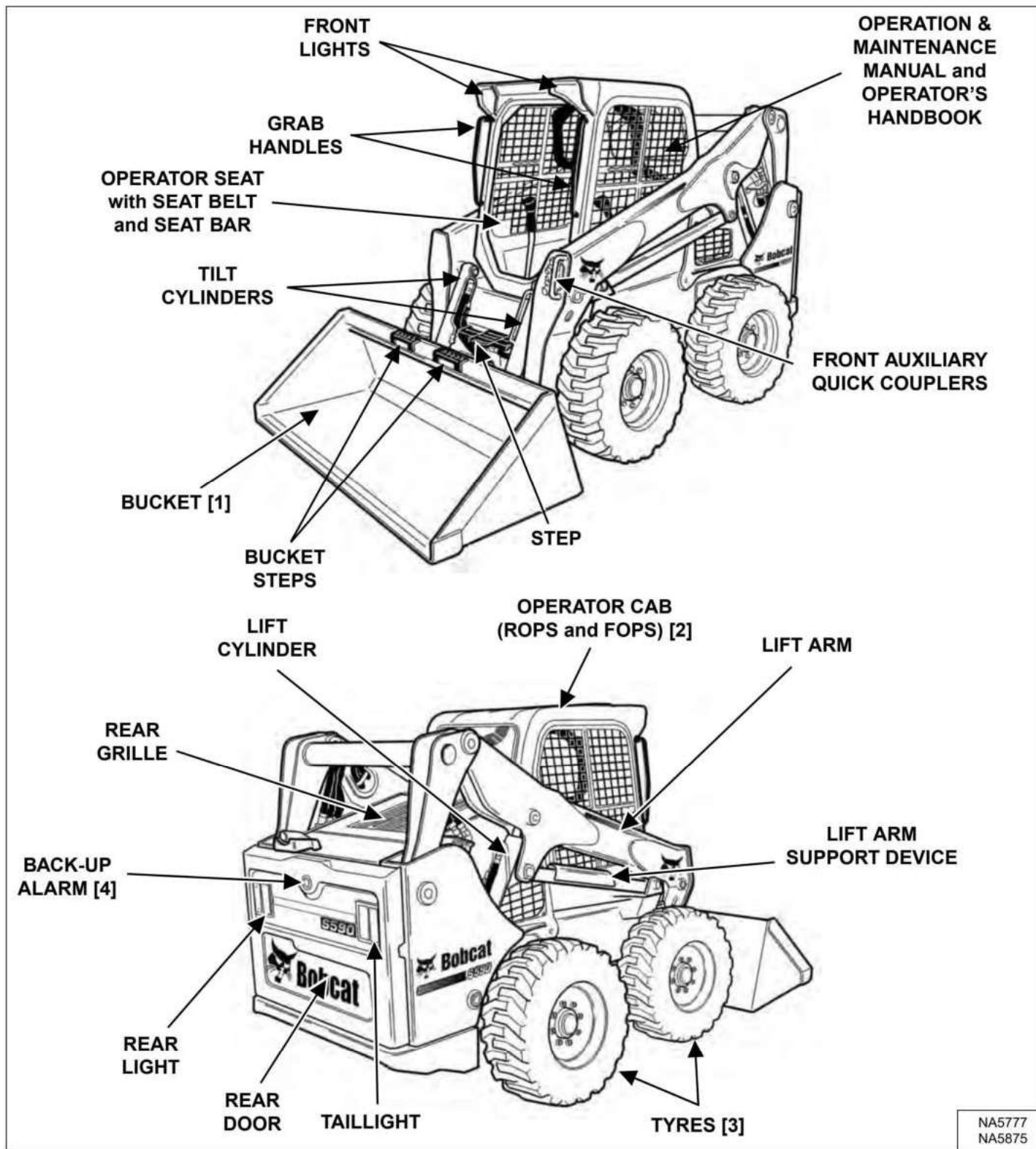
Figure 3



The delivery report [Figure 3] 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



- [1] BUCKETS - Several different buckets and other attachments are available for the Bobcat loader.
- [2] ROPS - Roll-Over Protective Structure per ISO 3471 and FOPS - Falling-Object Protective Structure per ISO 3449, Level I. Level II is available.
- [3] TYRES - Standard tyres are shown. Several different tyre styles and sizes are available for the Bobcat loader.
- [4] Optional or Field Accessory, (Not Standard Equipment.)

NA5777
NA5875

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FEATURES, ACCESSORIES, AND ATTACHMENTS

Standard Items

Model S590 Bobcat loaders are equipped with the following standard items:

- Access Covers
- Adjustable Suspension Seat
- Automatically Activated Glow Plugs
- Auxiliary Hydraulics
- Bobcat Interlock Control System (BICS™)
- Bob-Tach®
- Cab (includes: rear and side windows and polycarbonate top window) ROPS and FOPS (Level I) Approved
- Cab Accessory Harness
- CE Certification
- Deluxe Interior with Storage Compartments
- Engine / Hydraulic Systems Shutdown
- Exhaust Shield
- Front Horn
- Hydraulic Bucket Positioning (With On / Off Selection)
- Instrumentation: Hourmeter, Engine rpm, System Voltage; Engine Temperature and Fuel Gauges; Warning Lights
- Lift Arm Support Device
- Lights, Front and Rear
- Parking Brake
- Seat Bar
- Seat Belt
- Sound Reduction Kit (Reduces noise at operator ear)
- Spark Arrester Device
- Tailgate Lock
- Turbocharger
- Tyres (Bobcat Super Float, 31 x 12 - 16.5, 10 PR)

Options And Accessories

Below is a list of some equipment available from your Bobcat loader dealer as Dealer and / or Factory Installed Accessories and Factory Installed Options. See your Bobcat dealer for other available options and accessories.

- Adjustable Air Ride Suspension Seat
- Air Conditioning
- Air Deflector Kit
- Air Filter Precleaner
- Attachment Control Device (ACD) (7-Pin, 14-Pin)
- Automatic Ride Control
- Auxiliary Hydraulic Coupler Guard
- Back-up Alarm
- Cab Door with Emergency Exit
- Cab Heater
- Cab Reseal Plug Kit
- Controls:
 - Advanced Control System (ACS)
(Selectable Foot Pedal or Hand Control)
 - Advanced Hand Controls (AHC)
 - Selectable Joystick Controls (SJC)
(Selectable 'ISO' or 'H' Pattern Control)
 - Standard Controls

Options And Accessories (Cont'd)

- Counterweight Kit
- Deluxe Instrumentation Panel
- Dual Steering Damper
- Exhaust Purifying Muffler
- Extended Pedals
- Fire Extinguisher
- Foot Area Duct Kit
- FOPS Kit (Level II)
- FOPS Window Kit
- Forestry Door and Window Kit
- Forestry Door Wiper
- Four-Way Flashers (Also adds Turn Signal function)
- Front and Rear Light Guards
- Fuel Sediment Bowl Kit
- High-Flow Auxiliary Hydraulics
- Hose Guide
- Hydraulic Muffler
- Isolated Steering Link Kit
- Keyless Start
- Larger Capacity Battery (For cold weather starting)
- Lift Cylinder Cushion Kit
- Lift Kit (Four-Point, Single-Point)
- Locking Fuel Cap
- Maintenance Platform
- Muffler Guard
- Power Bob-Tach®
- Radio
- Rear Auxiliary Hydraulics
- Rear Bumper Kit
- Rear Window Wiper
- Reversing Fan
- Road Kit
- Road Option
- Rotating Beacon
- Seat Belt with 3-Point Restraint (Standard on Two-Speed Models)
- Seat Belt - 3 in. Wide
- Side Lighting
- Special Applications Kit
- Strobe Light
- Tilt Cylinder Guard Kit
- Tyres:
 - Bobcat Heavy Duty, 10 - 16.5, 10 PR
 - Bobcat Heavy Duty Offset, 10 - 16.5, 10 PR
 - Bobcat Heavy Duty Offset Poly Fill, 10 - 16.5, 10 PR
 - Bobcat Severe Duty, 10 - 16.5, 10 PR
 - Bobcat Severe Duty Poly Fill, 10 - 16.5, 10 PR
- Two-Speed Travel
- Windows:
 - Polycarbonate Rear Window
 - Polycarbonate Side Windows

Specifications subject to change without notice and standard items may vary.

FEATURES, ACCESSORIES, AND ATTACHMENTS (CONT'D)

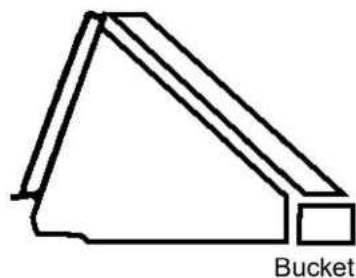
These and other attachments are approved for use on this model loader. Do not use unapproved attachments. Attachments not manufactured by Bobcat may not be approved.

The versatile Bobcat loader quickly turns into a multijob machine with a tight-fit attachment hook-up ... from bucket to grapple to pallet fork to backhoe, and a variety of other attachments.

See your Bobcat dealer for information about approved attachments and attachment Operation & Maintenance Manuals.

Increase the versatility of your Bobcat loader with a variety of bucket styles and sizes.

Buckets Available



Many bucket styles, widths, and different capacities are available for a variety of different applications. They include Construction and Industrial, Low Profile, Fertiliser, and Snow, to name a few. See your Bobcat dealer for the correct bucket for your Bobcat loader and application.

Attachments

- Angle Broom
- Auger
- Backhoe
- Bale Fork
- Bale Handler
- Blades — Box, Dozer, Snow, Snow V-Blade
- Bob-Tach™ Backhoe
- Brush Saw
- Brushcat™ Rotary Cutter
- Bucket Adapter
- Buckets
- Combination Bucket
- Concrete Mixer
- Concrete Pump
- Cutter Crusher
- Digger
- Drop Hammer
- Dumping Hopper
- Flail Cutter
- Forks, Utility
- Grader
- Grapples — Farm / Utility, Industrial, Root
- Hydraulic Breaker
- Landplane
- Landscape Rake
- Mixing Bucket
- Packer Wheel
- Pallet Forks
- Planer
- Rotary Grinder
- Salt and Sand Spreader
- Scarifier
- Scraper
- Snowblower
- Snow Pusher
- Sod Layer
- Soil Conditioner
- Stabilisers, Rear
- Stump Grinder
- Sweeper
- Tiller

- Tilt-Tatch™
- Tracks, Steel
- Tree Transplanter
- Trench Compactor
- Trencher
- Utility Frame
- Vibratory Roller
- Water Kit
- Wheel Saw
- Whisker Broom
- Wood Chipper

High-Flow Attachments

The following attachments are approved for use on High-Flow machines. See your Bobcat dealer for an updated list of approved attachments.

- Angle Broom
- Auger
- Brushcat™ Rotary Cutter
- Concrete Pump
- Flail Cutter
- Planer
- Snowblower
- Soil Conditioner
- Stump Grinder
- Tiller
- Trencher
- Wheel Saw
- Wood Chipper

Special Applications Kit

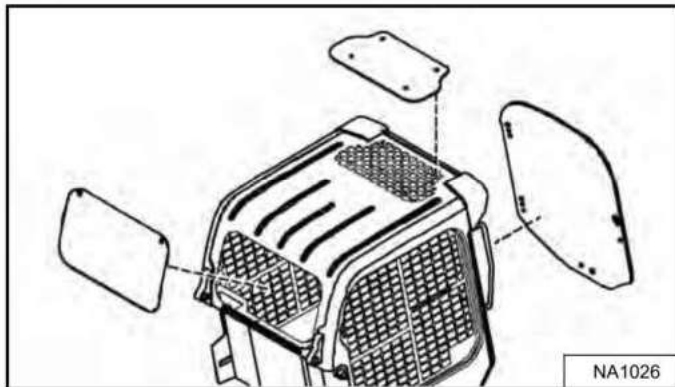


AVOID INJURY OR DEATH

Some attachment applications can cause flying debris or objects to enter front, top or rear cab openings. Install the Special Applications Kit to provide added operator protection in these applications.

W-2737-0508

Figure 4



Available for special applications to restrict material from entering cab openings. Kit includes 12,7 mm (0.5 in) thick polycarbonate front door and polycarbonate rear window **[Figure 4]**.

Polycarbonate top window (standard item) must be installed for special applications to restrict material from entering cab openings.

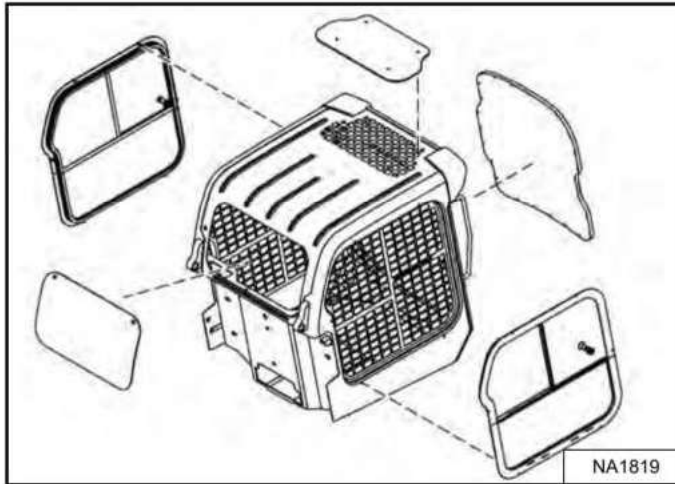
See your Bobcat dealer for availability.

Special Applications Kit Inspection And Maintenance

- Inspect for cracks or damage. Replace if required.
- Prerinse with water to remove gritty materials.
- Wash with a mild household detergent and warm water.
- Use a sponge or soft cloth. Rinse well with water and dry with a clean soft cloth or rubber squeegee.
- Do not use abrasive or highly alkaline cleaners.
- Do not clean with metal blades or scrapers.

Forestry Door And Window Kit

Figure 5



Available for special applications to prevent flying debris and objects from entering the cab. Kit includes 19,1 mm (0.75 in) thick laminated polycarbonate front door, polycarbonate side windows, and polycarbonate rear window [Figure 5].

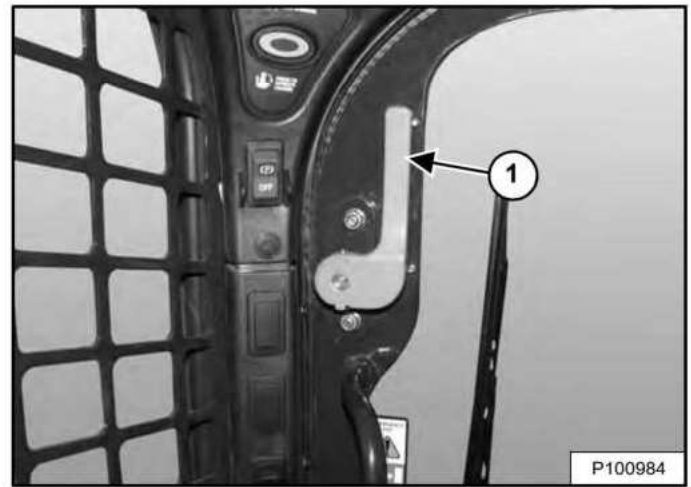
Polycarbonate top window (standard item) must be installed as part of the Forestry Door And Window Kit to restrict material from entering cab openings.

Forestry Door And Window Kit Inspection And Maintenance

- Inspect for cracks or damage. Replace if required.
- Order part number 7171104 if door frame is damaged and needs to be replaced.
- Order kit part number 7193293 if door polycarbonate is damaged and needs to be replaced.
- Prerinse with water to remove gritty materials.
- Wash with a mild household detergent and warm water.
- Use a sponge or soft cloth. Rinse well with water and dry with a clean soft cloth or rubber squeegee.
- Do not use abrasive or highly alkaline cleaners.
- Do not clean with metal blades or scrapers.

Forestry Door Emergency Exit

Figure 6



- Inspect both emergency exit levers (Item 1) [Figure 6], linkages, and hardware for loose or damaged parts.
- Repair or replace if necessary.

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SAFETY AND TRAINING RESOURCES

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SAFETY INSTRUCTIONS

Before Operation

Carefully follow the operating and maintenance instructions in this manual.

The Bobcat loader is highly maneuverable and compact. It is rugged and useful under a wide variety of conditions. This presents an operator with hazards associated with off motorway, rough terrain applications, common with Bobcat loader usage.

The Bobcat loader has an internal combustion engine with resultant heat and exhaust. All exhaust gases can kill or cause illness so use the Loader with adequate ventilation.

The dealer explains the capabilities and restrictions of the Bobcat loader and attachment for each application. The dealer demonstrates the safe operation according to Bobcat instructional materials, which are also available to operators. The dealer can also identify unsafe modifications or use of unapproved attachments. The attachments and buckets are designed for a Rated Operating Capacity (some have restricted lift heights). They are designed for secure fastening to the Bobcat loader. The user must check with the dealer, or Bobcat literature, to determine safe loads of materials of specified densities for the machine - attachment combination.

The following publications and training materials 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 and attachment is in safe operating condition.
- The Operation & Maintenance Manual delivered with the machine or attachment gives 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 is fastened to the operator cab of the loader. Its brief instructions are convenient to the operator. See your Bobcat dealer for more information on translated versions.

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.

Safe Operation Is The Operator's Responsibility

**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 machine. Untrained operators can cause injury or death.

W-2001-0502

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 Bobcat loader and attachment must be in good operating condition before use.

Check all of the items on the Bobcat Service Schedule Decal under the 8-10 hour column or as shown in the Operation & Maintenance Manual.

Safe Operation Needs A Qualified Operator

For an operator to be qualified, he or she must not use drugs or alcoholic drinks which impair alertness or coordination while working. An operator who is taking prescription drugs must get medical advice to determine if he or she can safely operate a machine.

*A Qualified Operator Must Do The Following:**Understand the Written Instructions, Rules and Regulations*

- The written instructions from Bobcat Company include the Delivery Report, Operation & Maintenance Manual, Operator's Handbook and machine signs (decals).
- Check the rules and regulations at your location. The rules may include an employer's work safety requirements. For driving on public roads, the machine must be equipped as stipulated by the local regulations authorising operation on public roads in your specific country. Regulations may identify a hazard such as a utility line.

Have Training with Actual Operation

- Operator training must consist of a demonstration and verbal instruction. This training is given by your Bobcat dealer before the product is delivered.
- The new operator must start in an area without bystanders and use all the controls until he or she can operate the machine and attachment safely under all conditions of the work area. Always fasten seat belt before operating.

Know the Work Conditions

- Know the weight of the materials being handled. Avoid exceeding the Rated Operating Capacity (ROC) of the machine. Material which is very dense will be heavier than the same volume of less dense material. Reduce the size of the load if handling dense material.
- The operator must know any prohibited uses or work areas, for example, he or she needs to know about excessive slopes.
- Know the location of any underground lines.
- Wear tight fitting clothing. Always wear safety glasses when doing maintenance or service. Safety glasses, respiratory equipment, hearing protection or Special Applications Kits are required for some work. See your Bobcat dealer about Bobcat Safety Equipment for your model.

Avoid Silica Dust

Cutting or drilling concrete containing sand or rock containing quartz may result in exposure to silica dust. Use a respirator, water spray or other means to control dust.

**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.

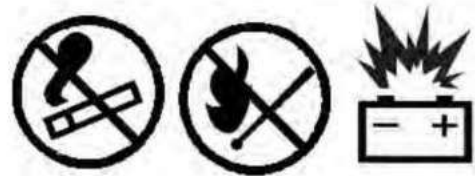
Flammable debris (leaves, straw, etc.) must be removed regularly. If flammable debris is allowed to accumulate, it can cause a fire hazard. Clean often to avoid this accumulation. Flammable debris in the engine compartment is a potential fire hazard.

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.

FIRE PREVENTION (CONT'D)

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 petrol or diesel fuel for cleaning parts. Use commercial non-flammable 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).

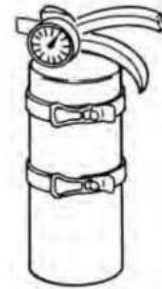
Welding And Grinding

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 non-metallic 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.

PUBLICATIONS AND TRAINING RESOURCES

The following publications are also available for your Bobcat loader. You can order them from your Bobcat dealer.

For the latest information on Bobcat products and the Bobcat Company, visit our website at **Bobcat.com**



OPERATION & MAINTENANCE MANUAL

6990175enGB

Complete instructions on the correct operation and the routine maintenance of your Bobcat loader.



SERVICE MANUAL

6990176enUS

Complete maintenance instructions for your Bobcat loader.



OPERATOR'S HANDBOOK

6987174enGB

Gives basic operation instructions and safety warnings.

MACHINE SIGNS (DECALS)

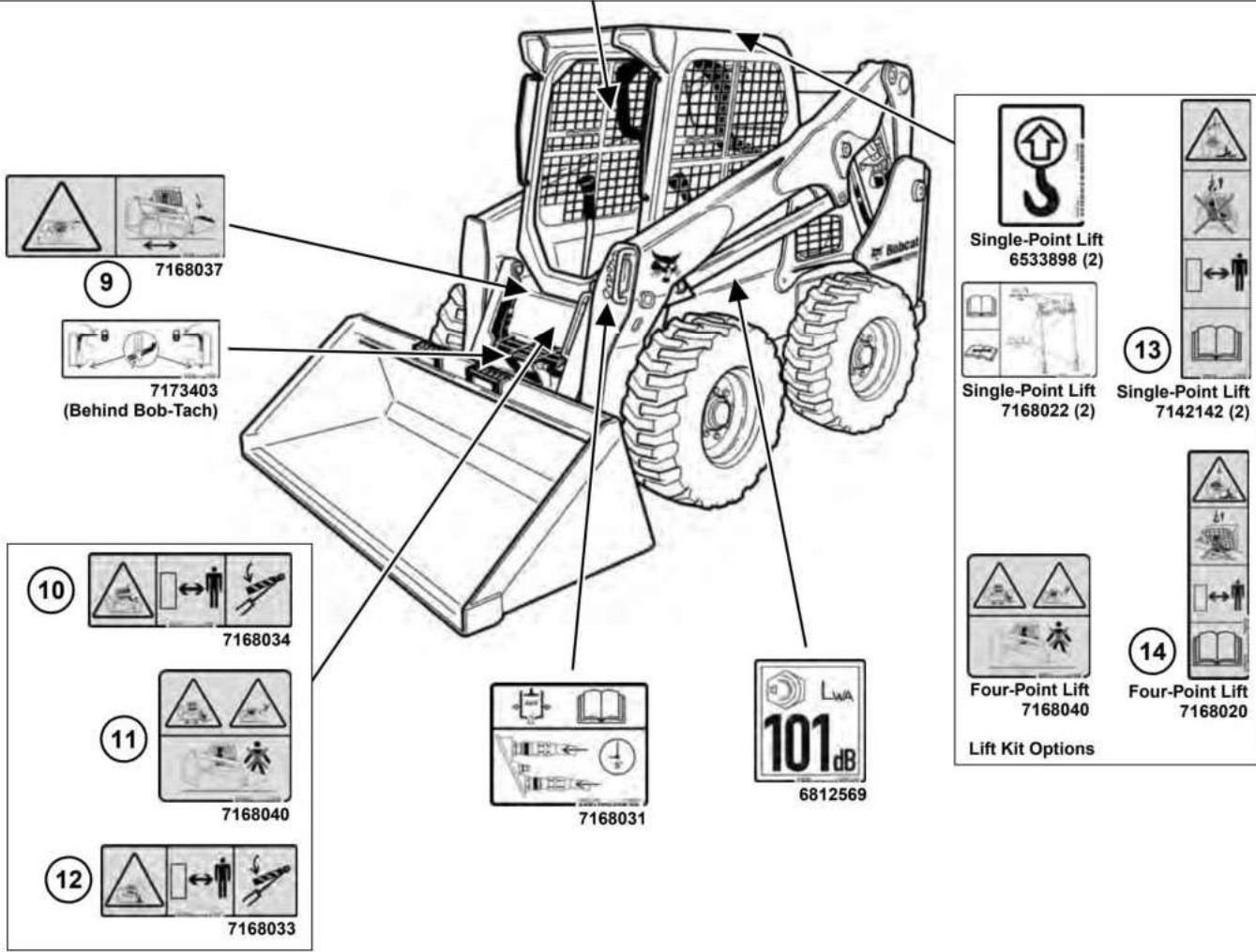
Follow the instructions on all the Machine Signs (Decals) that are on the loader. Replace any damaged machine signs and be sure they are in the correct locations. Machine signs are available from your Bobcat loader dealer.

- 1 7168038
- 2 Standard, ACS, and AHC 7168141
- 3 3-Point Restraint 7184346
- 4 SJC 7168081, SJC 7168082
- 5 SJC 7168143
- 6 SJC 7177707
- 7 Standard, ACS, and AHC 7168139
- 8 Back-up Alarm 7180087
- 9 7168037
- 10 7168034
- 11 7168040
- 12 7168033
- 13 Single-Point Lift 7142142 (2)
- 14 Four-Point Lift 7168020

Other decal options shown:

- 7177742
- 6987174enGB
- 7323562 (Inside Fuse Access Panel) (Left Foot Area)
- Door 7168025
- Standard, ACS, and AHC - 7168273
- Door Gas Spring 7170360
- Door Gas Spring 7169291
- Rear Window with Latches 7167991
- Rated Operating Capacity (ROC) 2100 lbs / 950 kg
- 101dB 6812569

Inside Cab

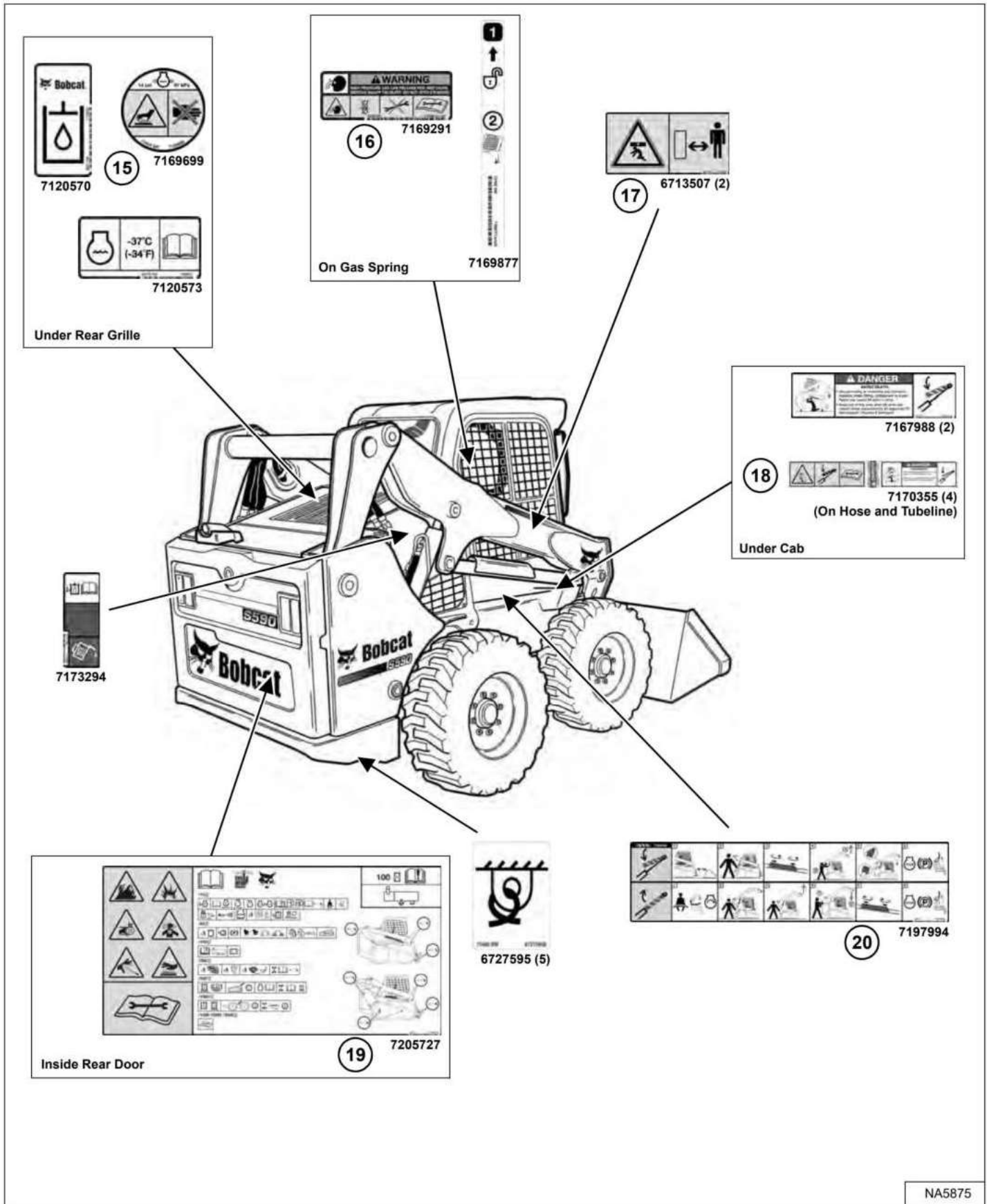


Dealer Conv. -- Not for Resale

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MACHINE SIGNS (DECALS) (CONT'D)

Follow the instructions on all the Machine Signs (Decals) that are on the loader. Replace any damaged machine signs and be sure they are in the correct locations. Machine signs are available from your Bobcat loader dealer.

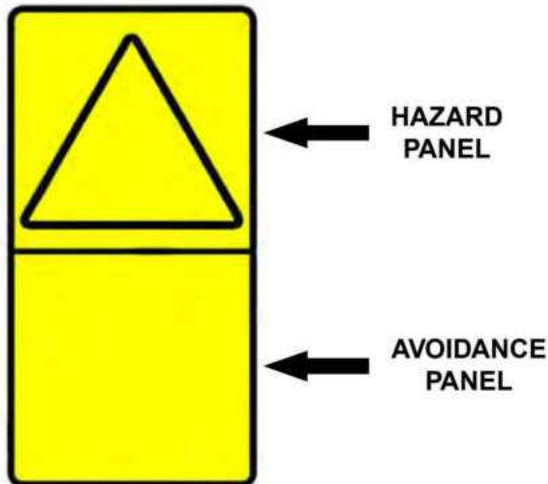


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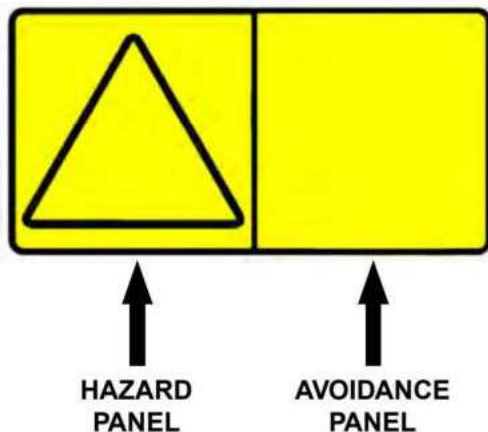
Pictorial Only Safety Signs

Safety signs are used to alert the equipment operator or maintenance person to hazards that may be encountered in the use and maintenance of the equipment. The location and description of the safety signs are detailed in this section. Please become familiarised with all safety signs installed on the machine / attachment.

Vertical Configuration



Horizontal Configuration



The format consists of the hazard panel(s) and the avoidance panel(s):

Hazard panels depict a potential hazard enclosed in a safety alert triangle.

Avoidance panels depict actions required to avoid the hazards.

A safety sign may contain more than one hazard panel and more than one avoidance panel.

NOTE: See the numbered MACHINE SIGNS (DECALS) on Page 20 and MACHINE SIGNS (DECALS) (CONT'D) on Page 21 for the machine location of each correspondingly numbered pictorial only decal.

1. General Hazard Warning (7168038)

This safety sign is located in the operator cab in the lower right hand corner.



AVOID INJURY OR DEATH

Never use the loader without instructions. Read Operation & Maintenance Manual and Handbook.

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

On slopes, keep heavy end of loader uphill.

Do not travel or turn with lift arms up. Load, unload and turn on flat level ground. Do not exceed Rated Operating Capacity (see sign on loader).

W-2837-0310

Dealer Copy -- Not for Resale

MACHINE SIGNS (DECALS) (CONT'D)

Pictorial Only Safety Signs (Cont'd)

2. To Leave the Loader (7168141)

This safety sign is located in the operator cab in the lower right hand corner.



AVOID INJURY OR DEATH

TO LEAVE THE LOADER:

1. Lower the lift arms and put attachment flat on the ground.
2. Stop the engine.
3. Engage the brake.
4. Raise seat bar.
5. Move pedals and hand controls until both lock.
6. Exit the loader.

W-2838-0310

3. High Range Speeds (7184346)

This safety sign is located in the operator cab on loaders equipped with a seat belt with 3-point restraint.



**HITTING OBSTRUCTIONS AT HIGH RANGE SPEEDS
CAN CAUSE SERIOUS INJURY OR DEATH**
Fasten shoulder belt for additional restraint when
operating at high range speeds.

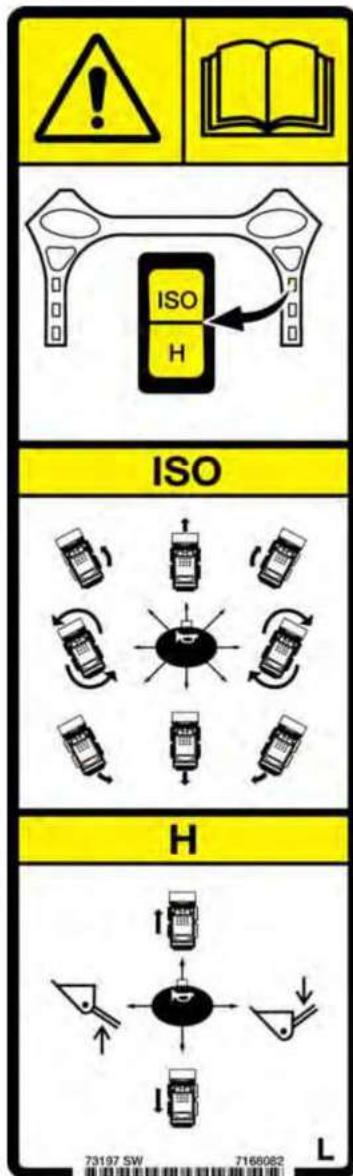
W-2754-0908

MACHINE SIGNS (DECALS) (CONT'D)

Pictorial Only Safety Signs (Cont'd)

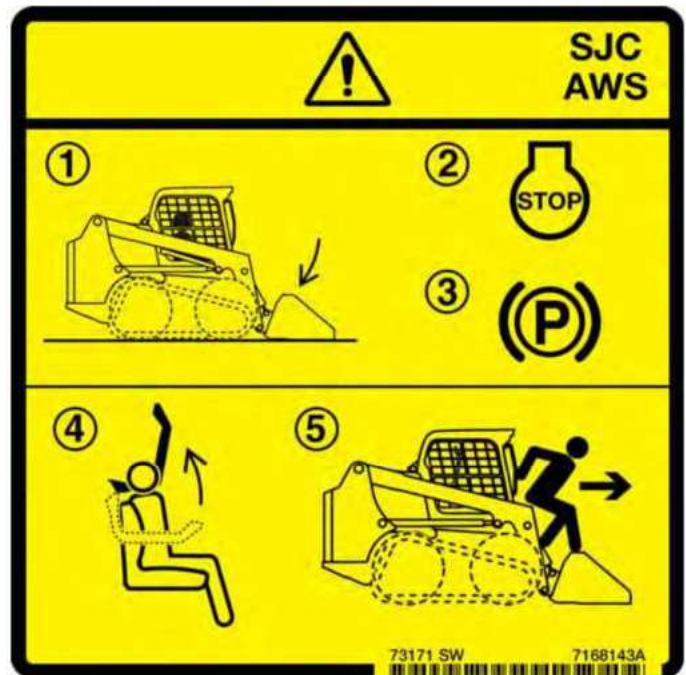
4. SJC Left Hand Joystick (7168082)

This safety sign is located in the operator cab on the left armrest.



5. To Leave the Loader (7168143)

This safety sign is located in the operator cab in the lower right hand corner.



AVOID INJURY OR DEATH

TO LEAVE THE LOADER:

1. Lower the lift arms and put attachment flat on the ground.
2. Stop the engine.
3. Engage the brake.
4. Raise seat bar.
5. Exit the loader.

W-2839-0310



ACCIDENTAL LOADER MOVEMENT CAN CAUSE
SERIOUS INJURY OR DEATH

Read and understand the Operation & Maintenance Manual for more information.

- Drive, lift arm and tilt functions operate on different joysticks in each control mode.
- Know and understand the selected control mode before operating.

W-2788-0309

MACHINE SIGNS (DECALS) (CONT'D)

Pictorial Only Safety Signs (Cont'd)

6. SJC Control Pattern Switch (7177707)

This safety sign is located in the operator cab around the SJC control pattern switch on the right panel.



**ACCIDENTAL LOADER MOVEMENT CAN CAUSE
SERIOUS INJURY OR DEATH**

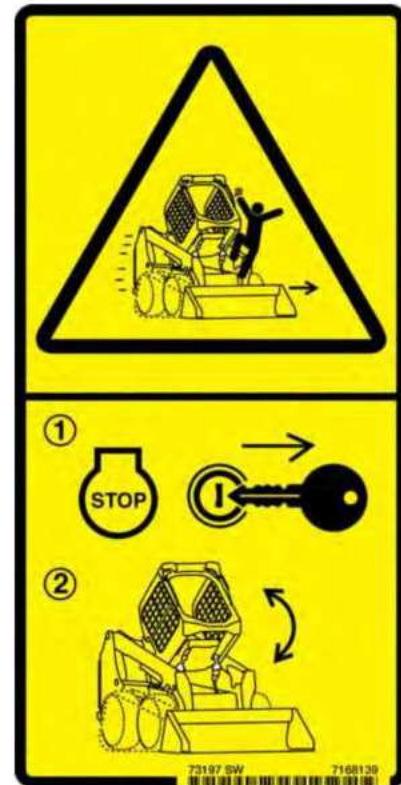
Read and understand the Operation & Maintenance Manual for more information.

- Drive, lift arm and tilt functions operate on different joysticks in each control mode.
- Know and understand the selected control mode before operating.

W-2788-0309

7. Unexpected Loader, Lift Arm or Attachment Movement (7168139)

This safety sign is located in the operator cab on the left side of the seat.



**UNEXPECTED LOADER, LIFT ARM OR ATTACHMENT
MOVEMENT CAUSED BY CAB CONTACT WITH
CONTROLS CAN CAUSE SERIOUS
INJURY OR DEATH**

- **STOP ENGINE** before raising or lowering cab.

W-2758-0908

MACHINE SIGNS (DECALS) (CONT'D)

Pictorial Only Safety Signs (Cont'd)

8. Back-Up Alarm (7180087)

This safety sign is located in the operator cab on the lower left side.



AVOID INJURY OR DEATH

- Always keep bystanders away from the work area and travel path.
- The operator must always look in the direction of travel.
- The back-up alarm must sound when operating the machine in the reverse direction.

W-2783-0409

9. Tipping, Rollover or Loss of Visibility (7168037)

This safety sign is located on the back side of the lift arms facing the operator.



TIPPING, ROLLOVER OR LOSS OF VISIBILITY CAN CAUSE SERIOUS INJURY OR DEATH

Carry load low.

W-2836-0310

10. Frame Raising (7168034)

This safety sign is located on the front of the loader.



AVOID DEATH

Attachment can be forced against the ground and cause front frame to raise.

Never go under or reach under lift arms or lift cylinder without an approved lift arm support device installed.

D-1021-0310

MACHINE SIGNS (DECALS) (CONT'D)

Pictorial Only Safety Signs (Cont'd)

11. Falling Hazard (7168040)

This safety sign is located on the front of the loader.



AVOID INJURY OR DEATH

- Never carry riders.
- Never use loader as a man lift or work platform.

W-2835-0310

12. Lift Arm Crushing (7168033)

This safety sign is located on the front of the loader.



AVOID DEATH

Keep out of this area when lift arms are raised unless supported by an approved lift arm support device.

Moving lift arm control or failure of a part can cause lift arms to drop.

D-1020-0310

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MACHINE SIGNS (DECALS) (CONT'D)

Pictorial Only Safety Signs (Cont'd)

13. Single-Point Lift (7142142)

This safety sign is located on the side arm of the single-point lift.



**FAILURE OF THE LIFT ASSEMBLY CAN CAUSE
SERIOUS INJURY OR DEATH**

BEFORE LIFTING LOADER:

1. Check the hardware and fasteners of the Single Point Lift and Operator Cab (ROPS) for proper torque.
 2. Inspect Single Point Lift for damage or cracked welds. Repair or replace components as necessary.
- No riders on loader during lifting. Keep 5 m (15 ft) away while lifting.
 - See Operation & Maintenance Manual for more information.

W-2841-0910

14. Four-Point Lift (7168020)

This safety sign is located on the front of the loader.



**FAILURE OF THE LIFT ASSEMBLY CAN CAUSE
SERIOUS INJURY OR DEATH**

BEFORE LIFTING LOADER:

1. Check the hardware and fasteners at all lift points for proper torque.
 2. Inspect lift points for damage or cracked welds. Repair or replace components as necessary.
- No riders on loader and keep 5 m (15 ft) away while lifting.
 - See Operation & Maintenance Manual for more information.

W-2840-0910

MACHINE SIGNS (DECALS) (CONT'D)

Pictorial Only Safety Signs (Cont'd)

15. Hot Pressurised Fluid (7169699)

This safety sign is located on the engine coolant tank cap.



**HOT PRESSURISED FLUID CAN CAUSE
SERIOUS BURNS**

- Never open hot.
- OPEN SLOWLY.

W-2755-EN-0909

16. High Pressure Gas (7169291)

This safety sign is located on the gas spring component(s) supporting the cab and on the front door option.



**HIGH PRESSURE GAS CAN RELEASE ROD AND
CAUSE SERIOUS INJURY OR DEATH**

- Do not open cylinder.
- See Service Manual for more information.

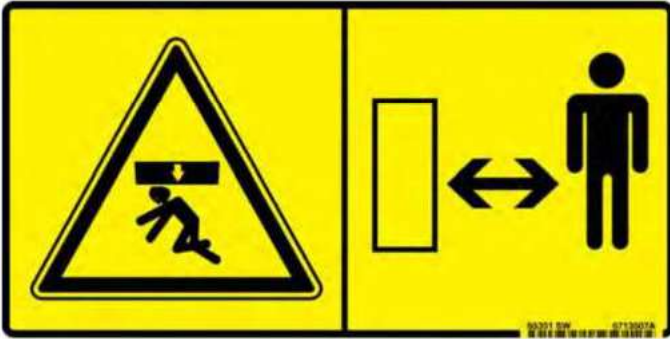
W-2756-0908

MACHINE SIGNS (DECALS) (CONT'D)

Pictorial Only Safety Signs (Cont'd)

17. Crush Hazard (6713507)

This safety sign is located on the side of each lift arm.



Keep away from the operating machine to avoid serious injury or death.

W-2520-0106

18. Lift Arm Crushing (7170355)

This safety sign is located on certain hoses or tubelines inside the loader frame underneath the operator cab.



AVOID DEATH

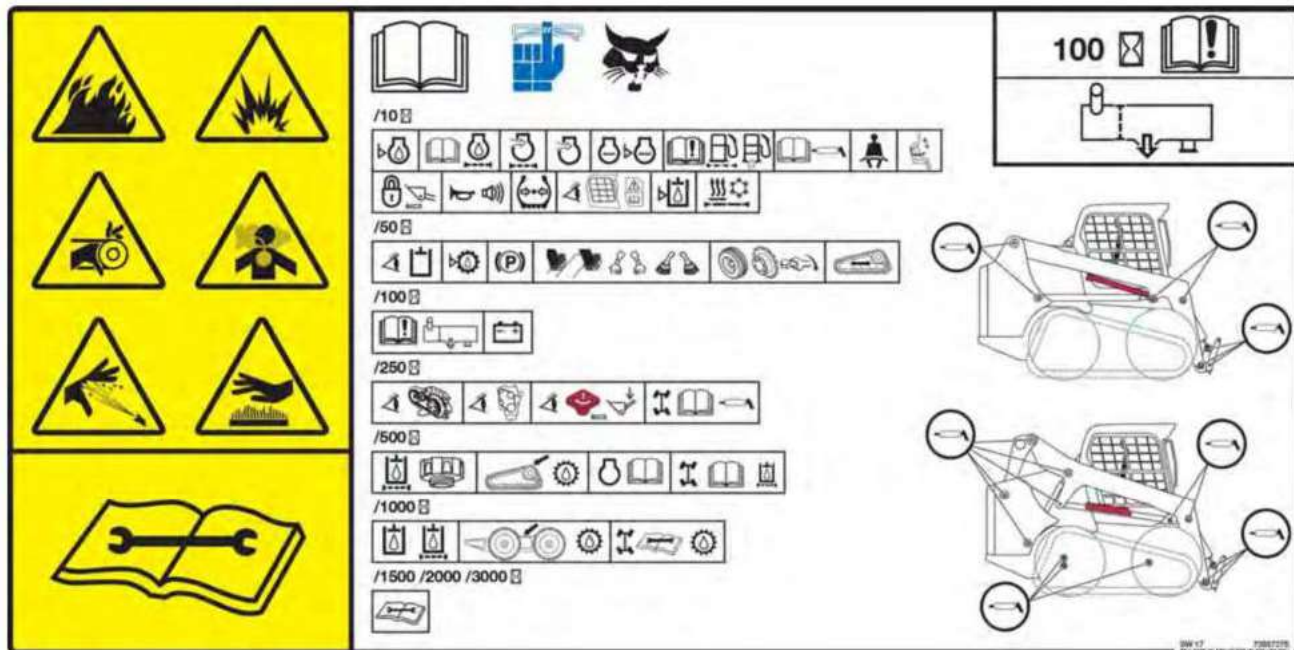
- Disconnecting hydraulic lines can cause the lift arms or attachment to drop.
- Always use an approved lift arm support when lift arms are in a raised position.

D-1008-0409

Pictorial Only Safety Signs (Cont'd)

19. Service Checklist And Schedule (7205727)

This safety sign is located inside the rear door (tailgate).



! WARNING

AVOID INJURY OR DEATH

- Keep door / cover closed except for service.
- Keep engine clean of flammable material.
- Keep body, loose objects and clothing away from electrical contacts, moving parts, hot parts and exhaust.
- Do not use the machine in space with explosive dusts or gases or with flammable material near exhaust.
- Never use ether or starting fluid on diesel engine with glow plugs or air intake heater. Use only starting aids as approved by engine manufacturer.
- Leaking fluids under pressure can enter skin and cause serious injury.
- Battery acid causes severe burns; wear goggles. If acid contacts eyes, skin, or clothing, flush with water. For contact with eyes, flush and get medical attention.
- Battery makes flammable and explosive gas. Keep arcs, sparks, flames and lighted tobacco away.
- For jump start, connect negative cable to the machine engine last (never at the battery). After jump start, remove negative connection at the engine first.
- Exhaust gases can kill. Always ventilate.

W-2782-0409

IMPORTANT

This machine is factory equipped with a spark arrester exhaust system that must be maintained for proper function.

- **WITH MUFFLER**
The muffler chamber must be emptied every 100 hours of operation to keep it in working condition.
- **WITH SELECTIVE CATALYST REDUCTION (SCR) AND / OR DIESEL OXIDATION CATALYST (DOC)**
Do not remove or modify the DOC or SCR.

The SCR must be maintained according to the instructions in the Operation & Maintenance Manual for proper function.
- **WITH DIESEL PARTICULATE FILTER (DPF)**
The DPF must be maintained according to the instructions in the Operation & Maintenance Manual for proper function.

(If this machine is operated on flammable forest, brush or grass cover land, a spark arrester attached to the exhaust system may be required and must be maintained in working order. Refer to local laws and regulations for spark arrester requirements.)

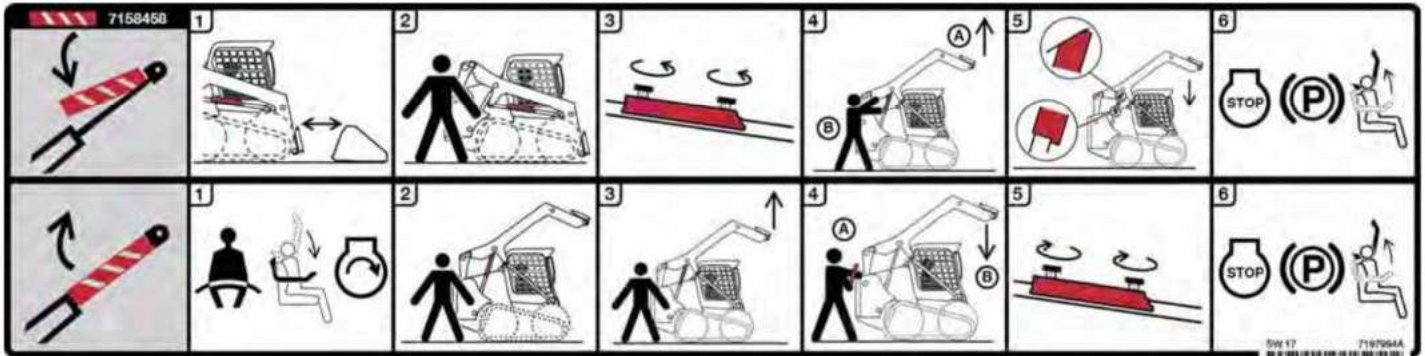
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MACHINE SIGNS (DECALS) (CONT'D)

Pictorial Only Safety Signs (Cont'd)

20. Lift Arm Support Device (7197994)

This safety sign is located on the outside of the operator cab on the lower right side.



To Install Approved Lift Arm Support:

1. Remove attachment from loader.
2. Stay in seat while second person removes lift arm support from storage position.
3. Remove clamping knobs and lift arm support.
4. Raise lift arms while second person positions lift arm support against cylinder rod.
5. Lower lift arms slowly until lift arm support is held securely between lift arm and cylinder.
6. Stop the engine, engage the parking brake, and raise the seat bar.

To Remove Lift Arm Support:

1. Fasten seat belt and lower seat bar before starting the engine.
2. Stay in seat while second person removes lift arm support from cylinder rod.
3. Raise lift arms.
4. Second person removes lift arm support from cylinder rod. Stay in seat until the lift arms are lowered all the way.
5. Return lift arm support to storage position and secure with clamping knobs.
6. Stop the engine, engage the parking brake, and raise the seat bar.

NOTE: More illustrated and detailed information regarding Installing and Removing the lift arm support device is located in this manual. (See LIFT ARM SUPPORT DEVICE on Page 129.)

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INTENDED USE

This machine is classified as a Skid-Steer Loader as defined in ISO 6165. This machine has wheels or tracks and commonly a front mounted bucket for the principle intended functions of digging, moving, leveling, lifting, carrying, and loading loose materials such as earth, gravel, or crushed rock.

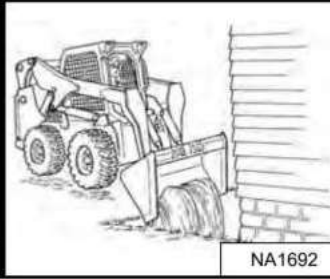
Additional Bobcat approved attachments allow this machine to perform other tasks described in the attachment Operation & Maintenance Manuals.

Examples of intended use include:

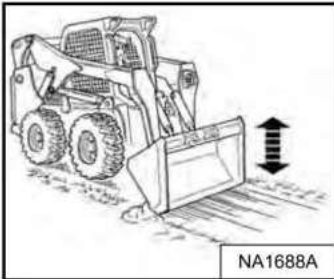
Digging



Backfilling



Leveling



Piling Material



Loading Material



Moving Palletized Loads



WARNING

Load, unload and turn on flat level ground. Do not exceed Rated Operating Capacity (ROC) shown on sign (decal) in cab. Failure to obey warnings can cause the machine to tip or rollover and cause injury or death.

W-2056-1112

WARNING

Never dump over an obstruction, such as a post, that can enter the operator cab. The machine could tip forward and cause injury or death.

W-2057-0694

IMPORTANT

Never drive forward when the hydraulic control for lift arms is in float position.

I-2005-1285

INSTRUMENT PANEL IDENTIFICATION

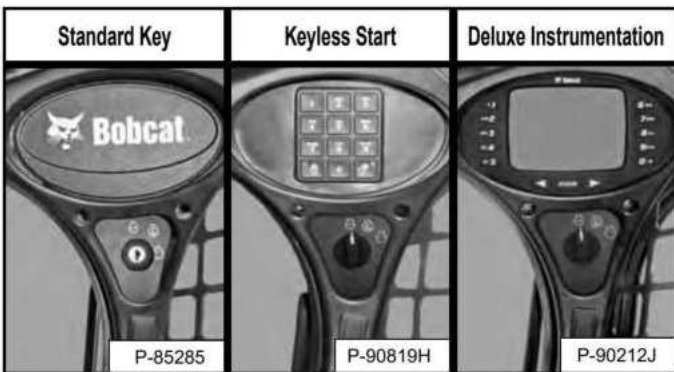
Overview

Figure 7



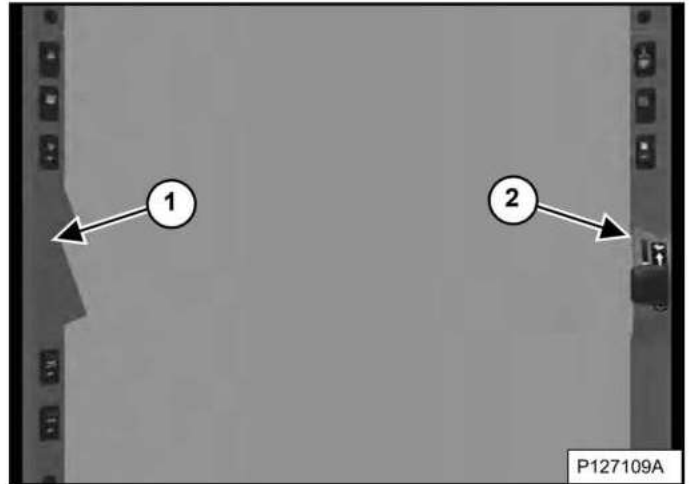
The left panel [Figure 7] is described in more detail. (See Left Panel on Page 39.)

Figure 8



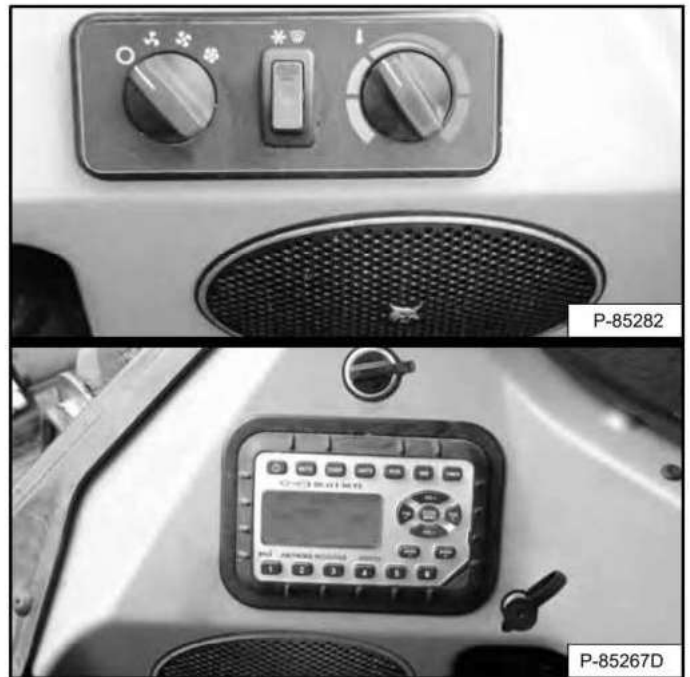
The right panel [Figure 8] is described in more detail. (See Right Panel (Standard Key Panel) on Page 42.), (See Right Panel (Keyless Start Panel) on Page 43.), or (See Right Panel (Deluxe Instrumentation Panel) on Page 44.)

Figure 9



The left (Item 1) and right (Item 2) [Figure 9] switch panels are described in more detail. (See Left Switch Panel on Page 46.) and (See Right Switch Panel on Page 46.)

Figure 10

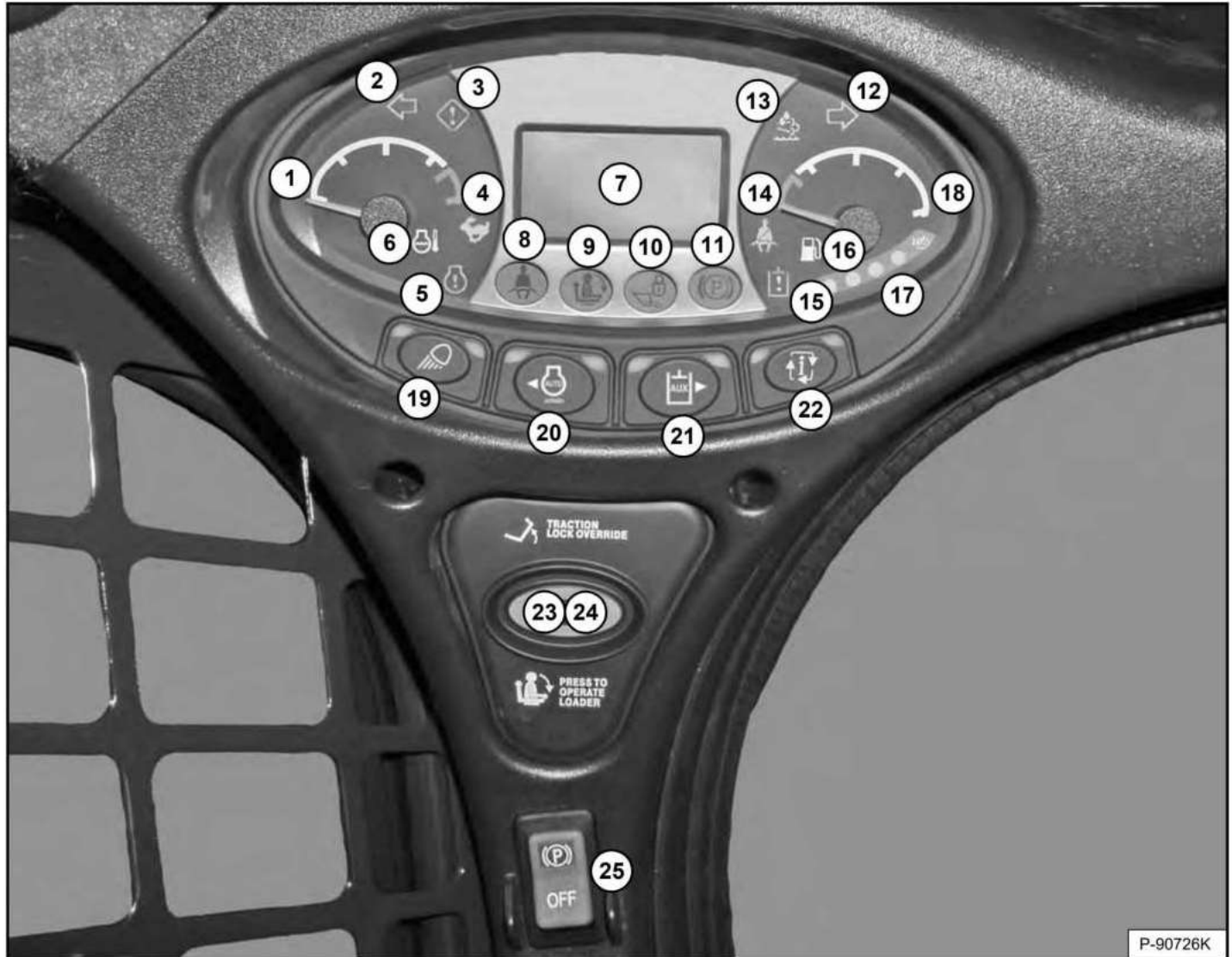


The left and right side lower panels [Figure 10] are described in more detail. (See Left Side Lower Panel on Page 47.) and (See Right Side Lower Panel on Page 47.)

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Left Panel

Figure 11



The left panel [Figure 11] is the same for all machines regardless of options and accessories.

REF. NO.	DESCRIPTION	FUNCTION / OPERATION
1	ENGINE TEMPERATURE GAUGE	Shows the engine coolant temperature.
2	LEFT TURN SIGNAL (Option)	Indicates left turn signals are ON.
3	GENERAL WARNING	Malfunction with one or more machine functions. (See Service Codes*)
4	TWO-SPEED (Option)	High range selected.
5	ENGINE MALFUNCTION	Engine malfunction or failure. (See Service Codes*)
6	ENGINE COOLANT TEMPERATURE	Engine coolant temperature high or sensor error.
7	DISPLAY SCREEN	Displays information. (See Display Screen in this manual.)
8	SEAT BELT	Instructs operator to fasten seat belt. Remains lit for 45 seconds.
9	SEAT BAR	The light is on when the seat bar is UP.
10	LIFT AND TILT VALVE	The light is on when the lift and tilt functions cannot be operated.
11	PARKING BRAKE	The light is on when the loader cannot be driven.

INSTRUMENT PANEL IDENTIFICATION (CONT'D)

Left Panel (Cont'd)

REF. NO.	DESCRIPTION	FUNCTION / OPERATION
12	RIGHT TURN SIGNAL (Option)	Indicates right turn signals are ON.
13	DIESEL PARTICULATE FILTER (DPF) / DIESEL EXHAUST FLUID (DEF)	Not used.
14	SHOULDER BELT (Option)	Instructs operator to fasten shoulder belt when operating in high range. Remains lit while in high range.
15	HYDRAULIC SYSTEM MALFUNCTION	Hydraulic system malfunction or failure. (See Service Codes*)
16	FUEL	Fuel level low or sensor error.
17	DIESEL EXHAUST FLUID (DEF) / AdBlue® LEVEL	Not used.
18	FUEL GAUGE	Shows the amount of fuel in the tank.
19	LIGHTS without road option	Press once for REAR taillights. (Right green LED will light.) Press a second time to turn FRONT and REAR work lights ON. REAR taillights will turn OFF. (Left green LED will light.) Press a third time to turn all lights off. (Left and right green LEDs will be off.)
	LIGHTS with road option	Press once for FRONT boom light, license plate light and REAR taillights. (Right green LED will light.) Press a second time to turn FRONT and REAR work lights ON. FRONT boom light, license plate light and REAR taillights will turn OFF. (Left green LED will light.) Press a third time to turn all lights off. (Left and right green LEDs will be off.)
		Press and hold 5 seconds to show software version in display screen.
20	AUTO IDLE	Not used.
		Move cursor to the left inside the DISPLAY SCREEN when using certain INFORMATION button menus.
21	AUXILIARY HYDRAULICS without high-flow option	Press once to activate the auxiliary hydraulic system. (Left green LED lights.) Press a second time to deactivate the system.
	AUXILIARY HYDRAULICS with high-flow option	Press once to activate the auxiliary hydraulic system. (Left green LED lights.) Press a second time to engage the HIGH-FLOW auxiliary hydraulics. (Left and right green LEDs light.) Press a third time to deactivate auxiliary hydraulics. (Left and right green LEDs off.)
		Move cursor to the right inside the DISPLAY SCREEN when using certain INFORMATION button menus.
22	INFORMATION	Cycles through (after each button press): <ul style="list-style-type: none"> • Hourmeter (On startup) • Engine rpm • Battery voltage • Drive response menu • Steering drift compensation menu • Maintenance clock • Service codes*
23	TRACTION LOCK OVERRIDE	Functions only when the seat bar is raised and the engine is running. Press once to unlock the brakes. Allows you to use the steering levers or joystick(s) to move the loader forward or backward when using the backhoe attachment. (See TRACTION LOCK OVERRIDE in this manual.) Press a second time to lock the brakes.
24	PRESS TO OPERATE LOADER	Press to activate the BICS™ when the seat bar is down and operator is seated in operating position. Button will light.
25	PARKING BRAKE (Standard on all loaders)	Press the top to engage the Parking Brake. Press the bottom to disengage. (See PARKING BRAKE in this manual.)

* This manual contains a table with Service Code descriptions. (See DIAGNOSTIC SERVICE CODES on Page 187.)

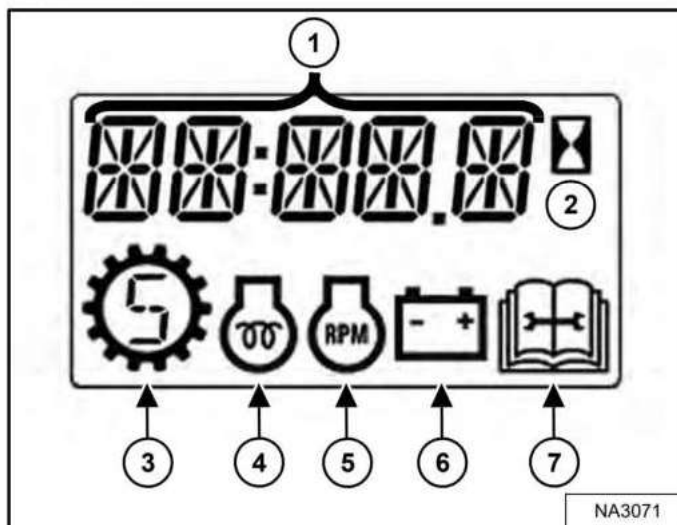
INSTRUMENT PANEL IDENTIFICATION (CONT'D)

Display Screen

The display screen can display the following information:

- Operating hours
- Engine rpm
- Battery voltage
- Drive response setting
- Steering drift compensation setting
- Maintenance clock countdown
- Service codes
- Engine preheat countdown
- Speed management setting
- Lift and tilt compensation setting

Figure 12



The display screen is shown in **[Figure 12]**. The data display will show operating hours upon startup.

1. **Data Display**
2. **Hourmeter**
3. **Speed Management**
4. **Engine Preheat**
5. **Engine RPM**
6. **Battery / Charging Voltage**
7. **Service**

Right Panel (Standard Key Panel)


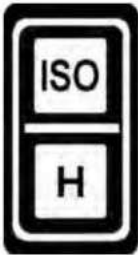


Figure 13



This machine may be equipped with a Standard Key Panel [Figure 13].

The Standard Key Panel has a key switch (Item 1) [Figure 13] used to turn the loaders electrical system on and off, and to start and stop the engine.

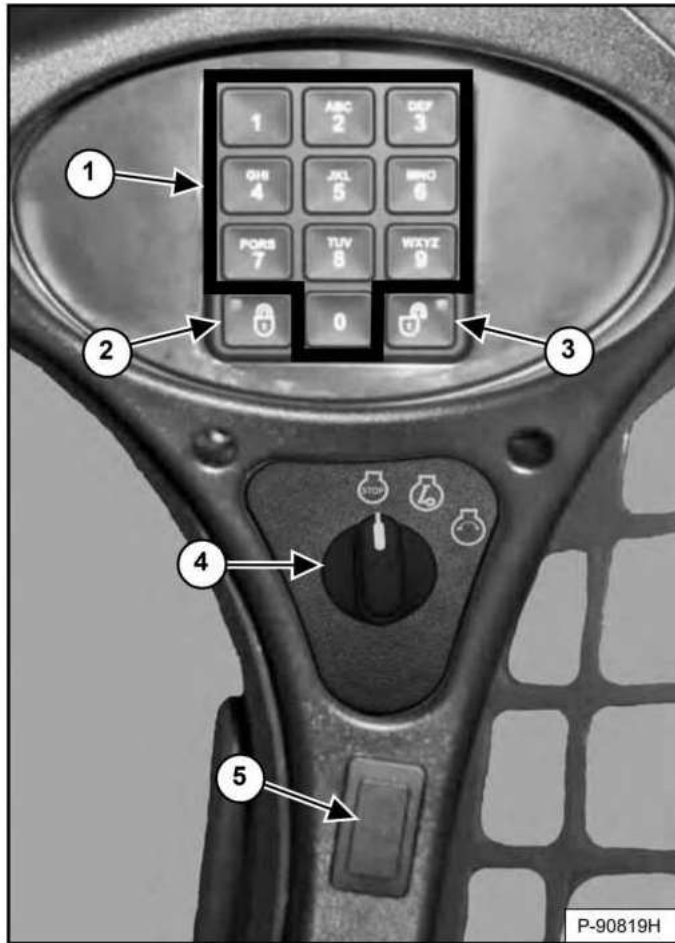
The switch location (Item 2) [Figure 13] can have different functions depending on machine configuration. See the following table for more information.

REF. NO.	DESCRIPTION	FUNCTION / OPERATION
	ADVANCED CONTROL SYSTEM (ACS) (Option)	Press the top to select Hand Controls; bottom to select Foot Controls.
	SELECTABLE JOYSTICK CONTROLS (SJC) (Option)	Press the top to select 'ISO' Control Pattern; bottom to select 'H' Control Pattern.
	FOUR-WAY FLASHER LIGHTS (Option)	Press the top to turn lights ON; bottom to turn OFF.
	ROTATING BEACON (Option) or STROBE LIGHT (Option)	Press the top to turn light ON; bottom to turn OFF.

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Right Panel (Keyless Start Panel)





Figure 14



This machine may be equipped with a Keyless Start Panel [Figure 14].

1. **Keypad (keys 1 through 0):** Used to enter a number code (password) to allow starting the engine. An asterisk will show in the left panel display screen for each key press.
2. **LOCK Key:** Used to lock keypad. The lock key will display a red light to indicate a password is required to start the loader. (See Password Lockout Feature on Page 197.)
3. **UNLOCK Key:** Used to unlock keypad. The unlock key will display a green light to indicate the loader can be started without a password. (See Password Lockout Feature on Page 197.)
4. **Key Switch:** Used to turn the loaders electrical system on and off, and to start and stop the engine.

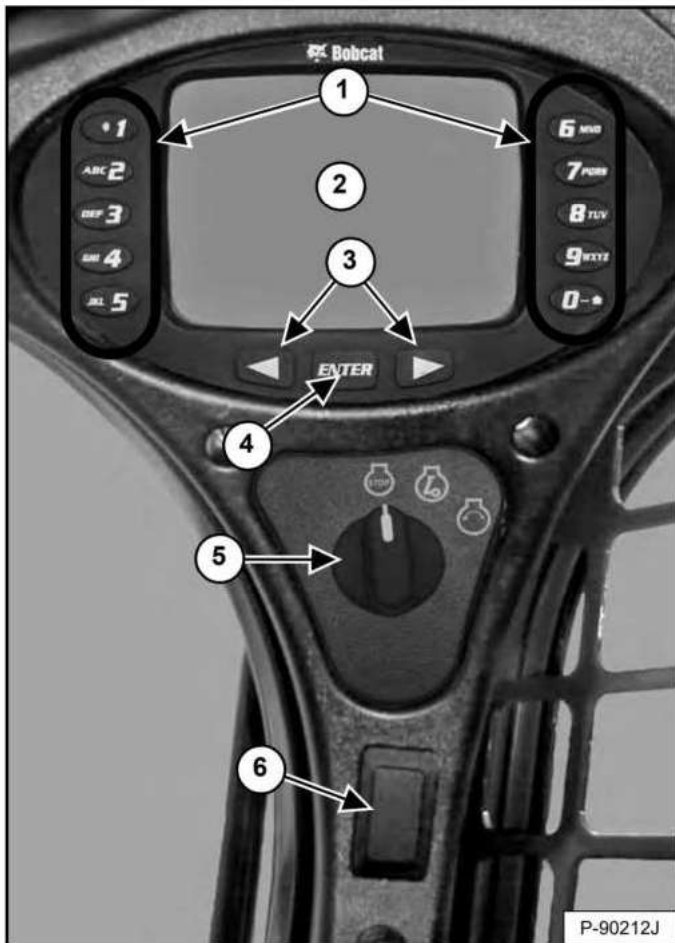
The switch location (Item 5) [Figure 14] can have different functions depending on machine configuration. See the following table for more information.

REF. NO.	DESCRIPTION	FUNCTION / OPERATION
	ADVANCED CONTROL SYSTEM (ACS) (Option)	Press the top to select Hand Controls; bottom to select Foot Controls.
	SELECTABLE JOYSTICK CONTROLS (SJC) (Option)	Press the top to select 'ISO' Control Pattern; bottom to select 'H' Control Pattern.
	FOUR-WAY FLASHER LIGHTS (Option)	Press the top to turn lights ON; bottom to turn OFF.
	ROTATING BEACON (Option) or STROBE LIGHT (Option)	Press the top to turn light ON; bottom to turn OFF.

INSTRUMENT PANEL IDENTIFICATION (CONT'D)

Right Panel (Deluxe Instrumentation Panel)





Figure 15



This machine may be equipped with a Deluxe Instrumentation Panel [Figure 15].

1. **Keypad (keys 1 through 0):** The keypad has two functions:
 - To enter a number code (password) to allow starting the engine.
 - To enter a number as directed for further use of the display screen.
2. **Display Screen:** The display screen is where all system setup, monitoring, and error conditions are displayed.
3. **Scroll Buttons:** Used to scroll through display screen choices.
4. **ENTER Button:** Used to make selections on the display screen.
5. **Key Switch:** Used to turn the loaders electrical system on and off, and to start and stop the engine.

The switch location (Item 6) [Figure 15] can have different functions depending on machine configuration. See the following table for more information.

REF. NO.	DESCRIPTION	FUNCTION / OPERATION
	ADVANCED CONTROL SYSTEM (ACS) (Option)	Press the top to select Hand Controls; bottom to select Foot Controls.
	SELECTABLE JOYSTICK CONTROLS (SJC) (Option)	Press the top to select 'ISO' Control Pattern; bottom to select 'H' Control Pattern.
	FOUR-WAY FLASHER LIGHTS (Option)	Press the top to turn lights ON; bottom to turn OFF.
	ROTATING BEACON (Option) or STROBE LIGHT (Option)	Press the top to turn light ON; bottom to turn OFF.

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Right Panel (Deluxe Instrumentation Panel) (Cont'd)

Figure 16



The first screen you will see on your new loader is shown in [Figure 16].

When this screen is on the display you can enter the password and start the engine or change the default language.

NOTE: Your new loader (with Deluxe Instrumentation Panel) will have an Owner Password. Your dealer will provide you with this password. Change the password to one that you will easily remember to prevent unauthorised use of your loader. (See Changing The Owner Password on Page 198.) Keep your password in a safe location for future needs.

Change Language:

Press the left or right scroll button to cycle through the languages. The language that is stopped on becomes the default language used for the Deluxe Instrumentation Panel [Figure 16].

The language can be changed at any time. (See CONTROL PANEL SETUP on Page 194.)

Enter The Password:

Use the numbers on the keypad to enter the password, then press the [ENTER] button. A symbol will appear on the display screen for each number entered. The left scroll button can be used to backspace if an incorrect number is entered.

If the correct password is not entered, [INVALID PASSWORD TRY AGAIN] will appear on the display screen and the password will have to be reentered.

See CONTROL PANEL SETUP for further description of screens to set up the system for your use. (See CONTROL PANEL SETUP on Page 194.)

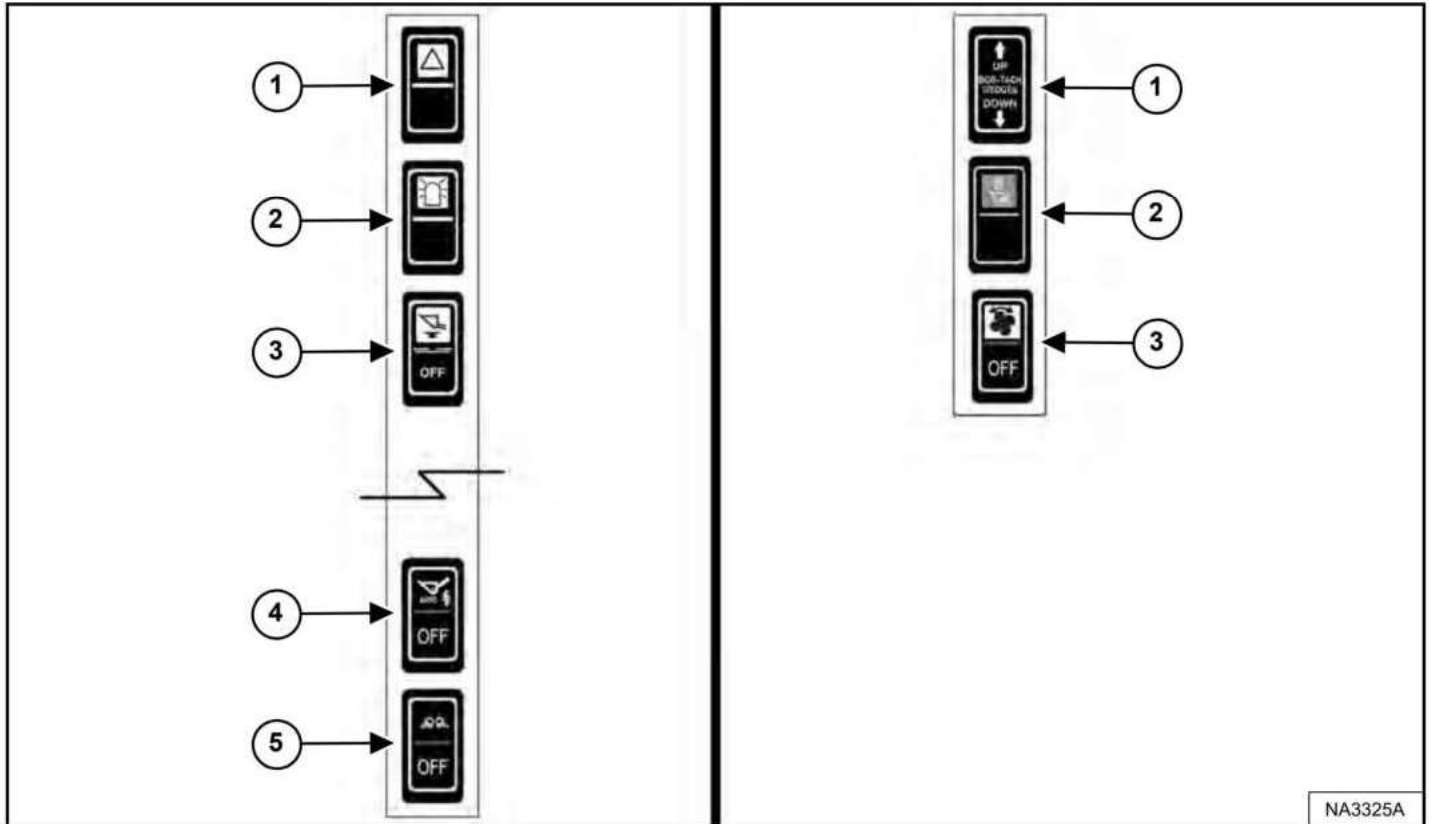
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INSTRUMENT PANEL IDENTIFICATION (CONT'D)

Left Switch Panel

Right Switch Panel

Figure 17



NA3325A

ITEM	DESCRIPTION	FUNCTION / OPERATION
1	FOUR-WAY FLASHER LIGHTS (Option)	Press the top to turn lights ON; bottom to turn OFF.
2	ROTATING BEACON (Option) OR STROBE LIGHT (Option)	Press the top to turn light ON; bottom to turn OFF.
3	HYDRAULIC BUCKET POSITIONING (Option)	Press the top to engage Hydraulic Bucket Positioning; bottom to disengage.
4	AUTOMATIC RIDE CONTROL (Option)	Press the top to engage Automatic Ride Control; bottom to disengage.
5	SIDE LIGHTING (Option)	Press the top to turn lights ON; bottom to turn OFF. NOTE: Turn side lighting OFF when driving on public roads.

ITEM	DESCRIPTION	FUNCTION / OPERATION
1	POWER BOB-TACH (Option)	Press and hold the up arrow to disengage the Bob-Tach wedges. Press and hold the down arrow to engage the Bob-Tach wedges into the attachment mounting frame holes.
2	TRAVEL LOCK	Press the top of the switch to lock the lift and tilt hydraulic functions for travel. Press the bottom of the switch to turn travel lock OFF.
3	REVERSING FAN (Option)	Automatic Operation - middle position; Manual Operation - press top momentarily; press bottom to disengage.

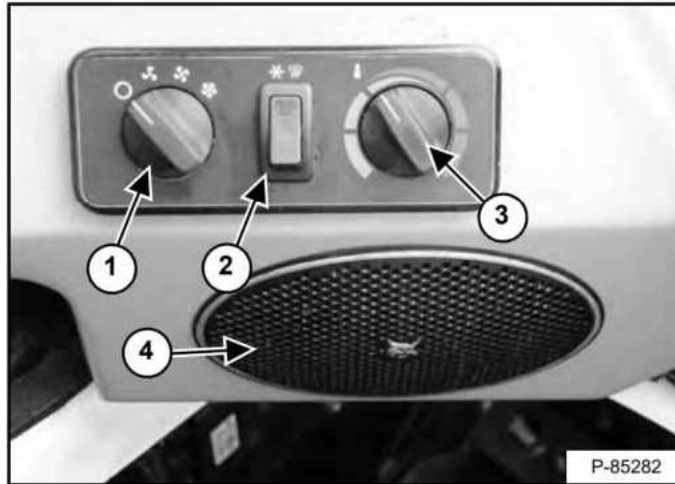
NOTE: Earlier models did not have switch locations four and five on the left switch panel.

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INSTRUMENT PANEL IDENTIFICATION (CONT'D)

Left Side Lower Panel

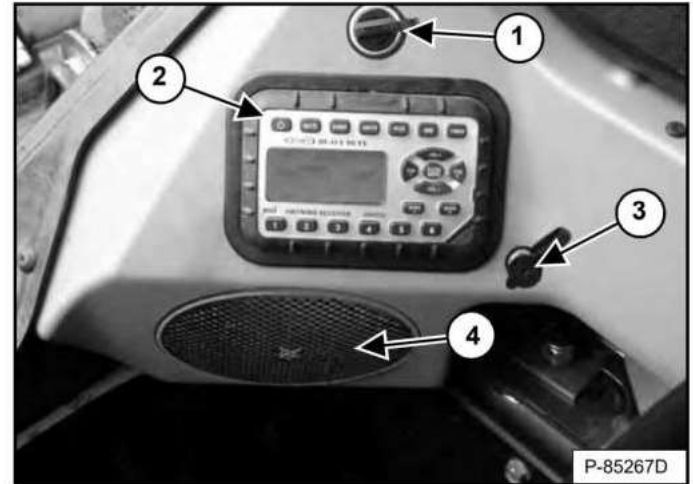
Figure 18



REF. NO.	DESCRIPTION	FUNCTION / OPERATION
1	FAN MOTOR (Option)	Turn clockwise to increase fan speed; anticlockwise to decrease. There are four positions; OFF-1-2-3.
2	AIR CONDITIONING / DEFROST SWITCH (Option)	Press top of switch to start; bottom to stop. Switch will light when started. Fan Motor (Item 1) must be ON for air conditioning to operate.
3	TEMPERATURE CONTROL (Option)	Turn clockwise to increase the temperature; anticlockwise to decrease.
4	SPEAKER (Option)	Left speaker used with optional radio.

Right Side Lower Panel

Figure 19



REF. NO.	DESCRIPTION	FUNCTION / OPERATION
1	POWER PORT	Provides a 12 volt receptacle for accessories.
2	RADIO (Option)	See Radio in this manual.
3	HEADPHONE JACK (Option)	Used to connect headphones to the optional radio output. Automatically silences speakers when used.
4	SPEAKER (Option)	Right speaker used with optional radio.

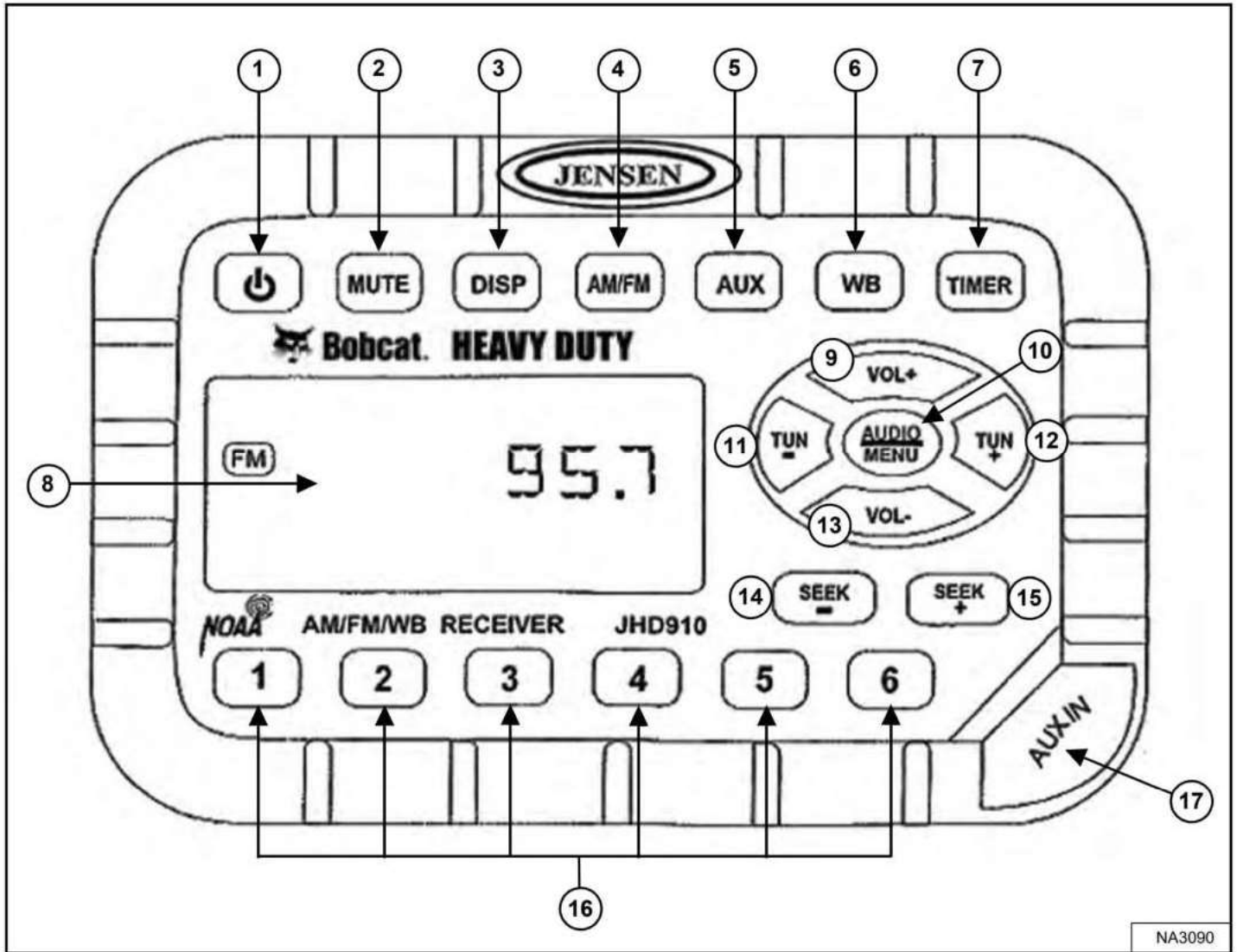
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INSTRUMENT PANEL IDENTIFICATION (CONT'D)

Radio

This machine may be equipped with a radio.

Figure 20



The table on the next page shows the DESCRIPTION and FUNCTION / OPERATION for each of the controls of the radio [Figure 20].

NOTE: See DISPLAY in the table for clock setting instructions.

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INSTRUMENT PANEL IDENTIFICATION (CONT'D)

Radio (Cont'd)

REF. NO.	DESCRIPTION	FUNCTION / OPERATION
1	POWER	Press to turn ON; press again to turn OFF.
2	MUTE	Press to mute audio output; [MUTE] will appear in display screen; press again to turn OFF.
3	DISPLAY	Press to toggle between function mode (showing tuner frequency, auxiliary input, weather band information, or timer) and clock mode. Press and hold to enter clock setting mode; use FREQUENCY DOWN (TUN -) button to adjust hours and FREQUENCY UP (TUN +) button to adjust minutes; normal operation will resume automatically.
4	BAND	Press to select tuner mode. Press to cycle through 2 AM (MW) bands and 3 FM bands.
5	AUXILIARY	Press to select Auxiliary Input mode. Portable audio device (MP3 player) must be attached to auxiliary input jack.
6	WEATHER BAND	Press to select weather band; use FREQUENCY UP (TUN +) and FREQUENCY DOWN (TUN -) buttons to adjust to the clearest station. The weather alert feature, if activated, will automatically switch from the current function to the weather band if a weather warning is received. See AUDIO / MENU ADJUSTMENT in this table.
7	TIMER	Press to access timer mode. Press to start the timer function; press again to stop timer; press again to resume timer or press and hold to reset timer and exit from timer mode.
8	DISPLAY SCREEN	Displays the time, frequency, and activated functions.
9	VOLUME UP	Adjusts volume up; current volume (0 - 40) will appear briefly in display screen.
10	AUDIO / MENU ADJUSTMENT	AUDIO ADJUSTMENT: Press to cycle through bass, treble, and balance settings; use VOLUME UP (VOL +) and VOLUME DOWN (VOL -) buttons to adjust when desired option is displayed; normal operation will resume automatically. MENU ADJUSTMENT: Press and hold for 3 seconds to enter menu adjustment settings; press to cycle through the following settings; use VOLUME UP (VOL +) and VOLUME DOWN (VOL -) buttons to adjust when desired option is displayed; normal operation will resume automatically. <ul style="list-style-type: none"> • Beep Confirm (On or Off) - Determines if beep will sound with each button press. • Operation Region (USA or Europe) - Selects the appropriate region. • Clock Display (12 or 24) - Selects a 12-hour or 24-hour clock display. • Display Brightness (Low, Medium, or High) - Determines brightness level of display screen. • Backlight Colour (Amber or Green) - Determines backlight colour of display screen. • Power On Volume (0 - 40) - Selects default volume setting when radio is turned on. • WB Alert (On or Off) - Determines if weather band alert feature is activated.
11	FREQUENCY DOWN	Press to manually tune the radio frequency down.
12	FREQUENCY UP	Press to manually tune the radio frequency up.
13	VOLUME DOWN	Adjusts volume down; current volume (0 - 40) will appear briefly in display screen.
14	SEEK FREQUENCY DOWN	Press to automatically tune frequency down to next strong station.
15	SEEK FREQUENCY UP	Press to automatically tune frequency up to next strong station.
16	PRESET STATIONS	Used to store and recall stations for each AM and FM band. Press and hold to store current station; press button to recall station.
17	AUXILIARY INPUT JACK	Connect line output of portable audio device (MP3 player) to 3,5 mm (1/8 in) jack and press AUXILIARY button.

CONTROL IDENTIFICATION

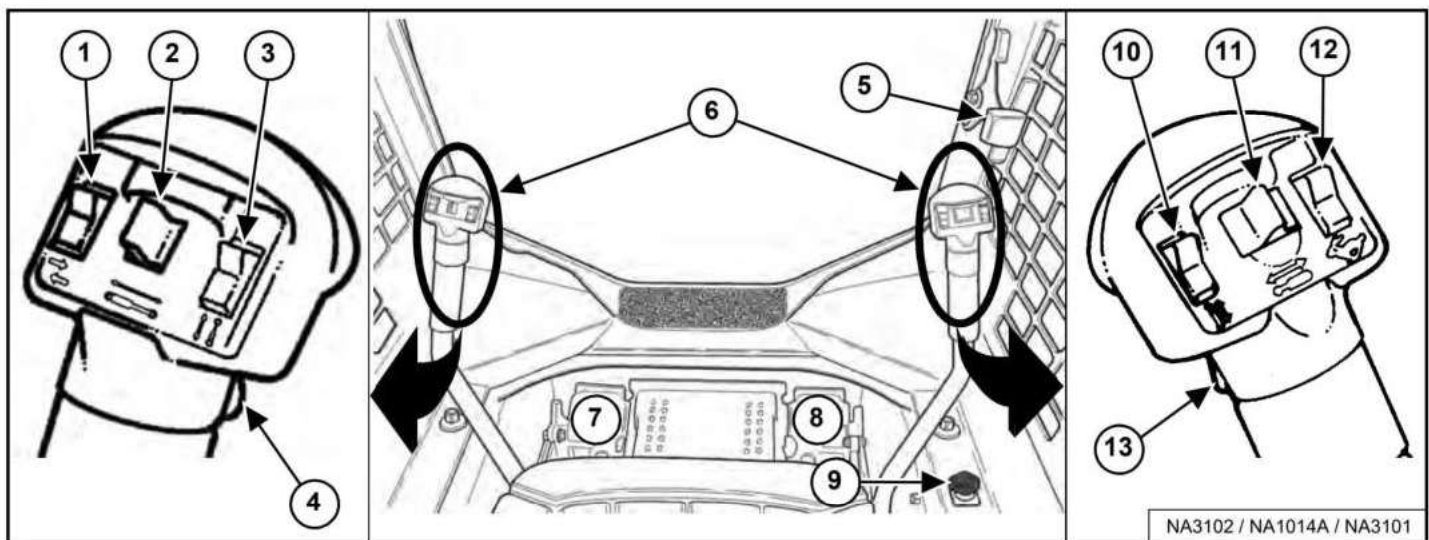
Description

This loader has four control configurations available to operate lift / tilt functions and driving / steering the loader:

- Standard Controls - Uses foot pedals for lift and tilt functions.
Uses steering levers for driving and steering the loader.
- Advanced Control System (ACS) (Option) - Uses a choice of foot pedals or handles for lift and tilt functions.
Uses steering levers for driving and steering the loader.
- Advanced Hand Controls (AHC) (Option) - Uses handles for lift and tilt functions.
Uses steering levers for driving and steering the loader.
- Selectable Joystick Controls (SJC) (Option) - Uses joysticks for lift / tilt functions and driving / steering the loader.

Standard Controls

Figure 21

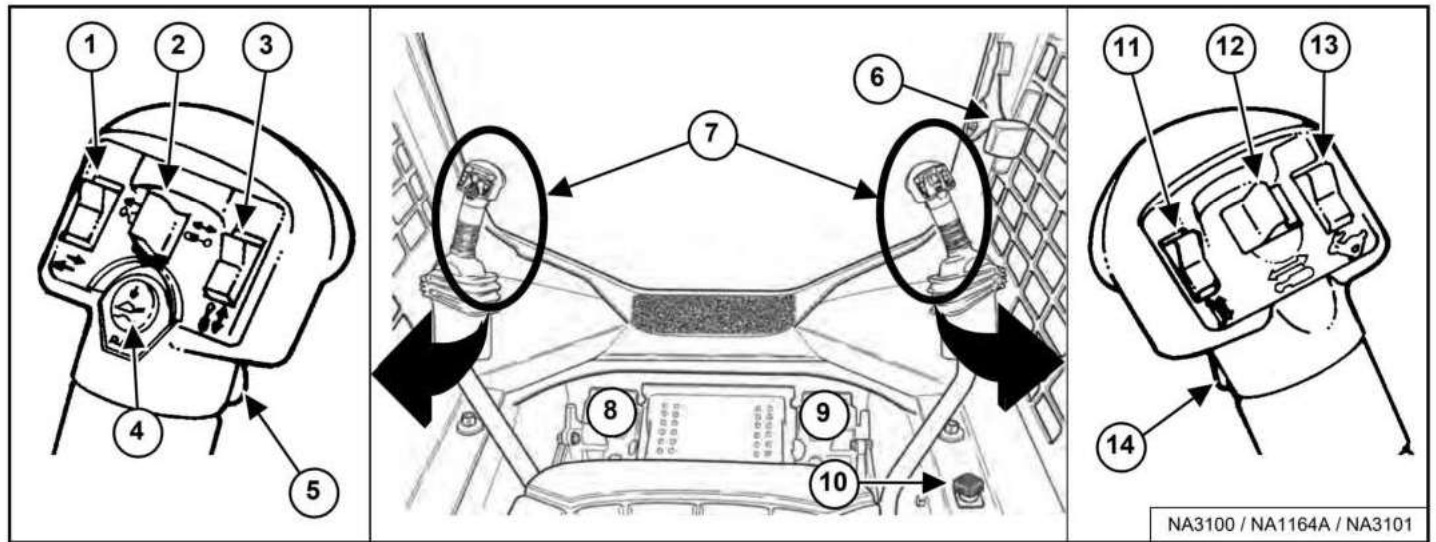


REF. NO.	DESCRIPTION	FUNCTION / OPERATION
1	TURN SIGNALS (Option)	Press the top to activate right signal; bottom to activate left signal; centre position to turn off.
2	REAR AUXILIARY HYDRAULICS (Option) Also: ATTACHMENT FUNCTION CONTROL	See REAR Auxiliary Hydraulics Operation in this manual. See ATTACHMENT CONTROL DEVICE in this manual.
3	ATTACHMENT FUNCTION CONTROL	See ATTACHMENT CONTROL DEVICE in this manual.
4	FRONT HORN	Press the front switch to sound the front horn.
5	ENGINE SPEED CONTROL	See ENGINE SPEED CONTROL in this manual.
6	STEERING LEVERS	See DRIVING AND STEERING THE LOADER in this manual.
7	LIFT ARM PEDAL	See HYDRAULIC CONTROLS in this manual.
8	TILT PEDAL	See HYDRAULIC CONTROLS in this manual.
9	LIFT ARM BYPASS CONTROL	See LIFT ARM BYPASS CONTROL in this manual.
10	ATTACHMENT FUNCTION CONTROL	See ATTACHMENT CONTROL DEVICE in this manual.
11	FRONT AUXILIARY HYDRAULICS	See FRONT Auxiliary Hydraulics Operation in this manual.
12	TWO-SPEED CONTROL (Option)	See TWO-SPEED CONTROL in this manual.
13	CONTINUOUS FLOW CONTROL FOR AUXILIARY HYDRAULICS	See FRONT Auxiliary Hydraulics Operation (CONTINUOUS FLOW) in this manual.

CONTROL IDENTIFICATION (CONT'D)

Advanced Control System (ACS)

Figure 22



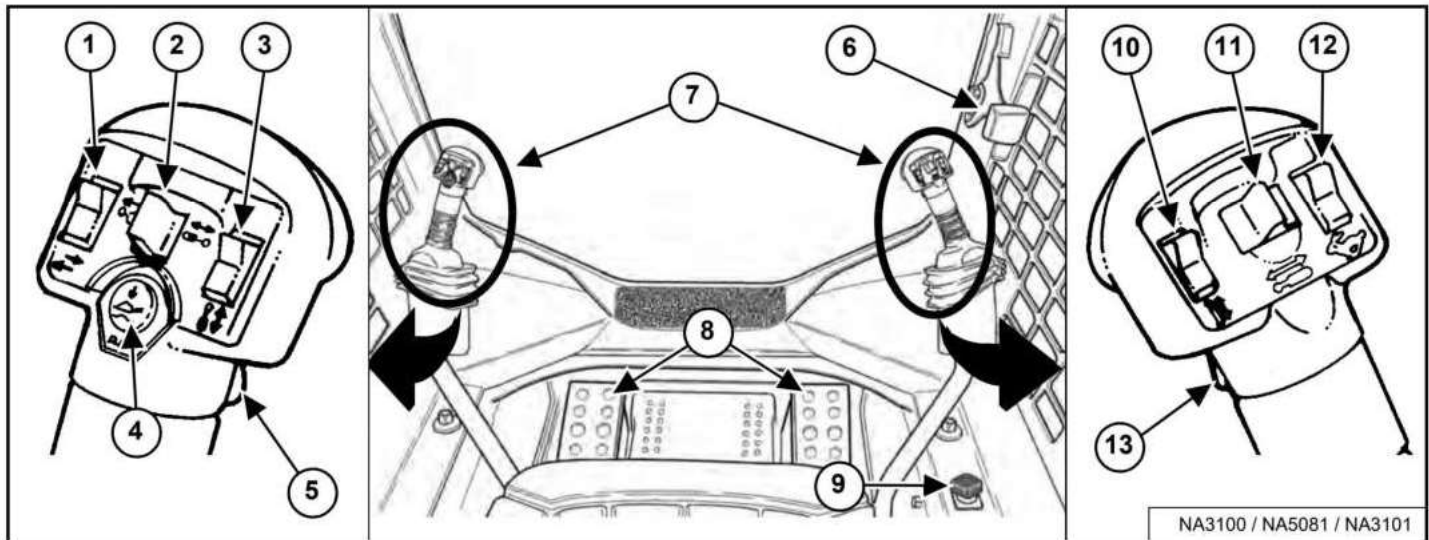
REF. NO.	DESCRIPTION	FUNCTION / OPERATION
1	TURN SIGNALS (Option)	Press the top to activate right signal; bottom to activate left signal; centre position to turn off.
2	REAR AUXILIARY HYDRAULICS (Option) Also: ATTACHMENT FUNCTION CONTROL	See REAR Auxiliary Hydraulics Operation in this manual. See ATTACHMENT CONTROL DEVICE in this manual.
3	ATTACHMENT FUNCTION CONTROL	See ATTACHMENT CONTROL DEVICE in this manual.
4	FLOAT CONTROL	See HYDRAULIC CONTROLS in this manual.
5	FRONT HORN	Press the front switch to sound the front horn.
6	ENGINE SPEED CONTROL	See ENGINE SPEED CONTROL in this manual.
7	STEERING LEVERS and LIFT / TILT HANDLES	See DRIVING AND STEERING THE LOADER and HYDRAULIC CONTROLS in this manual.
8	LIFT ARM PEDAL	See HYDRAULIC CONTROLS in this manual.
9	TILT PEDAL	See HYDRAULIC CONTROLS in this manual.
10	LIFT ARM BYPASS CONTROL	See LIFT ARM BYPASS CONTROL in this manual.
11	ATTACHMENT FUNCTION CONTROL	See ATTACHMENT CONTROL DEVICE in this manual.
12	FRONT AUXILIARY HYDRAULICS	See FRONT Auxiliary Hydraulics Operation in this manual.
13	TWO-SPEED CONTROL (Option)	See TWO-SPEED CONTROL in this manual.
14	CONTINUOUS FLOW CONTROL FOR AUXILIARY HYDRAULICS	See FRONT Auxiliary Hydraulics Operation (CONTINUOUS FLOW) in this manual.

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CONTROL IDENTIFICATION (CONT'D)

Advanced Hand Controls (AHC)

Figure 23



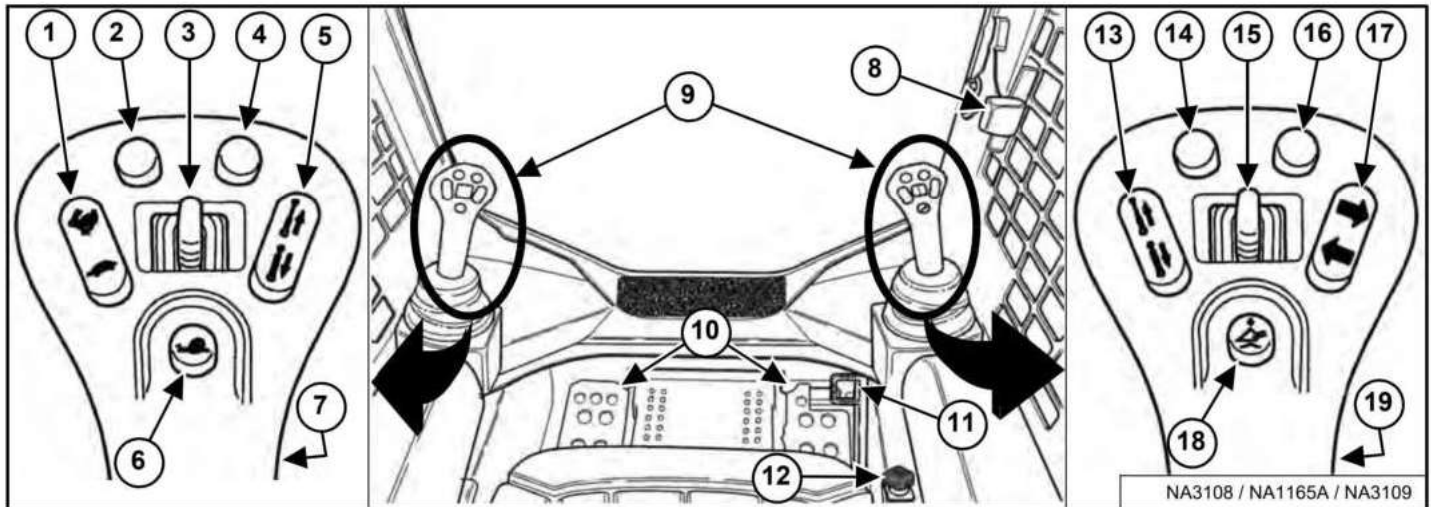
REF. NO.	DESCRIPTION	FUNCTION / OPERATION
1	TURN SIGNALS (Option)	Press the top to activate right signal; bottom to activate left signal; centre position to turn off.
2	REAR AUXILIARY HYDRAULICS (Option) Also: ATTACHMENT FUNCTION CONTROL	See REAR Auxiliary Hydraulics Operation in this manual. See ATTACHMENT CONTROL DEVICE in this manual.
3	ATTACHMENT FUNCTION CONTROL	See ATTACHMENT CONTROL DEVICE in this manual.
4	FLOAT CONTROL	See HYDRAULIC CONTROLS in this manual.
5	FRONT HORN	Press the front switch to sound the front horn.
6	ENGINE SPEED CONTROL	See ENGINE SPEED CONTROL in this manual.
7	STEERING LEVERS AND LIFT / TILT HANDLES	See DRIVING AND STEERING THE LOADER and HYDRAULIC CONTROLS in this manual.
8	FOOTRESTS	Keep your feet on the footrests at all times.
9	LIFT ARM BYPASS CONTROL	See LIFT ARM BYPASS CONTROL in this manual.
10	ATTACHMENT FUNCTION CONTROL	See ATTACHMENT CONTROL DEVICE in this manual.
11	FRONT AUXILIARY HYDRAULICS	See FRONT Auxiliary Hydraulics Operation in this manual.
12	TWO-SPEED CONTROL (Option)	See TWO-SPEED CONTROL in this manual.
13	CONTINUOUS FLOW CONTROL FOR AUXILIARY HYDRAULICS	See FRONT Auxiliary Hydraulics Operation (CONTINUOUS FLOW) in this manual.

Dealer Conv -- Not for Resale

CONTROL IDENTIFICATION (CONT'D)

Selectable Joystick Controls (SJC)

Figure 24



REF. NO.	DESCRIPTION	FUNCTION / OPERATION
1	TWO-SPEED CONTROL (Option) Also: SPEED MANAGEMENT	See TWO-SPEED CONTROL in this manual. See SPEED MANAGEMENT in this manual.
2 *	STEERING DRIFT COMPENSATION Also: DRIVE RESPONSE	See STEERING DRIFT COMPENSATION in this manual. See DRIVE RESPONSE in this manual.
3	REAR AUXILIARY HYDRAULICS (Option) Also: ATTACHMENT FUNCTION CONTROL	See REAR Auxiliary Hydraulics Operation in this manual. See ATTACHMENT CONTROL DEVICE in this manual.
4 *	STEERING DRIFT COMPENSATION Also: DRIVE RESPONSE	See STEERING DRIFT COMPENSATION in this manual. See DRIVE RESPONSE in this manual.
5	ATTACHMENT FUNCTION CONTROL	See ATTACHMENT CONTROL DEVICE in this manual.
6	SPEED MANAGEMENT	See SPEED MANAGEMENT in this manual.
7	FRONT HORN	Press the front switch to sound the front horn.
8	ENGINE SPEED CONTROL (HAND)	See ENGINE SPEED CONTROL in this manual.
9	JOYSTICKS	See DRIVING AND STEERING THE LOADER and HYDRAULIC CONTROLS in this manual.
10	FOOTRESTS	Keep your feet on the footrests at all times.
11	ENGINE SPEED CONTROL (FOOT)	See ENGINE SPEED CONTROL in this manual.
12	LIFT ARM BYPASS CONTROL	See LIFT ARM BYPASS CONTROL in this manual.
13	ATTACHMENT FUNCTION CONTROL	See ATTACHMENT CONTROL DEVICE in this manual.
14 *	NOT USED	---
15	FRONT AUXILIARY HYDRAULICS	See FRONT Auxiliary Hydraulics Operation in this manual.
16 *	NOT USED	---
17	TURN SIGNALS (Option)	Press the top to activate right signal; press again to turn off. Press the bottom to activate left signal; press again to turn off.
18	FLOAT CONTROL	See HYDRAULIC CONTROLS in this manual.
19	CONTINUOUS FLOW CONTROL FOR AUXILIARY HYDRAULICS	See FRONT Auxiliary Hydraulics Operation (CONTINUOUS FLOW) in this manual.

* Also used as Attachment Function Control: See your attachment Operation & Maintenance Manual.

OPERATOR CAB

Description

The Bobcat loader has an operator cab (ROPS and FOPS) as standard equipment to protect the operator from rollover and falling objects. The seat belt must be worn for rollover protection.

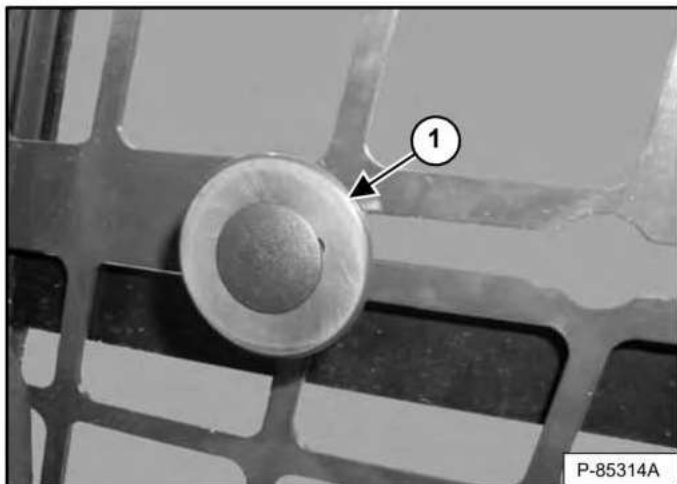
WARNING

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

W-2069-0200

Side Windows

Figure 25

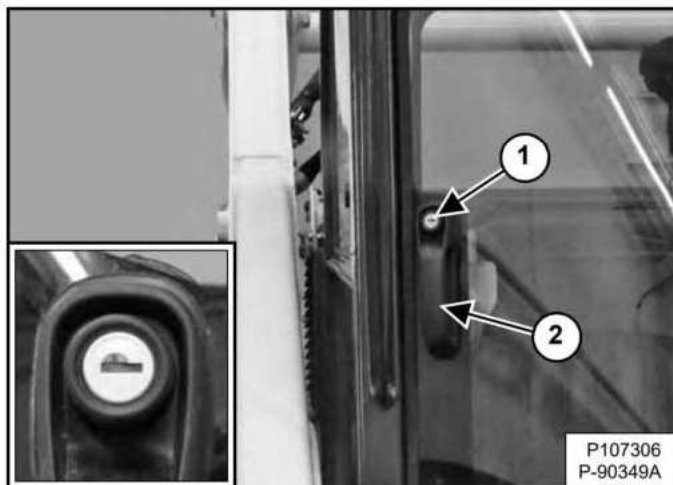


Pull the knob (Item 1) [Figure 25] and slide backward to open window. Release knob at cutout to lock in desired position. Pull the knob and slide forward to close window.

Door Operation

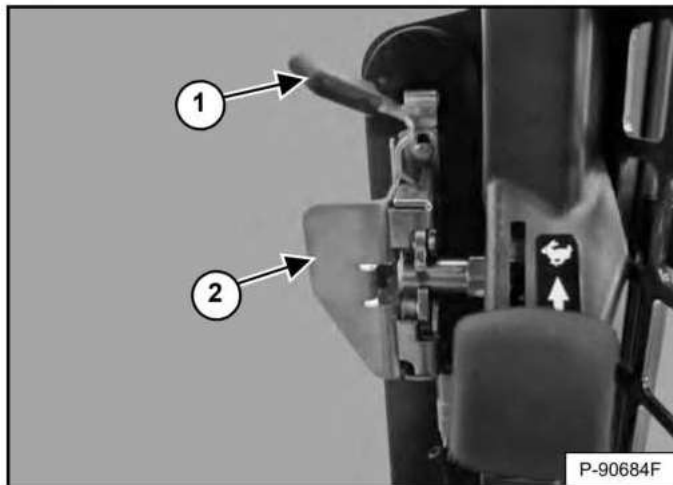
This machine may be equipped with a front door.

Figure 26



Push the knob (Item 1) and pull the handle (Item 2) to open the front door. A lock is provided in the knob (Inset) [Figure 26] to lock the front door when the loader is not in use.

Figure 27



Pull the front door closed using the handle (Item 2) [Figure 27].

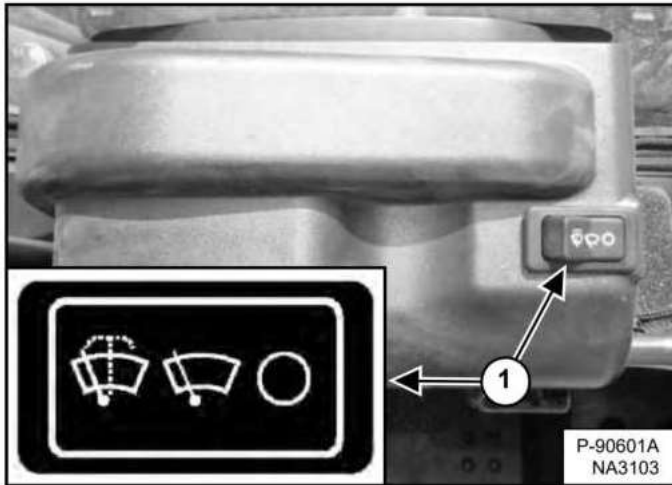
Pull the lever (Item 1) toward you to unlatch the front door. Push on the handle (Item 2) [Figure 27] to open the front door.

OPERATOR CAB (CONT'D)

Front Wiper

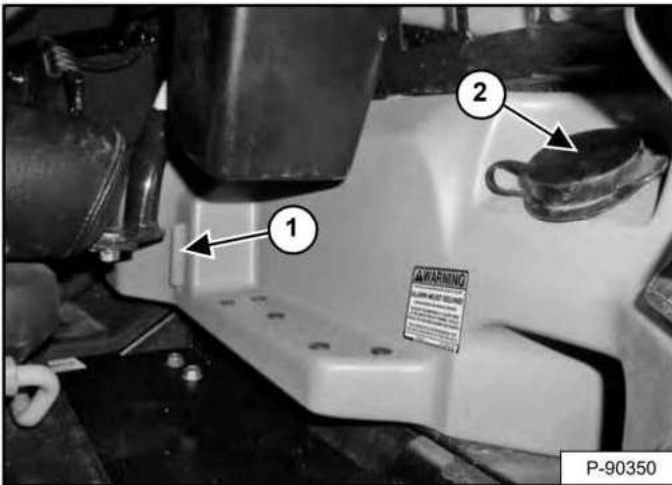
This machine may be equipped with a front wiper.

Figure 28



Press the left side of the switch (Item 1) [Figure 28] to start the front wiper (press and hold for washer fluid). Press the right side of the switch to stop the wiper.

Figure 29

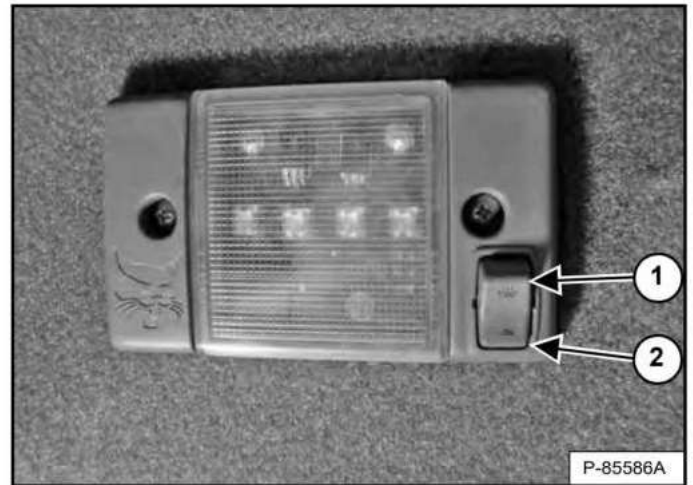


The washer fluid tank is located to the left of the operator seat. Check the fluid level in the sight gauge (Item 1). Remove the cap (Item 2) [Figure 29] to add washer fluid.

Cab Light

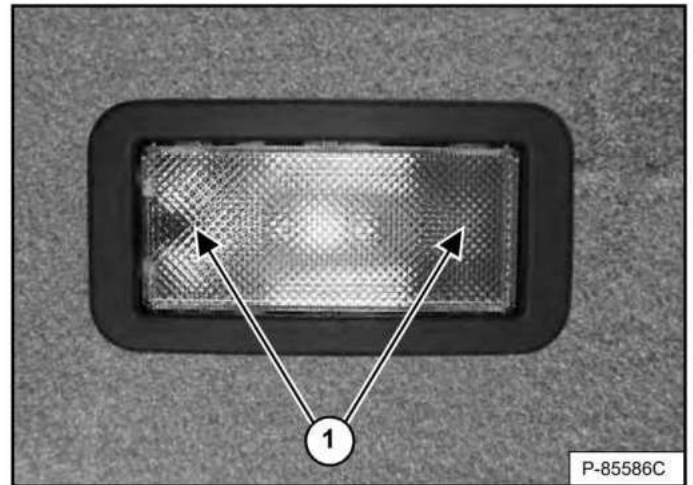
The cab light is located above the operator's left shoulder. More than one type can be found on this machine. The operation of each is explained below.

Figure 30



Push this side of the switch (Item 1) to turn the light ON. Push this side of the switch (Item 2) [Figure 30] to turn the light OFF.

Figure 31



Push either side of the lens (Item 1) [Figure 31] to turn the light ON. Return the lens to the middle position to turn the light OFF.

Description



AVOID INJURY OR DEATH

The Bobcat Interlock Control System (BICS™) must deactivate the lift, tilt and traction drive functions. If it does not, contact your dealer for service. **DO NOT** modify the system.

W-2151-1111

Figure 32



The Bobcat Interlock Control System (BICS™) has a pivoting seat bar with armrests (Item 1) [Figure 32]. The operator controls the use of the seat bar.



AVOID INJURY OR DEATH

When operating the machine:

- Keep the seat belt fastened snugly.
- The seat bar must be lowered.
- Keep your feet on the pedal controls or footrests and hands on the controls.

W-2261-0909

The BICS™ requires the operator to be seated in the operating position with the seat bar fully lowered before the lift, tilt, auxiliary hydraulics, and traction drive functions can be operated. The seat belt must be fastened anytime you operate the machine.

Operation

Figure 33



There are three display lights (Items 1, 2, and 3) [Figure 33] located on the left instrument panel that must be OFF to fully operate the machine.

When the seat bar is lowered, the engine is running, the PRESS TO OPERATE LOADER button is activated, and the parking brake is released; the lift, tilt, auxiliary hydraulics, and traction drive functions can be operated.

When the seat bar is raised; the lift, tilt, auxiliary hydraulics, and traction drive functions are deactivated.



AVOID INJURY OR DEATH

Before you leave the operator's seat:

- Lower the lift arms and put the attachment flat on the ground.
- Stop the engine.
- Engage the parking brake.
- Raise the seat bar.
- Move all controls to the NEUTRAL / LOCKED position to make sure the lift, tilt and traction drive functions are deactivated.

The seat bar system must deactivate these functions when the seat bar is up. See your Bobcat dealer for service if controls do not deactivate.

W-2463-1110

SEAT BAR RESTRAINT SYSTEM

Description

Figure 34



The seat bar restraint system has a pivoting seat bar with armrests (Item 1) [Figure 34].

The operator controls the use of the seat bar. The seat bar in the down position helps to keep the operator in the seat.

WARNING

AVOID INJURY OR DEATH

When operating the machine:

- Keep the seat belt fastened snugly.
- The seat bar must be lowered.
- Keep your feet on the pedal controls or footrests and hands on the controls.

W-2261-0909

Operation

When the seat bar is down, the engine is running, the PRESS TO OPERATE LOADER button is activated, and the brake is released; the lift, tilt, and traction drive functions can be operated.

When the seat bar is raised; the lift, tilt, and traction drive functions are deactivated and both foot pedals (if equipped) are locked when returned to NEUTRAL position.

WARNING

AVOID INJURY OR DEATH

Before you leave the operator's seat:

- Lower the lift arms and put the attachment flat on the ground.
- Stop the engine.
- Engage the parking brake.
- Raise the seat bar.
- Move all controls to the NEUTRAL / LOCKED position to make sure the lift, tilt and traction drive functions are deactivated.

The seat bar system must deactivate these functions when the seat bar is up. See your Bobcat dealer for service if controls do not deactivate.

W-2463-1110

PARKING BRAKE

Operation

Figure 35



Press the top of the switch (Item 1) [Figure 35] to engage the parking brake. The red light in the switch will turn on. The traction drive system is locked.

Move steering levers or joystick(s) slowly forward and backward. The TRACTION lock must be engaged. See your Bobcat dealer for service if loader fails to stop.

Press the bottom of the switch (Item 2) [Figure 35] to disengage the parking brake. The red light in the switch will turn off. The traction drive system is unlocked.

NOTE: The PARKING BRAKE light on the left instrument panel will remain ON until the engine is started, the PRESS TO OPERATE LOADER button is pressed, and the parking brake is disengaged.

TRACTION LOCK OVERRIDE

Description

Figure 36



(Functions Only When The Seat Bar Is Raised And The Engine Is Running) There is a TRACTION LOCK OVERRIDE button (Item 1) [Figure 36] on the left instrument panel that will allow you to use the steering controls to move the loader forward and backward when using the backhoe attachment.

Operation

Press the TRACTION LOCK OVERRIDE button once to unlock traction drive. The PARKING BRAKE light (Item 2) [Figure 36] is OFF.

Press the button a second time to lock the traction drive. The PARKING BRAKE light (Item 2) [Figure 36] is ON.

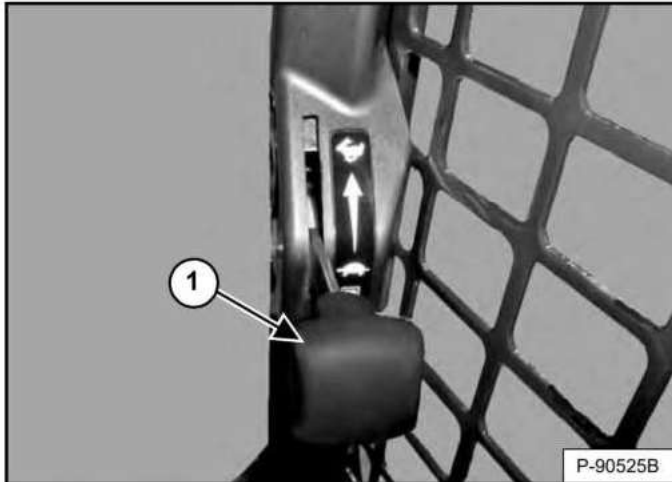
NOTE: The TRACTION LOCK OVERRIDE button will unlock the traction drive when the seat bar is raised and the engine is running.

NOTE: The TRACTION LOCK OVERRIDE button will function if the parking brake is in the engaged or disengaged position and the engine is running. If the Parking Brake switch is turned ON, the red light in the Parking Brake switch will turn OFF when TRACTION LOCK OVERRIDE is engaged.

ENGINE SPEED CONTROL

Operation

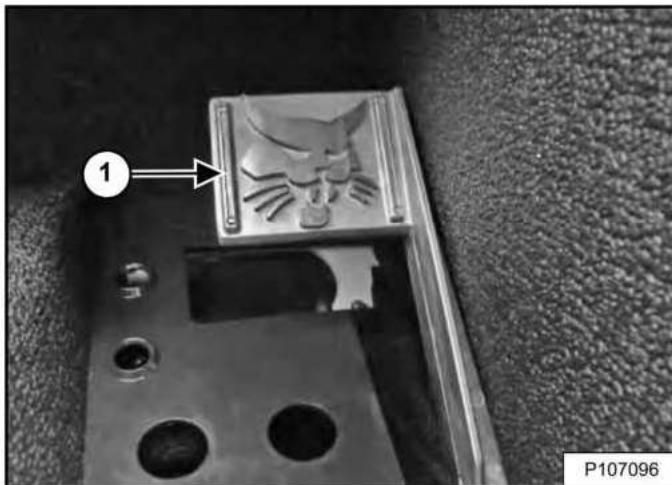
Figure 37



The engine speed control (Item 1) [Figure 37] is located alongside the door frame below the right panel.

Move the lever up to increase engine speed. Move down to decrease engine speed.

Figure 38

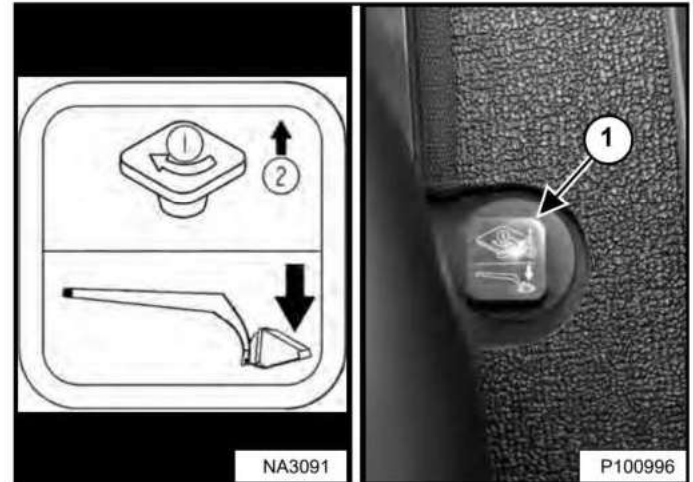


SJC equipped machines have a foot operated engine speed control pedal (Item 1) [Figure 38] in addition to the engine speed control lever. The pedal is located on the right side floor above the footrest.

LIFT ARM BYPASS CONTROL

Description

Figure 39



The lift arm bypass control (Item 1) [Figure 39], located to the right of the operator's seat, is used to lower the lift arms if the lift arms cannot be lowered during normal operations.

Operation

Perform the procedure below to operate the lift arm bypass control:

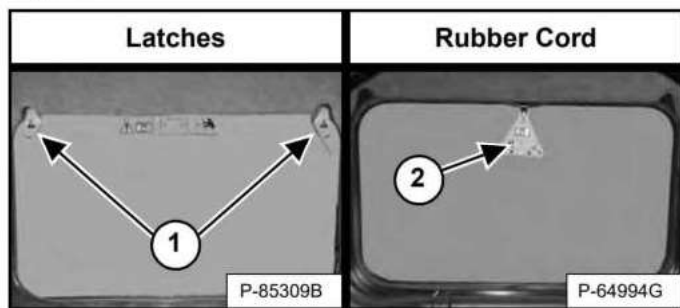
1. Sit in the operator's seat.
2. Fasten the seat belt and lower the seat bar.
3. Turn the knob (Item 1) [Figure 39] 90° clockwise.
4. Pull up and hold the knob until the lift arms lower.

EMERGENCY EXIT

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

Rear Window Identification

Figure 40



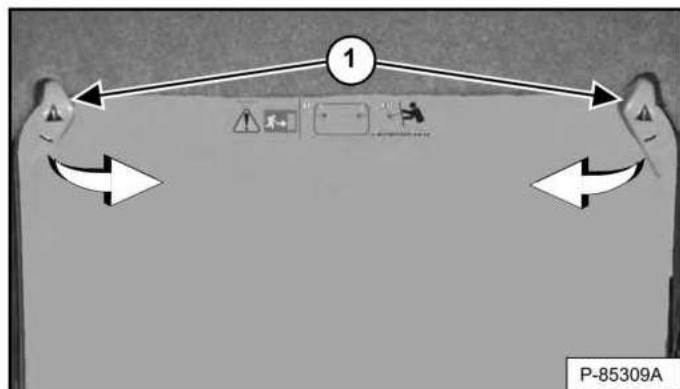
There are two different procedures for removing the rear window from your machine:

1. This window is equipped with latches [Figure 40].
2. This window is equipped with a rubber cord and tag [Figure 40].

NOTE: Use these procedures to remove the rear window only under emergency conditions. Damage to machine may occur.

Rear Window Removal (Latches)

Figure 41



Turn both latches (Item 1) [Figure 41] in until they disengage from the window frame.

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

Figure 42



Exit through the rear of the operator cab [Figure 42].

Rear Window Removal (Rubber Cord)

Figure 43



Pull on the tag on the top of the rear window to remove the rubber cord [Figure 43].

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

Figure 44

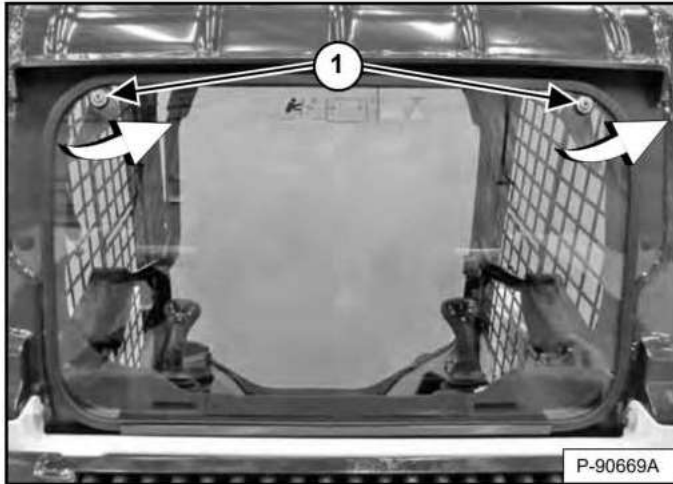


Exit through the rear of the operator cab [Figure 44].

EMERGENCY EXIT (CONT'D)

External Access (Rear Window With Latches)

Figure 45



The rear window can be removed from outside the loader using a T40 TORX® Drive tool. Turn both screws (Item 1) [Figure 45] anticlockwise until the latches disengage from the window frame. Pull the top of the window away from the cab and lift up to remove.

OR

Figure 46



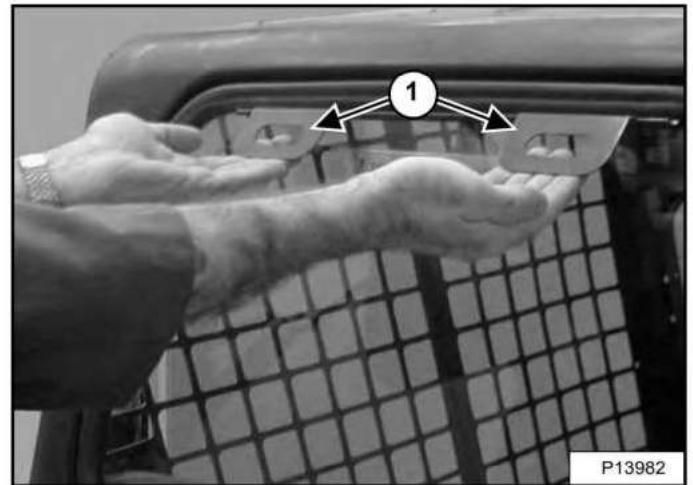
A kit is available to allow removal of the latch equipped rear window from outside the machine without tools. See your Bobcat dealer for availability.

Turn both knobs (Item 1) [Figure 46] anticlockwise until the latches disengage from the window frame. Pull the top of the window away from the cab and lift up to remove.

External Access (Rear Window With Rubber Cord)

A kit is available to allow removal of the rubber cord equipped rear window from outside the machine. See your Bobcat dealer for availability.

Figure 47

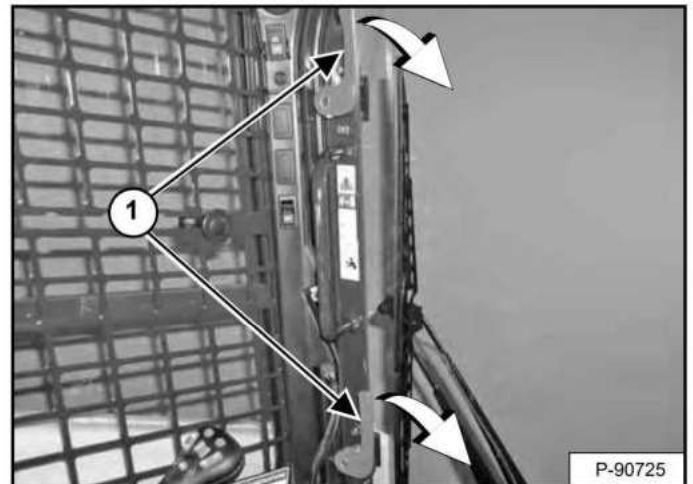


Pull both handles (Item 1) [Figure 47] up and out to remove the rear window.

Front Door

NOTE: Use this procedure to remove the front door only under emergency conditions. Damage to machine may occur.

Figure 48



Turn both latches (Item 1) [Figure 48] down until they disengage from the door frame.

Push the door out of the operator cab door frame and exit through the opening.

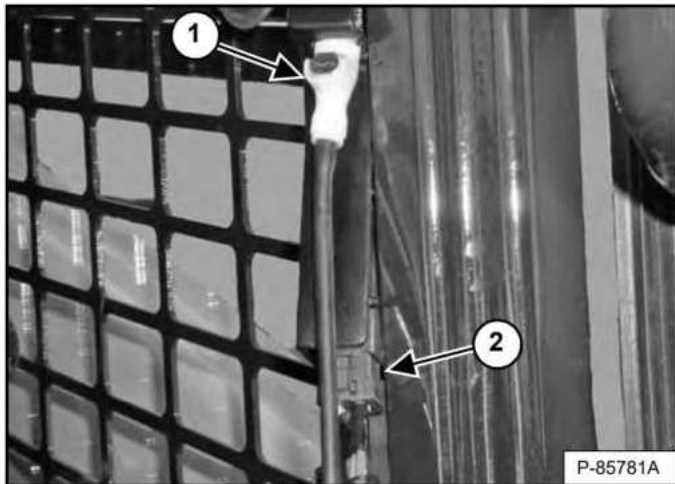
EMERGENCY EXIT (CONT'D)

Front Door (Cont'd)

Front Door Reassembly

Reassemble the front door using the following instructions if the door was opened using the emergency exit procedure.

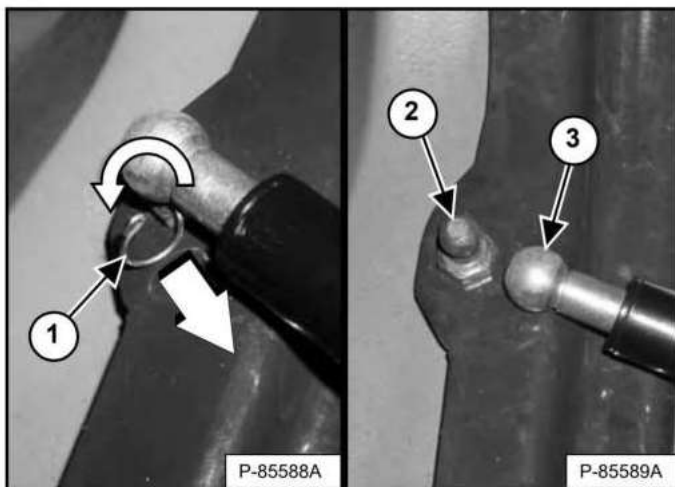
Figure 49



NOTE: Later models route the washer fluid hose differently and will not require this step.

Disconnect electrical connector (Item 2) and washer fluid hose (Item 1) (if equipped) [Figure 49].

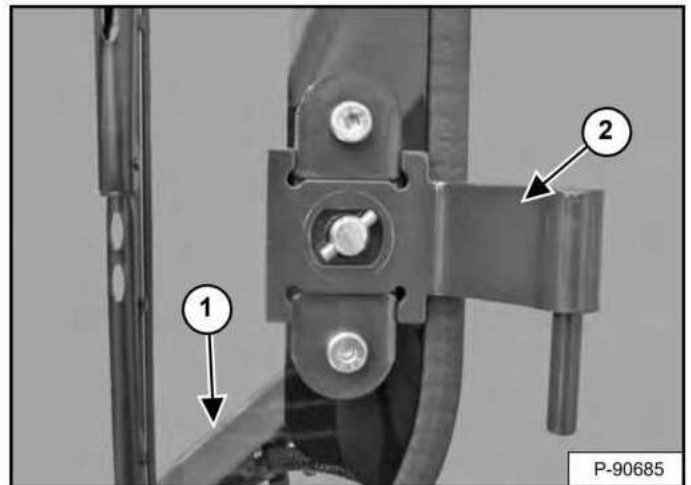
Figure 50



Rotate and pull the clip (Item 1) out of the gas spring socket. Pull the gas spring socket (Item 3) straight off the ball stud fitting (Item 2) [Figure 50].

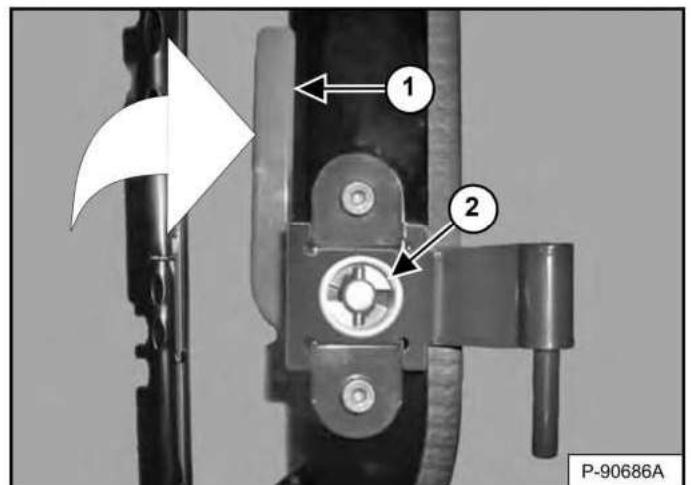
Remove the door hinges from the loader.

Figure 51



Orient the latches as shown (Item 1) and install the door hinges (Item 2) [Figure 51] on the door. (Bottom hinge shown.)

Figure 52



Install cast washers (Item 2) on door hinges taking care to match rectangular surfaces. Hold cast washer firmly against door and rotate latch (Item 1) [Figure 52] up to lock cast washer into position. (Bottom hinge shown.) (Plastic cap shown removed for visual clarity.)

Install door on loader.

Install the gas spring socket on the ball stud fitting. Install the clip into the hole in the gas spring socket. Rotate the clip to lock into position [Figure 50].

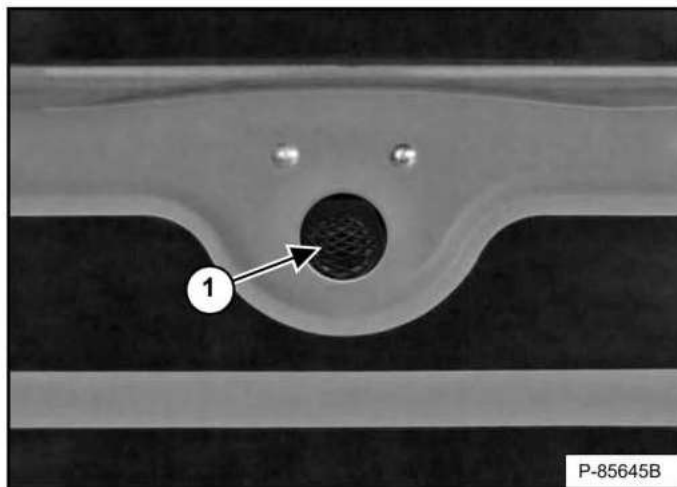
Connect electrical connector and washer fluid hose (if equipped) [Figure 49].

BACK-UP ALARM SYSTEM

This machine may be equipped with a Back-up Alarm.

Description

Figure 53



The back-up alarm (Item 1) [Figure 53] is located on the inside of the rear door.

A back-up alarm is not a substitute for looking to the rear when operating the loader in reverse, or for keeping bystanders away from the work area. Operators **must always** look in the direction of travel, including **reverse**, and must also keep bystanders away from the work area, even though the loader is equipped with a back-up alarm.

Operators must be trained to **always** look in the direction of travel, **including when operating the loader in reverse** and to keep bystanders away from the work area. Other workers should be trained to **always** keep away from the operator's work area and travel path.

Operation

WARNING

AVOID INJURY OR DEATH

- Always keep bystanders away from the work area and travel path.
- The operator must always look in the direction of travel.
- The back-up alarm must sound when operating the machine in the reverse direction.

W-2783-0409

The back-up alarm will sound when the operator moves both steering levers or joystick(s) into the reverse position. Slight movement of the steering levers into the reverse position is required with hydrostatic transmissions, before the back-up alarm will sound.

If alarm does not sound or for adjustment instructions, see inspection and maintenance instructions for the back-up alarm system in the preventive maintenance section of this manual. (See BACK-UP ALARM SYSTEM on Page 132.)

DRIVING AND STEERING THE LOADER

Available Control Configurations

This loader has four control configurations available:

- *Standard Controls* - Two steering levers control drive and steering functions.
- *Advanced Control System (ACS) (Option)* - Two steering levers control drive and steering functions.
- *Advanced Hand Controls (AHC) (Option)* - Two steering levers control drive and steering functions.
- *Selectable Joystick Controls (SJC) (Option)* -

(*'ISO' Pattern*) - Left joystick controls the drive and steering functions.

(*'H' Pattern*) - Left and right joysticks control left and right side drive and steering functions.

Operation (Standard, ACS, And AHC)

! WARNING

AVOID INJURY OR DEATH

When operating the machine:

- Keep the seat belt fastened snugly.
- The seat bar must be lowered.
- Keep your feet on the pedal controls or footrests and hands on the controls.

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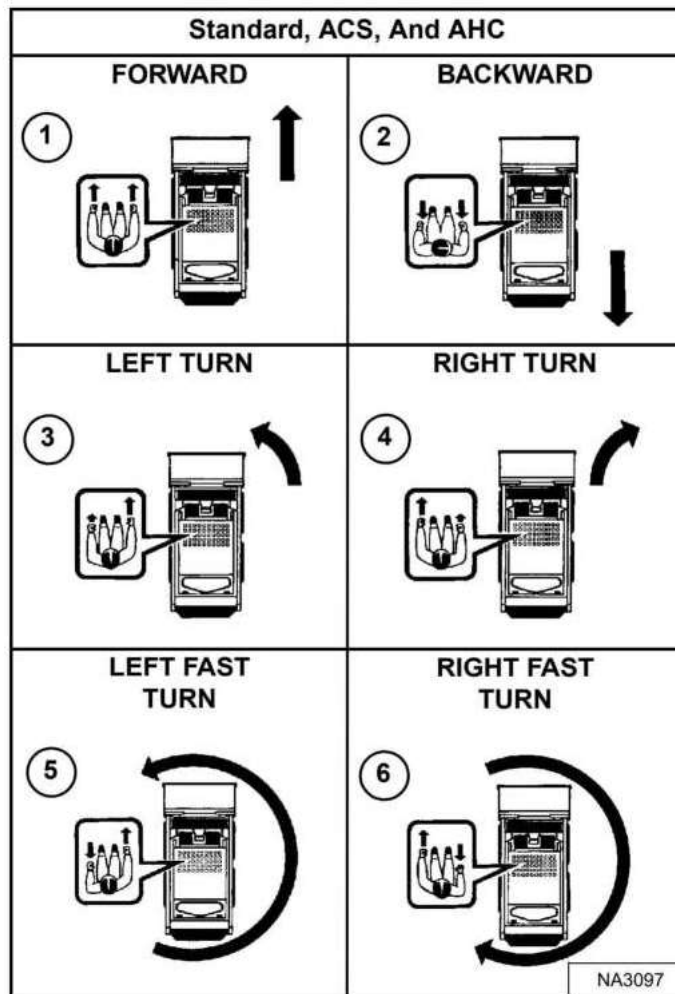
Figure 54



The steering levers (Item 1) [Figure 54] are on the left and right side in front of the seat.

Move the levers smoothly. Avoid sudden starting and stopping.

Figure 55

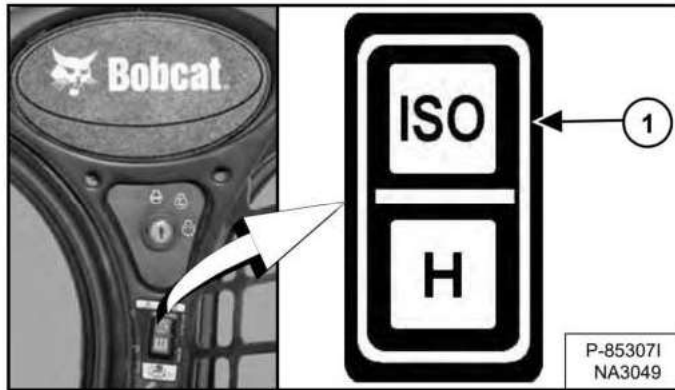


Steering Lever Functions (Drive And Steering) [Figure 55]:

1. **Forward Travel** - Push both levers forward.
2. **Backward Travel** - Pull both levers backward.
3. **Left Turn** - Move the right lever farther forward than the left lever.
4. **Right Turn** - Move the left lever farther forward than the right lever.
5. **Left Fast Turn** - Move the left lever backward and the right lever forward.
6. **Right Fast Turn** - Move the right lever backward and the left lever forward.

Operation (SJC) In 'ISO' Control Pattern

Figure 56



Select the 'ISO' control pattern by pressing the top of the switch (Item 1) [Figure 56].



AVOID INJURY OR DEATH

When operating the machine:

- Keep the seat belt fastened snugly.
- The seat bar must be lowered.
- Keep your feet on the foot rests and hands on control levers.

W-2399-0501

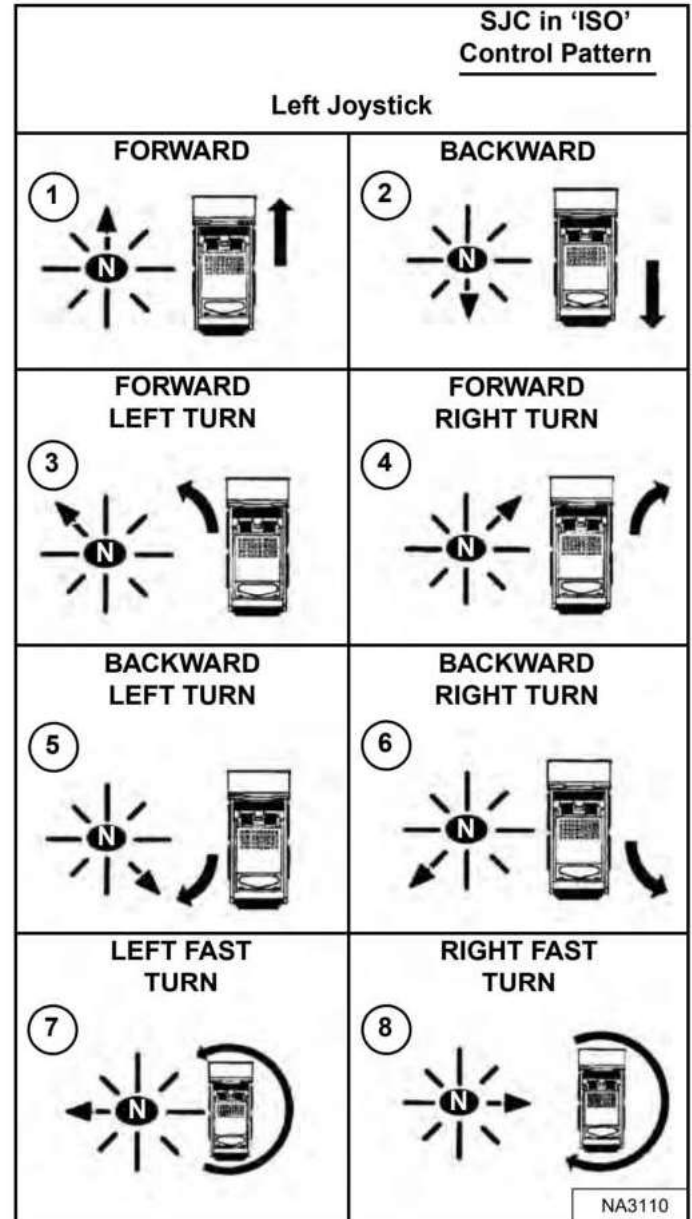
Figure 57



The joystick that controls drive and steering is on the left side in front of the seat (Item 1) [Figure 57].

Move the joystick smoothly. Avoid sudden starting and stopping.

Figure 58

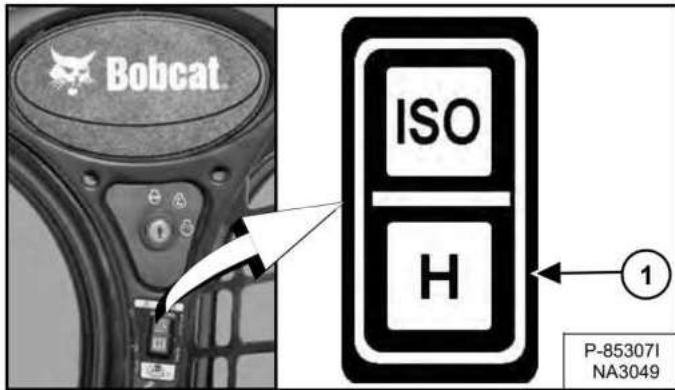


Left Joystick Functions (Drive And Steering) [Figure 58]:

1. **Forward Travel** - Move joystick forward.
2. **Backward Travel** - Move joystick backward.
3. **Forward Left Turn** - Move joystick forward and to the left.
4. **Forward Right Turn** - Move joystick forward and to the right.
5. **Backward Left Turn** - Move joystick backward and to the right.
6. **Backward Right Turn** - Move joystick backward and to the left.
7. **Left Fast Turn** - Move joystick to the left.
8. **Right Fast Turn** - Move joystick to the right.

Operation (SJC) In 'H' Control Pattern

Figure 59



Select the 'H' control pattern by pressing the bottom of the switch (Item 1) [Figure 59].

! WARNING

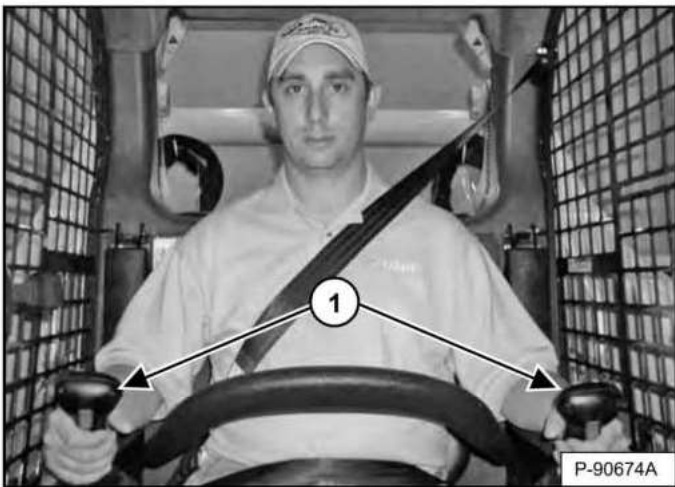
AVOID INJURY OR DEATH

When operating the machine:

- Keep the seat belt fastened snugly.
- The seat bar must be lowered.
- Keep your feet on the foot rests and hands on control levers.

W-2399-0501

Figure 60



Both joysticks control drive and steering and are located on the left and right side in front of the seat (Item 1) [Figure 60].

Move the joysticks smoothly. Avoid sudden starting and stopping.

Figure 61

Left Joystick	Right Joystick	SJC in 'H' Control Pattern
1 		 FORWARD
2 		 BACKWARD
3 		 LEFT TURN
4 		 RIGHT TURN
5 		 LEFT FAST TURN
6 		 RIGHT FAST TURN

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Joystick Functions (Drive And Steering) [Figure 61]:

1. **Forward Travel** - Move both joysticks forward.
2. **Backward Travel** - Move both joysticks backward.
3. **Forward Left Turn** - Move the right joystick farther forward than the left joystick.
4. **Forward Right Turn** - Move the left joystick farther forward than the right joystick.
5. **Left Fast Turn** - Move the left joystick backward and the right joystick forward.
6. **Right Fast Turn** - Move the left joystick forward and the right joystick backward.

STOPPING THE LOADER

Using The Control Levers Or Joysticks

When the steering levers or joysticks are moved to the NEUTRAL position, the hydrostatic transmission will act as a *service brake* to stop the loader.

TWO-SPEED CONTROL

Description

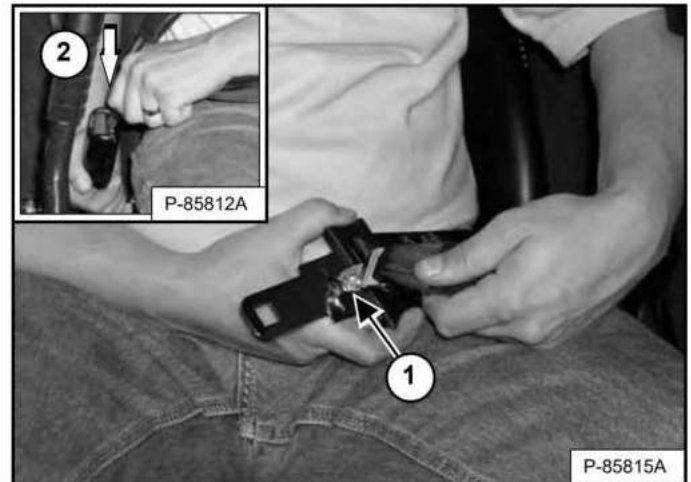
This machine may be equipped with two speed ranges, high and low. High range allows you to reduce cycle times when there is a long travel distance between the dig site and the dump site. You can also use the high range when travelling from one jobsite to another at faster speeds.

WARNING

**HITTING OBSTRUCTIONS AT HIGH RANGE SPEEDS
CAN CAUSE SERIOUS INJURY OR DEATH**
Fasten shoulder belt for additional restraint when
operating at high range speeds.

W-2754-0908

Figure 62



NOTE: The 3-point restraint must be used when selecting high range operation [Figure 62].

Connect the shoulder belt to the lap belt (Item 1). Pull the lap belt across to the right side of the seat and fasten (Item 2) [Figure 62].

The shoulder belt must be positioned over your left shoulder and lap belt over your lower hips.

Continue with the correct procedure for your machine. (See Operation (Standard, ACS, And AHC) on Page 68.) or (See Operation (SJC) on Page 68.)

TWO-SPEED CONTROL (CONT'D)

Operation (Standard, ACS, And AHC)

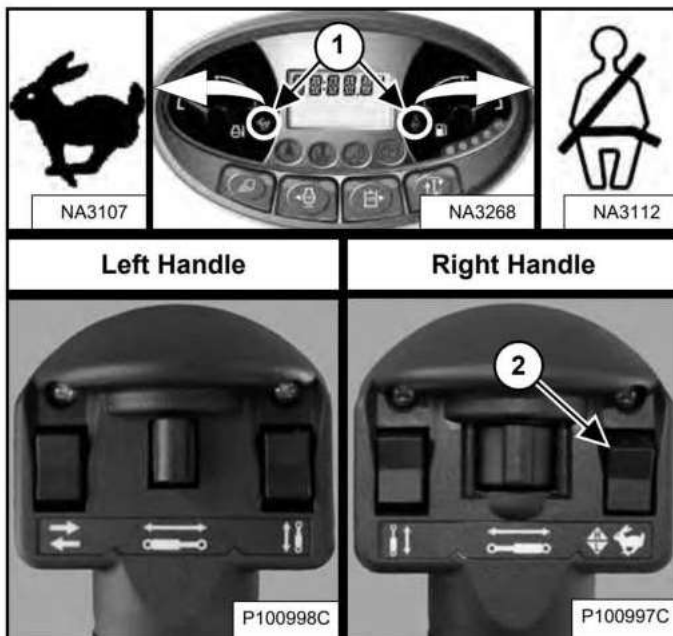


HITTING OBSTRUCTIONS AT HIGH RANGE SPEEDS CAN CAUSE SERIOUS INJURY OR DEATH

Fasten shoulder belt for additional restraint when operating at high range speeds.

W-2754-0908

Figure 63



Press the top of the switch (Item 2) on the right handle for high range. The two-speed and shoulder belt icons located on the left instrument panel (Item 1) [Figure 63] will come on.

NOTE: This toggle switch retains the selected range. The loader is in high range speed at startup if the switch is in the high range position.

Press the bottom of the switch for low range.

Operation (SJC)

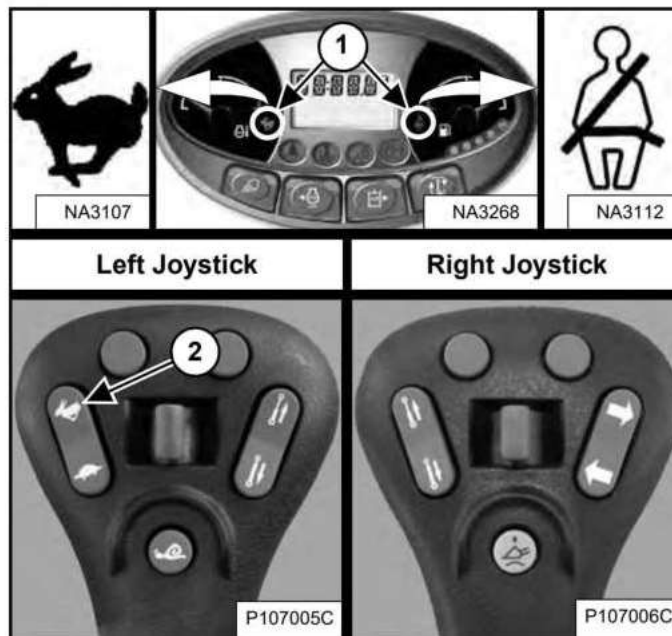


HITTING OBSTRUCTIONS AT HIGH RANGE SPEEDS CAN CAUSE SERIOUS INJURY OR DEATH

Fasten shoulder belt for additional restraint when operating at high range speeds.

W-2754-0908

Figure 64



NOTE: You must disengage Speed Management before you can select high range.

Press the top of the switch (Item 2) on the left joystick for high range. The two-speed and shoulder belt icons located on the left instrument panel (Item 1) [Figure 64] will come on.

Press the bottom of the switch for low range.

SPEED MANAGEMENT

Speed Management is available on SJC equipped machines.

Description

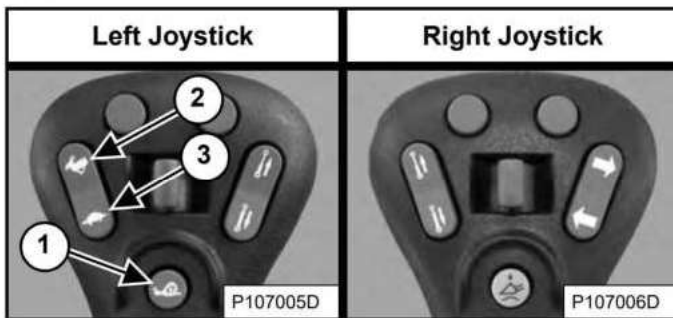
Speed Management allows the loader to be manoeuvred at a slower travel speed, even during maximum movement of the joystick(s).

This feature can be useful when installing attachments, loading or unloading, and certain applications. (EXAMPLES: Landscaping, tilling, trenching)

Operation

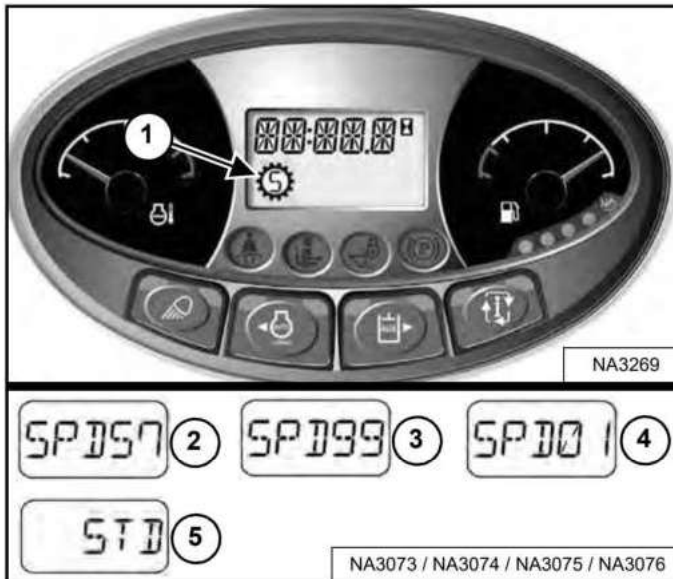
NOTE: Two-Speed Loaders Only - You must be in low range speed to engage Speed Management.

Figure 65



Press the button (Item 1) [Figure 65] on the left joystick once to engage Speed Management.

Figure 66



The Speed Management icon (Item 1) [Figure 66] will appear in the display and remain on until the Speed Management button is pressed again or the machine is turned off.

When Speed Management is engaged, the machine will travel at the factory default setting of 57% of Standard Travel Speed and the percentage [SPD 57] will appear in the display (Item 2) [Figure 66].

NOTE: The factory default setting can be changed by the operator. (See Changing The Factory Default Setting on Page 70.)

While Speed Management is engaged, press the top of the Speed Control switch (Item 2) [Figure 65] to increase the speed up to 99% [SPD 99] or the bottom of the switch (Item 3) [Figure 65] to decrease the speed down to 1% [SPD 01]. The percentages will appear in the display (Items 2, 3, and 4) [Figure 66].

Press button (Item 1) [Figure 65] again to disengage Speed Management and return to Standard Travel Speed. [STD] (Item 5) [Figure 66] will appear in the display.

The system will retain the speed percentage as long as the loader remains ON.

EXAMPLE: You can be using the machine at 40%, then disengage Speed Management to reposition the loader, and then reengage Speed Management. The speed percentage will still be at 40%.

EXAMPLE: Turning the key switch to STOP will return the Speed Management setting to default. The next time you start the engine and engage Speed Management, the speed is set at 57% (factory default setting) or the last default setting saved by the operator. (See Changing The Factory Default Setting on Page 70.)

NOTE: Two-Speed Loaders Only - You must disengage Speed Management before you can select high range.

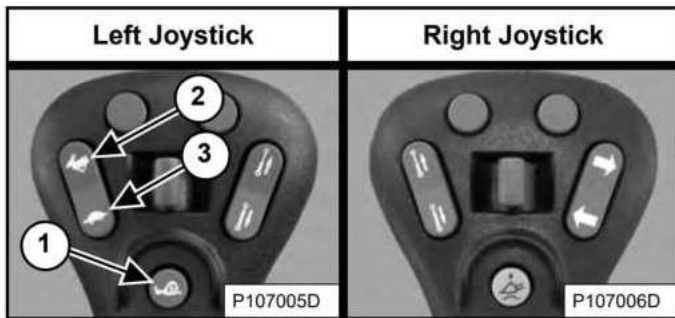
Changing The Factory Default Setting

The Speed Management factory default setting can be changed by the operator to save adjustment time.

EXAMPLE: Your machine is often used for trenching and you prefer a Speed Management setting of 28% of Standard Travel Speed for that application. The Speed Management default setting can be changed to 28% of Standard Travel Speed instead of the factory default setting of 57%. Each time you start the machine and first select Speed Management, the machine will default to 28% of Standard Travel Speed.

Engage Speed Management. (See Description on Page 69.)

Figure 67



Adjust the speed percentage higher (Item 2) or lower (Item 3) [Figure 67] by pressing the Speed Control switch until the desired default setting is displayed.

Press and hold the button (Item 1) [Figure 67] on the left joystick to save the default setting.

Figure 68



The alarm will beep once, display [SET ##] [Figure 68] (## will indicate the percentage you selected) and remain in Speed Management mode.

Pressing the button (Item 1) [Figure 67] on the left joystick or turning the machine off will disengage Speed Management and return the loader to Standard Travel Speed.

When Speed Management is first selected each time the machine is started, the percentage you selected is the default setting. Speed Management can still be adjusted from 1% to 99% of Standard Travel Speed.

The default setting can be changed any time the operator chooses.

DRIVE RESPONSE

Drive Response is available on SJC equipped machines.

Description

Drive Response changes how responsive (more or less) the loaders drive and steering systems are when the operator moves the joystick(s).

Drive Response can be changed by the operator for different drive response preferences, various job conditions, and attachment use.

NOTE: Changes to drive response do not affect braking or stopping the loader.

There are three drive response settings:

- **[DR-1]** provides a smooth responsive reaction to joystick movement. (Drive only)
- **[DR-2]** is the default setting and provides a normal responsive reaction to joystick movement. (Drive only)
- **[DR-3]** provides a quick responsive reaction to joystick movement. (Drive only)

Operation

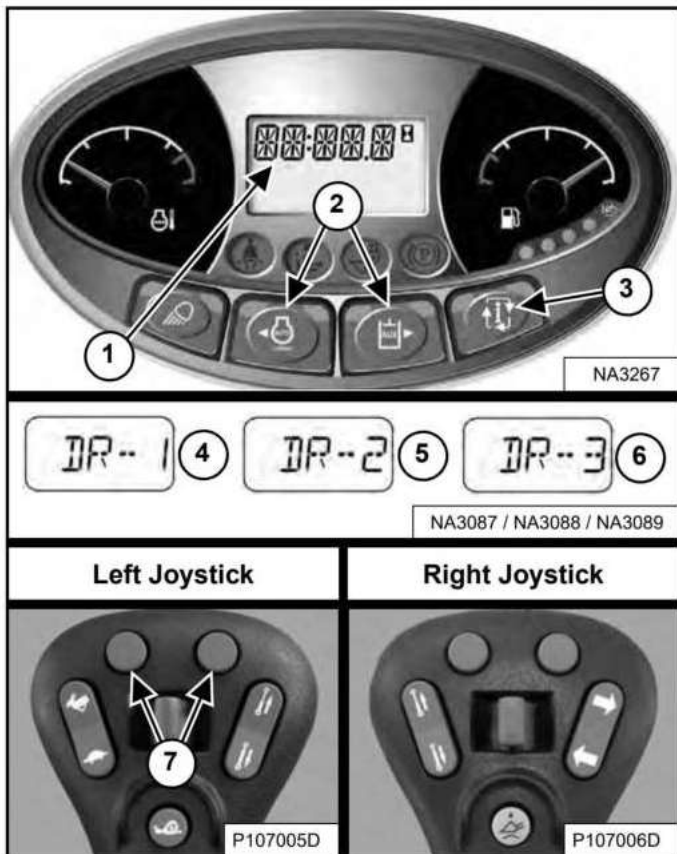
Perform PRE-STARTING PROCEDURE and STARTING THE ENGINE procedures:

1. Fasten seat belt.
2. Lower seat bar.
3. Put joysticks in NEUTRAL position.
4. Start the engine.
5. Press the PRESS TO OPERATE LOADER button.
6. Current drive response setting is displayed briefly in the data display.

DRIVE RESPONSE (CONT'D)

Operation (Cont'd)

Figure 69



Press the Information button (Item 3) to cycle the data display until the drive response menu is displayed. The current drive response setting will appear in the data display (Item 1) [Figure 69].

Press the left or right scroll button (Item 2) [Figure 69] on the left panel to adjust the setting. Adjustments to the drive response are effective immediately.

OR

Press the left or right button (Item 7) [Figure 69] on the left joystick to adjust the setting. Adjustments to the drive response are effective immediately.

Press the left scroll button on the left panel or the left button on the left joystick to scroll down through the three drive response settings (Items 4, 5, and 6). Press the right scroll button on the left panel or the right button of the left joystick to scroll up through the three drive response settings (Items 4, 5, and 6) [Figure 69].

Saving The Drive Response Setting:

The current drive response setting can be saved by pressing the Information button (Item 3) [Figure 69] to exit from the drive response adjustment menu.

OR

If no buttons are pressed for 10 seconds, the drive response setting will be saved and the display screen will change to the hourmeter.

NOTE: Machines equipped with a Deluxe Instrumentation Panel will save the drive response setting for each user. Example: If user 1 saves the setting [DR-2], the machine will be in [DR-2] the next time user 1 password is entered.

STEERING DRIFT COMPENSATION

Steering Drift Compensation is available on SJC equipped machines.

Description

Steering Drift Compensation can be used to reduce steering drift to maintain a desired travel path in forward and reverse directions.

Examples of applications where this feature can be used:

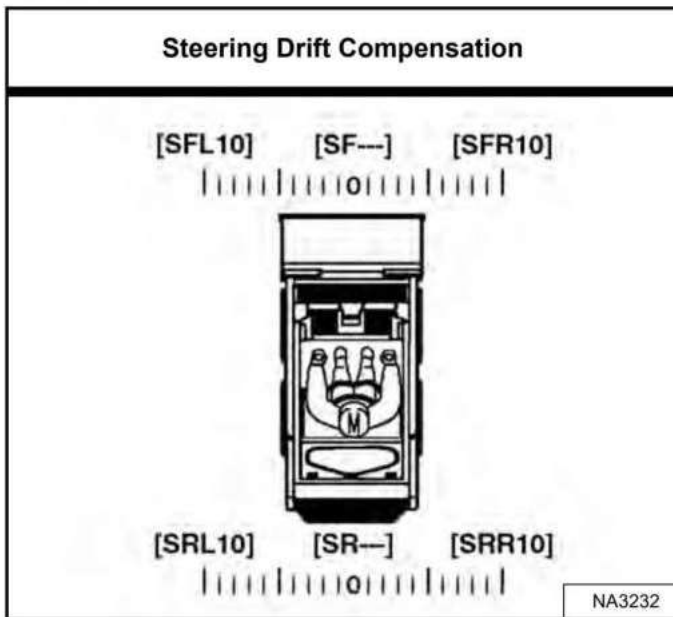
- To compensate for normal variations such as tyre inflation pressure, track tension, tyre wear, and track wear.
- Using side shift attachments such as trenchers, planers, and silt fence installers.
- Driving on uneven terrain such as crowned road surfaces.

Operation

Perform PRE-STARTING PROCEDURE and STARTING THE ENGINE procedures:

1. Fasten seat belt.
2. Lower seat bar.
3. Put joysticks in NEUTRAL position.
4. Start the engine.
5. Press the PRESS TO OPERATE LOADER button.
6. Current drive response setting is displayed briefly in the data display.

Figure 70



Steering drift compensation contains a total of 21 settings. Steering drift compensation can be set to any point from NEUTRAL to [SFL10] or [SRL10] left, and from NEUTRAL to [SFR10] or [SRR10] right. [SF---] or [SR---] is displayed when set for NEUTRAL [Figure 70].

STEERING DRIFT COMPENSATION (CONT'D)

Operation (Cont'd)

Figure 71



Press the Information button (Item 3) to cycle the data display until the steering drift compensation menu is displayed. The current steering drift compensation setting will appear in the data display (Item 1) [Figure 71].

Press the left or right scroll button (Item 2) [Figure 71] on the left panel to adjust the setting. Adjustments to steering drift compensation are effective immediately and saved automatically.

OR

Press the left or right button (Item 7) [Figure 71] on the left control to adjust the setting. Adjustments to the steering drift compensation are effective immediately and saved automatically.

Press the left scroll button on the left panel or the left button on the left control to adjust the machine left. [SFL01] (Item 4) through a maximum of [SFL10] will appear in the data display (Item 1) [Figure 71]. The number will increase by one each time you press the button. The higher the number, the greater the amount of steering drift compensation to the left.

Press the right scroll button on the left panel or the right button on the left control to adjust the machine back toward centre. The display will decrease down to NEUTRAL displayed as [SF---] (Item 5). Another press of the upper right button will cause [SFR01] (Item 6) to appear in the data display (Item 1) [Figure 71]. The number will increase by one each time you press the button up to a maximum of [SFR10]. The higher the number, the greater the amount of steering drift compensation to the right.

Forward steering drift compensation setting can be adjusted with the steering controls in NEUTRAL or during forward travel. Reverse steering drift compensation setting can be adjusted during reverse travel. The letter [R] will appear in place of the letter [F] in the data display when setting reverse steering drift compensation. (EXAMPLES: [SRL01], [SRR01], and [SR---].

Exiting The Steering Drift Compensation Menu:

Press the Information button (Item 3) [Figure 71] to exit from the steering drift compensation adjustment menu.

OR

If no buttons are pressed for 10 seconds, the display screen will change to the hourmeter.

LIFT AND TILT COMPENSATION

Lift and Tilt Compensation is available on ACS, AHC, and SJC equipped machines.

Description

Lift and Tilt Compensation can be used to adjust the lift and tilt control sensitivity. This enables the operator to increase or decrease the amount of control movement before lift up, lift down, tilt back, and tilt out begins. The operator can change each setting to their preference.

EXAMPLE: Your machine is being used with a mower attachment. The mower slowly lowers because you move the controls slightly when passing over extremely rough ground. Adjusting the lift down control to a low setting will provide an increased NEUTRAL band and allow for more control movement before the lift arms move.

The procedure that follows provides a starting point for the lift and tilt control compensation. Operators can adjust the settings to account for attachment weight, engine rpm and application.

Operation

NOTE: Lift and Tilt Compensation should be performed when the machine has been warmed to operating temperature and any attachment has been removed.

Perform PRE-STARTING PROCEDURE and STARTING THE ENGINE procedures:

1. Fasten seat belt.
2. Lower seat bar and engage the parking brake.
3. Put handles or joysticks in NEUTRAL position.
4. Start the engine.
5. **(ACS)** - Select hand control operation.

OR

(SJC) - Select 'H' control pattern.

6. Press the PRESS TO OPERATE LOADER button.
7. Raise the lift arms approximately 1 m (3 ft) off the ground and tilt the Bob-Tach frame forward approximately 300 mm (1 ft).
8. Raise and lower the seat bar to engage the interlocks and enable the procedure to be performed.
9. Increase engine speed to high idle.
10. Continue with the correct procedure for your machine. (See Operation (ACS And AHC) on Page 76.) or (See Operation (SJC) on Page 77.)

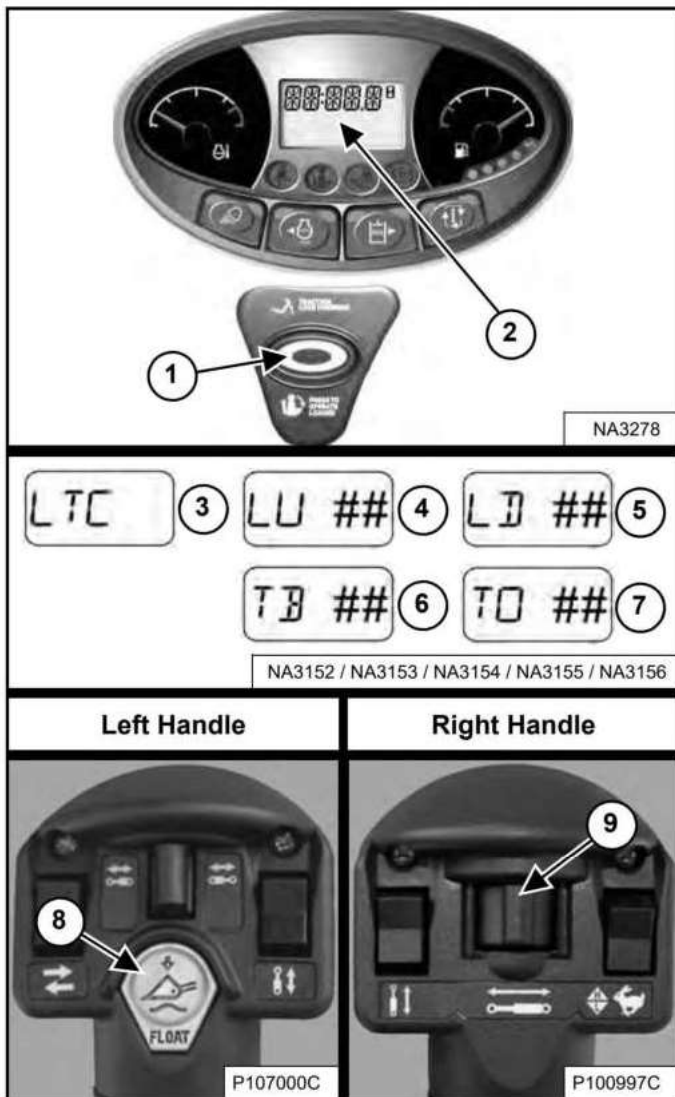
NOTE: When the procedure has begun, raising the seat bar will cause the machine to disengage from lift and tilt compensation. Changes made to the lift and tilt compensation settings will NOT be saved.

LIFT AND TILT COMPENSATION (CONT'D)

Operation (ACS And AHC)

This procedure is described using hand controls. The procedure can be performed using foot pedals on ACS equipped loaders.

Figure 72



LTC - Lift and Tilt Compensation

LU - Lift Up

LD - Lift Down

TB - Tilt Back

TO - Tilt Out

1. Press and hold the float button (Item 8). Press the PRESS TO OPERATE LOADER button (Item 1). Release both buttons. This will open the lift and tilt compensation menu. [LTC] (Item 3) will appear in the data display (Item 2) [Figure 72].

2. Move the left handle outward and hold. [LU ##] (Item 4) will appear in the data display. (## will indicate the current setting.) Move the switch (Item 9) [Figure 72] to the right repeatedly until a slight upward movement of the lift arms is noticed. The setting will increase by one each time the switch is moved. The available range of adjustment is -25 to 35.

NOTE: If the lift arms begin to move immediately, move the switch (Item 9) [Figure 72] to the left repeatedly until lift arm movement stops, then move the switch to the right repeatedly until a slight upward movement of the lift arms is noticed. (This procedure also applies to the next three steps.)

3. Move the left handle inward and hold. [LD ##] (Item 5) will appear in the data display. Move the switch (Item 9) [Figure 72] to the right repeatedly until a slight downward movement of the lift arms is noticed.
4. Move the right handle inward and hold. [TB ##] (Item 6) will appear in the data display. Move the switch (Item 9) [Figure 72] to the right repeatedly until a slight backward tilt movement of the Bob-Tach frame is noticed.
5. Move the right handle outward and hold. [TO ##] (Item 7) will appear in the data display. Move the switch (Item 9) [Figure 72] to the right repeatedly until a slight forward tilt movement of the Bob-Tach frame is noticed.

Exiting The Lift And Tilt Compensation Menu:

The current lift and tilt compensation setting can be saved by pressing the PRESS TO OPERATE LOADER button (Item 1) [Figure 72]. The machine will exit from the lift and tilt compensation menu.

OR

Raise and lower the seat bar to exit from the lift and tilt compensation menu without saving. This will cancel all changes made. Press the PRESS TO OPERATE LOADER button (Item 1) [Figure 72] to continue machine operation.

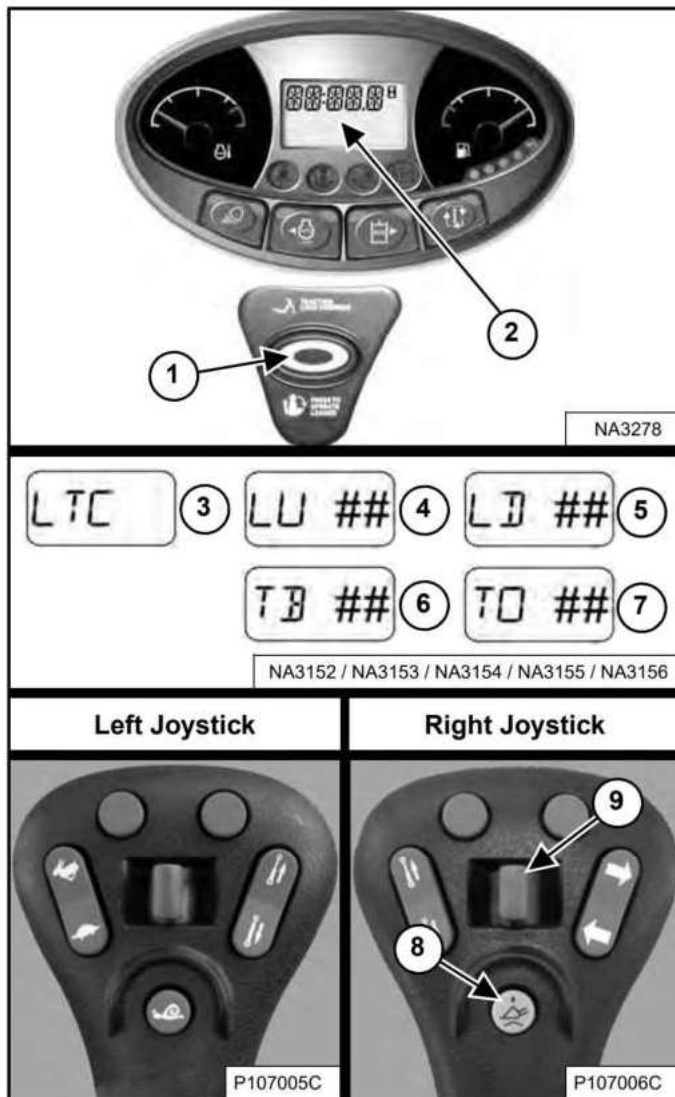
Perform several lift and tilt functions to determine if the settings match your preferences. Repeat procedure if desired.

LIFT AND TILT COMPENSATION (CONT'D)

Operation (SJC)

This procedure is described using the 'H' control pattern. The procedure can be performed using the 'ISO' control pattern on SJC equipped loaders.

Figure 73



LTC - Lift and Tilt Compensation
LU - Lift Up
LD - Lift Down
TB - Tilt Back
TO - Tilt Out

1. Press and hold the float button (Item 8). Press the PRESS TO OPERATE LOADER button (Item 1). Release both buttons. This will open the lift and tilt compensation menu. **[LTC]** (Item 3) will appear in the data display (Item 2) **[Figure 73]**.

2. Move the left joystick outward and hold. **[LU ##]** (Item 4) will appear in the data display. (## will indicate the current setting.) Move the switch (Item 9) **[Figure 73]** to the right repeatedly until a slight upward movement of the lift arms is noticed. The setting will increase by one each time the switch is moved. The available range of adjustment is -25 to 35.

NOTE: If the lift arms begin to move immediately, move the switch (Item 9) **[Figure 73]** to the left repeatedly until lift arm movement stops, then move the switch to the right repeatedly until a slight upward movement of the lift arms is noticed. (This procedure also applies to the next three steps.)

3. Move the left joystick inward and hold. **[LD ##]** (Item 5) will appear in the data display. Move the switch (Item 9) **[Figure 73]** to the right repeatedly until a slight downward movement of the lift arms is noticed.
4. Move the right joystick inward and hold. **[TB ##]** (Item 6) will appear in the data display. Move the switch (Item 9) **[Figure 73]** to the right repeatedly until a slight backward tilt movement of the Bob-Tach frame is noticed.
5. Move the right joystick outward and hold. **[TO ##]** (Item 7) will appear in the data display. Move the switch (Item 9) **[Figure 73]** to the right repeatedly until a slight forward tilt movement of the Bob-Tach frame is noticed.

Exiting The Lift And Tilt Compensation Menu:

The current lift and tilt compensation setting can be saved by pressing the PRESS TO OPERATE LOADER button (Item 1) **[Figure 73]**. The machine will exit from the lift and tilt compensation menu.

OR

Raise and lower the seat bar to exit from the lift and tilt compensation menu without saving. This will cancel all changes made. Press the PRESS TO OPERATE LOADER button (Item 1) **[Figure 73]** to continue machine operation.

Perform several lift and tilt functions to determine if the settings match your preferences. Repeat procedure if desired.

HYDRAULIC CONTROLS

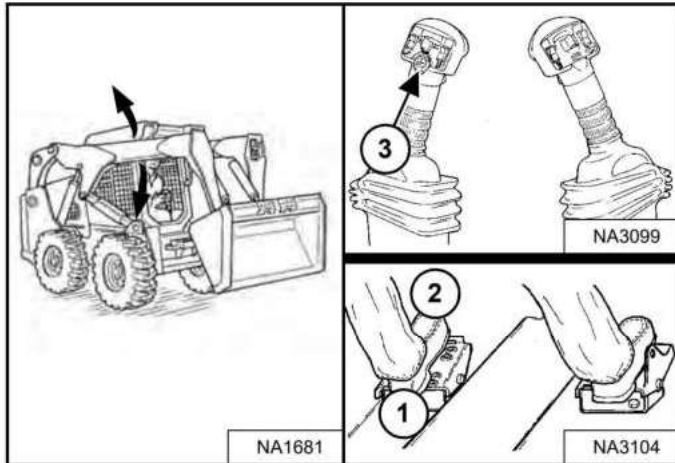
Description

Two foot pedals (or optional hand controls or optional joysticks) control the hydraulic cylinders for the lift and tilt functions.

Put your feet on the pedals (or footrests) and **KEEP THEM THERE** any time you operate the loader.

Standard Controls And Advanced Control System (ACS) In FOOT Pedal Mode

Figure 74



Lift Arm Operation - (Left Pedal)

Push the heel (Item 1) [Figure 74] of the pedal to raise the lift arms.

Push the toe (Item 2) [Figure 74] of the pedal to lower the lift arms.

Lift Arm Float Position - (Left Pedal)

Push the toe of the pedal (Item 2) [Figure 74] all the way forward until the pedal locks into the float position.

Raise the lift arms (Item 1) [Figure 74] to disengage.

Use the float position of the lift arms to level loose material while driving backward.

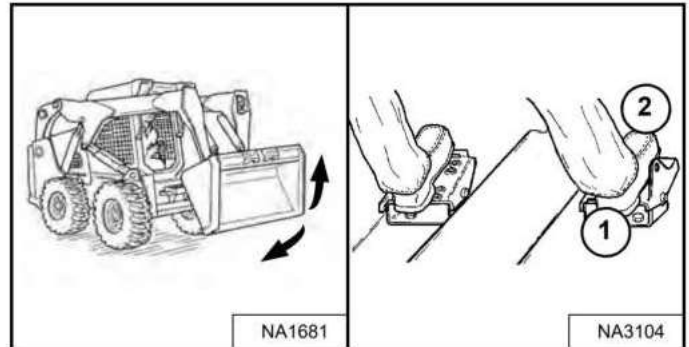
Lift Arm Float Position (With ACS) - (Left Pedal And Left Handle)

Press and hold the Float button (Item 3) while the left pedal is in NEUTRAL. Push the toe of the pedal forward to lift arm down position (Item 2) [Figure 74], then release the button.

Press Float button (Item 3) again or raise the lift arms (Item 1) [Figure 74] to disengage.

Use the float position of the lift arms to level loose material while driving backward.

Figure 75



Tilt Operation - (Right Pedal)

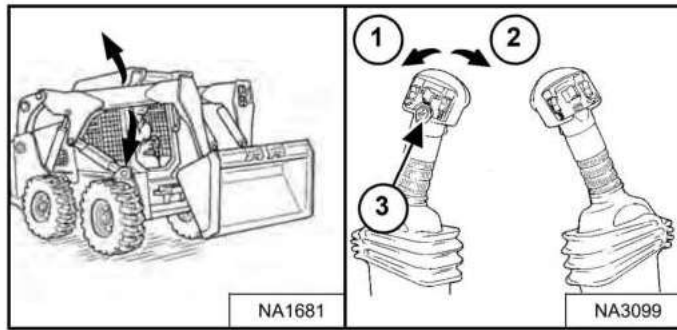
Push the heel of the pedal (Item 1) [Figure 75] to tilt the bucket backward.

Push the toe of the pedal (Item 2) [Figure 75] to tilt the bucket forward.

HYDRAULIC CONTROLS (CONT'D)

Advanced Control System (ACS) In HAND Control Mode And Advanced Hand Controls (AHC)

Figure 76



Lift Arm Operation - (Left Handle)

Move the handle outward (Item 1) [Figure 76] to raise the lift arms.

Move the handle inward (Item 2) [Figure 76] to lower the lift arms.

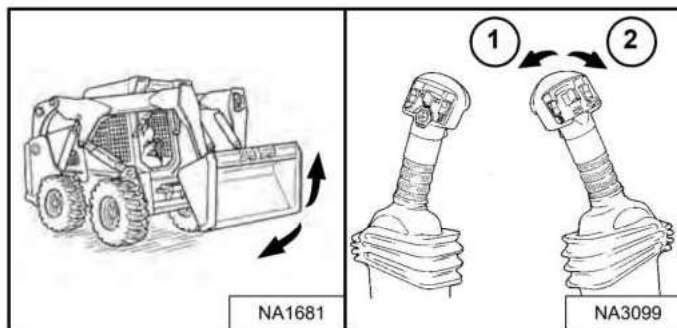
Lift Arm Float Position - (Left Handle)

Press and hold the Float button (Item 3) while the handle is in NEUTRAL. Move the handle to lift arm down position (Item 2) [Figure 76], then release the button.

Press Float button (Item 3) again or move the handle to lift arm up position (Item 1) [Figure 76] to disengage.

Use the float position of the lift arms to level loose material while driving backward.

Figure 77



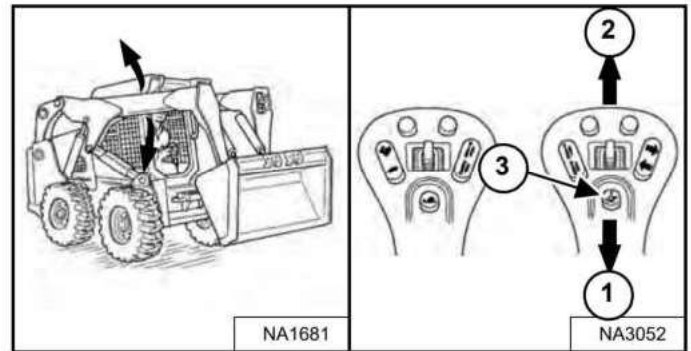
Tilt Operation - (Right Handle)

Move the handle inward (Item 1) [Figure 77] to tilt the bucket backward.

Move the handle outward (Item 2) [Figure 77] to tilt the bucket forward.

Selectable Joystick Controls (SJC) In 'ISO' Control Pattern

Figure 78



Lift Arm Operation - (Right Hand Joystick)

Move the joystick backward (Item 1) [Figure 78] to raise the lift arms.

Move the joystick forward (Item 2) [Figure 78] to lower the lift arms.

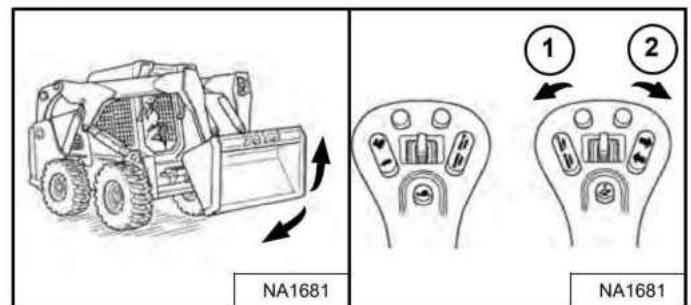
Lift Arm Float Position - (Right Hand Joystick)

Press and hold the Float button (Item 3) while the joystick is in NEUTRAL. Move the joystick to lift arm down position (Item 2) [Figure 78], then release the button.

Press Float button (Item 3) again or move the joystick to lift arm up position (Item 1) [Figure 78] to disengage.

Use the float position of the lift arms to level loose material while driving backward.

Figure 79



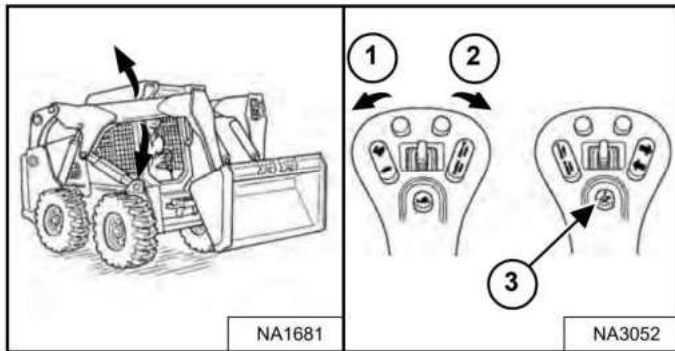
Tilt Operation - (Right Hand Joystick)

Move the joystick inward (Item 1) [Figure 79] to tilt the bucket backward.

Move the joystick outward (Item 2) [Figure 79] to tilt the bucket forward.

Selectable Joystick Controls (SJC) In 'H' Control Pattern

Figure 80



Lift Arm Operation - (Left Hand Joystick)

Move the joystick outward (Item 1) [Figure 80] to raise the lift arms.

Move the joystick inward (Item 2) [Figure 80] to lower the lift arms.

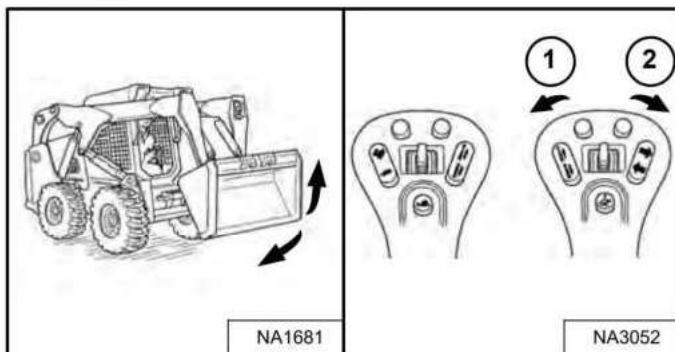
Lift Arm Float Position - (Left And Right Hand Joysticks)

Press and hold the Float button (Item 3) while the joysticks are in NEUTRAL. Move the left joystick to lift arm down position (Item 2) [Figure 80], then release the button.

Press Float button (Item 3) again or move the left joystick to lift arm up position (Item 1) [Figure 80] to disengage.

Use the float position of the lift arms to level loose material while driving backward.

Figure 81



Tilt Operation - (Right Hand Joystick)

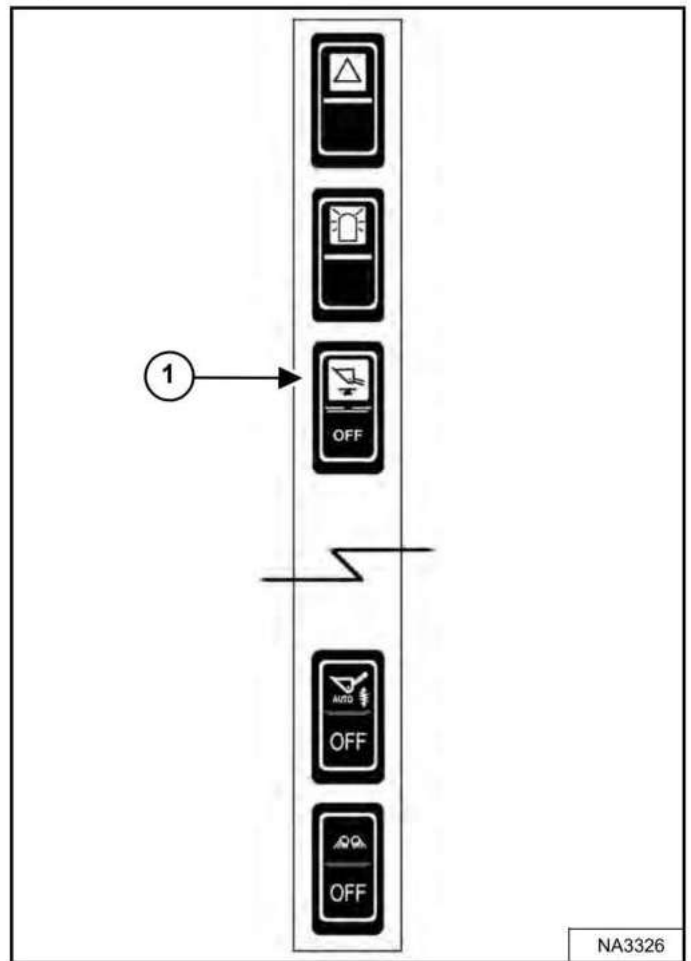
Move the joystick inward (Item 1) [Figure 81] to tilt the bucket backward.

Move the joystick outward (Item 2) [Figure 81] to tilt the bucket forward.

Hydraulic Bucket Positioning

The function of hydraulic bucket positioning is to keep the bucket at the same approximate angle as the lift arms are raised.

Figure 82



Press the top of the Bucket Positioning switch (Item 1) [Figure 82] on the left switch panel to engage the bucket positioning function. The amber light in the switch will turn on. Press the bottom of the switch to disengage. The amber light will turn off.

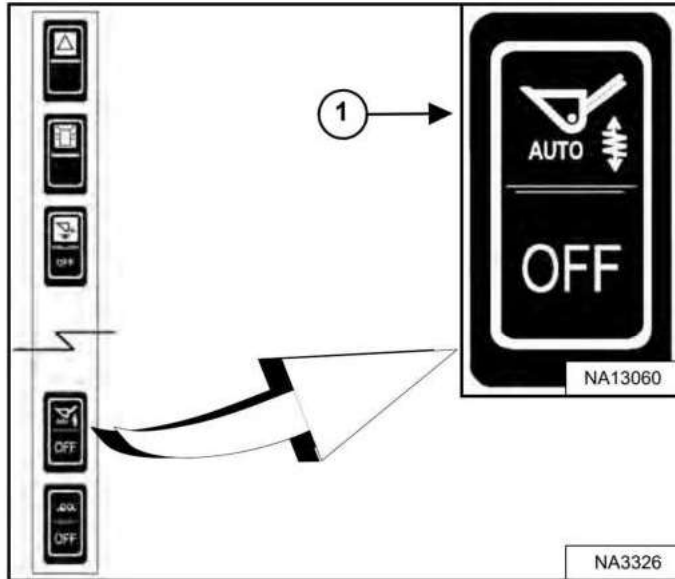
Bucket positioning functions only during upward lift cycle.

Automatic Ride Control

This machine may be equipped with Automatic Ride Control.

Automatic ride control provides a smoother ride, reduced load spillage, and improved machine control when traveling over uneven ground with heavy loads or in heavy digging applications.

Figure 83



Press the top of the Automatic Ride Control switch (Item 1) [Figure 83] on the left switch panel to engage the automatic ride control function.

The loader software will engage and disengage ride control automatically based on lift arm load and operation.

The automatic ride control system uses an accumulator that requires occasional service. (See AUTOMATIC RIDE CONTROL ACCUMULATOR on Page 178.)

Press the bottom of the switch to disengage.

NOTE: Certain applications will not benefit from using automatic ride control. Turn OFF when using certain attachments for better performance.

! WARNING

AVOID UNEXPECTED LIFT ARM MOVEMENT
Operating with the Automatic Ride Control switch in the AUTO position may result in the lift arms slowly raising during certain conditions when the operator moves the hydraulic controls in a specific manner:

1. A small or no load on the lift arms. **EXAMPLE:** Empty bucket or no attachment installed.

WITH

2. High hydraulic pressure in the tilt or auxiliary hydraulic system. **EXAMPLE:** Holding the tilt control forward or backward after it stops moving **OR** when an attachment hydraulic motor is stalled.

AND

3. While moving the lift control to raise or lower the lift arms.

NOTE: The slow upward movement of the lift arms will continue briefly even after the operator moves the hydraulic controls back to **NEUTRAL** under the conditions and operation described above.

Disengage the automatic ride control functions for applications where precise lift arm control is required or whenever unexpected lift arm movement is not desired.

W-3017-0816

Dealer Conv -- Not for Resale

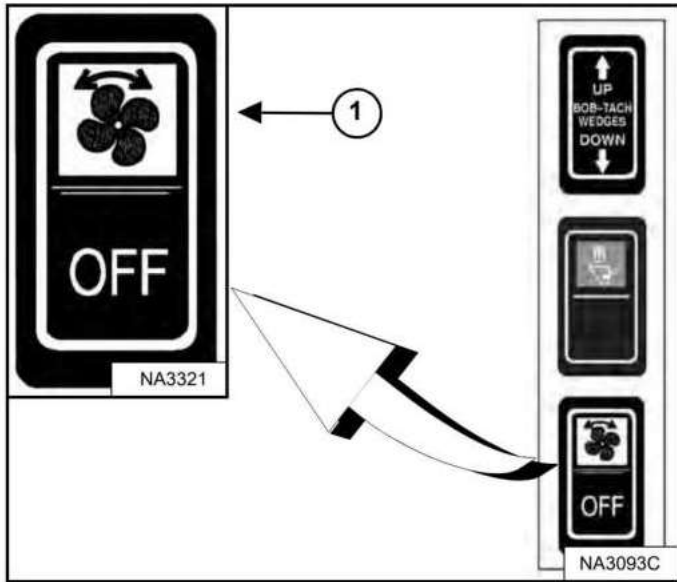
Reversing Fan

This machine may be equipped with a Reversing Fan.

The function of the reversing fan is to clear dust and debris from the rear grille. This is accomplished by reversing the direction of the cooling fan for several seconds.

The operator can select automatic or manual operation of the reversing fan.

Figure 84



Automatic:

- Press the top of the Reversing Fan switch (Item 1) [Figure 84] on the right switch panel to put the switch into the middle position.
- The machine will reverse the fan automatically based on fluid temperature as long as automatic operation is selected.

Manual:

- Fully press the top of the Reversing Fan switch (Item 1) [Figure 84] on the right switch panel to perform one reversing cycle.
- The switch will return to automatic operation when released.

The top of the switch will light in the Automatic and Manual positions.

Press the bottom of the switch to disengage.

NOTE: To protect vital systems, the fan will not reverse when fluid temperatures approach overheating conditions. Cleaning or servicing the cooling system may be required to continue operation. (See Cleaning (Later Models) on Page 153.)

Figure 85



Reversing fan is disabled when the engine coolant or hydraulic fluid temperature is too high or too low.

Selecting manual operation of the reversing fan when disabled will cause the following indications:

1. The alarm will beep once.
2. Service code [RFOFF] will appear in the data display [Figure 85] for several seconds.

Dealer Conv -- Not for Resale

FRONT Auxiliary Hydraulics Operation

Figure 86

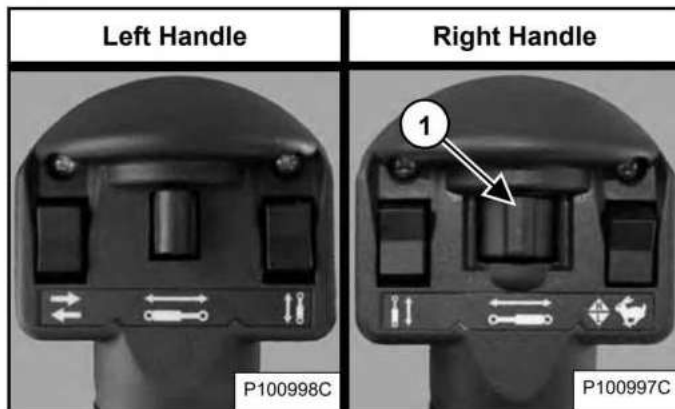


Press the Auxiliary Hydraulics button (Item 2) [Figure 86] once to activate the auxiliary hydraulics.

The light (Item 1) [Figure 86] is ON.

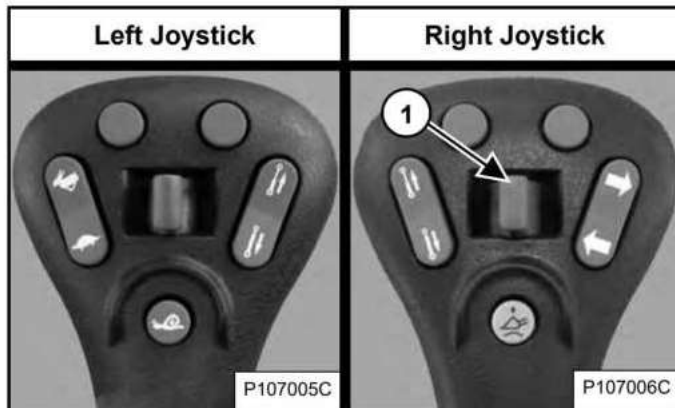
Standard, ACS, And AHC (If Equipped)

Figure 87



SJC (If Equipped)

Figure 88



Move the Front Auxiliary Hydraulic switch (Item 1) [Figure 87] or [Figure 88] to the right or left to change direction of the auxiliary hydraulic fluid flow to the front quick couplers. If you move the switch halfway, the auxiliary functions move at approximately one-half speed. (EXAMPLE: Open and close grapple teeth.)

Release the Front Auxiliary Hydraulic switch to stop hydraulic fluid flow to the front quick couplers.

Loaders Without High-Flow Hydraulics

To deactivate the auxiliary hydraulics, press the Auxiliary Hydraulics button (Item 2) [Figure 86] again.

Loaders With High-Flow Hydraulics

To deactivate the auxiliary hydraulics, press the Auxiliary Hydraulics button (Item 2) [Figure 86] two times.

All Loaders

The light (Item 1) [Figure 86] is OFF.

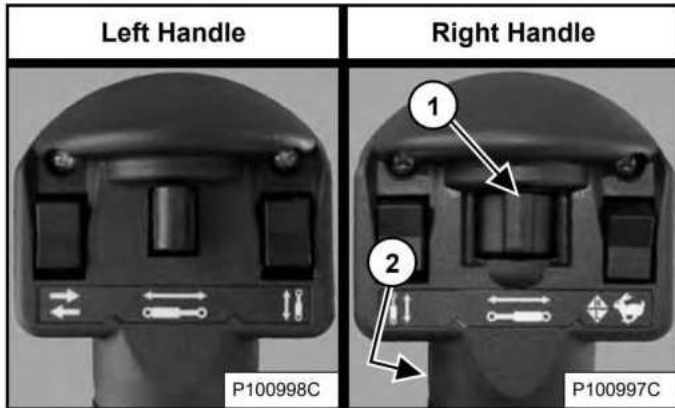
NOTE: When the operator is seated and raises the seat bar, the Auxiliary Hydraulic System (Front and Rear) will deactivate.

HYDRAULIC CONTROLS (CONT'D)

FRONT Auxiliary Hydraulics Operation (CONTINUOUS FLOW)

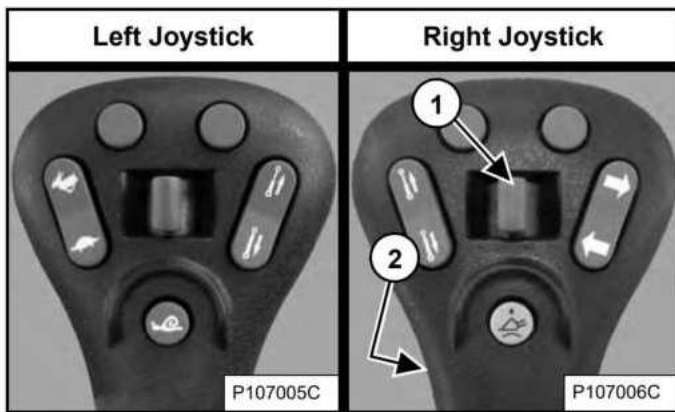
Standard, ACS, And AHC (If Equipped)

Figure 89



SJC (If Equipped)

Figure 90



After activating the auxiliary hydraulics, press the Continuous Flow Control switch (Item 2) [Figure 89] or [Figure 90] to allow constant auxiliary hydraulic fluid flow to the front female coupler (female coupler is pressurised). (EXAMPLE: Operate a backhoe.)

To stop continuous auxiliary hydraulic fluid flow, press the Continuous Flow Control switch (Item 2) [Figure 89] or [Figure 90] a second time.

NOTE: When the operator is seated and raises the seat bar, the Auxiliary Hydraulic System (Front and Rear) will deactivate.

FRONT Auxiliary Hydraulics Operation (REVERSE CONTINUOUS FLOW)

To allow constant auxiliary hydraulic fluid flow to the front male coupler (male coupler is pressurised):

1. Activate the auxiliary hydraulics.
2. Move the Front Auxiliary Hydraulic switch (Item 1) [Figure 89] or [Figure 90] to the left and hold.
3. Press the Continuous Flow Control switch (Item 2) [Figure 89] or [Figure 90].
4. Release the Front Auxiliary Hydraulic switch.

NOTE: Reverse flow can cause damage to some attachments. Use reverse flow with your attachment only if approved. See your attachment Operation & Maintenance Manual for detailed information.

To stop reverse continuous auxiliary hydraulic fluid flow, press the Continuous Flow Control switch (Item 2) [Figure 89] or [Figure 90] a second time.

NOTE: When the operator is seated and raises the seat bar, the Auxiliary Hydraulic System (Front and Rear) will deactivate.

HYDRAULIC CONTROLS (CONT'D)

REAR Auxiliary Hydraulics Operation

This machine may be equipped with rear auxiliary hydraulics.

Figure 91

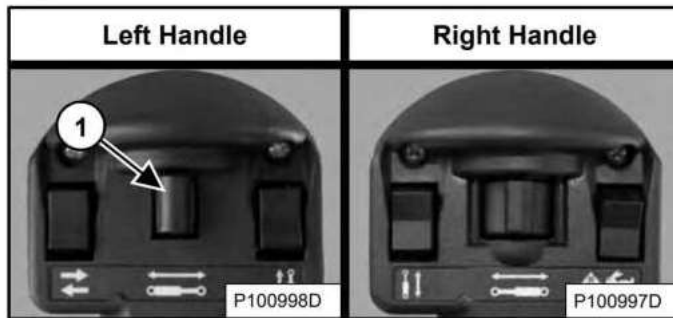


Press the Auxiliary Hydraulics button (Item 2) [Figure 91] once to activate the auxiliary hydraulics.

The light (Item 1) [Figure 91] is ON.

Standard, ACS, And AHC (If Equipped)

Figure 92



SJC (If Equipped)

Figure 93

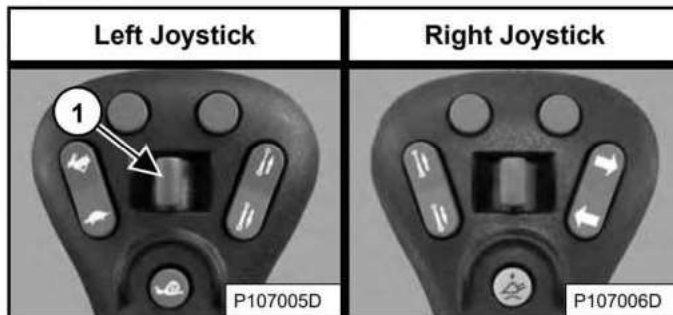


Figure 94



Move the Rear Auxiliary Hydraulic switch (Item 1) [Figure 92] or [Figure 93] to the right or left to change direction of the auxiliary hydraulic fluid flow to the rear quick couplers [Figure 94]. (EXAMPLE: Raise and lower rear stabilisers.) Release the switch to stop fluid flow.

Loaders Without High-Flow Hydraulics

To deactivate the auxiliary hydraulics, press the Auxiliary Hydraulics button (Item 2) [Figure 91] again.

Loaders With High-Flow Hydraulics

To deactivate the auxiliary hydraulics, press the Auxiliary Hydraulics button (Item 2) [Figure 91] two times.

All Loaders

The light (Item 1) [Figure 91] is OFF.

NOTE: When the operator is seated and raises the seat bar, the Auxiliary Hydraulic System (Front and Rear) will deactivate.

HYDRAULIC CONTROLS (CONT'D)

High-Flow Auxiliary Hydraulics Operation

This machine may be equipped with High-Flow Auxiliary Hydraulics.

The High-Flow function provides additional hydraulic fluid flow to the system to operate an attachment that requires more hydraulic flow. (EXAMPLE: High-Flow Planer)

Figure 95



Press the Auxiliary Hydraulics button (Item 2) once to activate the auxiliary hydraulics. The light (Item 1) [Figure 95] is ON.

Press the Auxiliary Hydraulics button (Item 2) a second time to activate high-flow auxiliary hydraulics. Both lights (Items 1 and 3) are ON. [HIFLO] (Item 4) [Figure 95] will appear briefly in the data display.

Press the Auxiliary Hydraulics button (Item 2) a third time to deactivate auxiliary hydraulics. Both lights (Items 1 and 3) [Figure 95] are OFF.

Attachments That Automatically Enable High-Flow Hydraulics:

Press button once to activate auxiliary hydraulics and high-flow, both lights are ON; second button press will deactivate high-flow hydraulics, right light is OFF; third button press will deactivate auxiliary hydraulics, both lights are OFF.

Attachments That Automatically Disable High-Flow Hydraulics:

Press button once to activate auxiliary hydraulics, left light is ON; second button press will not activate high-flow hydraulics, right light is ON briefly and turns OFF; third button press will deactivate auxiliary hydraulics, both lights are OFF.

NOTE: See attachment Operation & Maintenance Manual for more information.

Quick Couplers



AVOID INJURY OR DEATH

Diesel fuel or hydraulic fluid under pressure can penetrate skin or eyes, causing serious injury or death. Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to find leaks. Do not use your bare hand. Wear safety goggles. If fluid enters skin or eyes, get immediate medical attention from a doctor familiar with this injury.

W-2072-EN-0909



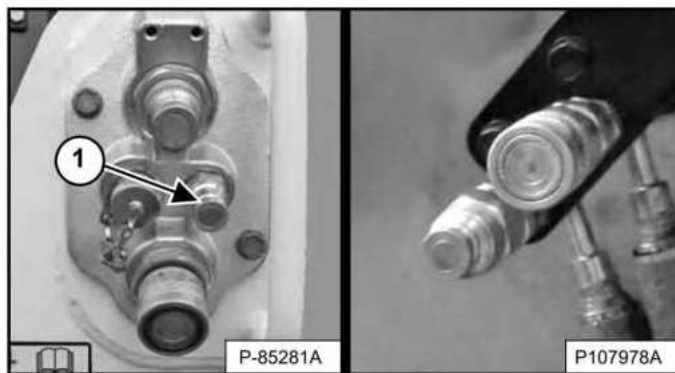
AVOID BURNS

Hydraulic fluid, tubes, fittings and quick couplers can get hot when running machine and attachments. Be careful when connecting and disconnecting quick couplers.

W-2220-0396

NOTE: Follow attachment hose routing instructions in the attachment Operation & Maintenance Manual.

Figure 96



To Connect:

Remove dirt or debris from the surface of the male and female couplers, and from the outside diameter of the male couplers. Visually check the couplers for corroding, cracking, damage, or excessive wear. If any of these conditions exist, the coupler(s) [Figure 96] must be replaced.

Install the male couplers into the female couplers. Full connection is made when the ball release sleeves slide forward on the female couplers.

Some attachments have a case drain that needs to be connected to the small quick coupler (Item 1) [Figure 96].

To Disconnect:

Hold the male couplers. Retract the sleeves on the female couplers until couplers disconnect.

Quick Coupler Troubleshooting

Dirty couplers are often thought to be faulty and are unnecessarily replaced instead of simply being cleaned. Keep quick couplers clean to provide reliable service. Always clean coupler faces before connecting. Allowing dirt and other contaminants to remain can cause premature wear to internal seals and sealing surfaces.

Leaking Couplers

- Leaks are often caused by contaminants that prevent proper sealing of the couplers or that dislocate internal seals.
- Repeatedly connect and disconnect leaking couplers to dislodge contaminants.

Couplers Stuck In Open Position

- A gritty feel when moving the outer sleeve of female couplers or a coupler that remains open when disconnected is evidence of contamination.
- Retract the sleeves on the female couplers and clean thoroughly while rotating the sleeve until all contamination has been removed.
- Immediately clean a coupler stuck in the open position to prevent further contamination and leaks.

Difficult To Connect And Disconnect Couplers

- Attachment hoses that are out of alignment with the loader couplers can cause abnormal wear and make it difficult to connect and disconnect couplers.
- Ensure attachment hoses are routed exactly as shown in the attachment Operation & Maintenance Manual to prevent permanent coupler damage.

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Relieve Auxiliary Hydraulic Pressure (Loader And Attachment)



AVOID BURNS

Hydraulic fluid, tubes, fittings and quick couplers can get hot when running machine and attachments. Be careful when connecting and disconnecting quick couplers.

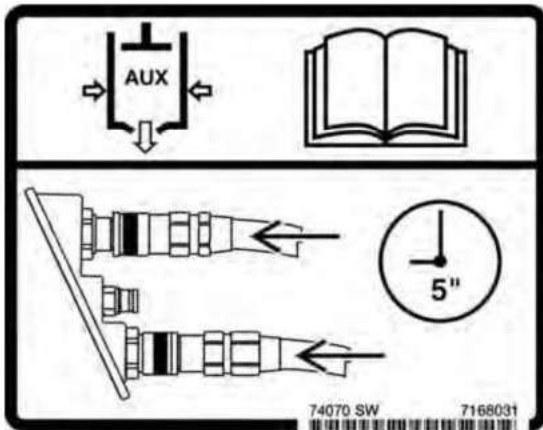
W-2220-0396



AVOID INJURY OR DEATH

Diesel fuel or hydraulic fluid under pressure can penetrate skin or eyes, causing serious injury or death. Fluid leaks under pressure may not be visible. Use a piece of cardboard or wood to find leaks. Do not use your bare hand. Wear safety goggles. If fluid enters skin or eyes, get immediate medical attention from a doctor familiar with this injury.

W-2072-EN-0909



Front Auxiliary Quick Couplers

When Connecting: Push the quick couplers tightly together and hold for 5 seconds; the pressure is automatically relieved as the couplers are installed.

When Disconnecting: Push the quick couplers tightly together and hold for 5 seconds; then retract the sleeves until the couplers disconnect.

Rear Auxiliary Quick Couplers

Put the attachment flat on the ground. Stop the engine and turn the key switch to RUN.

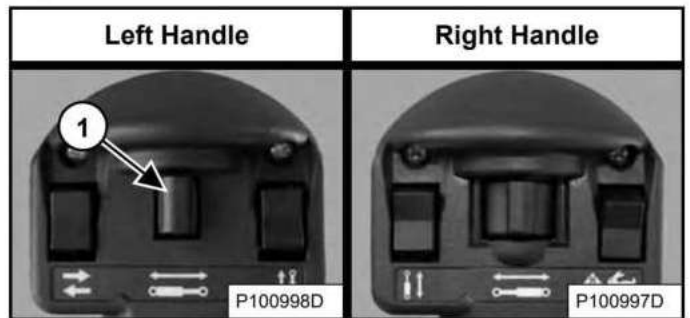
Figure 97



Press the Auxiliary Hydraulics button (Item 1) [Figure 97].

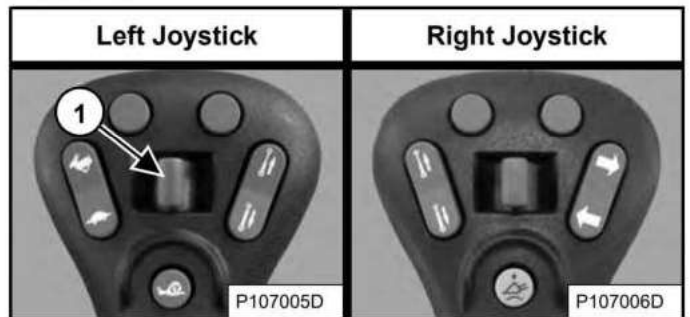
Standard, ACS, And AHC (If Equipped)

Figure 98



SJC (If Equipped)

Figure 99



Move the Rear Auxiliary Hydraulic switch (Item 1) [Figure 98] or [Figure 99] to the left and right several times. Turn the key switch to STOP.

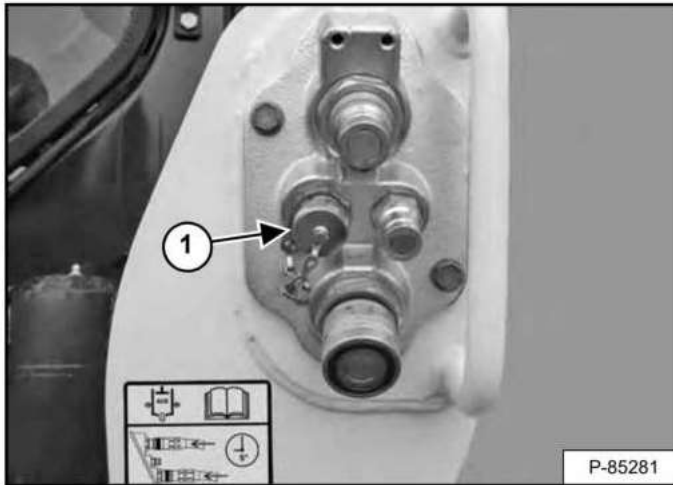
Dealer Conv -- Not for Resale

ATTACHMENT CONTROL DEVICE (ACD)

This machine may be equipped with an Attachment Control Device.

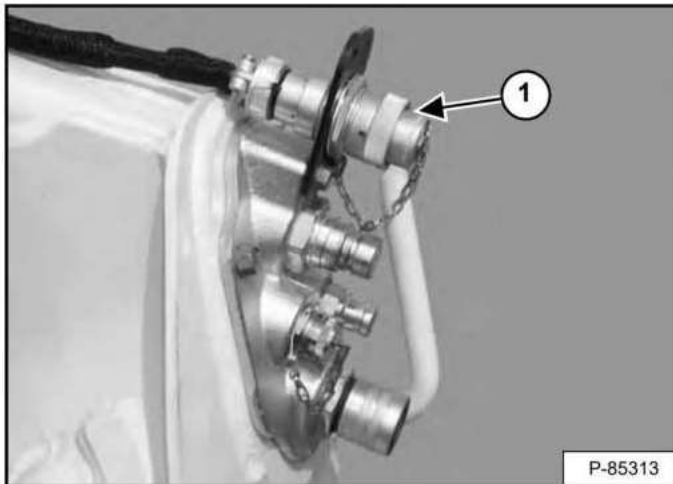
Description

Figure 100



Connect the attachment electrical harness to the attachment control device (Item 1) [Figure 100].

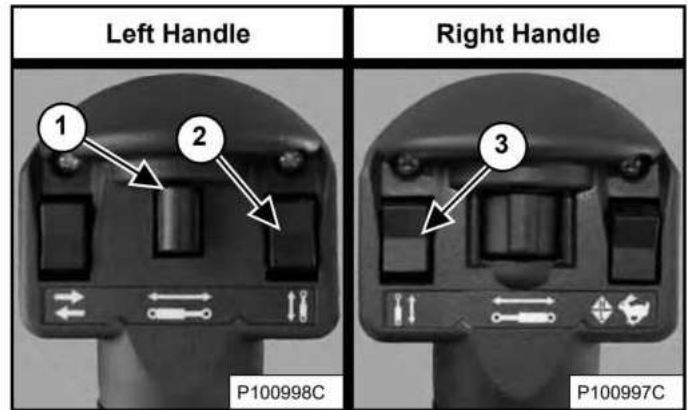
Figure 101



You will need the 14-Pin Attachment Control Device kit (Item 1) [Figure 101] to operate early model attachments. See your Bobcat loader dealer.

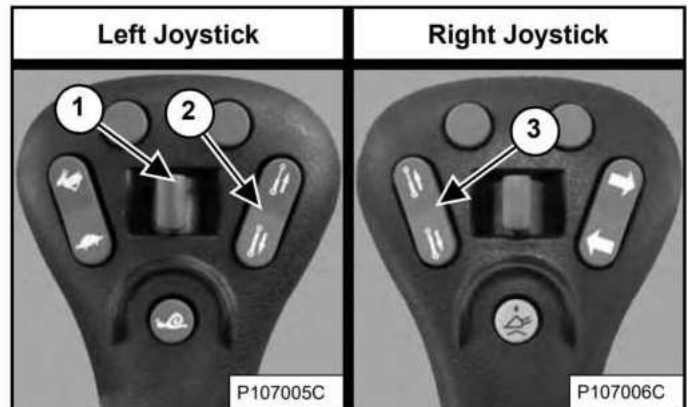
Standard, ACS, And AHC (If Equipped)

Figure 102



SJC (If Equipped)

Figure 103



Additional switches (Items 1, 2, and 3) [Figure 102] or [Figure 103] are used to control some attachment functions through the attachment control device.

NOTE: ACD takes over the function of the Rear Auxiliary Hydraulic switch (Item 1) [Figure 102] or [Figure 103] from rear auxiliary hydraulics when an attachment electrical harness is attached to the ACD.

See the appropriate attachment Operation & Maintenance Manual for control details.

DAILY INSPECTION

Daily Inspection And Maintenance

Maintenance work must be done at regular intervals. Failure to do so will result in excessive wear and early failures. The Service Checklist And Schedule is a guide for correct maintenance of the Bobcat loader.

Figure 104



The Service Checklist And Schedule (Item 1) [Figure 104] is located inside the rear door of the loader.

A complete list of scheduled maintenance tasks is also located in the Preventive Maintenance section of this manual. (See SERVICE SCHEDULE on Page 122.)

WARNING

AVOID INJURY OR DEATH

- Keep door / cover closed except for service.
- Keep engine clean of flammable material.
- Keep body, loose objects and clothing away from electrical contacts, moving parts, hot parts and exhaust.
- Do not use the machine in space with explosive dusts or gases or with flammable material near exhaust.
- Never use ether or starting fluid on diesel engine with glow plugs or air intake heater. Use only starting aids as approved by engine manufacturer.
- Leaking fluids under pressure can enter skin and cause serious injury.
- Battery acid causes severe burns; wear goggles. If acid contacts eyes, skin, or clothing, flush with water. For contact with eyes, flush and get medical attention.
- Battery makes flammable and explosive gas. Keep arcs, sparks, flames and lighted tobacco away.
- For jump start, connect negative cable to the machine engine last (never at the battery). After jump start, remove negative connection at the engine first.
- Exhaust gases can kill. Always ventilate.

W-2782-0409

NOTE: Fluids such as engine oil, hydraulic fluid, and coolant must be disposed of in an environmentally safe manner. Some regulations require that certain spills and leaks on the ground must be cleaned in a specific manner. See local regulations for correct disposal.

WARNING

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

W-2001-0502

DAILY INSPECTION (CONT'D)

Daily Inspection And Maintenance (Cont'd)

The following list of items must be checked daily:

- Engine Oil Level
- Hydraulic Fluid Level
- Engine Air Cleaner - Check System for Damage or Leaks
- Engine Cooling System - Check System for Damage or Leaks, Check Coolant Level, Clean Hydraulic Fluid Cooler, Fuel Cooler, Radiator, and Rear Grille
- Operator Cab and Cab Mounting Hardware
- Seat Belt
- Seat Bar and Control Interlocks
- Bobcat Interlock Control System (BICS™)
- Front Horn - Check for Proper Function
- Grease Pivot Pins (Lift Arms, Lift Links, Bob-Tach, Cylinders, Bob-Tach Wedges)
- Tyres - Check for Wear, Damage, Correct Air Pressure
- Fuel Filter - Remove Trapped Water
- Loose or Broken Parts - Repair or Replace as Necessary
- Safety Treads and Safety Signs (Decals) - Replace as Necessary
- Lift Arm Support Device - Replace if Damaged

IMPORTANT

This machine is factory equipped with a spark arrester exhaust system that must be maintained for proper function.

- **WITH MUFFLER**
The muffler chamber must be emptied every 100 hours of operation to keep it in working condition.
- **WITH SELECTIVE CATALYST REDUCTION (SCR) AND / OR DIESEL OXIDATION CATALYST (DOC)**
Do not remove or modify the DOC or SCR.

The SCR must be maintained according to the instructions in the Operation & Maintenance Manual for proper function.

- **WITH DIESEL PARTICULATE FILTER (DPF)**
The DPF must be maintained according to the instructions in the Operation & Maintenance Manual for proper function.

(If this machine is operated on flammable forest, brush or grass cover land, a spark arrester attached to the exhaust system may be required and must be maintained in working order. Refer to local laws and regulations for spark arrester requirements.)

I-2350-EN-1114

IMPORTANT

PRESSURE WASHING DECALS

- Never direct the stream at a low angle toward the decal that could damage the decal causing it to peel from the surface.
- Direct the stream at a 90 degree angle and at least 300 mm (12 in) from the decal. Wash from the centre of the decal toward the edges.

I-2226-EN-0910

PRE-STARTING PROCEDURE

Entering The Loader

Figure 105



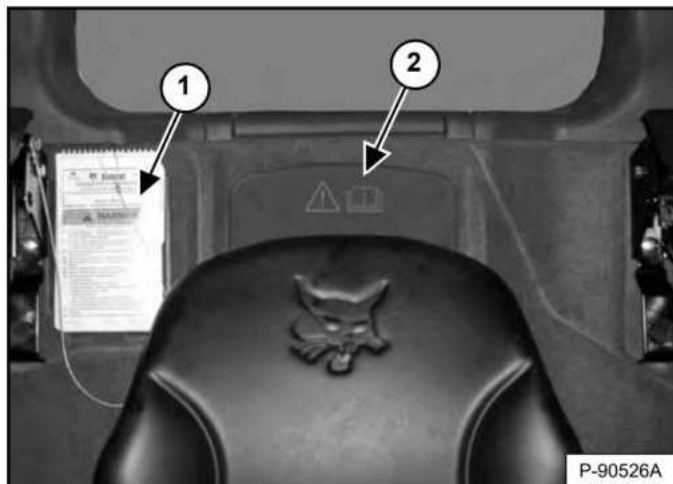
Use the bucket or attachment steps, grab handles, and safety treads (on the loader lift arms and frame) to get on and off the loader, maintaining a three-point contact at all times [Figure 105]. Do not jump.

Safety treads are installed on the Bobcat loader to provide a slip resistant surface for getting on and off the loader.

Keep safety treads clean and replace when damaged. Replacement treads are available from your Bobcat dealer.

Operation & Maintenance Manual And Operator's Handbook Locations

Figure 106



Read and understand the Operation & Maintenance Manual and the Operator's Handbook (Item 1) [Figure 106] before operating the loader.

The Operation & Maintenance Manual and other manuals can be kept in a container (Item 2) [Figure 106] provided behind the operator seat.

WARNING

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.

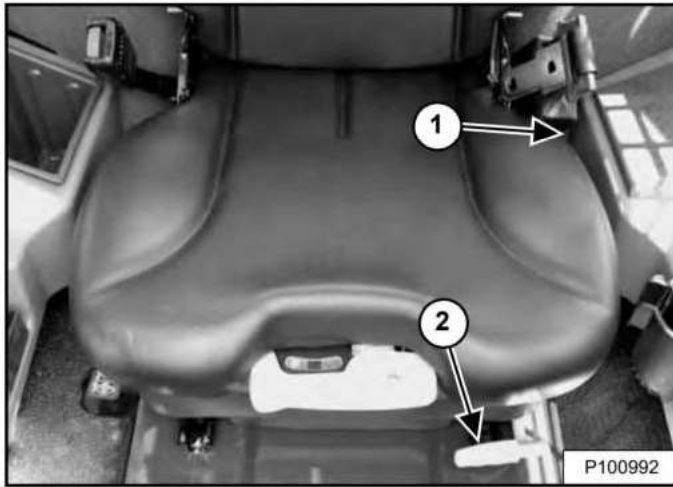
W-2003-0807

PRE-STARTING PROCEDURE (CONT'D)

Seat Adjustment

Suspension Seat (Standard)

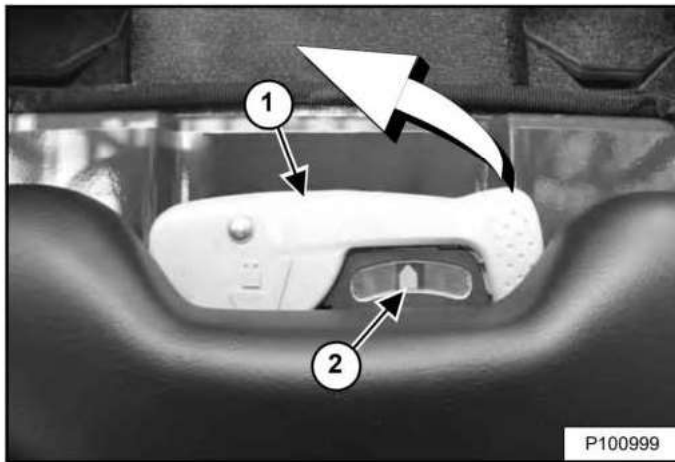
Figure 107



Pull the lever (Item 1) [Figure 107] up to adjust the angle of the seat back.

Pull the lever (Item 2) [Figure 107] up to adjust the seat position for comfortable operation of the loader controls.

Figure 108

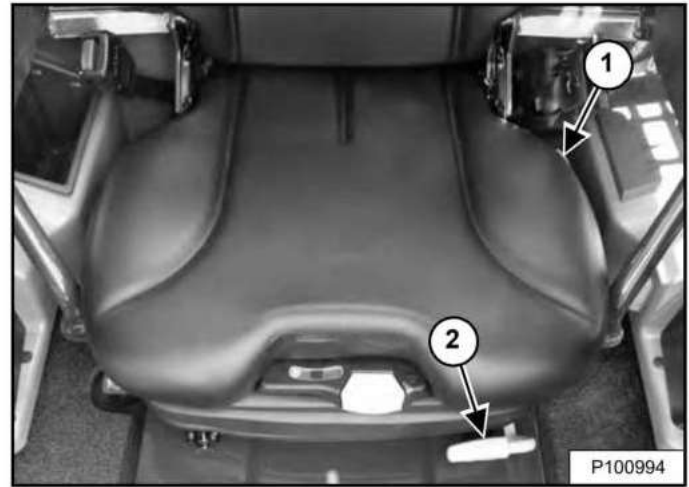


The lever (Item 1) is used to adjust the suspension response of the seat depending on the operator's weight. The optimum setting is achieved with the needle (Item 2) [Figure 108] centred in the gauge with the operator normally seated.

Pivot the lever out fully to adjust the setting. Pump lever between middle and upper positions to move the needle to the right. Pump lever between middle and lower positions to move the needle to the left. Return lever to the middle position and pivot lever back fully to lock in setting.

Air Ride Suspension Seat (Option)

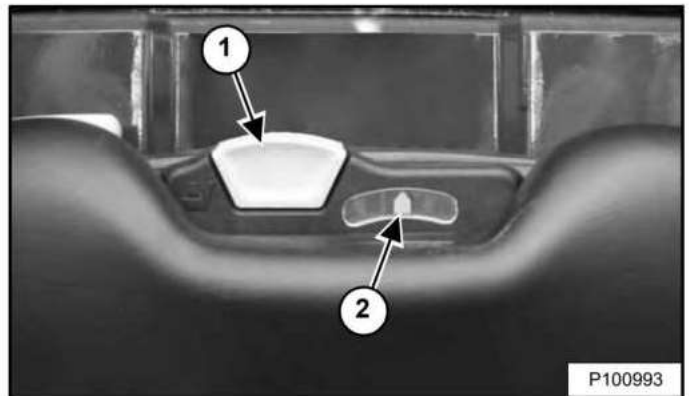
Figure 109



Pull the lever (Item 1) [Figure 109] up to adjust the angle of the seat back.

Pull the lever (Item 2) [Figure 109] up to adjust the seat position for comfortable operation of the loader controls.

Figure 110



The lever (Item 1) is used to adjust the suspension response of the seat depending on the operator's weight. The optimum setting is achieved with the needle (Item 2) [Figure 110] centred in the gauge with the operator normally seated.

Pull the lever (Item 1) [Figure 110] up and hold to increase the amount of air in the seat suspension. Push the lever down and hold to decrease the amount of air in the seat suspension.

NOTE: The loader electrical system must be turned ON to increase the amount of air in the seat suspension.

Seat Belt Adjustment

Standard Seat Belt

Figure 111



Pull the lap belt across to the right side of the seat and fasten [Figure 111].

The lap belt must be positioned over your lower hips.

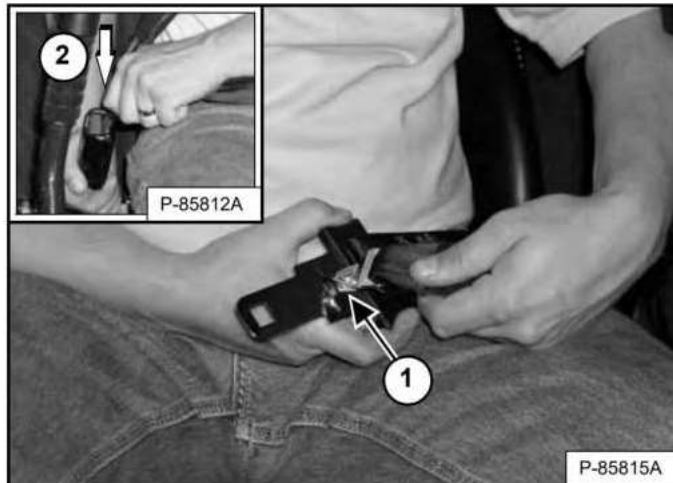
IMPORTANT

Check the seat belt retractor for correct operation.
Keep retractor clean and replace as necessary.

I-2252-0707

3-Point Restraint (Option And Loaders Equipped With Two-Speed)

Figure 112



Connect the shoulder belt to the lap belt (Item 1). Pull the lap belt across to the right side of the seat and fasten (Item 2) [Figure 112].

The shoulder belt must be positioned over your left shoulder and lap belt over your lower hips.

IMPORTANT

Check the seat belt and shoulder belt retractors for correct operation.

Keep retractors clean and replace as necessary.

I-2199-0200

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PRE-STARTING PROCEDURE (CONT'D)

Seat Bar

Figure 113



Lower the seat bar and engage the parking brake [Figure 113].

Put the foot pedals or hand controls in NEUTRAL position.

NOTE: Keep your hands on the steering levers and your feet on the foot pedals (or footrests) while operating the loader.

WARNING

AVOID INJURY OR DEATH

When operating the machine:

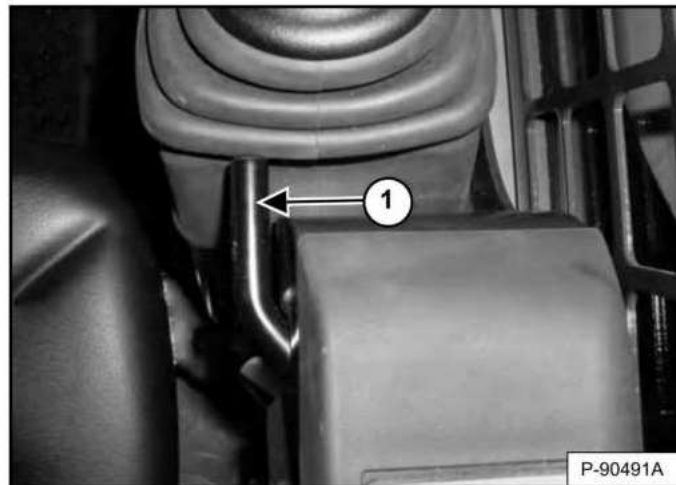
- Keep the seat belt fastened snugly.
- The seat bar must be lowered.
- Keep your feet on the pedal controls or footrests and hands on the controls.

W-2261-0909

Joystick Position Adjustment

Joystick Position Adjustment is available on SJC equipped machines.

Figure 114



Pull the joystick adjustment levers (Item 1) [Figure 114] up to slide the loader joysticks forward or backward to adjust for comfortable operation. (Right side shown.)

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Standard Key Panel

! WARNING

AVOID SERIOUS INJURY OR DEATH

- Engines can have hot parts and hot exhaust gas. Keep flammable material away.
- Do not use machines in atmosphere containing explosive dust or gases.

W-2051-0212

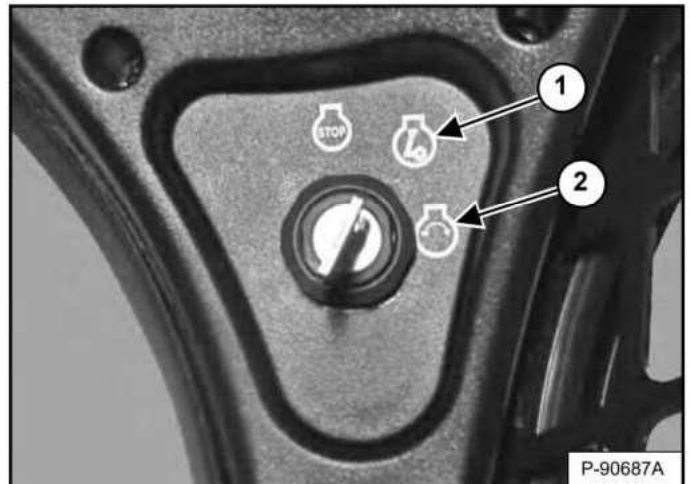
Perform the PRE-STARTING PROCEDURE. (See PRE-STARTING PROCEDURE on Page 92.)

Figure 115



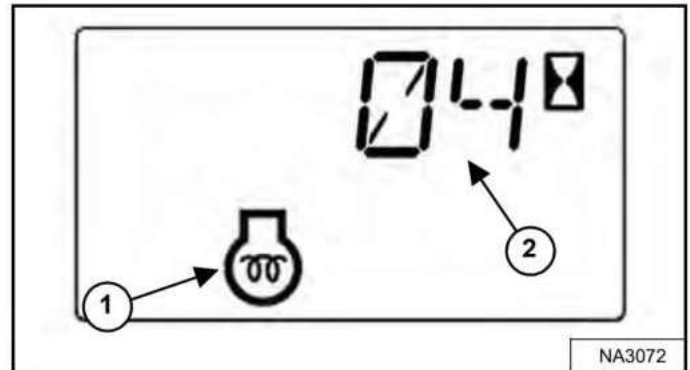
Set the engine speed control to the low idle position [Figure 115].

Figure 116



Turn the key switch to RUN (Item 1) [Figure 116]. The indicator lights on the left instrument panel will come ON briefly and the instrument panel / monitoring system will perform a self test.

Figure 117



The machine will cycle the glow plugs automatically based on temperature. The engine preheat icon (Item 1) and the cycle time remaining (Item 2) [Figure 117] are displayed in the data display.

When the engine preheat icon goes OFF, turn the key switch to START. Release the switch when the engine starts and allow the switch to return to the RUN position (Item 1) [Figure 116].

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STARTING THE ENGINE (CONT'D)

Standard Key Panel (Cont'd)

NOTE: Make sure both hand controls (ACS / AHC) or joysticks (SJC) are in the NEUTRAL position before starting the engine. Do not move the levers or joysticks from the NEUTRAL position when turning the key switch to RUN or START with the BICS™ activated.

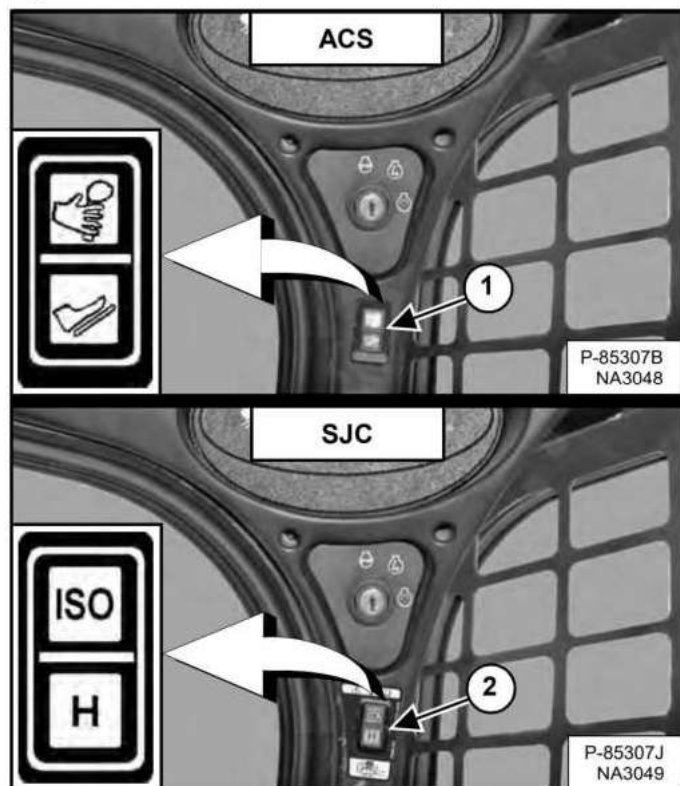
WARNING

AVOID INJURY OR DEATH

- Fasten seat belt, start and operate only from the operator's seat.
- Never wear loose clothing when working near machine.

W-2135-1108

Figure 118



(ACS) Select hand control or foot pedal operation (Item 1) [Figure 118] if equipped with ACS.

OR

(SJC) Select 'ISO' or 'H' Control Pattern (Item 2) [Figure 118] if equipped with SJC.

Figure 119



Press the PRESS TO OPERATE LOADER button (Item 1) [Figure 119] to activate the BICS™ and to perform hydraulic and loader functions.

(SJC) The current drive response setting is displayed briefly in the data display (Item 2) each time the PRESS TO OPERATE LOADER button (Item 1) [Figure 119] is pressed.

NOTE: (SJC) The light of the current switch position (ISO or H) will flash, which indicates PRESS TO OPERATE LOADER is required. The light will flash when the key switch is in the RUN position and continue to flash until the PRESS TO OPERATE LOADER button is pressed, then the light will become solid. If the mode (ISO / H) is changed while driving, the active mode light will remain solid and the pending mode light will flash. When operation of the machine is returned to NEUTRAL, the active mode light will turn off and the pending mode light will continue to flash until the PRESS TO OPERATE LOADER button is pressed.

WARNING

AVOID INJURY OR DEATH

When an engine is running in an enclosed area, fresh air must be added to avoid concentration of exhaust fumes. If the engine is stationary, vent the exhaust outside. Exhaust fumes contain odorless, invisible gases which can kill without warning.

W-2050-0807

Keyless Start Panel



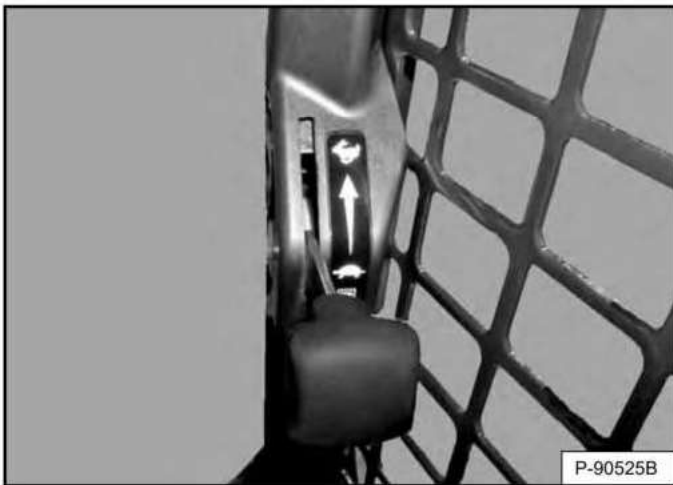
AVOID SERIOUS INJURY OR DEATH

- Engines can have hot parts and hot exhaust gas. Keep flammable material away.
- Do not use machines in atmosphere containing explosive dust or gases.

W-2051-0212

Perform the PRE-STARTING PROCEDURE. (See PRE-STARTING PROCEDURE on Page 92.)

Figure 120

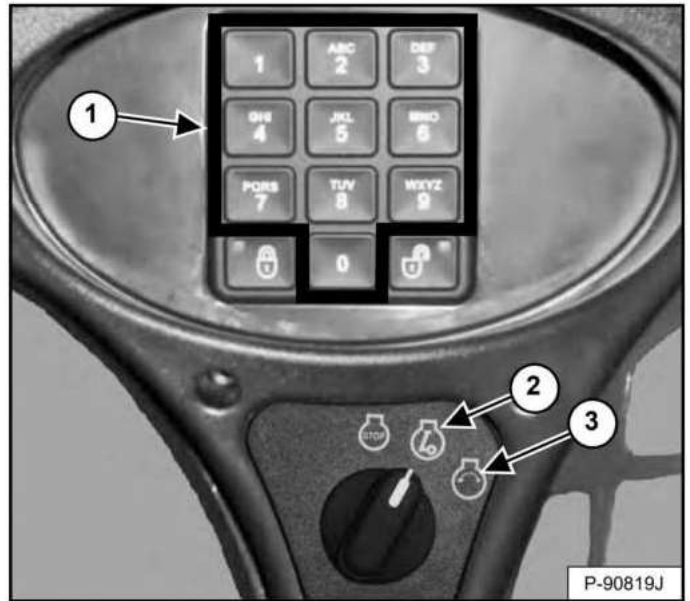


Set the engine speed control to the low idle position [Figure 120].

NOTE: Loaders with a Keyless Start Panel have a permanent, randomly generated Master Password set at the factory. Your loader will also have an Owner Password. The owner password can be changed to prevent unauthorised use of your loader. (See Changing The Owner Password on Page 197.) Keep your password in a safe location for future needs.

NOTE: The Password Lockout feature can be used to allow starting of the loader without a password. (See Password Lockout Feature on Page 197.)

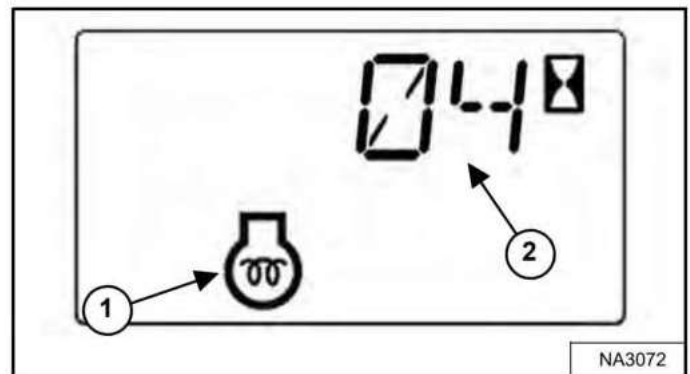
Figure 121



Turn the key switch to RUN (Item 2) [Figure 121]. The indicator lights on the left instrument panel will come ON briefly and the instrument panel / monitoring system will perform a self test.

Use the numeric keypad (Item 1) [Figure 121] to enter the password.

Figure 122



The machine will cycle the glow plugs automatically based on temperature. The engine preheat icon (Item 1) and the cycle time remaining (Item 2) [Figure 122] are displayed in the data display.

When the engine preheat icon goes OFF, turn the key switch to START (Item 3). Release the switch when the engine starts and allow the switch to return to the RUN position (Item 2) [Figure 121].

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