



# Bobcat®

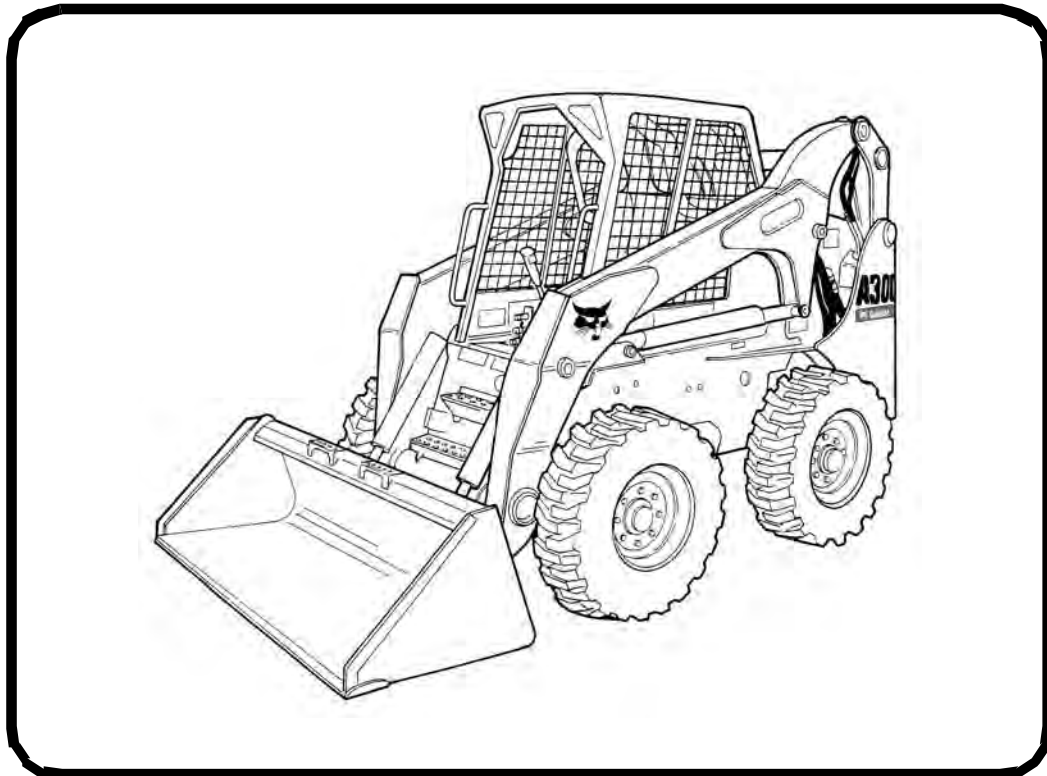
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## Operation & Maintenance Manual

### A300 All Wheel Steer

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S/N 539911001 & Above  
S/N 540011001 & Above



EQUIPPED WITH  
BOBCAT INTERLOCK  
CONTROL SYSTEM (BICS)



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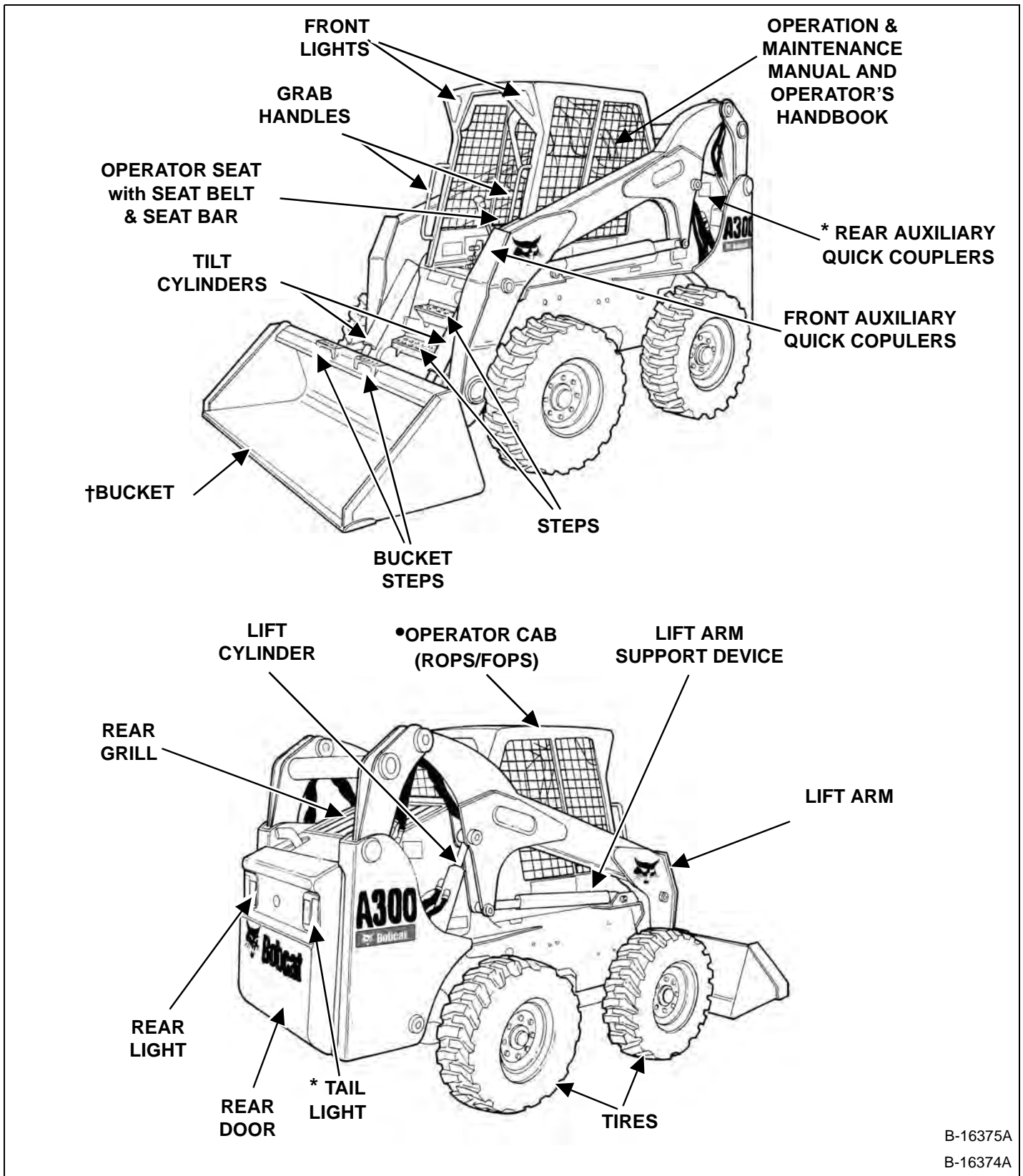
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# LOADER IDENTIFICATION



B-16375A  
B-16374A

• ROPS, FOPS (Roll Over Protective Structure, per ISO 3471, and Falling Object Protective Structure per SAE J1043 and ISO 3449, Level I. Level II is available.

† Many different buckets and other attachments are available.

\* Option or Accessory, not standard equipment.

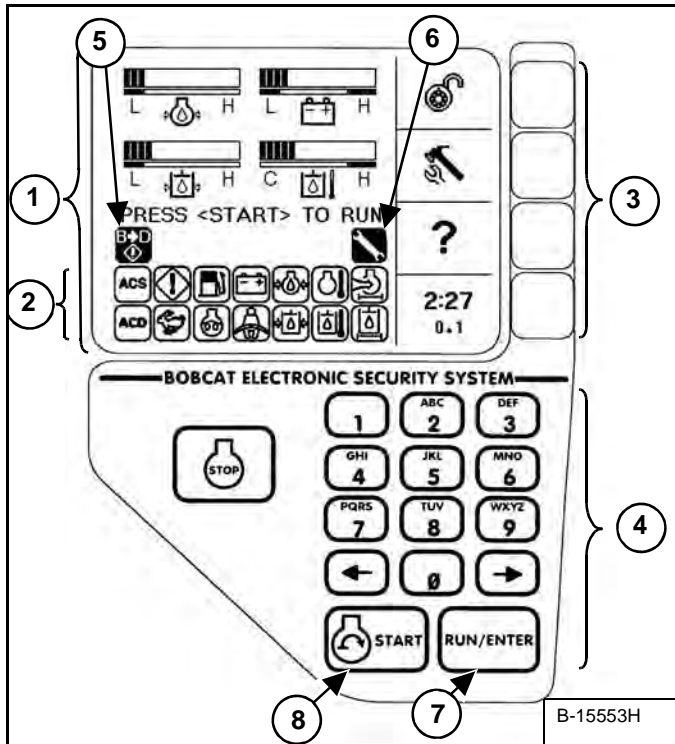


**Bobcat®**

## INSTRUMENT PANEL IDENTIFICATION (CONT'D)

### Right Panel (Keyless)

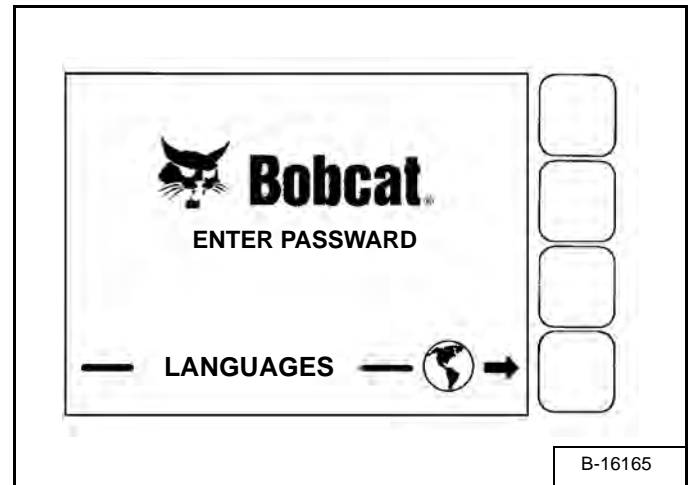
Figure OI-3



The right instrument panel shown [Figure OI-3] is the Keyless Panel.

1. **Display Screen:** The Display Screen is where all system setup, monitoring, troubleshooting, and error conditions are displayed.
2. **Function Icons:** The lower left area of the Display Screen contains the same icons as the Key Switch Panel. These icons are only visible when the monitoring system has detected the associated condition.
3. **Selection Buttons:** The four Selection Buttons allow you to select items from the Display Screen and scroll through screens.
4. **Keypad:** The numeric keypad has two functions:
  - To enter a number code (password) to allow starting the engine (Keyless Start).
  - To enter a number as directed for further use of the Display Screen.
5. **Bobcat Controller / Display Icon:** Indicates communication error between Bobcat controller and instrument panel. (See DIAGNOSTIC SERVICE CODES on Page SA-4.)
6. **BobCARE PM<sup>SM</sup> Icon:** Indicates planned maintenance is due. (See MAINTENANCE CLOCK on Page SA-14.)

Figure OI-4



The first screen you will see on your new loader will be as shown in [Figure OI-4].

When this screen is on the display you can enter the password and start the engine or change the Display Panel setup features.

**NOTE:** Your new loader (with Keyless Instrument 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 unauthorized use of your loader. (See Right Panel (Keyless) on Page SA-7.) Keep your password in a safe place for future needs.

**Start Engine:** Use the Keypad to enter the numbers (letters) of your password and press the RUN / ENTER key (Item 7) [Figure OI-3].

Press and hold the START button (Item 8) [Figure OI-3] until the engine starts.

**Change Language:** Press the Selection button at the end of the arrow [Figure OI-4] to go to the next screen.

## TWO-SPEED CONTROL

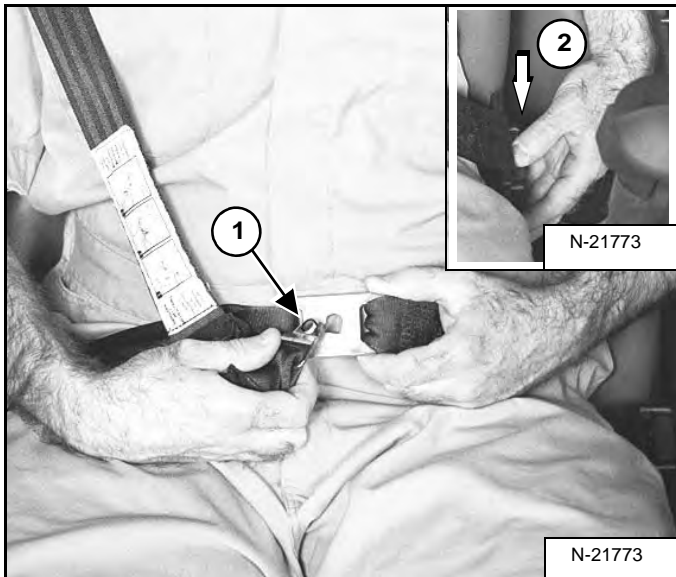
This machine may be equipped with Two-Speed.

### Description

The two-speed 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 two-speed when traveling from one job site to another at faster speeds.



Figure OI-22



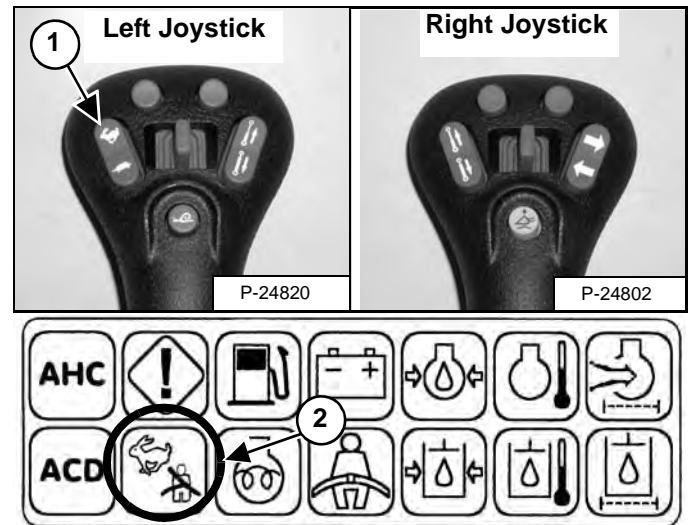
**NOTE:** The 3-point restraint must be used when selecting two-speed operation [Figure OI-22].

Connect the shoulder belt to the lap belt (Item 1). Pull the lap belt across to the left side of the seat (Item 2) [Figure OI-22] and fasten.

The shoulder belt must be positioned over your right shoulder and lap belt over your lower hips [Figure OI-22].

### Operation

Figure OI-23



Press the top of the switch (Item 1) on the left joystick for high range. The two-speed icon located on the right hand instrument panel (Item 2) [Figure OI-23] will come on.

**NOTE:** This momentary contact switch does not retain the last range selected. The loader will default to low range speed at start-up.

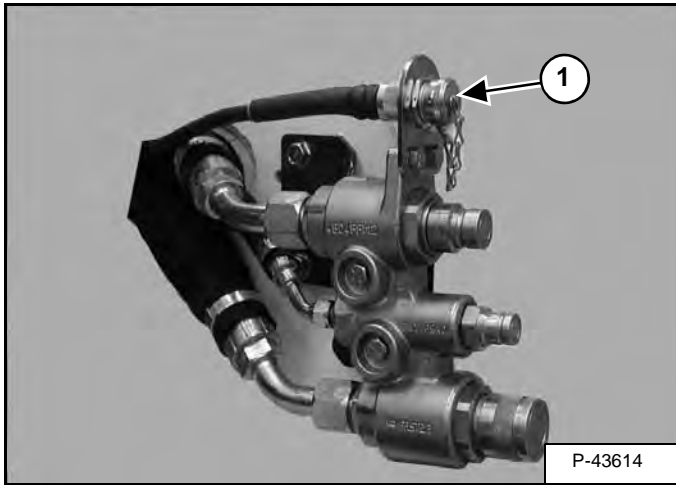
Press the bottom of the switch for low range.

## ATTACHMENT CONTROL DEVICE (ACD)

This machine may be equipped with an Attachment Control Device.

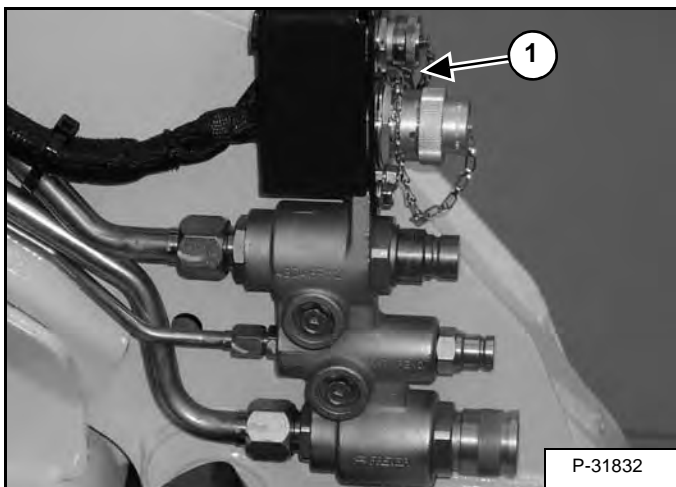
### Description

Figure OI-41



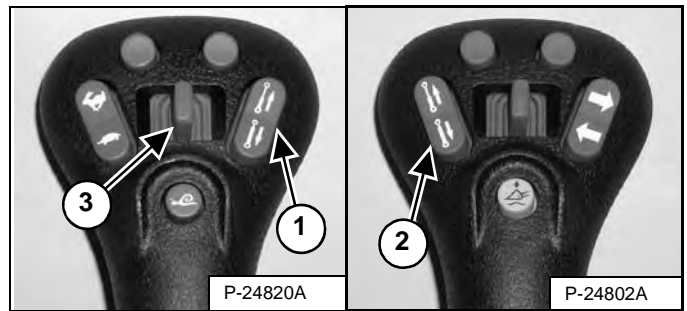
Connect the attachment's electrical harness to the attachment control device (Item 1) [Figure OI-41].

Figure OI-42



You will need the Dual-Connector (7-pin / 14-pin) kit (Item 1) [Figure OI-42] to operate early model attachments. See your Bobcat Loader dealer.

Figure OI-43



Additional switches (Items 1, 2 and 3) [Figure OI-43] on the right and left control handles or joysticks are used to control some attachment functions through the attachment control device.

**NOTE:** ACD takes over the function of auxiliary hydraulic switch (Item 3) [Figure OI-43] from Rear Auxiliary Hydraulics and Secondary Front Auxiliary Hydraulics when an attachment electrical harness is attached to the ACD.

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

# STOPPING THE ENGINE AND LEAVING THE LOADER (CONT'D)

## Emergency Exit

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

### Rear Window (If Equipped)

Figure OI-63



Pull on the tag on the top of the rear window to remove the rubber cord [Figure OI-63].

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

Figure OI-64



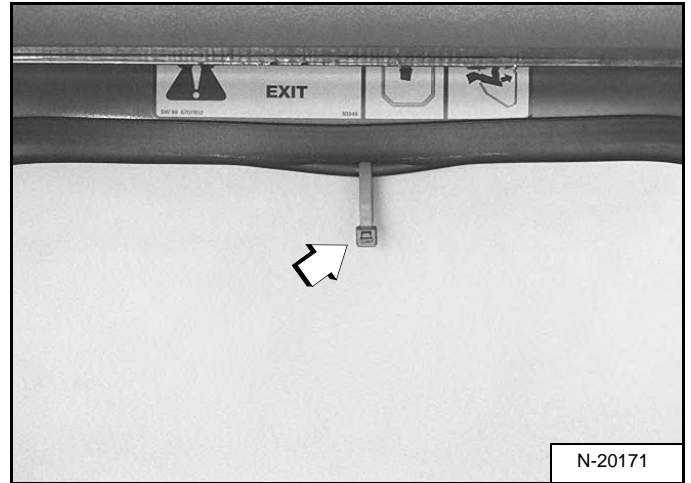
Exit through the rear of the operator cab [Figure OI-64].

### Front Door (If Equipped)

**NOTE:** When an Operator Cab Enclosure Kit is installed, the window of the front door can be used as an emergency exit. [Figure OI-65]

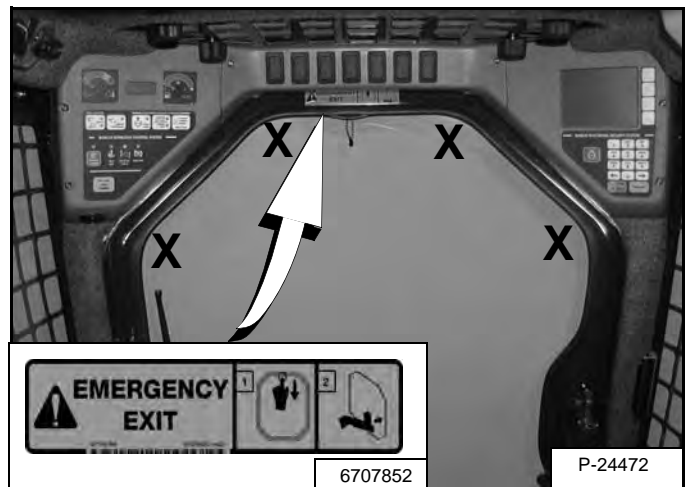
**NOTE:** If the loader has a Special Application Door Kit installed, the window of the front door is **NOT** an emergency exit.

Figure OI-65



Pull the plastic loop at the top of the window in the front door to remove the rubber cord [Figure OI-65].

Figure OI-66



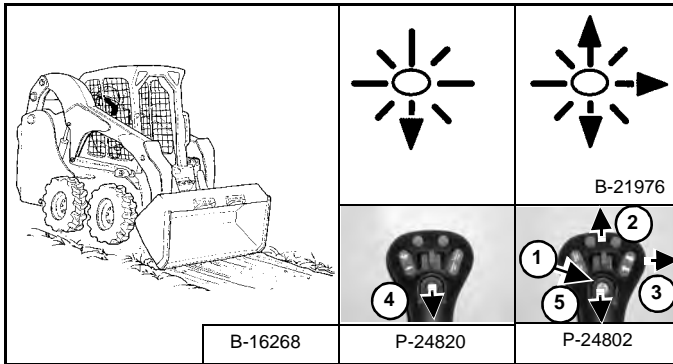
Push the window out with your foot [Figure OI-66] at any corner of the window.

Exit through the front door.

## OPERATING PROCEDURE (CONT'D)

### Leveling The Ground (Using Lift Arms In Float Position)

Figure OI-87



Press and hold the Float button (Item 1) [Figure OI-87] while the joystick is in neutral. Lower the lift arms (Item 2) [Figure OI-87], then release the Float button.

Tilt the bucket forward (Item 3) [Figure OI-87] to change the position of the cutting edge.

With the bucket tilted farther forward, there is more force on the cutting edge and more loose material can be moved.

Drive backward (Item 4) [Figure OI-87] to level loose material.

Press the Float button again or raise the lift arms (Item 5) [Figure OI-87] to disengage.

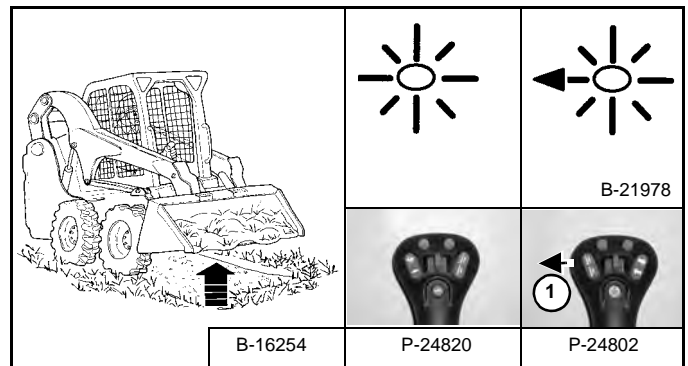
Lower the lift arms all the way (Item 1) [Figure OI-88]. Tilt the bucket forward (Item 2) [Figure OI-88] until the cutting edge of the bucket is on the ground.

Drive forward slowly (Item 3) [Figure OI-88] and continue to tilt the bucket forward until it enters the ground.

Raise the bucket (Item 4) [Figure OI-88] a small amount to increase traction keep an even digging depth. Continue to drive forward until the bucket is full.

When the ground is hard, raise and lower the cutting edge of the bucket (Items 2 & 4) [Figure OI-88] while driving forward slowly.

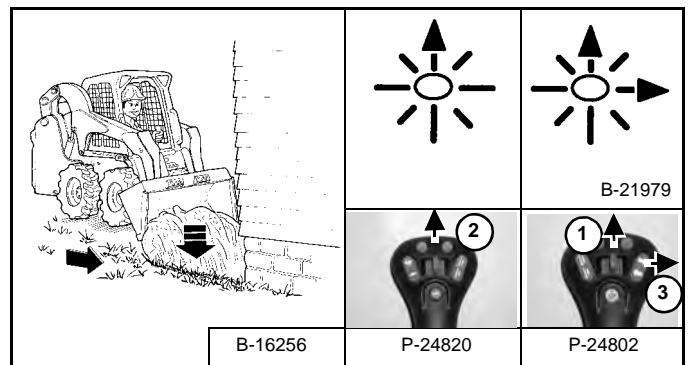
Figure OI-89



Tilt the bucket backward (Item 1) [Figure OI-89] as far as it will go when the bucket is full.

### Filling

Figure OI-90



Lower the lift arms (Item 1) [Figure OI-90] and put the cutting edge of the bucket on the ground. Drive forward (Item 2) [Figure OI-90] to the edge of the hole to push the material into the hole.

Tilt the bucket forward (Item 3) [Figure OI-90] as soon as it is past the edge of the hole.

If necessary, raise the lift arms to empty the bucket.

## IMPORTANT

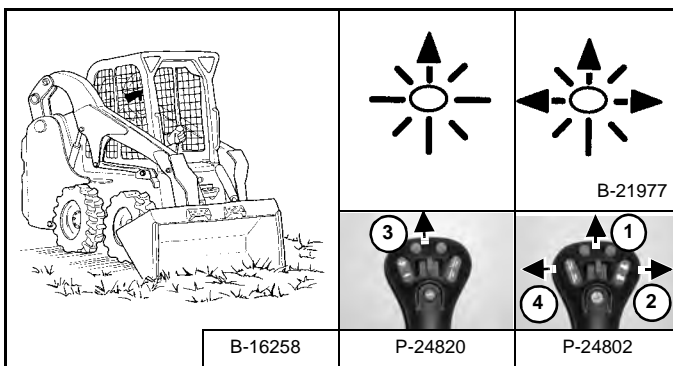
Never drive forward when the hydraulic control for lift arms is in float position.

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### Digging And Filling A Hole

#### Digging

Figure OI-88



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## SERVICE SCHEDULE

### Chart

Maintenance work must be done at regular intervals. Failure to do so will result in excessive wear and early failures. The service schedule is a guide for correct maintenance of the Bobcat Loader.

 <b style="font-size: 24pt; margin-left: 10px;">WARNING</b>	<p>Instructions are necessary before operating or servicing machine. Read and understand the Operation &amp; 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.</p> <p style="text-align: right; font-size: 10pt;">W-2003-0903</p>
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SERVICE SCHEDULE		HOURS					
ITEM	SERVICE REQUIRED	8-10	50	100	■ 250	■ 500	■ 1000
Engine Oil	Check the oil level and add as needed. Do not overfill.						
Engine Air Filter and Air System	Check display panel. Service only when required. Check for leaks and damaged components.						
Engine Cooling System	Clean debris from oil cooler, radiator and grill. Check coolant level COLD and add premixed coolant as needed.						
Fuel Filter	Remove the trapped water.						
Lift Arms, Cylinders, Bob- lach Pivot Pins and Wedges and Steering Cylinders	Lubricate with multi-purpose lithium based grease.						
Tires	Check for damaged tires and correct air pressure. Inflate to MAXIMUM pressure shown on sidewall of the tire.						
Seat Bar, Seat Belt and Seat Belt Retractors	Check the condition of seat belt. Clean or replace seat belt retractors as needed. Check the seat bar for correct operation. Clean dirt and debris from moving parts.						
Bobcat Interlock Control Systems (BICS)	Check for correct function. Lift and Tilt functions MUST NOT operate with seat bar raised. See details in this Manual.						
Safety Signs and Safety Treads	Check for damaged signs (decals) and safety treads. Replace any signs or safety treads that are damaged or worn.						
Operator Cab	Check the fastening bolts, washers and nuts. Check the condition of the cab.						
Indicators and Lights	Check for correct operation of all indicators and lights.						
Heater and A/C Filters (If Equipped)	Clean or replace filters as needed.						
Hydraulic Fluid, Hoses and Tubelines	Check fluid level and add as needed. Check for damage and leaks. Repair or replace as needed.						
Final Drive Trans. (Chaincase)	Check fluid level and add as needed.						
Parking Brake and Joysticks	Check for correct operation. Repair or adjust as needed.						
Wheel Nuts	Check for loose wheel nuts and tighten to correct torque. (See TIRE MAINTENANCE in this Manual.	□					
Spark Arrestor Muffler	Clean the spark chamber.						
Battery	Check cables, connections and electrolyte level. Add distilled water as needed.						
Fuel Filter	Replace filter element.						
Steering King Pins	Lubricate with multi-purpose lithium based grease.						
Engine/Hydro. Drive Belt	Check for wear or damage. Check idler arm stop.		▲				
Drive Belts (Alternator, air conditioner, water pump)	Check condition and tension. Adjust or replace as needed.						
Bobcat Interlock Control System (BICS)	Check the function of the lift arm bypass control.						
Hydraulic/Hydrostatic Filter, Charge Filter, Steering Valve In-line Filter, Reservoir Breather	Replace the hydrostatic filter, charge filter, steering valve filter and the reservoir breather.		●				
Engine Oil and Filter	Replace oil and filter.		▲		*		
Hydraulic Reservoir	Replace the fluid.						
Final Drive Trans. (Chaincase)	Replace the fluid.						
Case Drain Filters	Replace the filters.		▲				
Wheel Bearings and Outer Splines	Repack the wheel bearings. Grease internal splines in hub yoke. (Dealer service only)						
Engine Valves	Adjust the engine valves.					○	
Coolant	Replace the coolant						Every 2 years

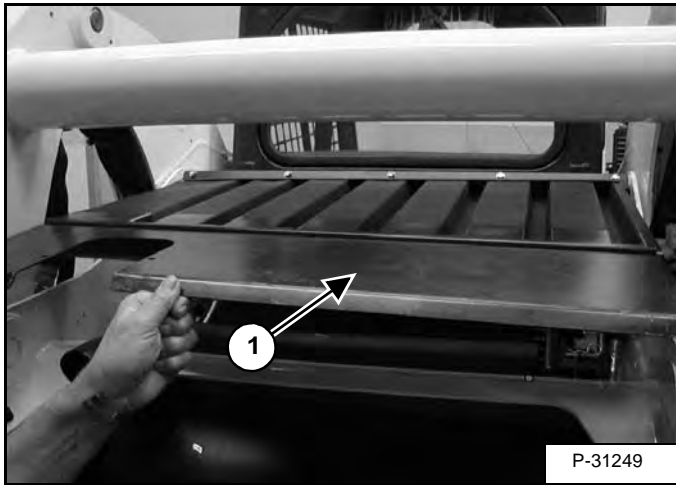
- Or every 12 months.
- ▲ Perform at first 50 hours, then as scheduled.
- Check every 8 - 10 hours for the first 24 hours, then at 50 hour intervals.
- Replace the hydraulic / hydrostatic filter element after the first 50 hours, then when the transmission warning light comes ON while operating or as scheduled.
- \* Change oil and filter every 250 hours when operating under severe conditions.
- Perform at first 500 hours, then as scheduled.

## REAR GRILL

### Removing

Open the rear door.

**Figure PM-17**



Lift and pull the rear grill and remove it from the loader **[Figure PM-17]**.

### Installing

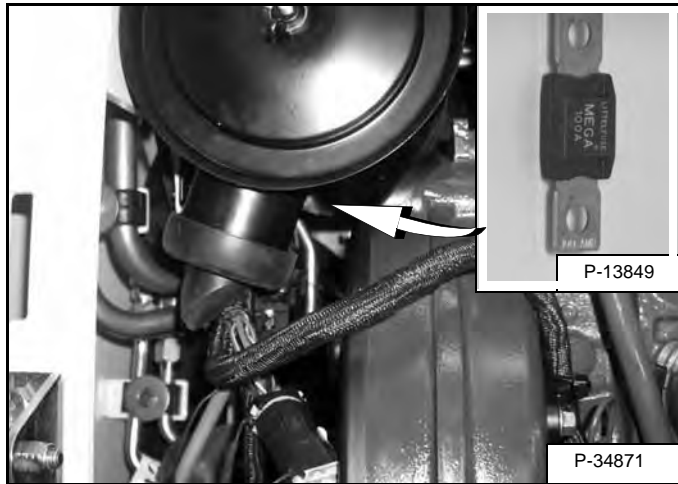
Insert the tabs into the slots at the front end of the grill.  
Lower the grill to the frame.

Close the rear door.

## ELECTRICAL SYSTEM

### Description

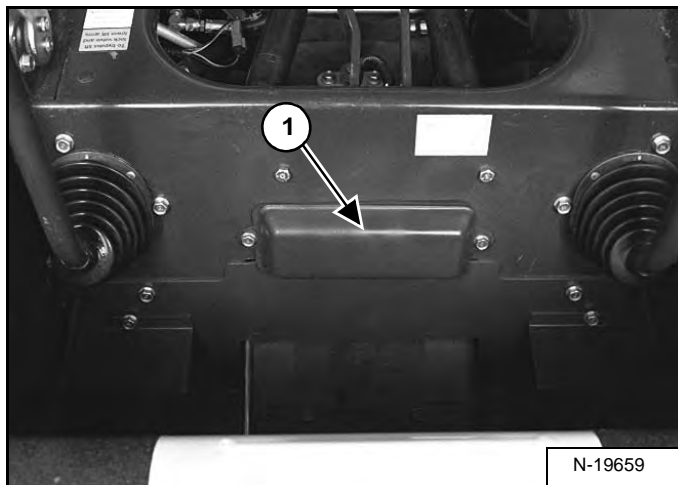
Figure PM-39



The loader has a 12 volt, negative ground alternator charging system. The electrical system is protected by fuses located in the cab on the steering control panel, and a 100 amp master fuse [Figure PM-39] in the engine compartment on the left side of the engine, under the air cleaner. The fuses will protect the electrical system when there is an electrical overload. The reason for the overload must be found before starting the engine again.

### Fuse And Relay Location / Identification

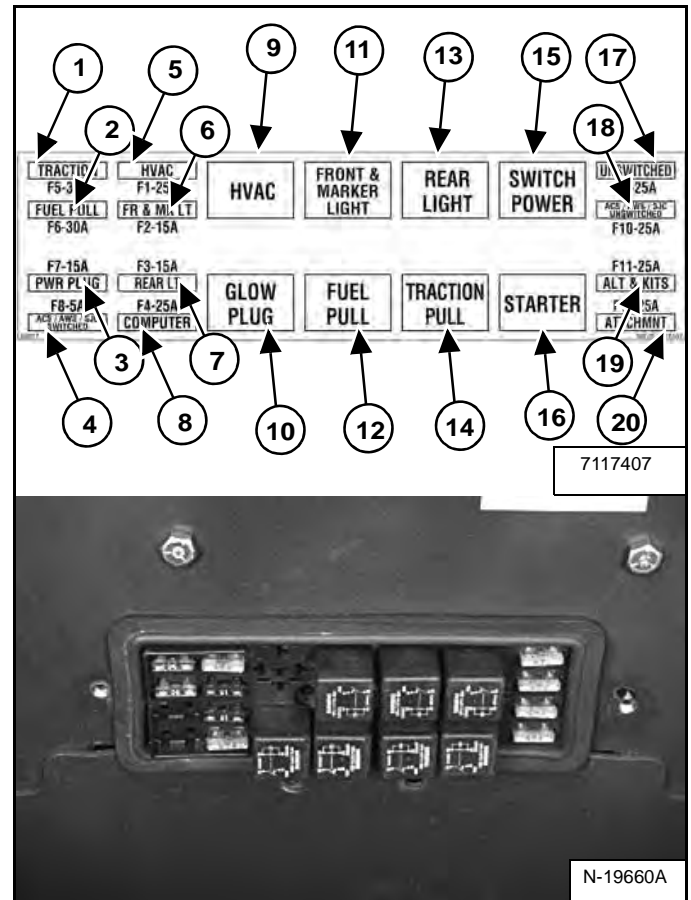
Figure PM-40



The electrical system is protected from overload by fuses and relays under the fuse panel cover (Item 1) [Figure PM-40]. A decal is inside the cover to show location and amp ratings.

Remove the cover to check or replace the fuses.

Figure PM-41



The location and sizes are shown below and [Figure PM-41].

REF	DESCRIPTION	AMP	REF	DESCRIPTION	AMP
1	Traction	30	11	Front & Marker Lights	R
2	Fuel Shutoff	30	12	Fuel Shutoff	R
3	Power Plug	15	13	Rear Lights	R
4	ACS/AWS/SJC	5	14	Traction	R
5	Heater	25	15	Switch Power	R
6	Front & Marker Lights	15	16	Starter	R
7	Rear Lights	15	17	Unswitched Attach.	25
8	Bobcat Controller	25	18	Switched Attach.	25
9	Heater & Air Conditioning	R	19	Alternator & Accessories	25
10	Glow Plugs	R	20	Accessory Plug	25

R - Relay

## SPARK ARRESTOR MUFFLER

### Cleaning Procedure

See the SERVICE SCHEDULE for service interval for cleaning the spark arrestor muffler. (See SERVICE SCHEDULE on Page PM-7.)

Do not operate the loader with a defective exhaust system.

## IMPORTANT

This loader is factory equipped with a U.S.D.A. Forestry Service approved spark arrestor muffler. It is necessary to do maintenance on this spark arrestor muffler to keep it in working condition. The spark arrestor muffler must be serviced by dumping the spark chamber every 100 hours of operation.

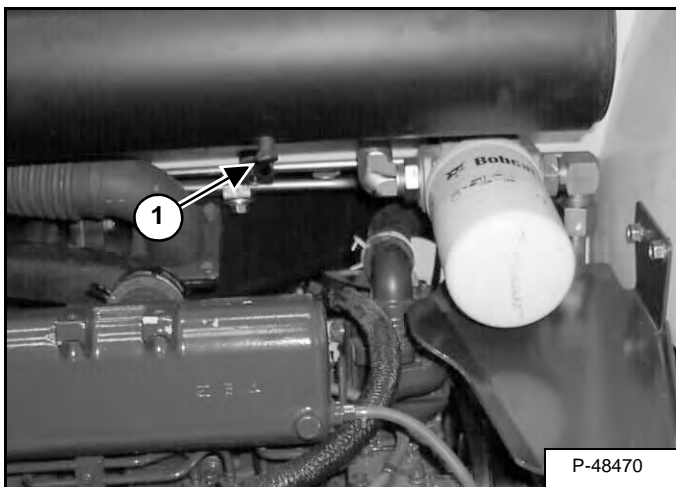
If this machine is operated on flammable forest, brush or grass covered land, it must be equipped with a spark arrestor attached to the exhaust system and maintained in working order. Failure to do so will be in violation of California State Law, Section 4442 PRC.

Consult local laws and regulations for spark arrestor requirements

I-2022-0807

Stop the engine. Open the rear door and raise the rear grill.

Figure PM-61



Remove the plug (Item 1) [Figure PM-61] from the bottom of the muffler.

## ! WARNING

When the engine is running during service, the steering levers must be in neutral and the parking brake engaged. Failure to do so can cause injury or death.

W-2006-0284

Start the engine and run for about 10 seconds while a second person, wearing safety glasses, holds a piece of wood over the outlet of the muffler.

This will force contaminants out through the cleanout hole.

Stop the engine.

Install and tighten the plug.

Lower the rear grill and close the rear door.

## ! 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

## ! WARNING

Stop engine and allow the muffler to cool before cleaning the spark chamber. Wear safety goggles. Failure to obey can cause serious injury.

W-2011-1285

## ! WARNING

Never use machine in atmosphere with explosive dust or gases or where exhaust can contact flammable material. Failure to obey warnings can cause injury or death.

W-2068-1285

## LUBRICATING THE LOADER

### Lubrication Locations

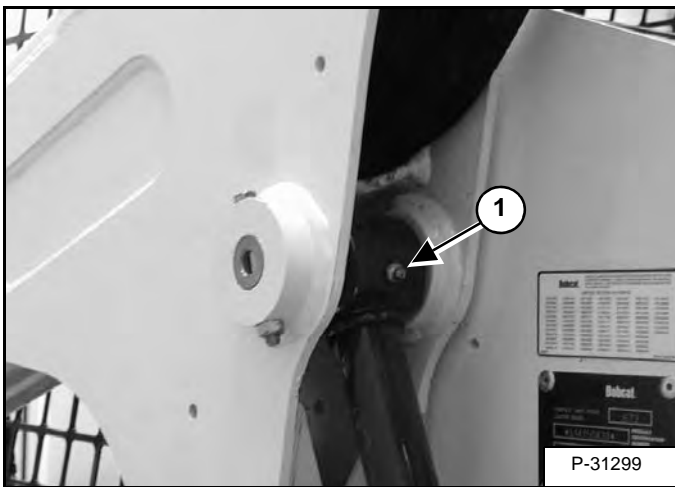
Lubricate the loader as specified for the best performance of the loader. (See SERVICE SCHEDULE on Page PM-7.)

Record the operating hours each time you lubricate the Bobcat Loader.

Always use a good quality lithium based multi-purpose grease when you lubricate the loader. Apply the lubricant until extra grease shows.

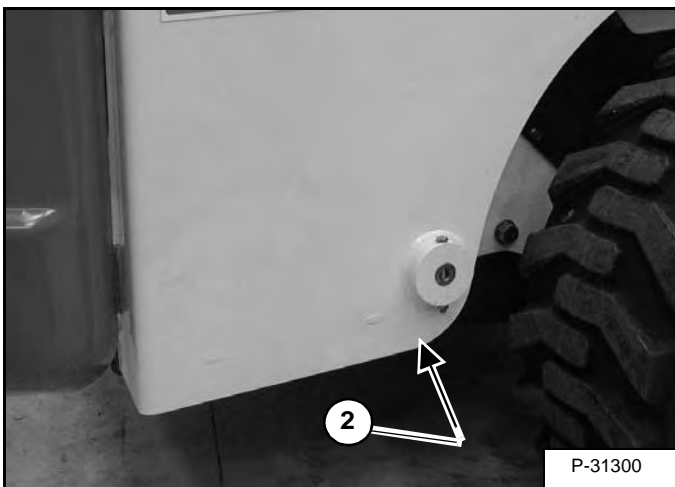
Lubricate the following:

**Figure PM-87**



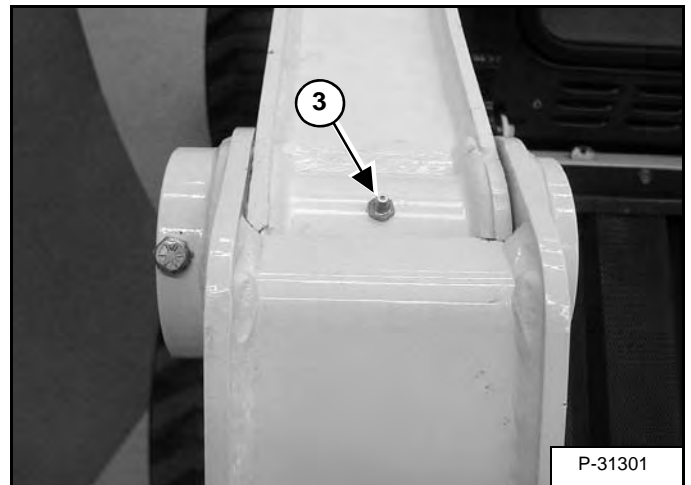
1. Rod End Lift Cylinder (Both Sides) [Figure PM-87].

**Figure PM-88**



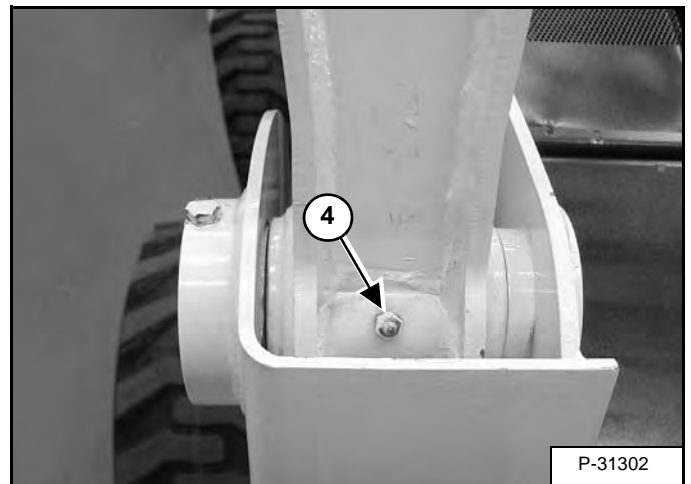
2. Base End Lift Cylinder (Both Sides) [Figure PM-88].

**Figure PM-89**



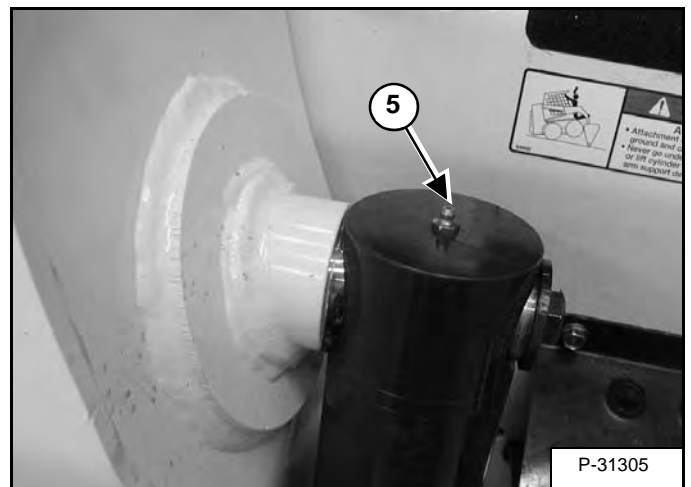
3. Lift Arm Pivot Pin (Both Sides) [Figure PM-89].

**Figure PM-90**



4. Lift Arm Link Pivot (Both Sides) [Figure PM-90].

**Figure PM-91**



5. Base End Tilt Cylinder (Both Sides) [Figure PM-91].

## DIAGNOSTIC SERVICE CODES (CONT'D)

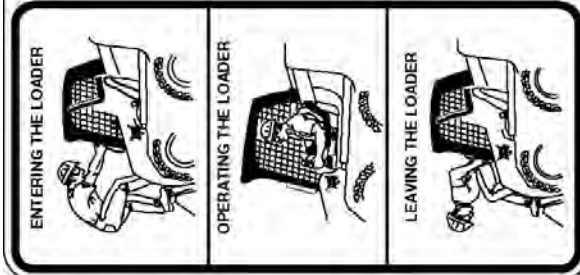
### Service Codes List

CODE		CODE	
01-16	Air filter not connected	11-05	Seat bar sensor short to battery
01-17	Air filter plugged	11-06	Seat bar sensor short to ground
02-16	Hydraulic/Hydrostatic filter not connected	12-21	Front auxiliary PWM switch out of range high
02-17	Hydraulic/Hydrostatic filter plugged	12-22	Front auxiliary PWM switch out of range low
		12-23	Front auxiliary PWM switch not in neutral
03-09	Battery voltage low		
03-10	Battery voltage high	13-05	Fuel shut-off hold solenoid short to battery
03-11	Battery voltage extremely high	13-06	Fuel shut-off hold solenoid short to ground
03-14	Battery voltage extremely low	13-07	Fuel shut-off solenoid open circuit
03-22	Battery voltage out of range low		
		14-02	Fuel shut-off pull solenoid error ON
04-09	Engine oil pressure low	14-03	Fuel shut-off pull solenoid error OFF
04-14	Engine oil pressure extremely low		
04-15	Engine oil pressure shutdown level	15-02	Traction lock pull solenoid error ON
04-21	Engine oil pressure out of range high	15-03	Traction lock pull solenoid error OFF
04-22	Engine oil pressure out of range low		
		16-05	Traction lock hold solenoid short to battery
05-09	Hydraulic charge pressure low	16-06	Traction lock hold solenoid short to ground
05-10	Hydraulic charge pressure high	16-07	Traction lock hold solenoid open circuit
05-11	Hydraulic charge pressure extremely high		
05-14	Hydraulic charge pressure extremely low	17-05	Hydraulic lock valve solenoid short to battery
05-15	Hydraulic charge pressure shutdown level	17-06	Hydraulic lock valve solenoid short to ground
05-21	Hydraulic charge pressure out of range high	17-07	Hydraulic lock valve solenoid open circuit
05-22	Hydraulic charge pressure out of range low		
		18-05	Spool lock solenoid short to battery
06-10	Engine speed high	18-06	Spool lock solenoid short to ground
06-11	Engine speed extremely high	18-07	Spool lock solenoid open circuit
06-13	Engine speed no signal		
06-15	Engine speed shutdown level	19-02	Bucket positioning solenoid error ON
06-18	Engine speed out of range	19-03	Bucket positioning solenoid error OFF
07-10	Hydraulic oil temperature high	20-02	Two-speed solenoid error ON
07-11	Hydraulic oil temperature extremely high	20-03	Two-speed solenoid error OFF
07-15	Hydraulic oil temperature shutdown level		
07-21	Hydraulic oil temperature out of range high	21-02	Glow plug error ON
07-22	Hydraulic oil temperature out of range low	21-03	Glow plug error OFF
08-10	Engine coolant temperature high	22-02	Starter error ON
08-11	Engine coolant temperature extremely high	22-03	Starter error OFF
08-15	Engine coolant temperature shutdown level		
08-21	Engine coolant temperature out of range high	23-02	Rear base solenoid error ON
08-22	Engine coolant temperature out of range low	23-03	Rear base solenoid error OFF
09-09	Fuel level low	24-02	Rear rod solenoid error ON
09-21	Fuel level out of range high	24-03	Rear rod solenoid error OFF
09-22	Fuel level out of range low		
		25-02	Rear auxiliary relief solenoid error ON
10-17	Hydraulic charge filter plugged	25-03	Rear auxiliary relief solenoid error OFF

## MACHINE SIGN TRANSLATIONS

DANGER (6702301) .....	MST-6
DANGER (6702302) .....	MST-6
DANGER (6809511) .....	MST-8
DANGER (6717343) .....	MST-6
IMPORTANT (6560573) .....	MST-8
LIFT ARM SUPPORT DEVICE (6732774) .....	MST-10
SERVICE SCHEDULE (6734534) .....	MST-3
WARNING (6708941) .....	MST-6
WARNING (6579528) .....	MST-7
WARNING (6577754) .....	MST-7
WARNING (6732696) .....	MST-7
WARNING (6733996) .....	MST-8
WARNING (6725370) .....	MST-9
WARNING (6737189) .....	MST-9
WARNING (7131523) .....	MST-11
WARNING (7131522) .....	MST-13

**MACHINE SIGN  
TRANSLATIONS  
(MST)**



### OPERATION INSTRUCTIONS FOR ALL WHEEL STEER LOADERS (AWS)

**TO OPERATE LOADER :**

1. Fasten seat belt and lower seat bar.
2. Put hand controls in neutral.
3. Start engine.
4. Select steering mode on center instrument panel.
5. Activate green "PRESS TO OPERATE LOADER" button on left instrument panel.

- ACS or AHC light on right instrument panel should be off.
- If hydraulic functions do not operate, stop engine. Check that both hand controls are in the neutral position. Re-start engine.

Note: Activate "PRESS TO OPERATE LOADER" button again if seat bar is raised and lowered or key is turned off.

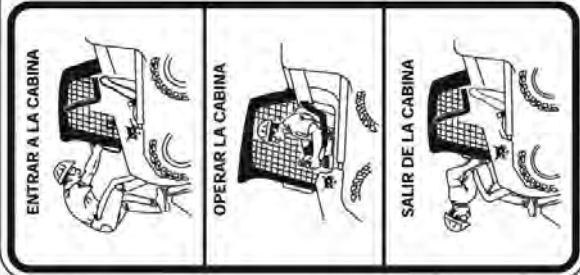
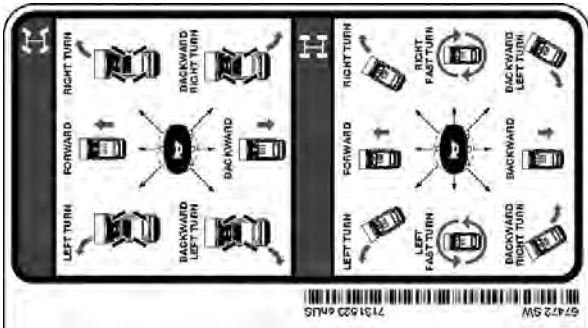
**See Operation & Maintenance Manual and Handbook for more instructions.**

**WARNING**

ACCIDENTAL LOADER MOVEMENT CAN CAUSE INJURY OR DEATH.

- The direction the loader turns when moving backward is different in each steering mode.
- Know and understand the selected steering mode before operating.

**SELECT STEERING MODE**



### INSTRUCCIONES DE OPERACIÓN DE CARGADORES CON DIRECCIÓN EN LAS CUATRO RUEDAS (AWS)

**PARA OPERAR EL CARGADOR:**

1. Abróchese el cinturón de seguridad y baje la barra del asiento.
2. Coloque los controles manuales en neutral.
3. Encienda el motor.
4. Seleccione el modo de dirección en el panel de instrumentos central.
5. Active el botón verde "PRESS TO OPERATE LOADER" en el panel de instrumentos izquierdo.
  - La luz del ACS o AHC en el panel de instrumentos derechos debe estar apagada.
  - Si las funciones hidráulicas no operan, detenga el motor. Revise si ambos controles manuales están en posición neutral. Encienda el motor de nuevo.

NOTA: Oprima el botón "PRESS TO OPERATE LOADER" de nuevo si la barra del asiento se levanta o baja o si la llave se coloca en apagado (Off).

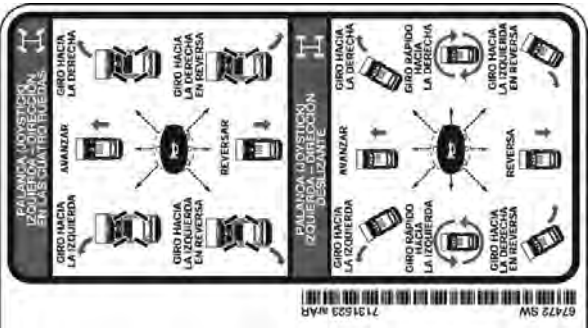
**Consulte el Manual de operación y mantenimiento y la Guía para mayores instrucciones.**

**ADVERTENCIA**

EL MOVIMIENTO ACCIDENTAL DEL CARGADOR PUEDE PROVOCAR LESIONES O ACCIDENTES FATALES.

- La dirección en la que gira el cargador al reversar es diferente en cada modo.
- Conozca y entienda el modo de dirección seleccionado antes de operar la máquina.

**SELECCIONE EL MODO DE DIRECCIÓN**



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- You can download the complete manual from: [www.heydownloads.com](http://www.heydownloads.com) by clicking the link below



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