

721D WHEEL LOADER

Operators Manual

Bur 6-35120EUR

Printed in U.S.A.

CASE, LLC.
700 STATE STREET
RACINE, WI 53404 U.S.A.



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IDENTIFICATION NUMBERS

Write your machine Product Identification Number (P.I.N.) and Serial numbers on the lines provided below. If needed, give these numbers to your dealer when you need parts or information for your machine.

Make a record of the numbers. Keep the record and your Manufacturer's Statement of Origin in a safe place. If the machine is stolen, report the numbers to your local law enforcement agency.

MACHINE MODEL NUMBER _____

PRODUCT IDENTIFICATION NUMBER _____

ENGINE SERIAL NUMBER _____

TRANSMISSION MODEL AND SERIAL NUMBER _____

ROPS CAB OR CANOPY SERIAL NUMBER _____

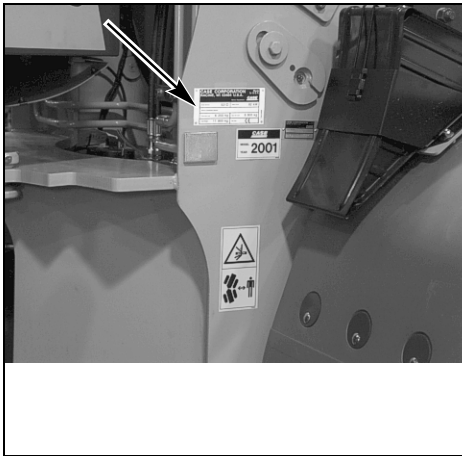
FRONT AXLE MODEL AND SERIAL NUMBER _____

REAR AXLE MODEL AND SERIAL NUMBER _____

BUCKET OR ATTACHMENT PART NUMBER _____

TRIM THIS EDGE

Product Identification Number (P.I.N.)



BD00N059

CASE CORPORATION		Made
RACINE, WI 53404 U.S.A.		In U.S.A.
Marca Registrada		CASE
Model Number	721D	Engine Power
		127/138 kW
Product Identification Number		
Front Axle Load	6,600 kg	Rear Axle Load
		9,100 kg
Total Weight	14,900 kg	Year Built
		CE

8605609

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 **PARKING THE MACHINE** 

When you park the machine and before you leave the operators area, always support or lower all attachments (loader, backhoe, etc.) to the ground, apply the parking brake, stop the engine, and remove the key.

If you must temporarily park the machine on a hillside, put the front of the machine toward the bottom of the hill. Make sure the machine is behind an object that will not move. Put blocks in front of each wheel on the downhill side.

Always face the machine and use the hand rails and steps when getting off. Do not rush and do not jump from the machine.

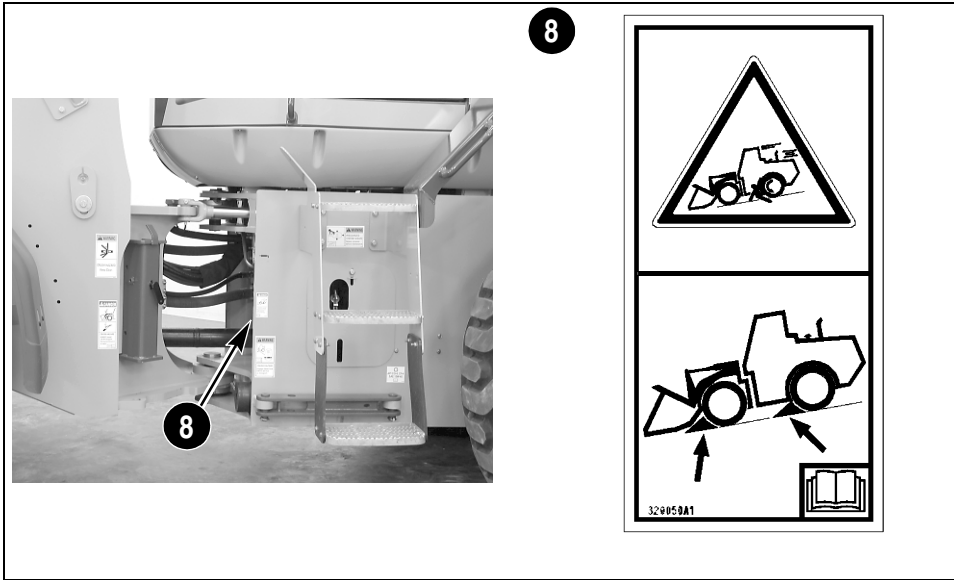
 **BURN PREVENTION** 

Batteries contain sulfuric acid which can cause severe burns. Avoid contact with skin, eyes, or clothing. Antidote - EXTERNAL - Flush with water. INTERNAL - Drink large quantities of water or milk. DO NOT induce vomiting. Seek medical attention immediately. EYES - Flush with water for 15 minutes and seek medical attention immediately. BATTERIES PRODUCE EXPLOSIVE GASES. Keep sparks, flame, cigars and cigarettes away. Ventilate when charging or using in enclosed area. Always wear eye protection when working with new batteries. Wash hands after handling. KEEP OUT OF REACH OF CHILDREN.

When the battery electrolyte is frozen, the battery can explode if, (1) you try to charge the battery, or (2) you try to jump start and run the engine. To prevent the battery electrolyte from freezing, keep the battery at full charge. If you do not follow these instructions, you or others in the area can be injured.

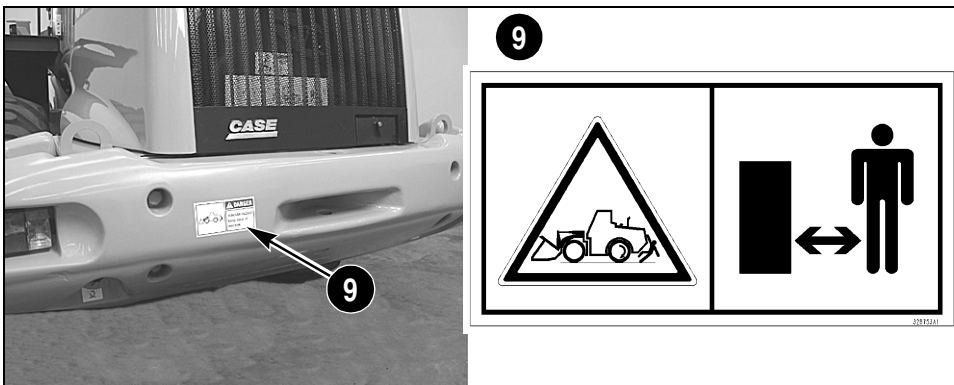
Hot coolant can spray out if the radiator cap is removed too quickly. To remove the radiator cap, let the cooling system cool, turn the cap to the first notch, wait until the pressure is released, then remove the cap.

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BD03A026 / 329050A1

8. RUNOVER HAZARD, BLOCK WHEELS TO PREVENT MACHINE MOVEMENT BEFORE DISENGAGING PARKING BRAKE FOR TOWING



BD03A076 / 328753A1

9. RUNOVER HAZARD, KEEP CLEAR OF MACHINE

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GO THIS FAR

BP97D030



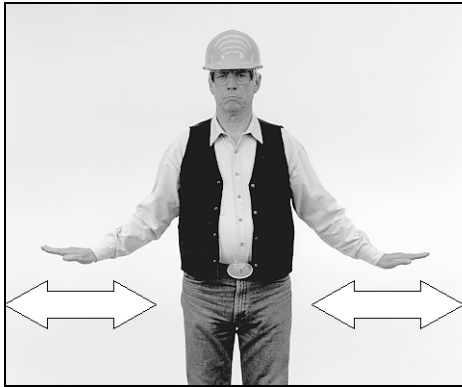
ALL STOP AND HOLD

BP97D060



STOP

BI97D029



EMERGENCY STOP

BI97D021

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Move one hand back and forth.



RAISE BUCKET

BI97D028



LOWER BUCKET

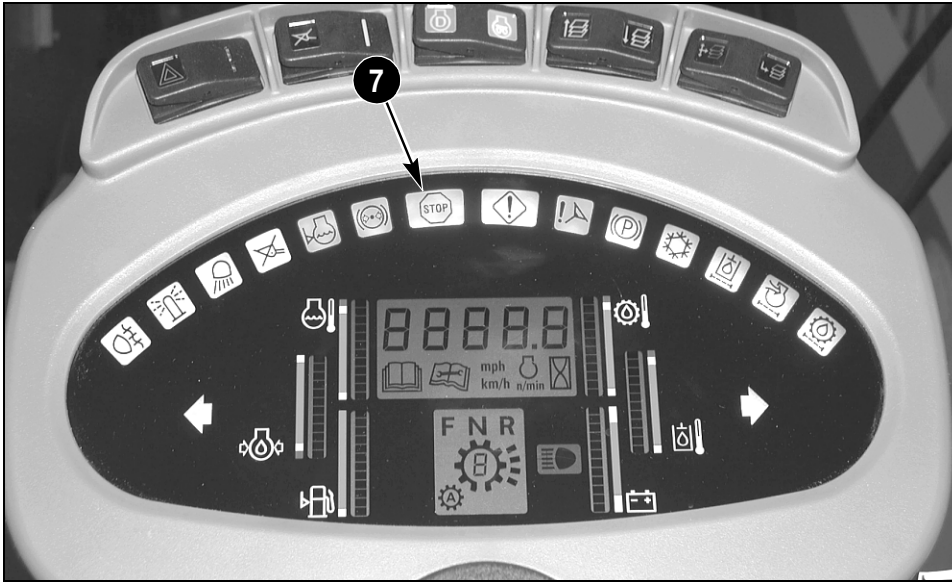
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INSTRUMENT PANEL INDICATORS



BD02N185



7. STOP MASTER INDICATOR (RED, CRITICAL):

The Stop Master Indicator is a critical warning display. See Critical Warning Displays.

Critical Warning Displays

When the Stop Master indicator illuminates you must bring the machine safely to a stop and immediately turn OFF the engine. Failure to do so may result in injury and/or damage to the machine. The following table is a listing of critical warning displays that may appear on the instrument cluster and the corrective action required. When a fault occurs, a continuous audible alarm will sound and the Stop Master Indicator will be RED and the display indicator will be illuminated.

Display	Description	Corrective Action
ENGINE OIL PRESSURE	Low Engine Oil Pressure. Below 10 PSI	Bring the machine to a safe stop and shut the engine OFF immediately. Contact your Dealer.
BRAKE PRESSURE	Low Brake Pressure	Bring the machine to a safe stop and shut the engine OFF immediately. Contact your Dealer.
STEERING PRESSURE (W/ AUX STEERING)	Low Steering Pressure.	Bring the machine to a safe stop and shut the engine OFF immediately. Contact your Dealer.

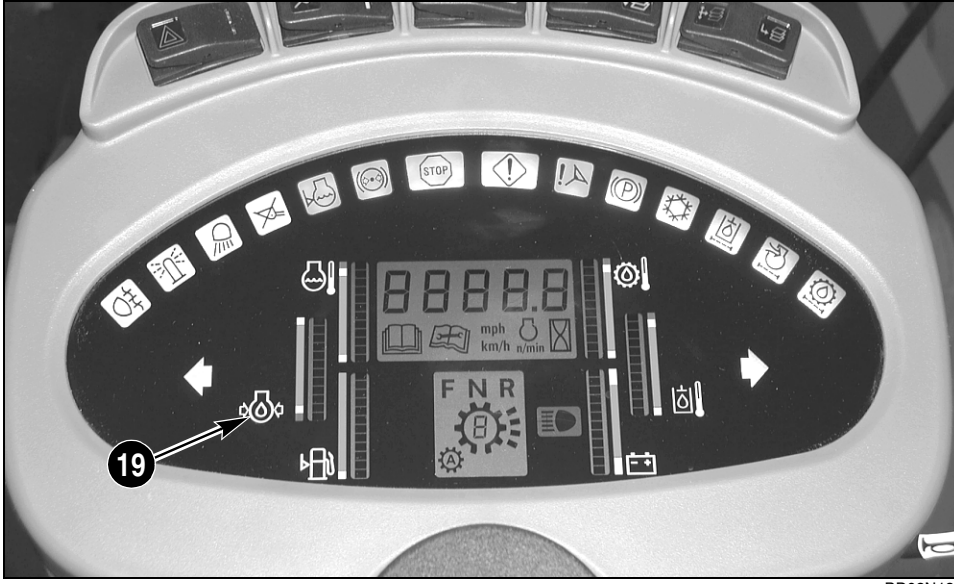
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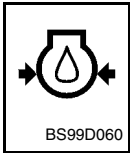
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INSTRUMENT PANEL INDICATORS



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19. ENGINE OIL PRESSURE GAUGE

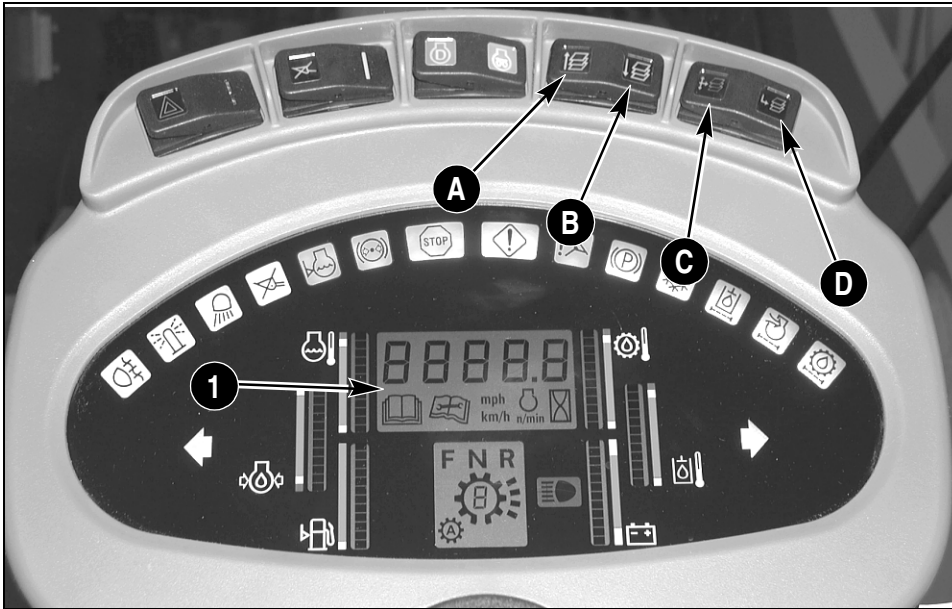
The engine oil pressure gauge indicates the oil pressure in the engine lubrication system. The engine oil pressure is shown with indicator bars. Normal operation is in the green zone. When the oil pressure decreases below a safe operating pressure, the bars move into the red zone and flash and the warning alarm sounds continuously. The stop master indicator turns red. The machine must not be operated when the oil pressure is in the red zone.

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ENGINE OIL PRESSURE GAUGE				
Gauge Indication	Condition	Master Indicator	Gauge Status	Alarm Status
0 to 70 kPa (0 to 10 psi)	Very low (too low to run engine)	Stop (Red)	Flashes	Continuous
70 kPa and above 10 psi and above)	Normal (above low idle)			

NOTE: Stop the engine immediately and correct the problem.

GAUGE DISPLAY



BD02N185

- A. UP COUNT
 B. DOWN COUNT
 C. PROGRAM
 D. RESET

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Programming Your Gauge Display

When you start your machine you will see the Hourmeter in the **Display Center**. Your wheel loader is shipped from the factory with **Gauge Display 05**. To check what **Gauge Display** your machine currently is using do the following:

Press the **program** (C) switch (left side of the **program/reset** (C, D) switch).

Press the **up count** (A) switch until the display reads **010**.

Return the **program/reset** (C, D) switch to the **OFF** (center) position.

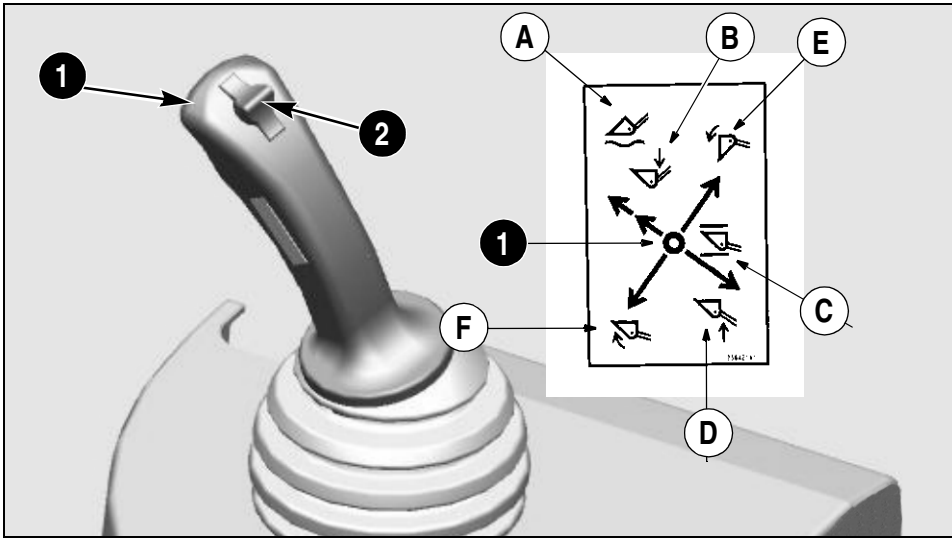
Read the number (**01, 02, 03, 04 or 05**) shown on the **Display Center**. If this is the **Gauge Display** you want, press the **reset** (D) switch (right side of the **program/reset** (C, D) switch) momentarily and you are done.

If you want a different **Gauge Display**, press the **up count** (A) switch until the display reads the **Gauge Display** you want (between **01 to 05**).

Press the **reset** (D) switch (right side of the **program/reset** (C, D) switch) momentarily.

LOADER CONTROL LEVERS

TWO SPOOL VALVE - ONE CONTROL LEVER



BS01E136 / BS00B353

1. LIFT ARM AND BUCKET CONTROL

A. FLOAT (DETENT): This is a detent position. When in the FLOAT (Detent) position, the loader bucket can follow the level of the ground without movement of the control lever

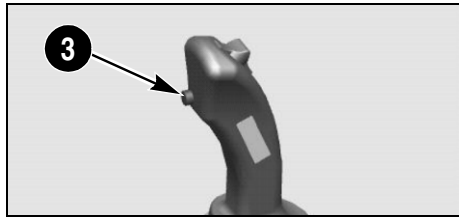
B. LOWER

C. HOLD: The loader arms and bucket will not move when the control lever is in the HOLD position. When released, the control lever will automatically return to the HOLD position. You must manually move the control lever from the FLOAT position to the HOLD position.

D. RAISE

E. DUMP

F. ROLLBACK



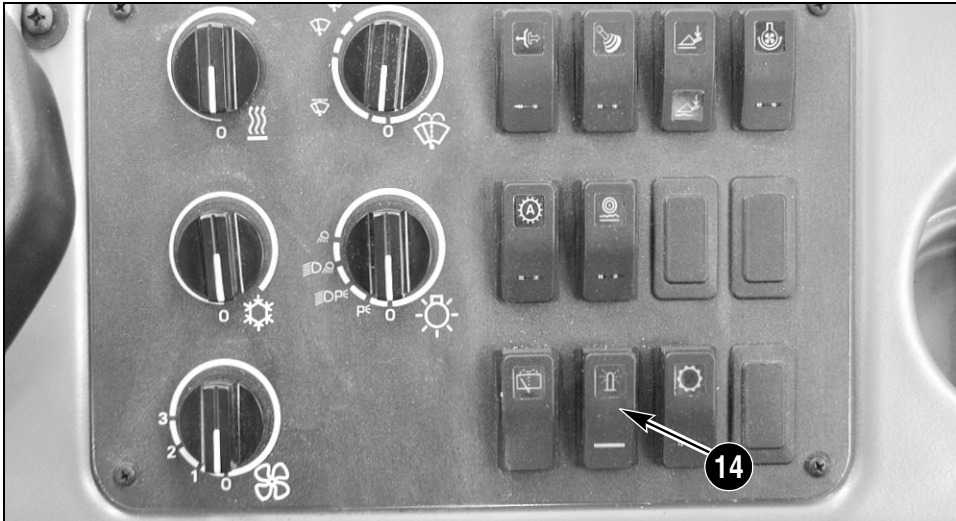
BS01E142

2. AUXILIARY F-N-R SWITCH: This switch will allow the operator to put the Transmission in Forward, Neutral or Reverse. To activate this auxiliary F-N-R switch the proper sequence must be followed. See page 113 and 114 in this manual. Push the switch forward to place the Transmission in Forward, Place the switch in the middle position to place the transmission in Neutral and Pull the switch rearward to put the Transmission in Reverse.

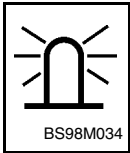
3. KICKDOWN BUTTON (DOWNSHIFT TRANSMISSION)

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SIDE CONSOLE



BD02N189

**14. ROTATING BEACON SWITCH (IF EQUIPPED):**

Push the top of the rotating beacon switch for the ON position and push the bottom of the switch for the OFF position.

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RIGHT PAGE



RD98K268

4. SLIDE ADJUSTMENT LEVER:

Pull this lever up and adjust the seat forward or rearward as required. Release the lever to lock the seat in position.

NOTE: When adjusting the seat height for the first time or for a different operator. Sit in the operators seat, lift up momentarily on the height adjustment handle. The seat will automatically adjust to the operators weight. See height adjustment handle for final adjustments.

5. HEIGHT ADJUSTMENT HANDLE:

A. (Automatic Adjustment): With the operator sitting in the seat. Lift the handle UP and release. The seat will automatically adjust UP and then bleed off air pressure to the optimum air pressure for the weight of the operator.

B. (Manual Adjustment): The seat can be raised or lowered by increasing or decreasing the air pressure in the seat. Lift the handle UP to increase the air pressure. Push the handle DOWN to decrease the air pressure and lower the seat.



RD98K268

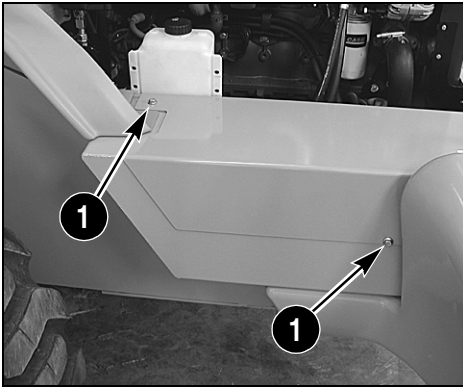
6. SEAT DEPTH HANDLE:

Lift handle up and move the cushion to the desired position. Release the handle to lock the cushion in position.

7. SEAT CUSHION ANGLE ADJUSTMENT HANDLE:

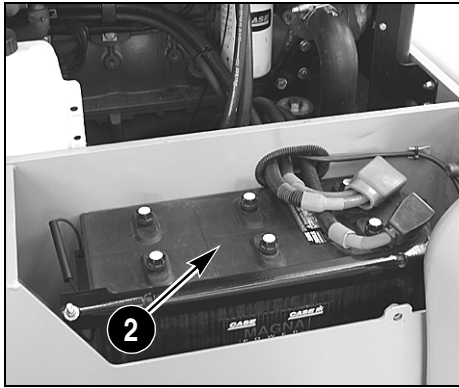
Lift up on the handle. Move the seat to the desired angle. Release the handle to lock the cushion angle.

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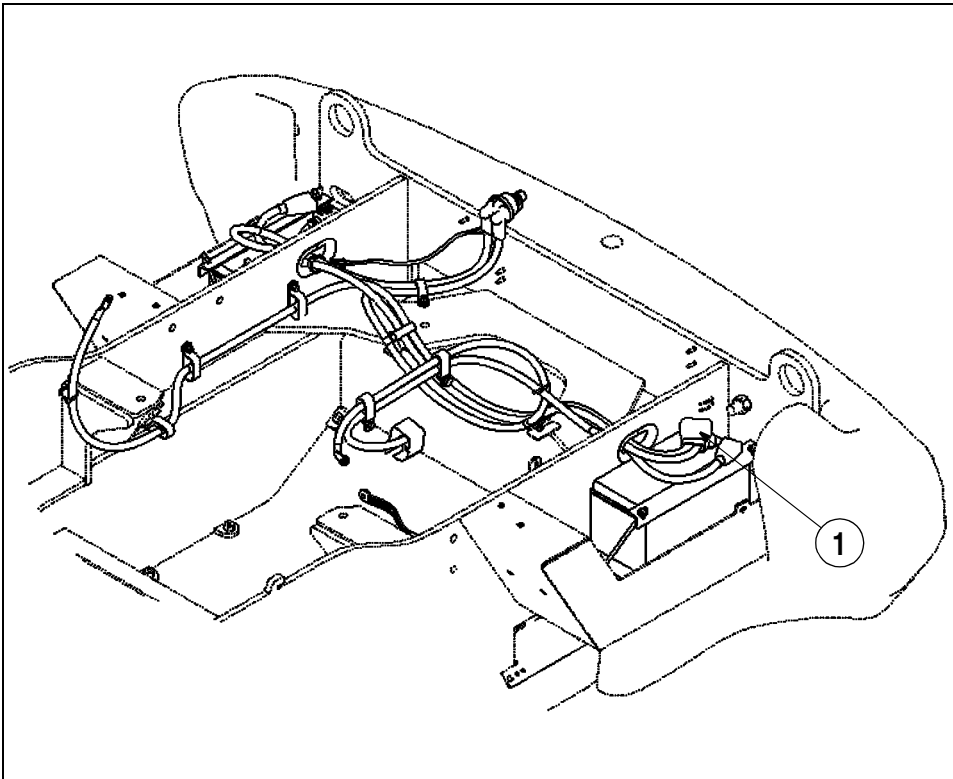
BD02N165

1. REMOVE TWO BOLTS TO ACCESS BATTERY (ONE EACH SIDE)



BD02N162

2. STANDARD BATTERY



BS03A158

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IMPORTANT: The machine may only be **JUMP STARTED** from the **LEFT** side.

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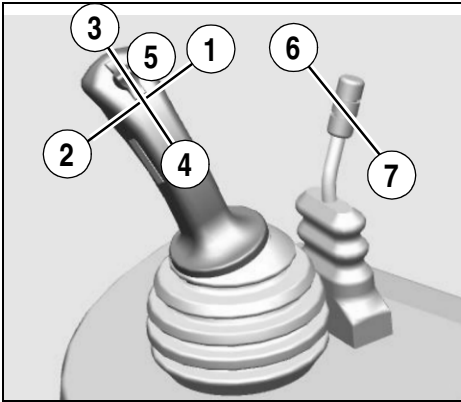
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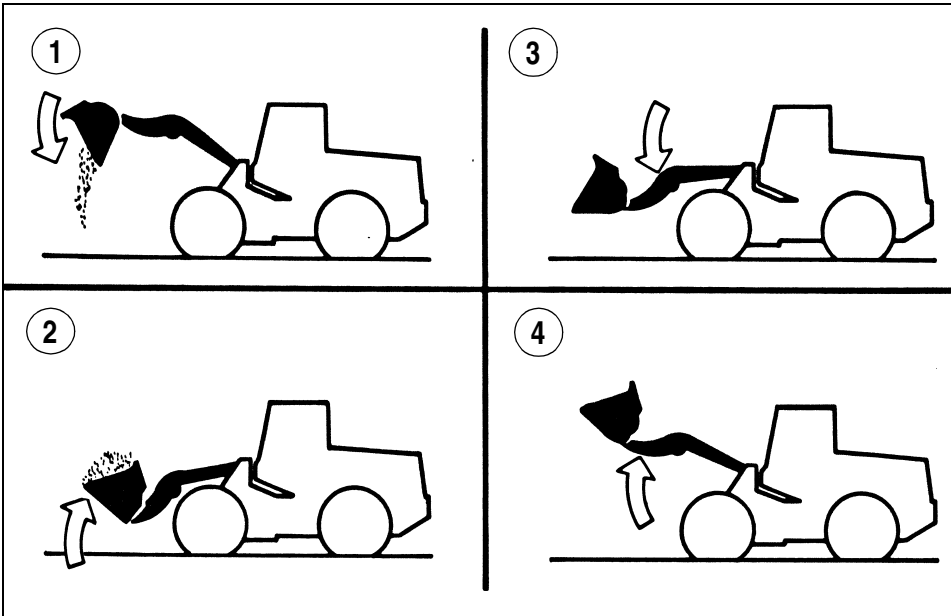
THREE SPOOL VALVE - TWO CONTROL LEVERS



BS01E143

NOTE: This page shows the basic control lever positions. The Detent Switch for the loader functions is in the OFF position.

See Loader Function Switches in this manual for RETURN-TO-DIG, BUCKET HEIGHT CONTROL and RETURN-TO-TRAVEL/FLOAT switches.



B1119A88

- 1. DUMP BUCKET
- 2. ROLLBACK BUCKET
- 3. LOWER LIFT ARMS
- 4. RAISE LIFT ARMS
- 5. **HOLD:** THE LOADER ARMS AND BUCKET WILL NOT MOVE WHEN THE CONTROL LEVERS ARE IN **HOLD**. WHEN RELEASED, THE CONTROL LEVERS WILL RETURN TO **HOLD** AUTOMATICALLY.
- 6. 7.) **AUXILIARY FUNCTION**

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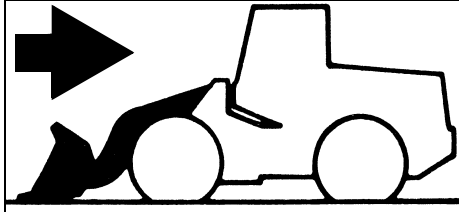
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LOADER OPERATING TIPS

This Wheel Loader, with standard equipment and authorized attachments, is intended to be used for above ground level digging and general earth moving purpose such as land leveling, truck loading, material rehandling and ditch cleaning. If the machine is to be used for lifting objects, make sure that the machine is properly equipped and follow the instructions and safety precautions in this manual.

Leveling Operation

Always operate the machine in reverse when leveling the surface.

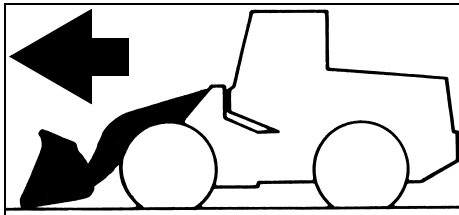


163L96

Pushing Operation

When pushing material do not set the bucket dumping angle more than 20 degrees.

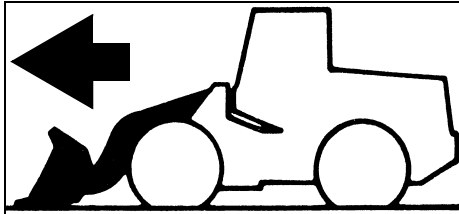
IMPORTANT: *The bucket MUST NOT be in the FULL DUMP position during the pushing operation.*



164L96

Scraping Operation

When scraping hard or frozen surfaces the bucket must be level and flat to the surface. Operate the machine at a slow speed.



163L96

TRIM THIS EDGE



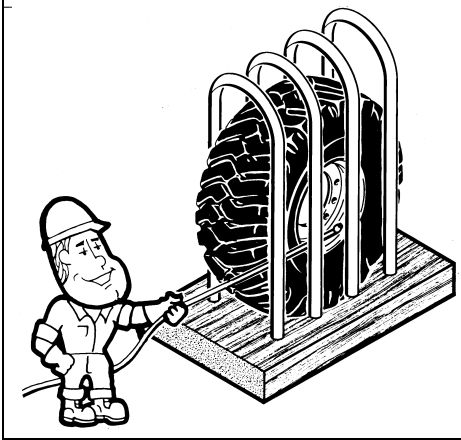
WARNING: Impact Hazard - *Bucket edge or teeth can catch on frozen surface or buried object during surface scraping operations. Before operation inspect the area for objects the bucket can catch on and mark them. During operation make sure the bottom of the bucket is level with the surface to be scraped. Operate the machine around the objects and at slow speed. Injury to the operator and damage to the machine can result if these precautions are not followed.*

M465

Adding Air to the Tires

This procedure is only for adding air to the tire. If the tire has lost most or all of the air, do the following.

1. Before you add air, have the wheel correctly installed on the machine or put the wheel in a restraining device (tire inflation cage).



B790490R

2. Use an air hose with remote shutoff valve and a self-locking air chuck.
3. Stand BEHIND the tread of the tire and make sure ALL persons are away from the side of the tire before you start to add air.



BD03A024

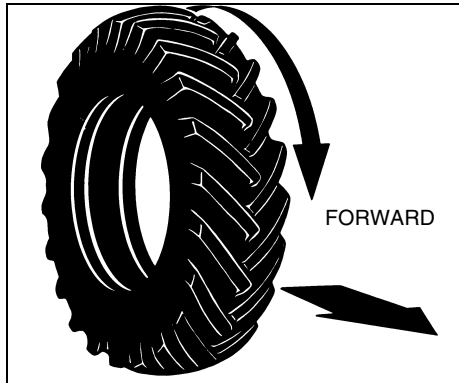
4. Inflate the tire to the recommended air pressure. DO NOT inflate the tire more than the recommended pressure given on the following page.

Tire or Rim Service

Always have a qualified tire mechanic service the tires and rims for this machine. It is recommended that you have this mechanic inflate the tires. To prevent accidents, use a restraining device (tire inflation cage), correct equipment, and correct procedure. Explosive separation of the tire (single piece rim) or the tire and/or rim parts (multi-piece rim) can cause serious injury or death.

Tire Tread Direction

When the tire is installed on the wheel make sure the tire tread is in the direction shown.



B770164R

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FLUIDS AND LUBRICANTS - 721D

Engine Crankcase

Oil Capacity - with filter change..... 14.2 liters (15 U.S. Quarts)
 Specifications..... Case AKCELA No. 1 15W-40

Cooling System

Capacity 25.5 liters (6.75 U.S. Gal.)
 Specifications..... 50% water and 50% Ethylene Glycol

Fuel Tank

Capacity 246 liters (65 U.S. Gallons)
 Specifications..... Diesel Fuel

Hydraulic/Brake System

Reservoir Refill Capacity with filter change..... 123 liters (32.5 U.S. Gal.)
 Total System Capacity..... 193 liters (51 U.S. Gal.)
 Specification..... Case AKCELA Hy-Tran Ultra®

Transmission

Refill Capacity - with filter change..... 25.5 liters (27 U.S. Quarts)
 Total System Capacity..... 39.7 liters (42 U.S. Quarts)
 Specifications..... Case AKCELA No. 1 15W-40

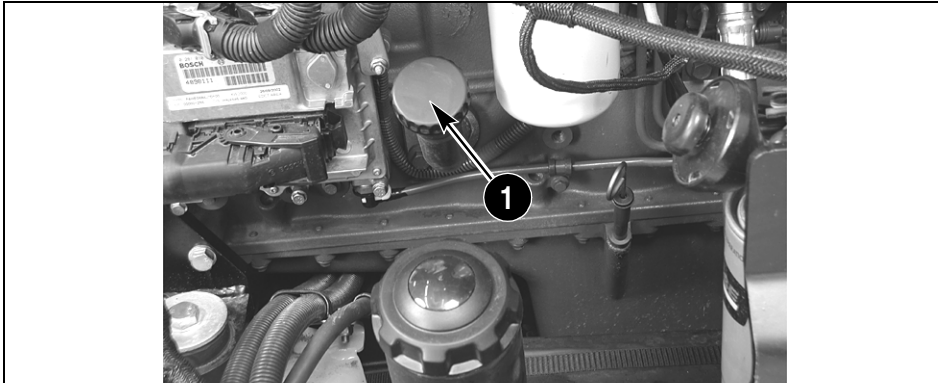
Axles:

Capacity (Front) 30.2 liters (32 U.S. Quarts)
 Capacity (Rear) 27.4 liters (29 U.S. Quarts)
 Specifications..... Case AKCELA Transaxle Fluid
 Grease Fittings
 Quantity..... As Required
 Specifications..... Case AKCELA Molydisulfide Grease

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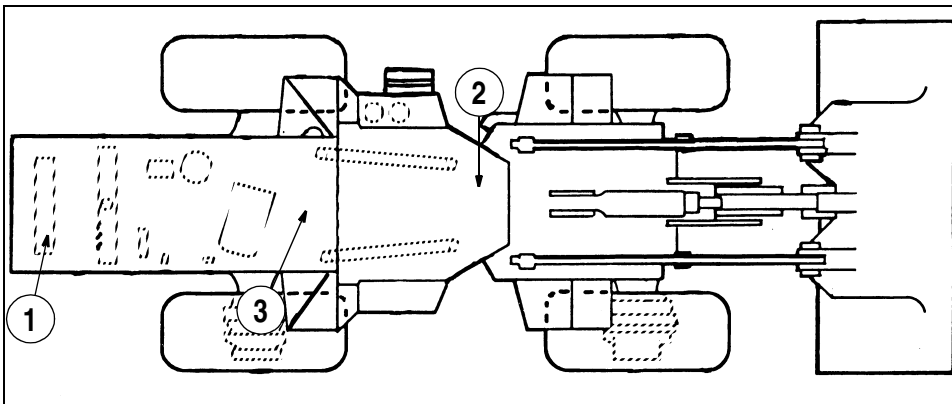
FLUID LEVELS

10 Hours



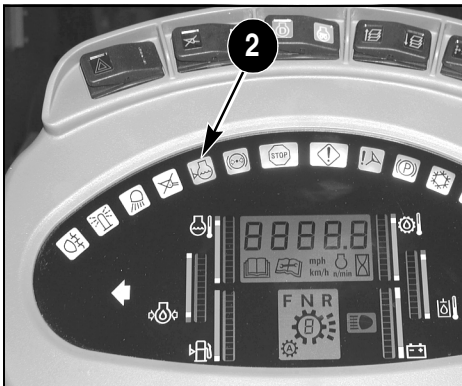
1. ENGINE OIL CASE AKCELA NO. 1 ENGINE OIL (SAE 15W-40)

BD02N153



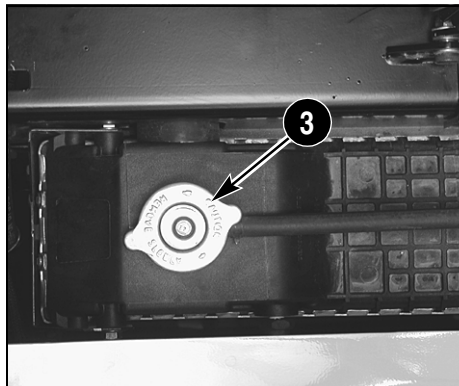
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2. RADIATOR COOLANT LEVEL
ETHYLENE GLYCOL AND WATER

BD02N185



3. RADIATOR
ETHYLENE GLYCOL AND WATER

BD02N168

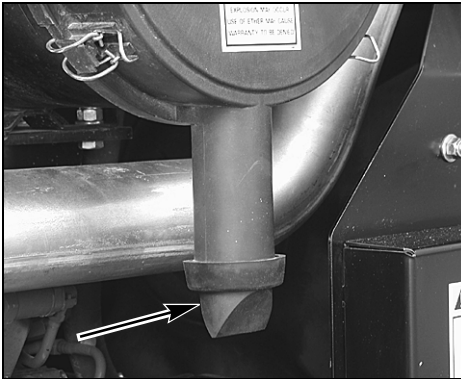
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Dust Valve

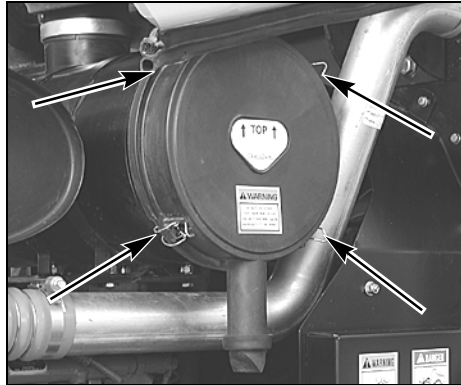
Check the dust valve. Make sure there is no obstruction inside the valve.



BD00M008

Primary (Outer) Element

1. Open the hood and release the four clips that secure the cover.



BD02N154

2. Pull the cover off.

NOTE: If there is a large amount of dust inside the end cover, check dust valve for proper operation



BD02N157

3. Carefully remove the primary (outer) element.
4. Use a clean damp cloth and clean the inside of the filter body.
5. Install a clean or new primary (outer) element. Make sure the element has full gasket contact.
6. Install the end cover and secure it by fastening the four clips.

TRIM THIS EDGE

HYDRAULIC/BRAKE SYSTEM

Service Specifications

Hydraulic/Brake System Fluid Chart

Hyd Reservoir Refill Capacity w/filter change	123 Liters (32.5 U.S. Gallons)
Total System Capacity	193 Liters (51 U.S. Gallons)
Type of Fluid.....	Case AKCELA Hy-Tran Ultra®
Hydraulic Reservoir Fluid Level Check Interval.....	Every 50 Hours
Filter Replacement Interval.....	Every 1000 Hours of Operation or if the Hydraulic Filter Warning Lamp Illuminates
Hydraulic Fluid Change Interval.....	Every 2000 Hours or once each year, whichever occurs first.



WARNING: *Pressurized hydraulic system. Before you replace the hydraulic filter or service the hydraulic system, wear face protection and slowly loosen the hydraulic reservoir fill cap to relieve the air pressure. If you do not follow these instructions, you can be injured.*

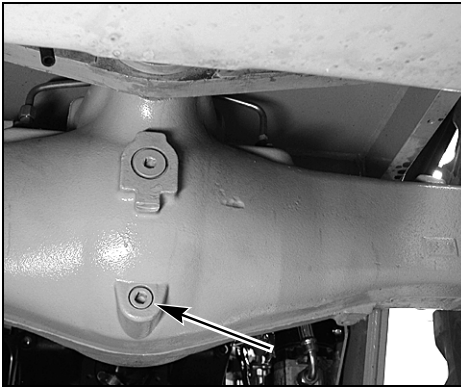
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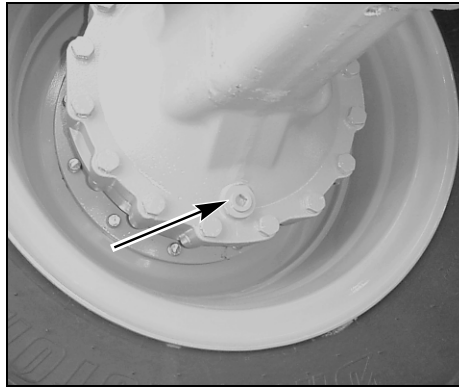
Axle Oil Change

Change the axle oil every 1000 hours of operation.

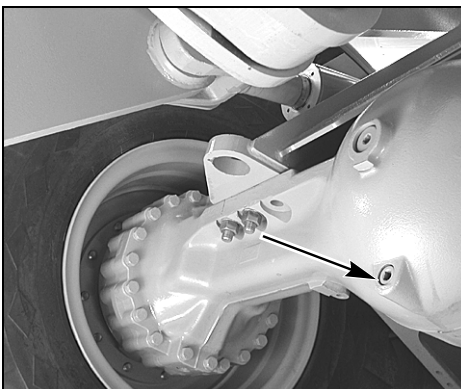
1. Park the machine on a level surface. Apply the parking brake and stop the engine.
2. Clean the oil level and drain plugs.
3. With the oil warm from operation, remove the oil level dipstick.



1. REAR CENTER BOWL DRAIN PLUG

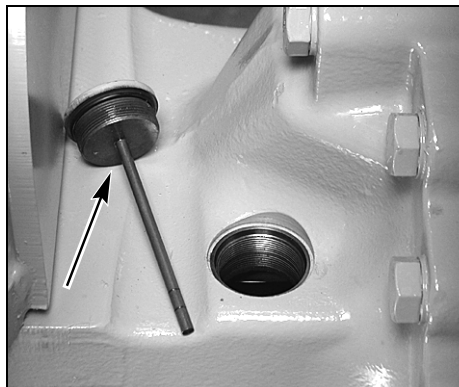


3. WHEEL END DRAIN (ONE EACH SIDE)



2. FRONT CENTER BOWL DRAIN

4. Remove the drain plug from the axle center bowl and each wheel end drain. Have a container with enough capacity to hold 30.2 L (32 qts).



4. AXLE DIPSTICK

5. After removal of the oil install the center bowl and wheel end drain plugs.
6. Fill axle with new oil.
7. Check oil level by placing the dipstick into the hole but not running the threads down.

TRIM THIS EDGE

TRANSMISSION CLUTCH CALIBRATION

Transmission clutch calibration ensures optimum shifting of the transmission. Make sure of the following before proceeding with transmission clutch calibration.

- A. The parking brake has been tested.
- B. The transmission oil is warm.
- C. The engine idle speed is correct.
- D. The transmission is in neutral.
- E. The parking brake is applied.

Do the following procedure to calibrate the transmission clutches:

1. Put the transmission in manual shift mode and the gear selector in 3rd gear neutral.
2. Press the program switch.
3. Press the up-count switch until the display reads 011.
4. Return the program switch to the center position.
5. Press the up-count switch twice so the display reads 02.

At this time, 2 00 00 will begin flashing in the display center.

After one second, the Clutch Calibration Main Code status will be displayed in the 3rd and 4th spaces (2 XX 00 - the XX represents the 3rd and 4th spaces).

The Modulation Cycle Number will be displayed in the 1st and 2nd spaces (2 00 XX - the XX represents the 1st and 2nd spaces).

During Clutch Calibration, the Clutch Calibration Main Code will change from 01 to 07 as the process is completed. The code 07 will indicate that the process is complete and the Information Center will return to normal working status.

If any of the Clutch Calibration parameters are incorrect, the display center will stop flashing and display the Clutch Calibration Main Code in the 1st, 2nd, 3rd, and 4th spaces.

In the event, the code in the 3rd and 4th spaces will be 09 to 14 and will indicate the process that the calibration was in when it was aborted.

The 1st and 2nd spaces will produce the Clutch Calibration Sub-Code, which is the code that will inform the operator of the reason process was aborted.

6. After completing the clutch calibration procedure, turn the engine off for 15 seconds to set the calibration in the controller.

NOTE: See *Clutch Calibration Main Code and Clutch Calibration Sub-Code on the following page*

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Bucket Height Control Minor Adjustment

1. Park the machine on a level surface. Lower the loader bucket to the floor.
2. Apply the parking brake and stop the engine.
3. Loosen the rear actuator.
4. To increase the dump height, move the actuator down in the slot. To decrease the dump height, move the actuator up.
5. Tighten the actuator.
6. Start the engine and pull the lift control lever to the RAISE detent position. When the loader arms stop moving, check the dump height.

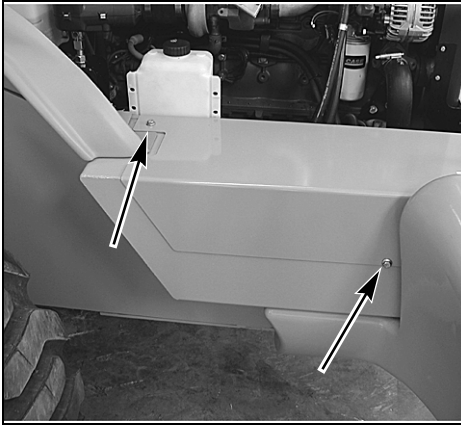
TRIM THIS EDGE

205

TRIM THIS EDGE

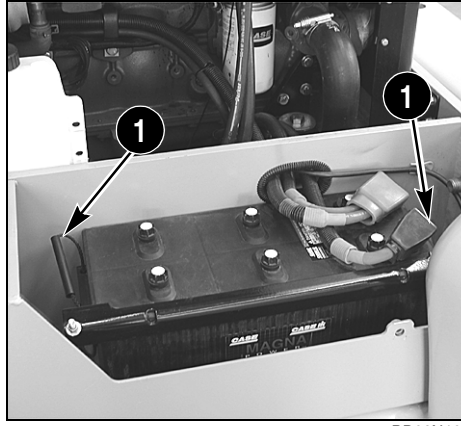
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RIGHT PAGE



BD02N165

BATTERY COVER



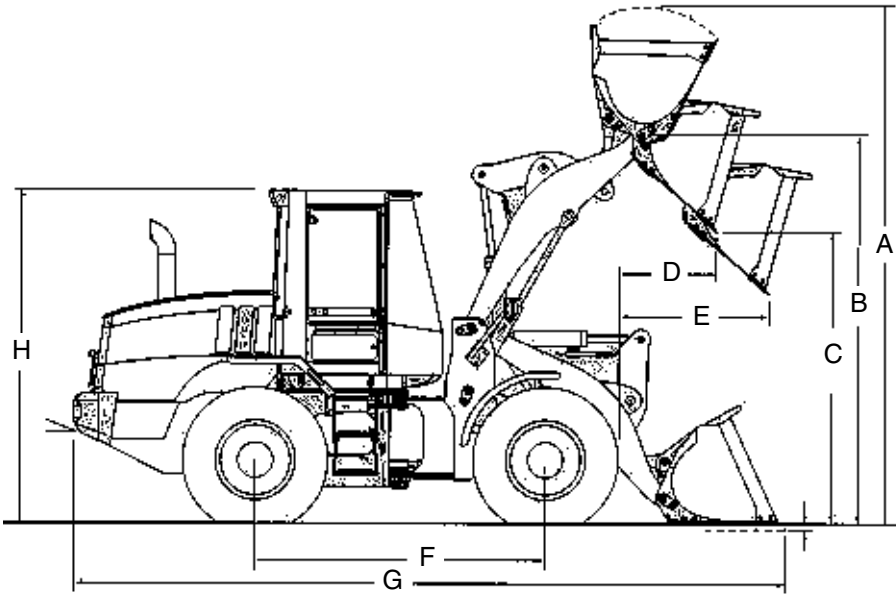
BD02N162

To access the batteries, right or left side, remove the two bolts that secure the cover. Handles are provided for easy removal and installation (1). (one ea. side)

IMPORTANT: Machine must be Jump Started from the **LEFT** side only!

TRIM THIS EDGE

OPERATING DATA AND DIMENSIONS



B0769A88

Machines with 2.48 m³ (3.25 yd³) General Purpose Bucket

TRIM THIS EDGE

- Tipping load, machine straight 11 462 kg (25 269 lbs)
- Tipping load, 40 degree turn 9 666 kg (21 310 lbs)
- A. Overall operating height, fully raised 5 228 mm (205.8 in)
- B. Height to bucket hinge pin, fully raised 3 979 mm (156.6 in)
- C. Dump height, 45 degree dump, full height 2 929 mm (115.3 in)
- Dump angle at full height 55 degree
- D. Bucket reach, 45 degree dump, full height 1 126 mm (44.3 in)
- E. Bucket reach, 45 degree dump,
 2134 mm (7 foot) dump height 1 658 mm (65.3 in)
- F. Wheel Base 3 253 mm (128.1 in)
- G. Overall Length 7 648 mm (301.1 in)
- H. Overall height to top of ROPS cab..... 3 339 mm (131.4 in)

Specifications taken with 20.5 R25 XHA tires, ROPS cab with heater and air conditioning, 1 681 kg (3 707 lb) rear counterweight, fenders, standard batteries, lamps, full fuel tank, and a 80 kg (175 lb) operator.

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