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788 and 988

Wheeled Excavators

Operator's Manual

Cre 9-26943 GB
Replaces Cre 9-26942 GB



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RIGHT PAGE

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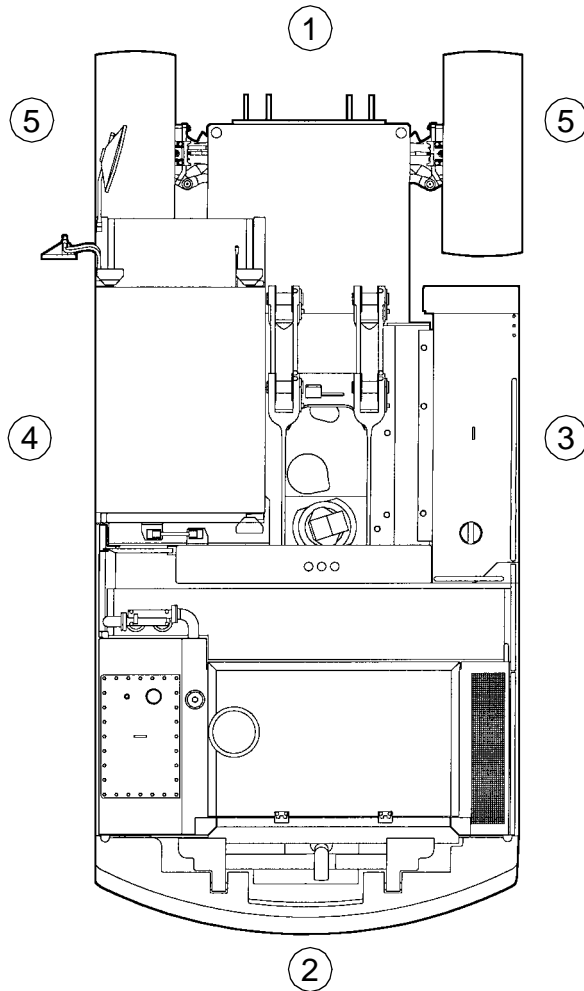
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RIGHT, LEFT, FRONT AND REAR OF THE MACHINE

The terms "right", "left", "front" and "rear" as used in this manual indicate the sides of the machine as seen from the operator's seat when the cab is over the front wheels.

The illustration below shows the machine in the normal TRAVEL position, with the operator's compartment over the front wheels (machine in road travel position).



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- 1 FRONT
- 2 REAR
- 3 RIGHT-HAND SIDE
- 4 LEFT-HAND SIDE
- 5 FRONT WHEELS

PDH0083

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RIGHT PAGE

 **MACHINE OPERATION** 

- When working on a public highway, use standard traffic signs, taking into consideration the working range of the upperstructure and its attachments. Local or national regulations stipulate the number, type and location of reflector strips.
- Avoid running the engine in an enclosed area. If there is no alternative, make sure there is proper ventilation at all times.
- Do not allow anyone else on the machine. The passenger could fall or cause an accident.
- Operate the working or travel controls only when seated in the operator's seat.
- When working near overhead high voltage electric lines, you must keep a safe working distance from the lines. The minimum distances to be respected are as follows:
Under 57,000 volts: 3 meters.
Over 57,000 volts: 5 meters.
- Locate the position of any underground pipes or conduits before starting work. Electrical cables, gas pipes, water pipes or other underground installations can cause serious bodily injury.
- Always make allowance for working conditions (sloping or rough ground), the road surface and weather conditions when driving the machine.
- Do not allow anyone within the machine's working area. An accident can occur if the operator operates the swing control or an attachment control accidentally. Stop all operations until everyone has moved away.
- If the machine is equipped with a Quick Coupler (optional), never tilt the switch to the unlocked position while the machine is being operated.
- Make sure that there is nobody within the operating range of the stabilizers (if equipped) or the dozer blade (if equipped) before operating them.
- Operate all controls gradually to ensure smooth machine operation.
- When travelling with a load or driving the machine onto a trailer, always use the travel control lever to maintain full control of the machine's travel speed.
- The front axle must be unlocked for all travel operations.
- The front axle must be unlocked when loading or unloading the machine on or off a transport trailer.

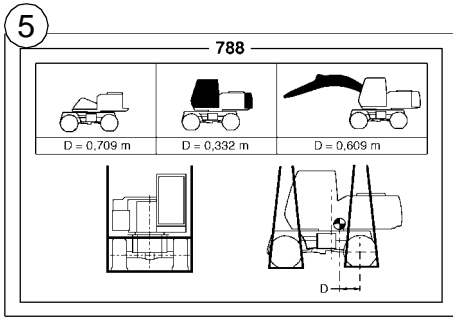
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RIGHT PAGE

Handling the machine

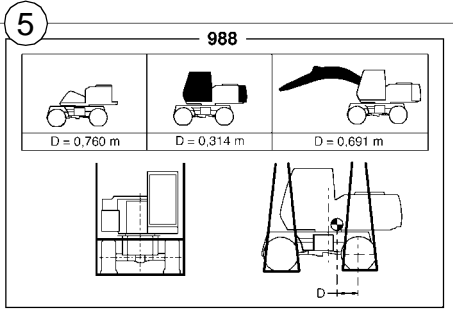
788 Series



CS95N035

Part number: V4051561

988 Series

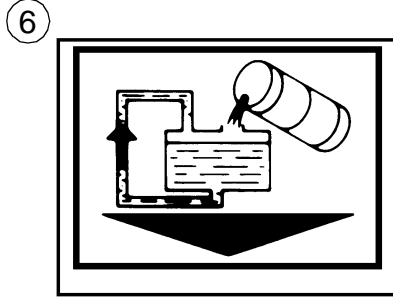


CS98K505

Part number: Q4051556

This decal shows the center of gravity of the machine in relation to the rear wheel axis, depending on three possible handling configurations. See "Handling the machine" in the "Operating Instructions" Section.

Filling the hydraulic reservoir

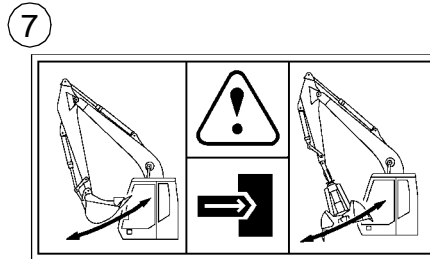


PDE0774

Part number: T1451593

This decal shows the location of the hydraulic reservoir filling orifice.

Tool interference



PDH0029

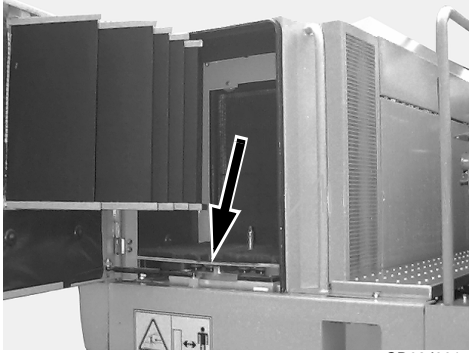
Part number: W2651575

This decal shows that, in certain configurations, a swinging attachment can cause interference between the attachment tool and the operator's compartment. Always keep a safe working distance between the attachment tool and the operator's compartment (in case of tool swinging or accidental movements).

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WALKWAY ACCESS GATE

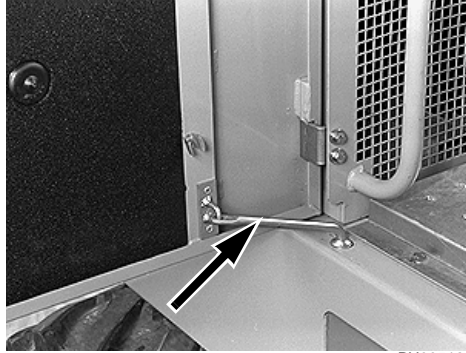
788 Series



CD98J001

The gate is opened using the handle. The gate is kept in the open position by means of a gas strut.

988 Series



PH00512

The gate is opened using the handle. To keep the gate in the open position, pull the stay out of its clip and place it in the hole provided for that purpose. When closing the gate, put the stay back in its clip.

NOTE: Use the starter switch key to lock the gate.



WARNING: Before travelling, make sure that the gate is securely latched.

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CONTROLS/INSTRUMENTS/ACCESSORIES

11. MINIMAL PILOT PRESSURE RED WARNING LAMP - This warning lamp and the red STOP warning lamp (1) come on and the audible alarm sounds if the pilot circuit pressure is too low. If the warning lamp comes on during operation, move the machine to a safe location, stop the engine, remove the starter switch key and find the cause of the problem.
12. OVERLOAD INDICATOR ORANGE WARNING LAMP (optional) - This warning lamp works in conjunction with the overload indicator switch and comes on if the load being handled exceeds the pre-set system limit. See "Overload indicator" in the "Operating Instructions" Section.
13. PILOT SYSTEM CANCELLATION GREEN INDICATOR LAMP (Specific to certain countries) - This indicator lamp comes on when the pilot system cancellation control switch is operated. See "Pilot system cancellation control switch".
14. FRONT AXLE UNLOCKING ORANGE INDICATOR LAMP - This indicator lamp comes on when the front axle is unlocked. Front axle locking or unlocking depends on the position of the switches. See "Front axle locking/unlocking switches".
15. ROTARY BEACON ORANGE INDICATOR LAMP (Specific to certain countries) - This indicator lamp comes on when the rotary beacon switch (29) is operated.
16. MINIMAL STEERING PRESSURE RED WARNING LAMP - This warning lamp and the red STOP (1) warning lamp come on and the audible alarm sounds when the circuit feed pressure is too low. If the warning lamp comes on during operation, move the machine to a safe location, stop the engine, remove the starter switch key and find the cause of the problem.
17. PARKING/WORK BRAKE RED WARNING LAMP - This warning lamp comes on when the parking/work brake control switch (wheel brakes applied) is operated.
18. MINIMAL BRAKE PRESSURE RED WARNING LAMP - This warning lamp and the red STOP (1) warning lamp come on and the audible alarm sounds when the brake circuit feed pressure is too low. If the warning lamp comes on during operation, move the machine to a safe location, stop the engine, remove the starter switch key and find the cause of the problem.
19. REAR FOG LIGHT ORANGE INDICATOR LAMP (Specific to certain countries) - This indicator lamp comes on when the rear fog light switch (30) is operated.

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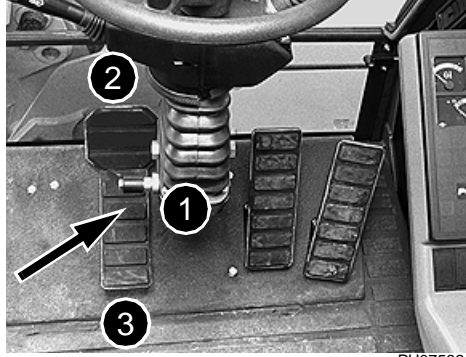
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RIGHT PAGE

NOTE: In normal travel position, the operator's compartment is over the front wheels.

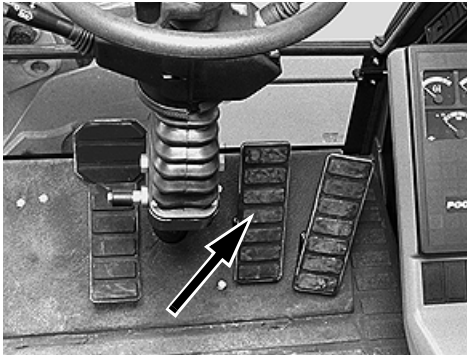
IMPORTANT: If the upperstructure is positioned at 180° in relation to the undercarriage, the wheels which control the steering are at the rear (work position). In this case, turn the steering wheel to the left to move the machine to the right and vice-versa. The position of the travel control lever must also be reversed. See "Travel control and reverse lever".

Option pedal



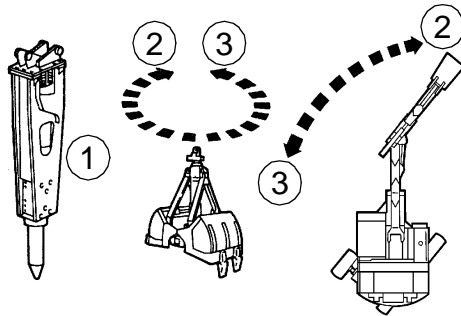
PH07532

Brake pedal



PH07532

Brake pressure depends on the force applied to the brake pedal.



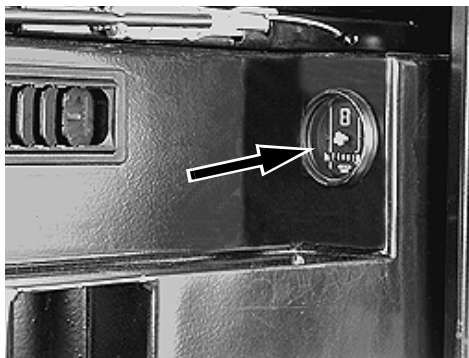
PDG0069

Depending on option installed:

1. The hydraulic hammer will function.
2. The clamshell turns to the right or the mobile component of the offset backhoe boom turns to the right.
3. The clamshell turns to the left or the mobile component of the offset backhoe boom turns to the left.

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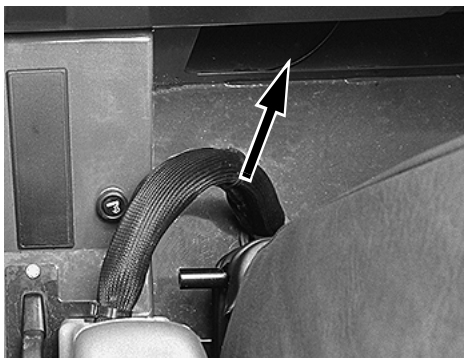
Hourmeter



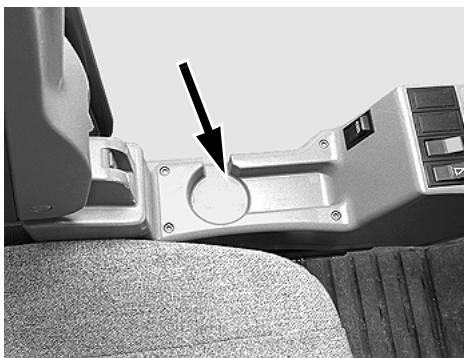
PG01625

Located to the left of the operator's seat, the hourmeter calculates when service operations are due. It works in the same way as a clock when the engine is running. See the "Service Intervals" Section.

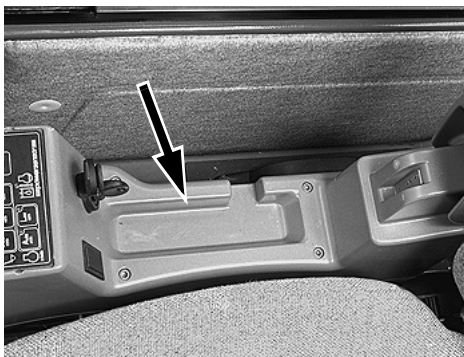
Recessed trays



PH07611



PH07602A



PH08020

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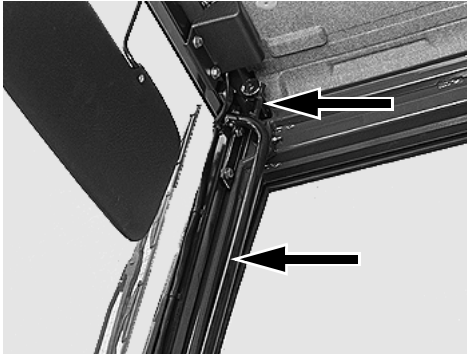
RIGHT PAGE

STEP 2



Lower the windshield.

STEP 3



Push the two handles outwards so as to lock the windshield in position.

IMPORTANT: Make sure that the windshield is securely locked in place.



WARNING: In certain configurations, a swinging attachment may cause the attachment tool (a bucket, for example) to interfere with the windshield. Always keep a safe working distance between the attachment tool and the windshield (in case of tool swinging or accidental movements).

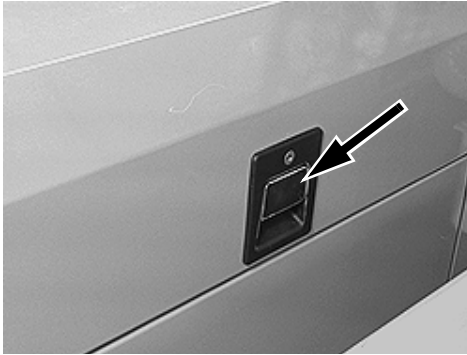
IMPORTANT: After cleaning the windshield, be sure to reposition the wiper correctly if it has been tilted forward, as it can be damaged when opening the windshield.

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ENGINE HOODS

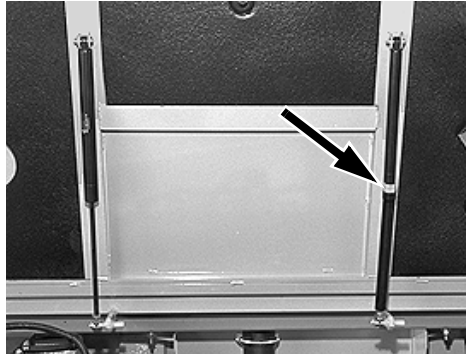
Upper hood

988 Series



PG02927

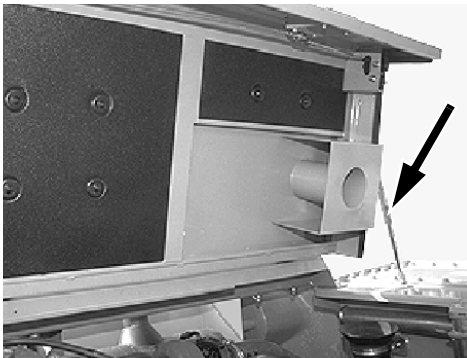
Raise the hood completely, using the handle.



PG03606

The gas strut is equipped with a locking device.

788 Series



CK96A002

To keep the hood in the open position, pull the stay out of its clip and place it in the hole provided for that purpose. When closing the hood, put the stay back in its clip.



WARNING: Always put the hood stay in place when the hood is open.



WARNING: After opening the hood completely, make sure that the locking system is in place.

To close the hood, press down the unlocking device and tilt the hood downwards.

IMPORTANT: Never close the hood without unlocking the right-hand gas strut, since this could cause damage.

NOTE: Use the starter switch key to lock the hood.



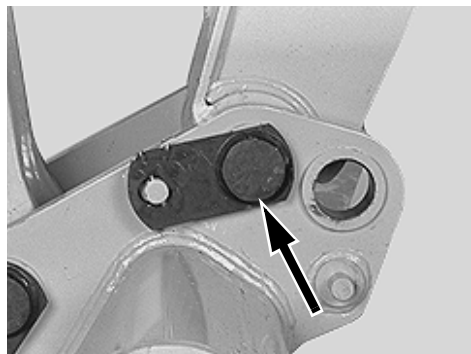
WARNING: Before travelling, make sure the hood is properly latched.

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BACKHOE BUCKET MAXIMUM OPENING RANGE AND MAXIMUM FORCE POSITIONS

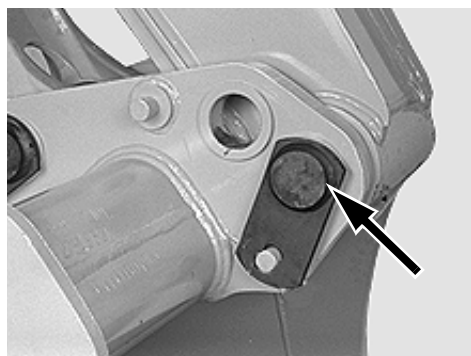
The linkage position of the bucket and the dipper can be adapted to suit the work to be done.

788 Series



PG02802A

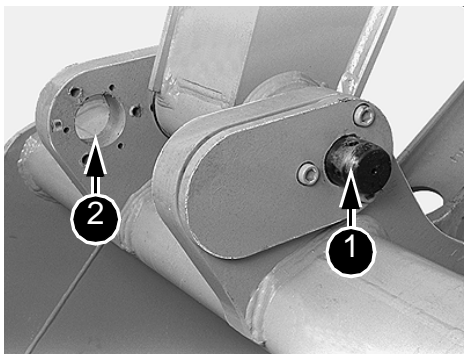
Maximum opening range position.



PG02804A

Maximum force position.

988 Series



PH07809

Position (1): maximum opening range
Position (2): maximum force

To change the bucket linkage point, see "Replacing a backhoe bucket" in the "Maintenance/Adjustments" Section.

NOTE: During road travel, the backhoe bucket must be in the maximum force position. See "Road travel" in the "Job Site and Road Operation" Section.

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BEFORE OPERATING THE MACHINE



WARNING: Do not attempt to operate this machine unless you have first read and understood the safety messages and warnings which appear in this manual.

Before operating the machine, follow these instructions:

- Check the level of all fluids (engine oil, hydraulic fluid and coolant) and make sure that they are suitable for the conditions of use. See “Operating the machine in cold weather” in this Section and “Fluids and lubricants” in the “Lubricants/ Filters/Fluids” Section.
- Complete the daily service operations. See the “Service Intervals” Section.
- Walk around the machine, check for leaks and inspect the hoses. Tighten and replace as necessary. See the “Maintenance/Adjustments” Section.
- Before travelling on the road, lock the attachments and install the safety systems required by regulations. Raise the stabilizers (if equipped) completely, raise the dozer blade (if equipped) and immobilize them mechanically by means of the safety systems provided. See “Road travel” in the “Job Site and Road Operation” Section.
- Before driving or operating the machine at night, make sure that the lights and signalling equipment are in proper working order.
- Check the condition of the tires and tire pressure. See “Wheels and tires” in the “Maintenance/Adjustments” Section.
- Clean the steps and access handles. Grease, oil, mud or ice (in winter) on the steps and access handles can cause accidents. Make sure they are kept clean at all times.
- Clean or replace any illegible decals. See “Decals” in the “Safety/Decals/Hand Signals” Section.
- Make sure all hoods, access panels and side doors are securely closed and locked or fastened.
- Secure the cab door in either closed or open position.
- Remove any obstructions which hinder visibility. Clean the windshield, the windows, the forward and rear view mirrors.
- Check that no tools or other items have been left on the machine (on the undercarriage or the upperstructure) or in the operator’s compartment.

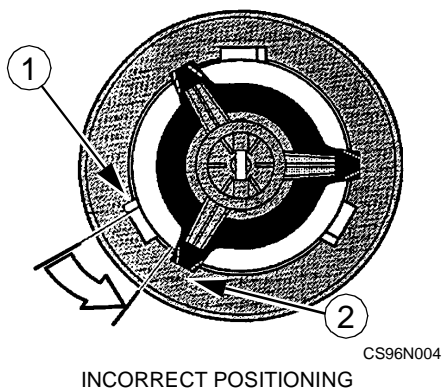
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INSTALLING THE FUEL TANK CAP

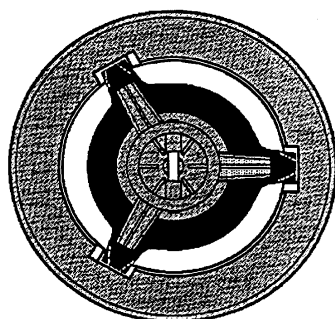
The key for the fuel tank cap can be removed from the cap whether the cap is locked on its base or removed from its base.

To install the cap correctly on the base of the fuel tank, make sure that the key is in the "Open" position.

The fuel tank cap is locked by means of three indexed locking tabs. If the locking tabs (2) are not positioned correctly, it will not be possible to install the cap on the base of the fuel tank.



INCORRECT POSITIONING



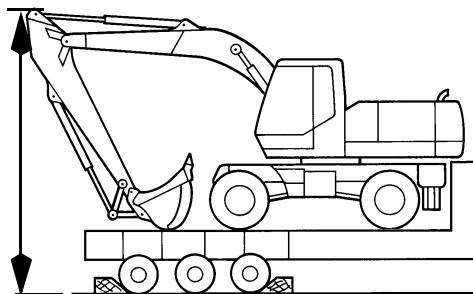
CORRECT POSITIONING

To install the cap properly on the base of the fuel tank, make sure that the locking tabs (2) are positioned correctly.

The position of the locking tabs (2) can be corrected by turning the plate (1) completely to the stop.

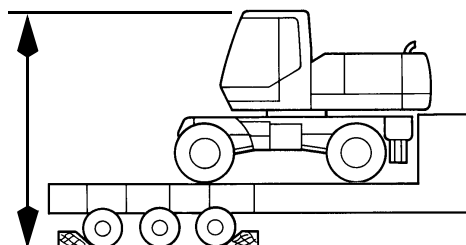
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**STEP 17
(Machine with attachment)**



PDH0090
MACHINE READY FOR TRANSPORT

**STEP 17
(Machine without attachment)**



PDH1144
MACHINE READY FOR TRANSPORT

Measure the distance between the ground and the highest point of the machine. You must know the overall height. See "Transport overall dimensions" in the "Specifications" Section.

Unloading

1. Remove the blocks and fastening chains.
2. Switch on the electrical system using the battery master switch key.
3. **(Machine with attachment)** Raise the attachment to bring it a few centimeters above the trailer bed.
4. Disengage the upperstructure locking lever.
5. Release the brakes using the parking/work brake control switch.
6. Make sure that the front axle locking/unlocking switches are in the unlocked position (indicator lamp lights up on instrument panel).

WARNING: *The front axle must be unlocked when unloading the machine.*

7. Press down the travel pedal and use the travel control lever to adjust the travel speed.
8. **(Machine with attachment)** Move forward slowly (job site speed) raising the attachment so as to keep it a few centimeters off the ground.
8. **(Machine without attachment)** Move the machine forward slowly (job site speed).
9. Turn the forward and rear view mirrors back to the correct position.

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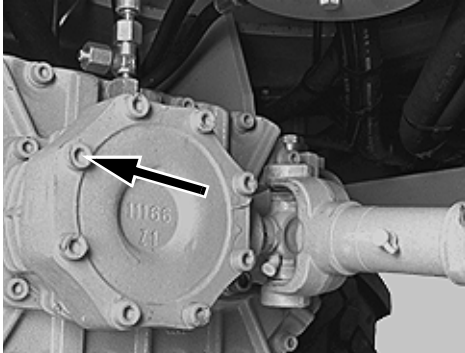
TOWING THE MACHINE IN AN EMERGENCY

Emergency towing must only be performed when the machine is immobilized in a dangerous place (on a railway line, for example). It should only be performed over a short distance, so that the machine can be moved to a safe location.

Tools required

-One 8 mm wrench for hexagonal socket head screws (specific to certain countries and supplied with the machine, this wrench is located in the storage compartment).

STEP 1



PH07818

Use the wrench to loosen the eight screws on the parking brake cover a few turns.

STEP 2

Move the machine to a safe location.

STEP 3

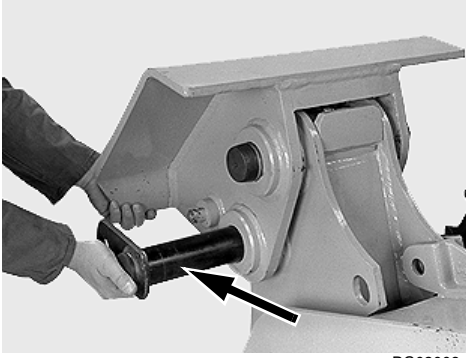
Retighten the eight screws on the parking brake cover.

STEP 4

If the machine cannot be repaired on the spot, tow the machine. See "Towing the machine".

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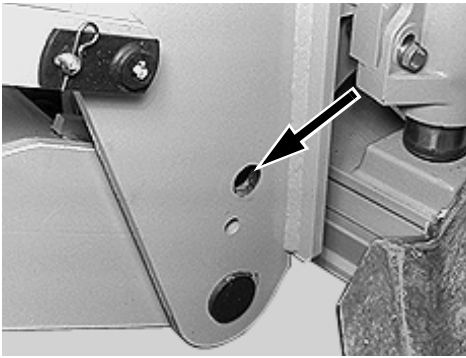
STEP 3



PG02003

Remove the lock pins and split pins from the stabilizer pads so that they are in the swivel position, then place the lock pins and split pins in the tool box.

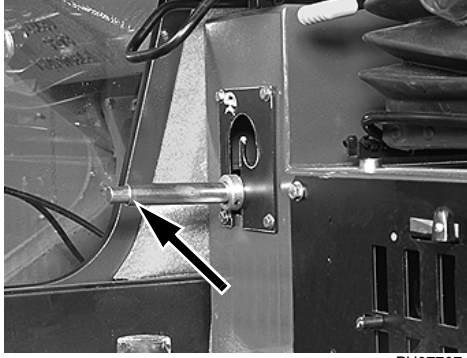
STEP 4



PH00620

Raise the dozer blade (if equipped) and immobilize it, using the lock pin and split pin located in the tool box.

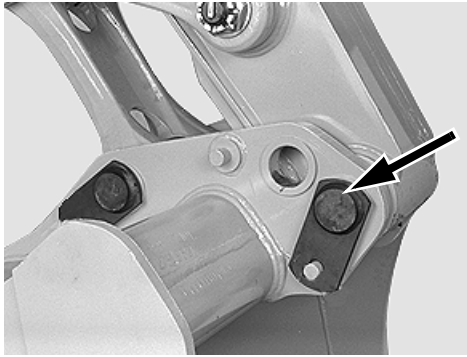
STEP 5



PH07707

Engage the upperstructure swing lock pin.

STEP 6



PG02804A

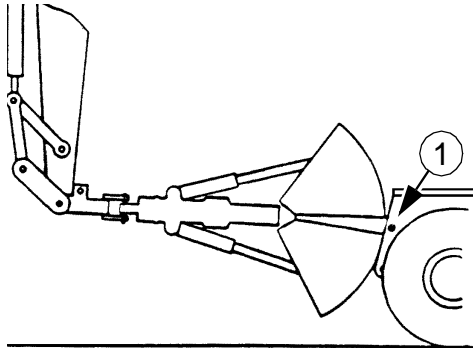
The bucket linkage point must be in the maximum force position. See "Backhoe bucket maximum opening range and maximum force positions" in the "Controls/ Instruments/Accessories" Section. If it is not, change the linkage position. See "Replacing a backhoe bucket" in the "Maintenance/Adjustments" Section.

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STEP 3



PDH1080

With adjustable boom (788 series)

Hook the teeth of both shells onto the bar (1) by operating the boom cylinders, the dipper cylinders and the clamshell closing cylinders at the same time. Position the boom at the approved road travel overall height using the index marker on the boom cylinder located towards the cab. Align the marks. Check that the index position markers on the dipper are aligned.

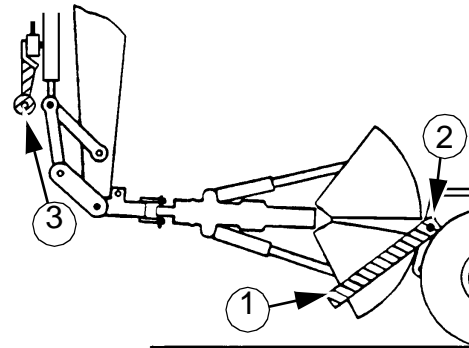
With articulated boom

Hook the teeth of both shells onto the bar (1) by operating the boom cylinders, the boom articulation cylinders, the dipper cylinders and the clamshell closing cylinders at the same time. The attachment will be within the approved road travel overall dimensions when the boom cylinders and boom articulation cylinders are completely extended.

STEP 4

Lock the boom and dipper positions using the boom and dipper locking valves. See "Boom locking valve" and "Dipper locking valve" in the "Controls/Instruments/Accessories" Section.

STEP 5

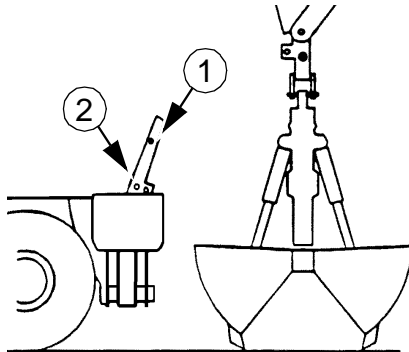


PDH1081

Install the shell locking hook (1) by hooking it onto the side of the lower shell and fitting it into the attaching bar (2) at the operator's compartment end. Keep the hook (1) in place by means of a safety split pin. Install the marker light (3) on the dipper.

P2A+2A Version

STEP 1



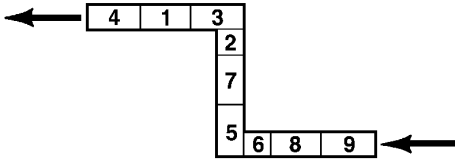
PDH1082

Turn the clamshell so that the clamshell teeth are parallel with the face of the stabilizer beam. Install the clamshell support (1) on the fittings provided for that purpose on the beam. Install the four retaining pins (2) and their split pins.

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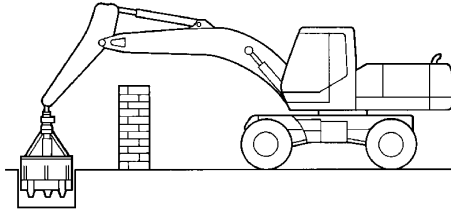
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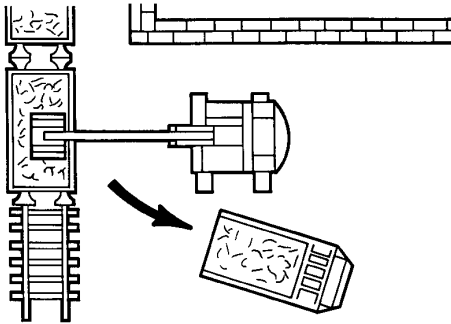
PDE0039

If a trench with angles must be opened, due to site conditions, the excavator can do this work without changing its position, provided that the length of the attachment corresponds to that of the trench. Clamshell swing is used to follow the marked course.



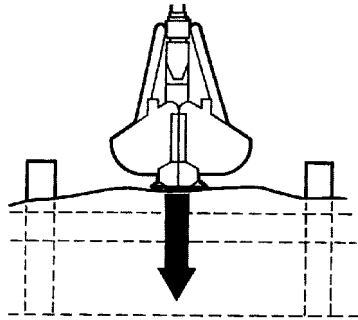
PDH0103

The clamshell allows you to work over an obstacle. However, check that the height of the obstacle does not prevent the attachment from lowering to the bottom of the excavation. If the obstacle is too high, use a long-mount extension and be guided by someone on the other side of the obstacle.



PDE0040

When working close to an obstacle, as shown in the diagram, before starting work, it is important to position the excavator correctly, so that the counterweight does not hit the obstacle when swinging the upper-structure. If possible, the trucks should also be positioned so as to minimize attachment movement when loading.



PDE0042

When working in shored trenches, close the clamshell completely to prevent the clamshell from turning and to prevent the teeth from getting caught on the shores when lowering the clamshell.

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Engine oil

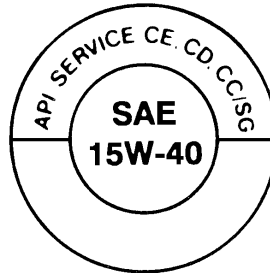
CASE No. 1 engine oil is the oil recommended for your engine. This oil will lubricate your engine correctly in all working conditions.

If CASE No. 1 Multi-Grade or Single Grade engine oil is not available, use only oil which meets the API/CE engine oil service category.

NOTE: Do not put performance additives or other additive products in the engine crankcase. The oil change intervals given in this manual are based on tests carried out on CASE lubricants.

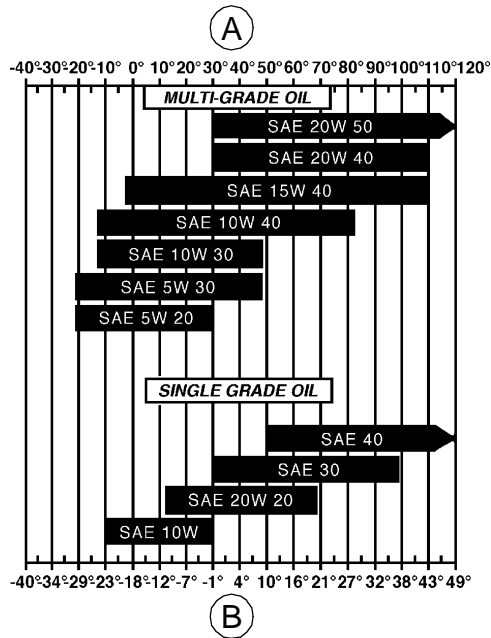


DP96G09



654L9

Oil viscosity/Oil usage range



(A) FAHRENHEIT TEMPERATURE

(B) CELSIUS TEMPERATURE

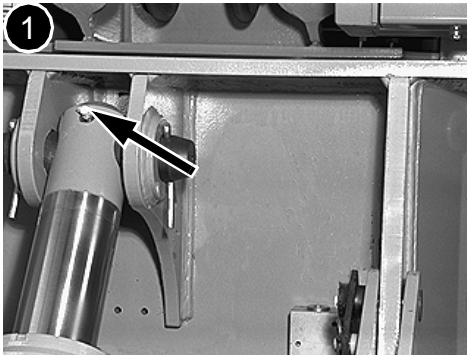
1036L0

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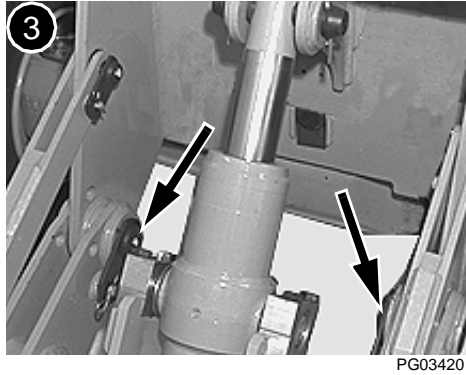
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Every 50 hours



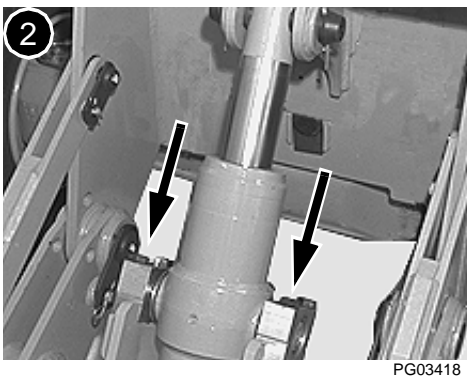
Beam cylinder top pin..... (1)

Every 50 hours



Beam linkage (2)

Every 50 hours



Beam cylinder bottom pin..... (2)

NOTE: *The figures given in brackets show the number of grease points for machines equipped with two stabilizers.*

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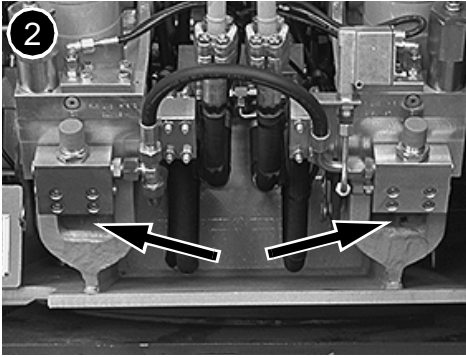
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199

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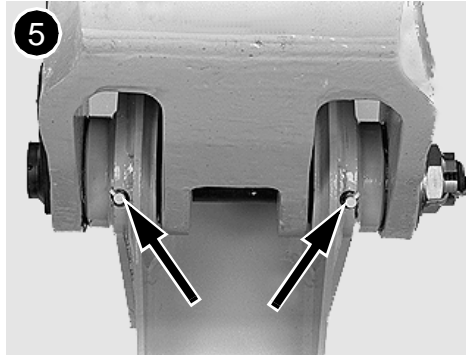
Every 10 hours



PH08111

Boom cylinder bottom pins (2)

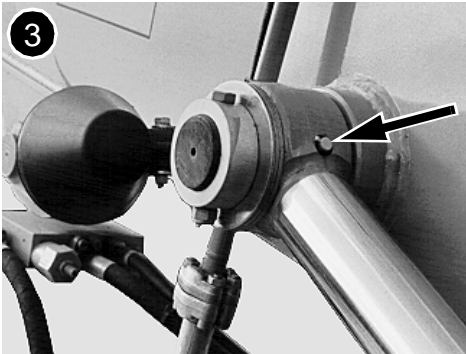
Every 10 hours



PG01909

Boom/dipper linkage (2)

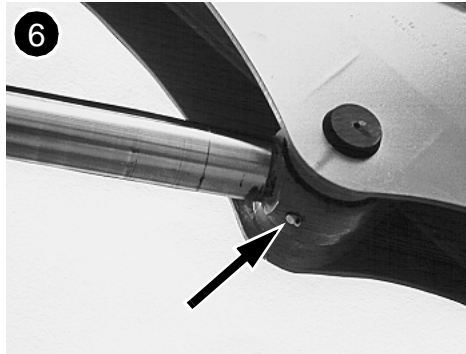
Every 10 hours



PH01125

Boom cylinder top pins (2)

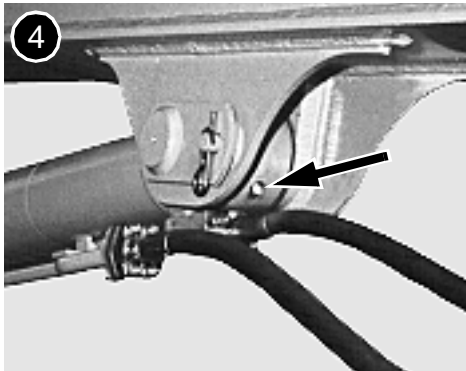
Every 10 hours



PH01127

Dipper cylinder top pin (1)

Every 10 hours



PH01126

Dipper cylinder bottom pin (1)

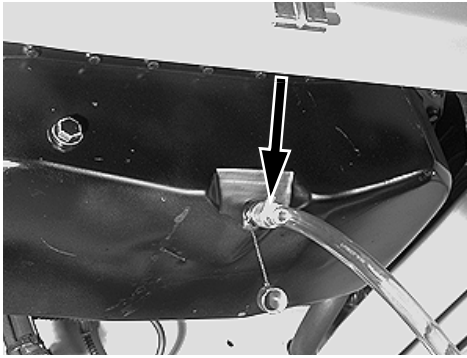
NOTE: The figures given in brackets show the number of grease points.

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RIGHT PAGE

STEP 3



PG03427

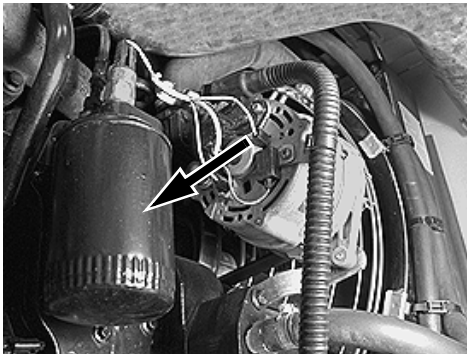
Screw the end of the extension drain hose, located in the tool box, onto the crankcase valve. Place the other end in a suitable receptacle and allow the oil to drain.

NOTE: Have a receptacle of a suitable capacity ready.

STEP 4

Remove the extension drain hose and install the protection cap on the crankcase drain valve. Place the extension drain hose in the tool box.

STEP 5



PG02909

Clean the area around the filter and remove using a filter wrench.

STEP 6

Apply clean oil to the seal on the new filter.

STEP 7

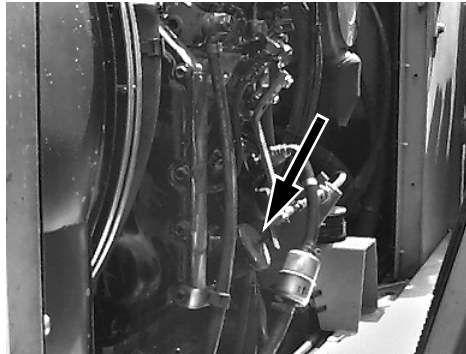
Install the new filter. Turn the filter until the seal comes into contact with the filter head and turn an extra half turn by hand to tighten.

IMPORTANT: Do not use the filter wrench to install the filter, as overtightening can damage the seal and the filter.

STEP 8

Install the center access panel.

**STEP 9
(788 series)**



CD98F009

Remove the filler plug located on the lower part of the engine. Fill the engine with new oil (11 liters) and install the plug.

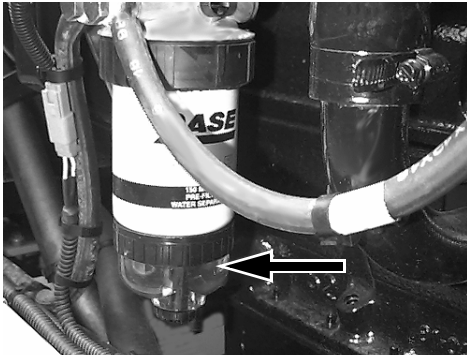
NOTE: In order to fill the engine more rapidly after draining the oil, use the filling orifice located in the lower part of the engine.

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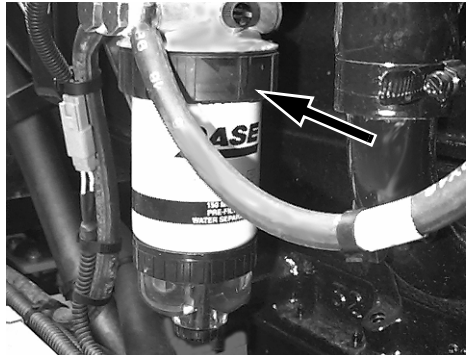
STEP 2



CD98G040

Clean the area around the sediment bowl and remove the bowl from the filter element by unscrewing it manually.

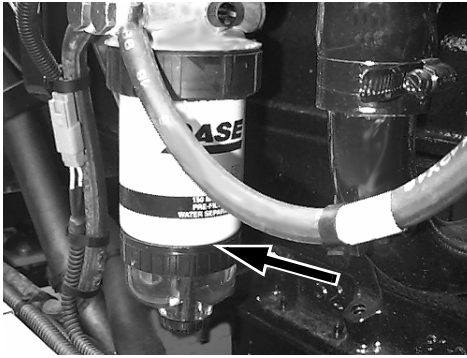
STEP 4



CD98G040

Remove any dust from the pre-cleaner head seal. Install the new filter element equipped with its bowl. Align the vertical mark with the bleed screw. Insert the filter element by exerting a light upward pressure. Turn the knurled bushing until it clicks into place.

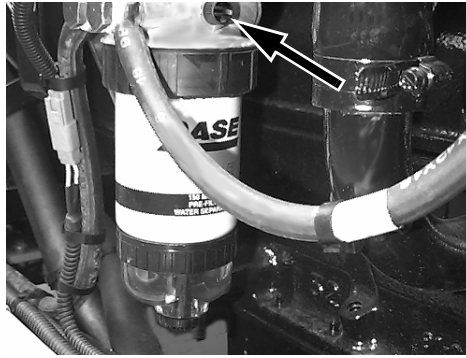
STEP 3



CD98G040

Remove the drain screw and its seal delivered with the new filter element. Check the condition of the sediment bowl seal, replace it if necessary, apply a thin coat of oil to the seal and install the sediment bowl back onto the new filter element, tightening by hand.

STEP 5



CD98G040

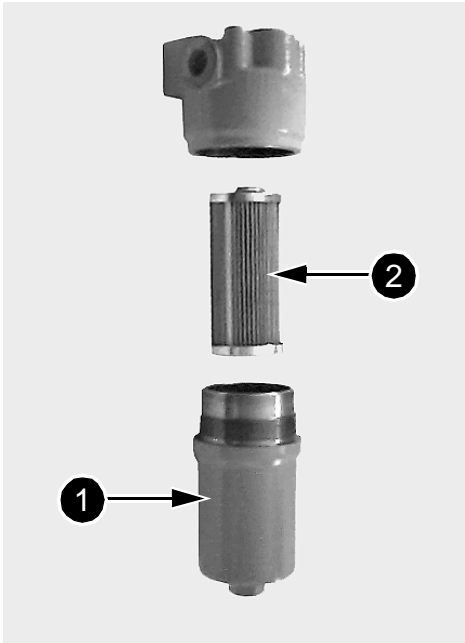
Unscrew the bleed screw a few turns.

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STEP 3



CD98F038

Loosen the casing (1) using the wrench, and remove the casing and the filter (2) manually.

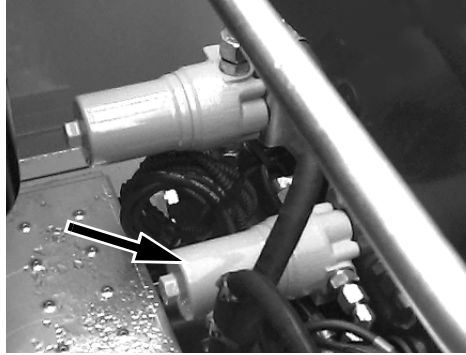
STEP 4

Clean the casing and install a new filter (1).

STEP 5

Manually tighten the casing as far as the stop and then loosen one quarter turn.

STEP 6



CD98G042

Repeat Steps 2 through 5 for the other filter.

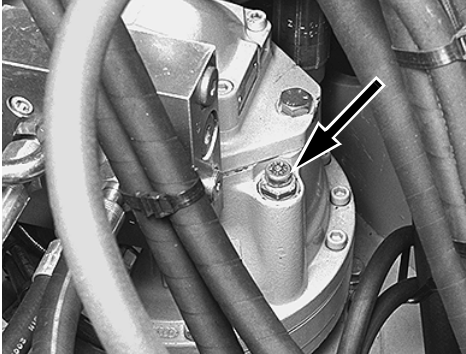
NOTE: After operating the machine, check that there are no leaks.

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RIGHT PAGE

STEP 6
(988 series)



PH07627

Fill with oil through the dipstick orifice to the correct level.

STEP 7

Install the dipstick.

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HEATING UNIT FILTER

Service specifications

Clean Every 250 hours

Cleaning

Tools required

- One 17 mm wrench for hexagonal head screws

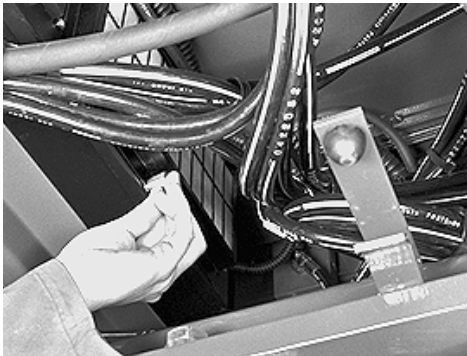
STEP 1



PG03004

Remove the screws and the lower tray under the operator's compartment.

STEP 2



PE07503

Unlock by turning the knob a quarter turn.

STEP 3



PE07506

Pull on the frame and remove the filter.

STEP 4

If the filter is dry, clean it with compressed air. If it is damaged, replace it.

NOTE: *Be sure to wear face protection when using compressed air.*

IMPORTANT: *The filter has different colored sides (red and white). The white side should face outward.*

STEP 5



PE07506

Install the filter and its frame.

TRIM THIS EDGE

STEP 8

Start the engine and retract the bucket cylinder rod. Rest the bucket on the ground so that the weight of the dipper is not on the tube.

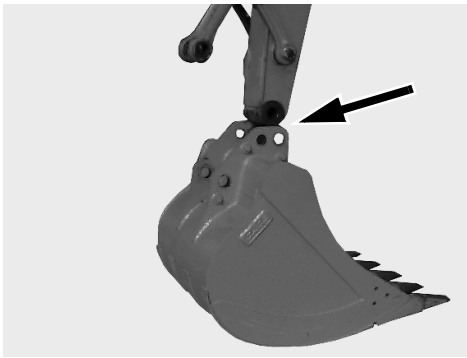
STEP 9

Stop the engine and remove the starter switch key.

STEP 10

Remove the tube.

STEP 11



Start the engine. Operate the attachment controls so as to disengage the dipper from the bucket.

Installation

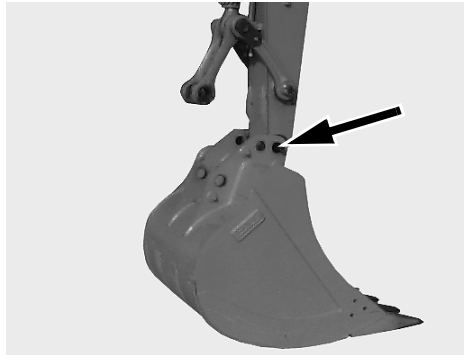
Tools required

- One hammer
- One tube (longer than the distance between the bucket lugs and strong enough to support the weight of the bucket).

STEP 1

Start the engine. Operate the attachment controls to bring the dipper into its housing. Then stop the engine and remove the starter switch key.

STEP 2



Place the tube in the dipper/bucket linkage axis.

STEP 3

Start the engine. Raise the attachment so that the bucket is hanging 20 cm above the ground.

TRIM THIS EDGE

STEP 7

Install the pin hardware (depending on type fitted).

STEP 8

Lubricate the linkage points.

**REPLACING A BACKHOE BUCKET BY A CLAMSHELL
(or vice-versa)**

Installing a clamshell

Tools required

- One 30 mm wrench for hexagonal head screws (**788 series**)
- One 8 mm wrench for hexagonal socket head screws (**988 series**)

STEP 1

Remove the backhoe bucket. See "Replacing a backhoe bucket".

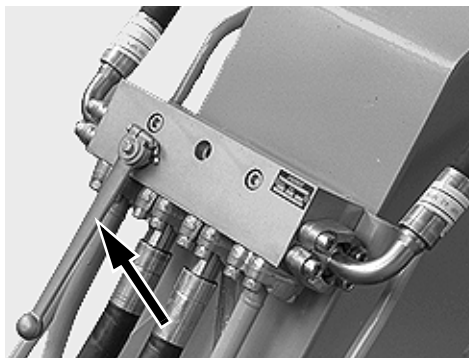
STEP 2

Retract the bucket cylinder rod completely. Stop the engine and remove the starter switch key.

STEP 3

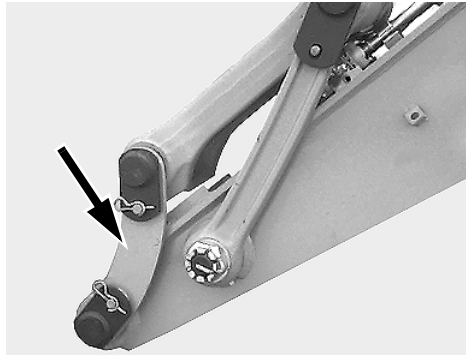
Remove the bucket/clamshell selector valve lever from the tool box and install it on the valve.

STEP 4



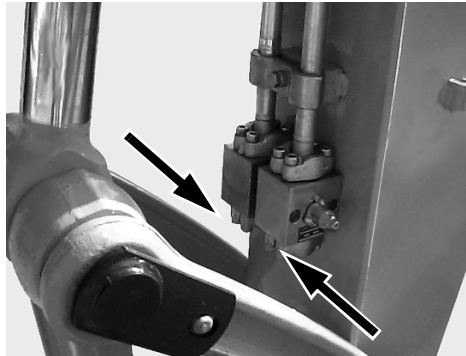
Turn the valve lever to the vertical closed position.

STEP 5



Install the connecting rod locking assembly.

STEP 6



Remove the clamshell supply line plugs.

STEP 7

Install the clamshell. See "Replacing a Clamshell and its universal coupling".

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SHIMMING OF ATTACHMENTS

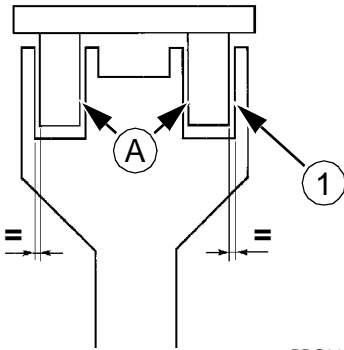
The purpose of shimming attachments is to reduce and spread lateral play in the linkages and to keep the various components correctly aligned. Play is defined as the extent of possible lateral movement between one component and another at their linkage point. Shimming is carried out using steel shimming washers.

IMPORTANT: *The minimum play for all linkage points should never be less than 0.5 mm.*

Shimming washers

	Part No. (1)	Part No. (2)	Part No. (3)
1 mm	L3145352	M3145353	N3145354
2 mm	L145347	H3145326.....	D745341
4 mm	U45443.....	-	L745440

Boom top/Dipper bottom



Measure the total play. If it is equal to or greater than 2 mm, insert washers (1) so as to obtain a minimum play of 0.5 mm.

NOTE: *Shimming must be symmetrical between the boom top and the dipper bottom.*

IMPORTANT: *Do not insert washers on the inner side of the dipper bottom (A).*

TRIM THIS EDGE

MAINTENANCE/ADJUSTMENTS

PROBLEM	POSSIBLE CAUSE	SOLUTION
Excess smoke under load.	Air in fuel system	Bleed the fuel system
	Clogged air filter	Clean, replace the filter elements
	Air leaks in turbocharger compressor	Repair air leak
	Operating temperature too low	Check the thermostat and cooling system
	Incorrect injection pump timing	<i>Consult your CASE Dealer</i>
	Faulty injectors	
	Turbocharger defective	
	Engine begins to stall under load. Problem with electronic power regulation	

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ELECTRONIC CONTROL BOX



WARNING: Before welding on the machine (as authorized by the manufacturer and in accordance with his instructions) or repairing the electrical system, disconnect the batteries, the B+ and D+ alternator wires and remove the electronic control box. Correctly identify the wires before reconnecting them.

IMPORTANT: Never perform any operation on the electronic control box other than removing it when welding on the machine.

Removal

Tools required

- One 10 mm wrench for hexagonal head screws

STEP 1



PH08225

Remove the two screws.

STEP 2



PH08233

Using the handle, dislodge the electronic control box from its housing, then push on the tab to disengage the electrical connector.

Installation

Tools required

- One 10 mm wrench for hexagonal head screws

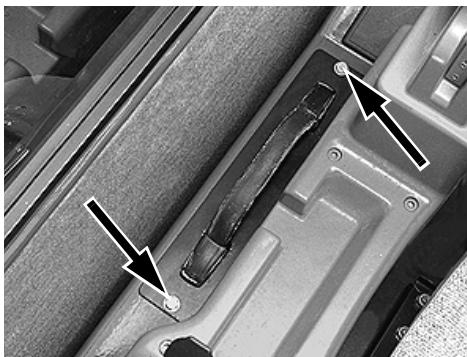
STEP 1



PH08233

Connect the electrical connector to the electronic control box.

STEP 2



PH08225

Install the two screws.

TRIM THIS EDGE

Periodic checks

Every month, check the following:

1. The battery charge.
2. The lubrication of the cylinder rods.
3. The level of fuel in the fuel tank and of anticorrosive oil in the engine. Add as necessary.
4. The condition of the lines and hoses, clamps and connectors (for rust). Lubricate if necessary.
5. The condition of the paint. Apply a new coat of antirust product if necessary.

Starting up after storage

1. Lubricate the machine at all grease points.
2. Install all previously removed components.
3. Unplug the air filter intake and the exhaust pipe outlet.
4. Drain the storage oil.
5. Replace the oil filters and fuel filters.
6. Fill the engine crankcase with oil.
7. Drain the fuel tank and fill with clean diesel fuel.
8. Clean the cylinder rods.
9. Check the condition of the tires and the tire pressure.
10. Start the engine.



WARNING: Check the machine for leaks and make sure that there are no broken, faulty or missing parts.



WARNING: Before starting the engine, make sure that all controls are in the neutral position. This will prevent any sudden machine movement or any electrically operated equipment from starting up.



WARNING: Avoid running the engine in an enclosed area. Always make sure there is adequate ventilation.

TRIM THIS EDGE

Machine weights (continued)

(988 series)						
Boom	Dipper	Version				
		P	PL	P2A	P2AL	P2A+2A
Monoblock	1.60 m	15,155	15,815	16,505	17,170	17,860
	2.10 m	15,200	15,860	16,550	17,215	17,905
	2.70 m	15,320	15,985	16,675	17,335	18,025
	3.10 m	15,355	16,020	16,710	17,370	18,060
Offset backhoe	1.60 m	15,620	16,285	16,975	17,635	18,325
	2.10 m	15,670	16,330	17,020	17,680	18,370
Articulated	1.60 m	15,750	16,410	17,100	17,760	18,450
	2.10 m	15,795	16,455	17,145	17,810	18,500
	2.70 m	15,915	16,580	17,270	17,930	18,620
	3.10 m	15,950	16,615	17,305	17,965	18,655

NOTE: These values are given in kg, with a 760 L backhoe bucket (575 kg) and 4 wheel configuration: 18-19.5XF (for 8 wheel configuration: 10.00x20, add 400 kg).

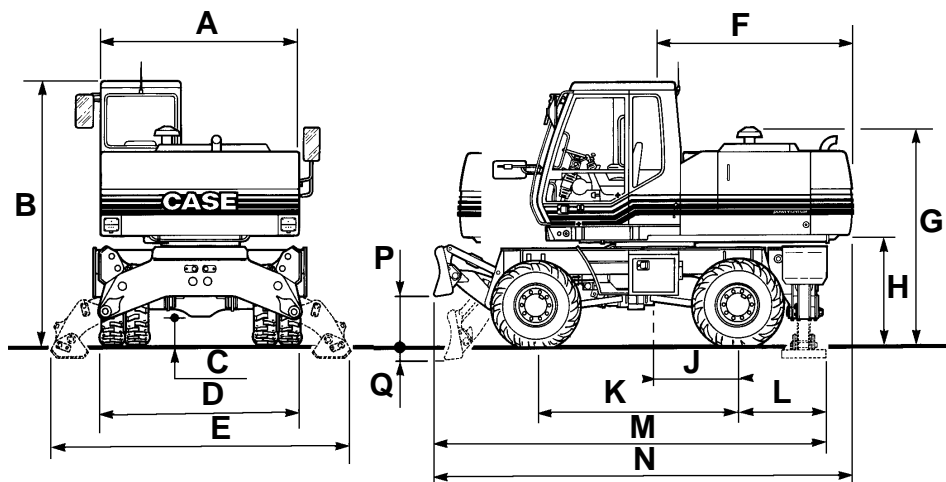
(988 series)						
Boom	Dipper	Version				
		P	PL	P2A	P2AL	P2A+2A
Handling	4.50 m	14,685	15,350	16,040	16,700	17,390

NOTE: These values are given in kg, with a 4 wheel configuration: 18-19.5XF (for 8 wheel configuration: 10.00x20, add 400 kg).

NOTE: For excavators in Germany and Italy, subtract 640 kg.

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P2AL Version



CS95N245

	(788 series)	(988 series)
A.....	2.44 m.....	2.44 m.....
B.....	3.23 m.....	3.26 m.....
C.....	0.34 m.....	0.33 m.....
D.....	2.49 m.....	2.49 m.....
E.....	3.70 m.....	3.71 m.....
F (radius).....	2.05 m.....	2.45 m.....
G.....	2.54 m.....	2.69 m.....
H.....	1.26 m.....	1.27 m.....
J.....	0.95 m.....	1.13 m.....
K.....	2.30 m.....	2.60 m.....
L.....	1.07 m.....	1.08 m.....
M.....	4.69 m.....	5.01 m.....
N.....	4.72 m.....	5.25 m.....
P.....	0.52 m.....	0.49 m.....
Q.....	0.18 m.....	0.18 m.....

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RIGHT PAGE

P2AL and P2A+2A Versions

Boom	Dipper	A	B
Monoblock	1.50 m	2.85	7.85
	2.10 m	3.10	7.60
	2.65 m	3.25	7.55
Adjustable	1.50 m	3.60	6.90
	2.10 m	3.80	6.85
	2.65 m	3.90	6.50
Offset backhoe	1.50 m	2.90	7.85
	2.10 m	3.10	7.65
	2.65 m	3.45	7.55
Articulated	1.50 m	3.05	7.80
	2.10 m	3.10	7.65
	2.65 m	3.30	7.55

(988 series)

P - PL and P2A Versions

Boom	Dipper	A	B
Monoblock	1.60 m	3.05	9.45
	2.10 m	3.10	9.05
	2.70 m	3.40	9.05
	3.10 m	3.65	9.00
Offset backhoe	1.60 m	3.15	9.05
	2.10 m	3.15	8.65
Articulated	1.60 m	3.35	9.20
	2.10 m	3.30	8.80
	2.70 m	3.40	8.85
	3.10 m	3.50	8.80
Handling	4.50 m	2.70	9.60

NOTE: *These values are given in meters.*

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SPECIFICATIONS

Material density handling table (Clamshell attachment) (788 series) (continued)

Booms	Dippers	Version	Clamshells			
			250 L	400 L	550 L	800 L
Monoblock	2.10 m	P		2.9	2.1	1.3
		PL			2.5	1.6
		P2A				2.1
		P2AL				2.9
	2.65 m	P		2.5	1.8	1.1
		PL			2.1	1.4
		P2A			2.8	1.8
		P2AL				2.3
Adjustable	2.10 m	P		2.7	2	1.3
		PL			2.4	1.5
		P2A				2.1
		P2AL				2.9
	2.65 m	P		2.4	1.7	1.1
		PL		2.9	2.1	1.3
		P2A			2.8	1.8
		P2AL				2.4
Articulated	2.10 m	P		2.6	1.8	1.2
		PL			2.2	1.4
		P2A				1.9
		P2AL				2.7
	2.65 m	P		2.2	1.6	1
		PL		2.7	1.9	1.2
		P2A			2.6	1.7
		P2AL				2.3

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