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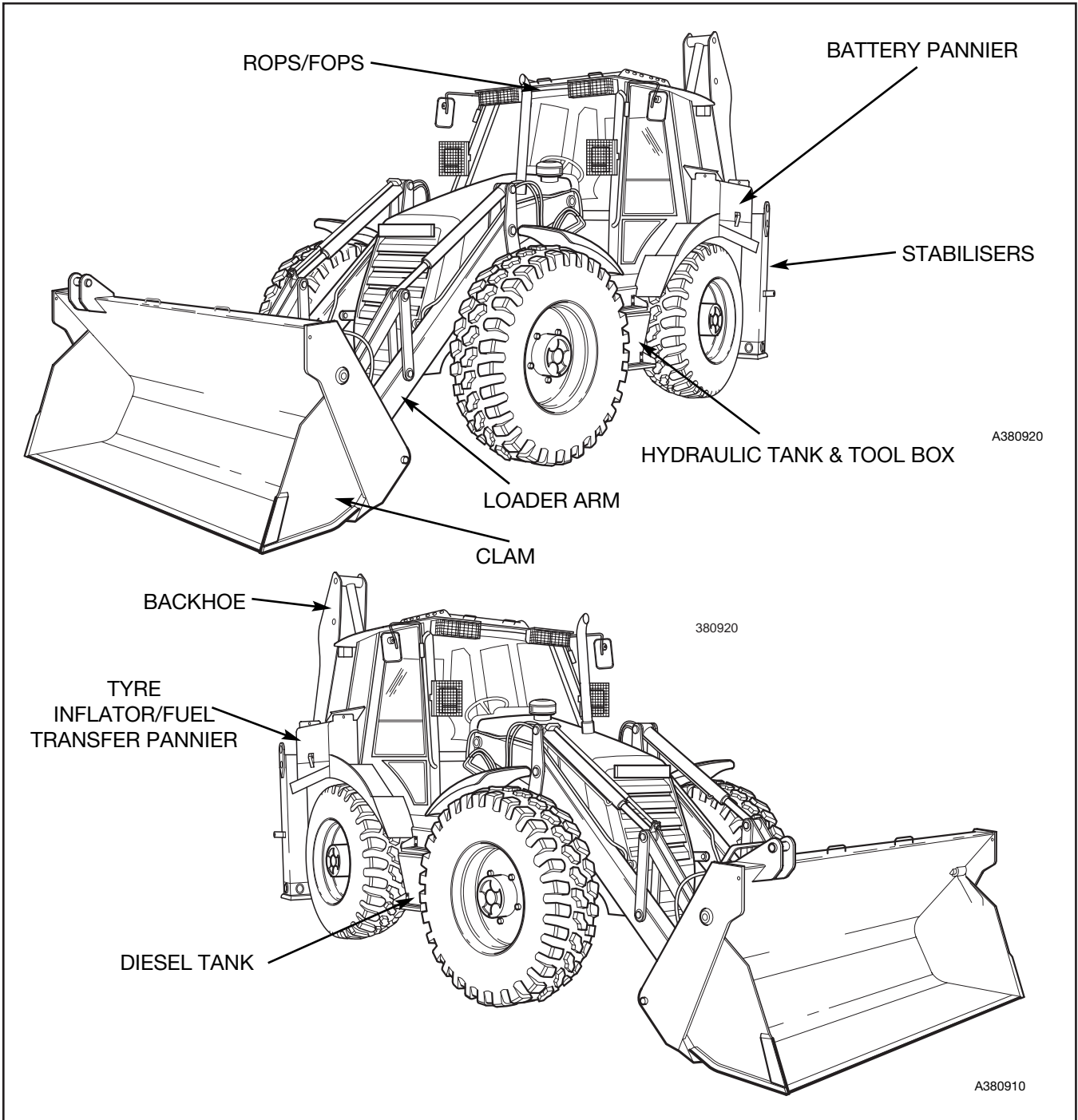
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THE JCB BACKHOE LOADER

Machine Description

The backhoe loader is a self propelled wheeled machine with a main structural support designed to carry both a front mounted bucket loading mechanism and a rear mounted backhoe. When used in the backhoe mode, the machine normally digs below ground level with bucket motion towards the machine; the backhoe lifts, swings and discharges material while the machine is stationary. When used in the loader mode, the machine loads or excavates through forward motion of the machine, and lifts, transports and discharges material.



LOADER ARM SAFETY STRUT

Installing

Install the loader arm safety strut as detailed below before working underneath raised loader arms.

⚠ WARNING

Raised loader arms can drop suddenly and cause serious injury. Before working under raised loader arms, fit the loader arm safety strut.

2-1-1-6

1 Empty the Shovel and Raise the Loader Arms fully.

2 Stop the Engine

Remove the starter key.

⚠ WARNING

You could be killed or injured if the loader control is accidentally operated. Make sure no-one comes near the machine while you release the safety strut.

2-3-1-2

3 Release the Strut

- a Release fastener **A**.
- b Remove strut **C** from its stowage bracket.

4 Install the Strut

- a Push strut **C** over the ram piston rod.
- b Secure the strut in position with strap **B**.

5 Lower the Strut Onto the Cylinder

To prevent any chance of the loader arms creeping down and trapping your fingers, the loader arms should be carefully lowered onto the safety strut as shown.

Start the engine and slowly lower the loader arms onto the safety strut, stop the movement immediately the weight of the loader arms is supported by the safety strut.

Note: When lowering the loader, operate the control lever carefully. 'Feather' the lever to lower the loader very slowly.

Removing

1 Fully Raise the Loader Arms

To take the weight off the safety strut.

2 Stop the Engine

Remove the starter key.

⚠ WARNING

You could be killed or injured if the loader control is accidentally operated. Make sure no one comes near the machine while you remove the safety strut.

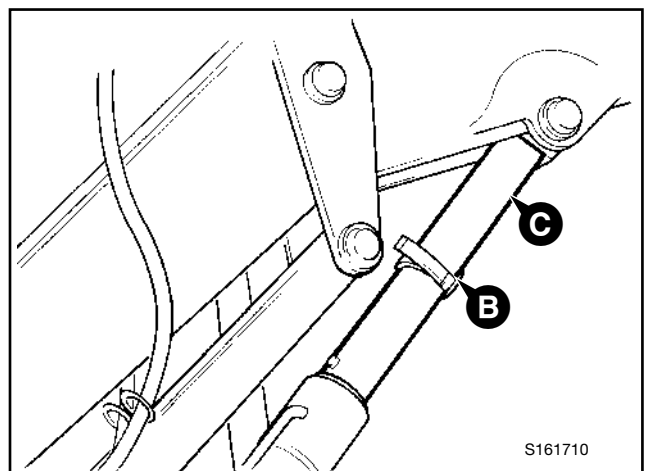
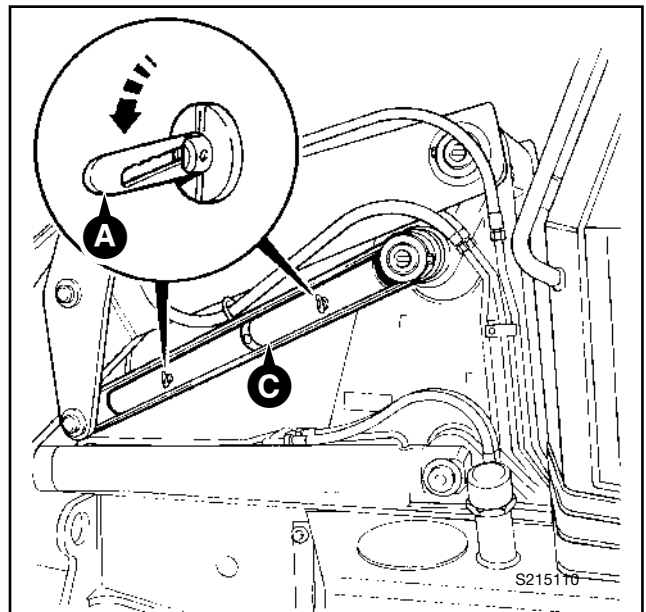
2-3-1-3

3 Remove the Strut

- a Undo the strap **B**.
- b Remove the strut **C** from the ram piston rod.

4 Stow the Strut

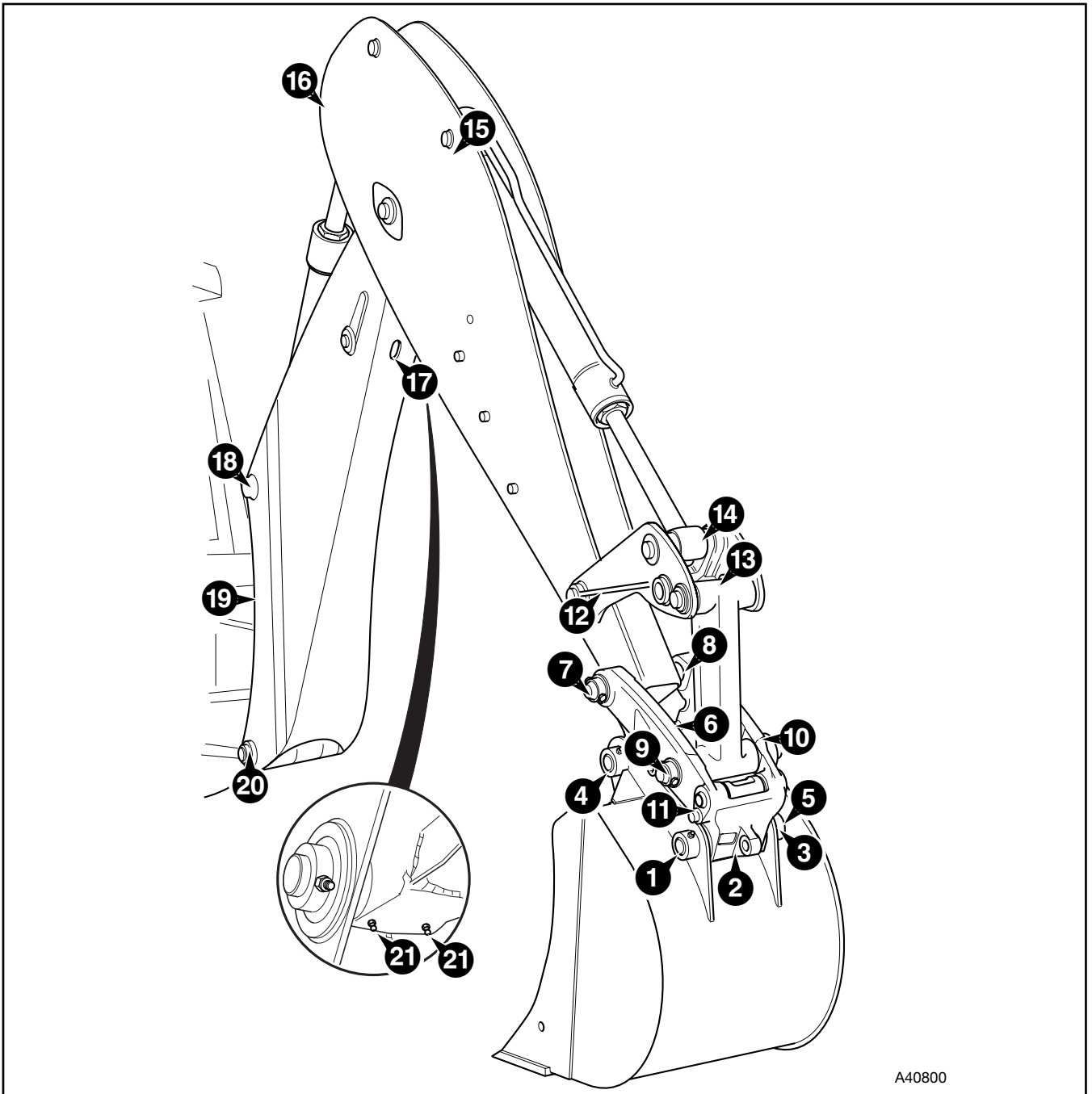
Secure the strut in its stowage position with fastener **A**.



**GREASING
(continued)**

Backhoe & Quick Hitch

22 Grease Points



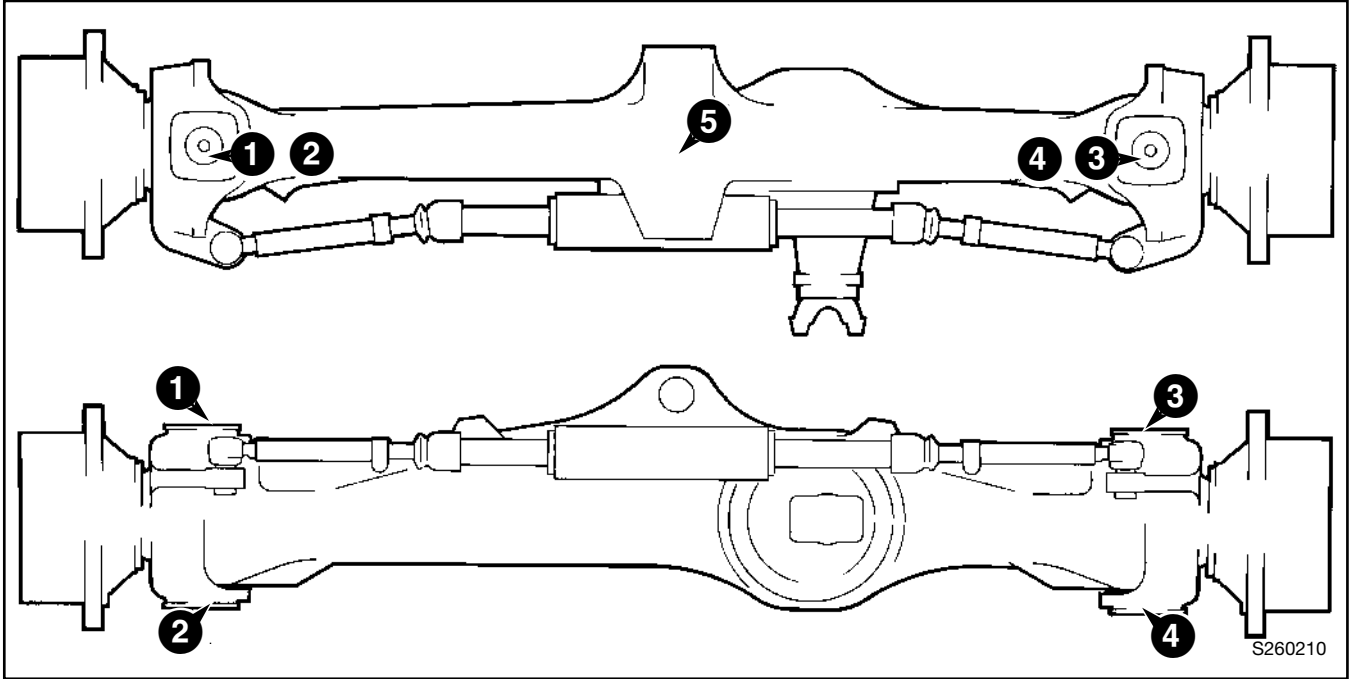
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GREASING (continued)

Front Axle

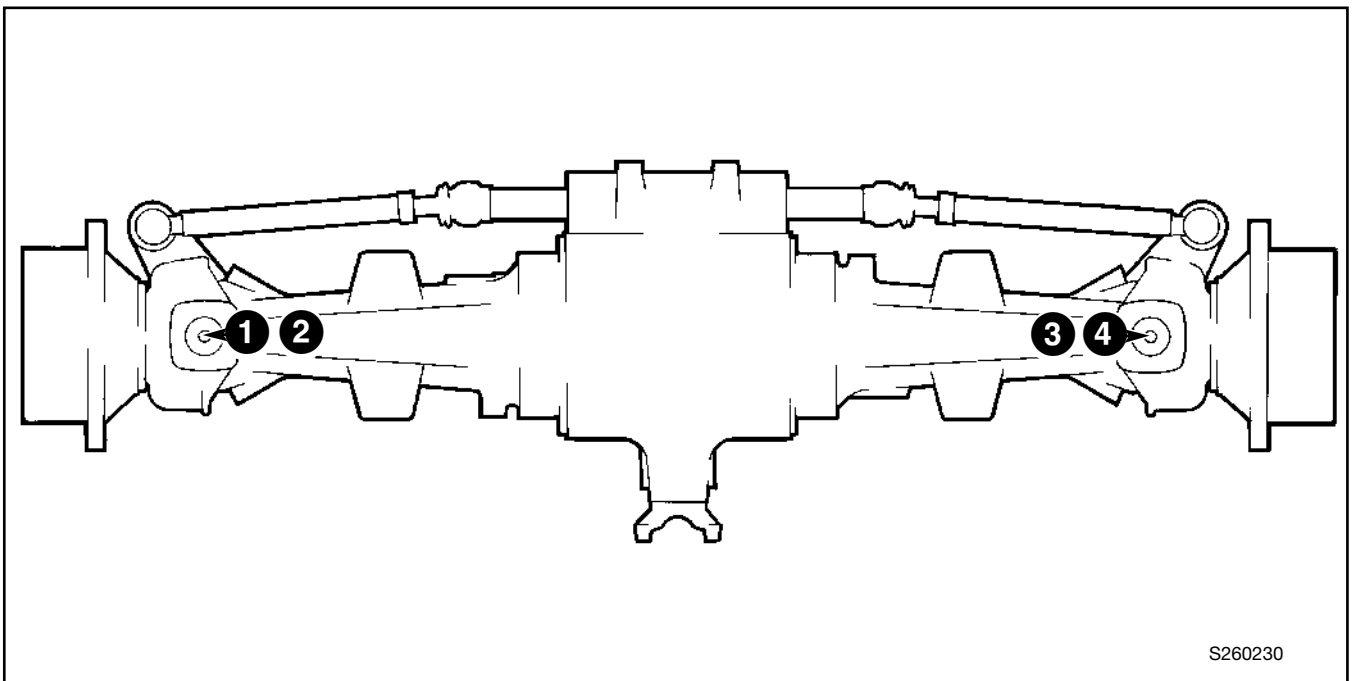
9 Grease Points

Note: Grease point 5 is a remote grease point mounted on the side of the mainframe chassis (near the left front wheel).



Rear Axle

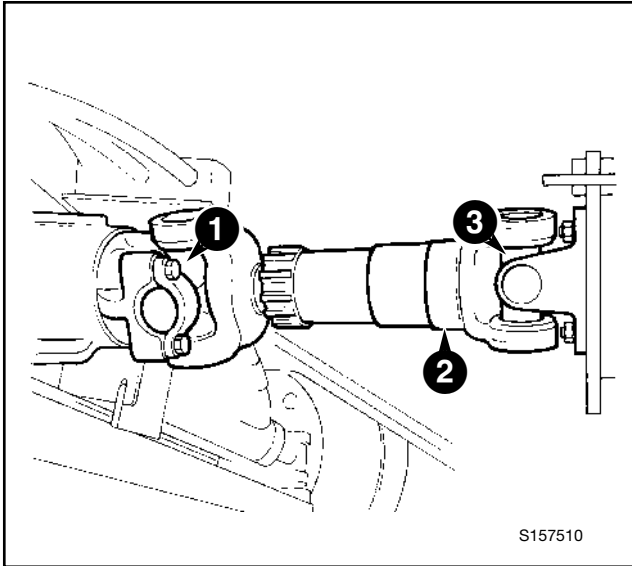
4 Grease Points



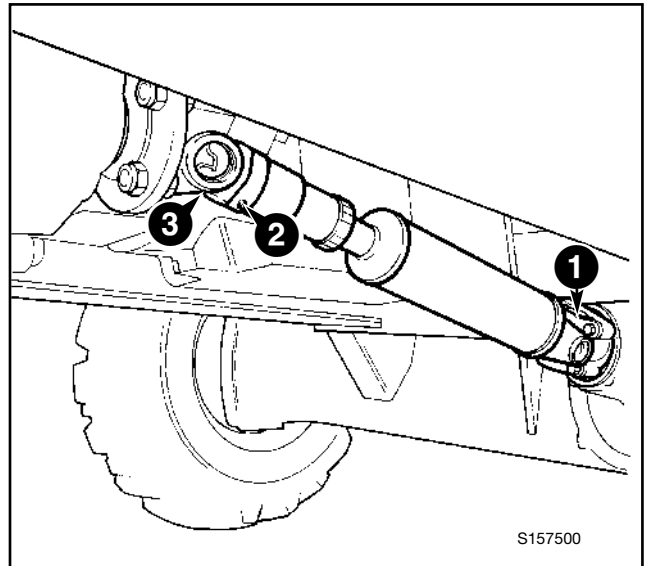
GREASING (continued)

Driveshafts

Rear Driveshaft 3 Grease Points

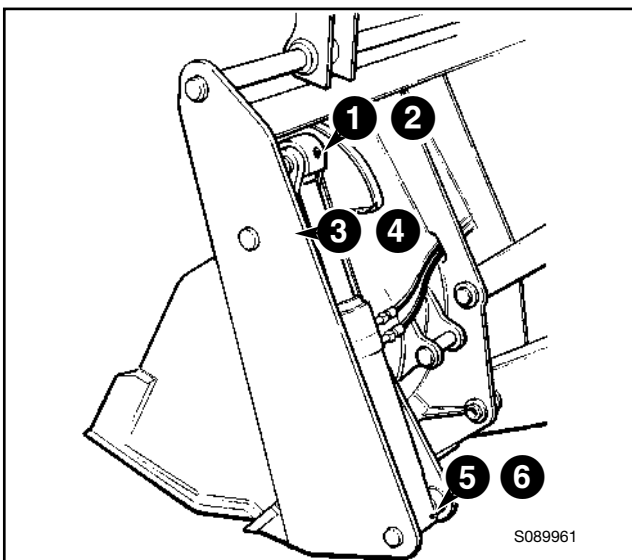


Front Driveshaft 3 Grease Points



Multi-Purpose Shovel

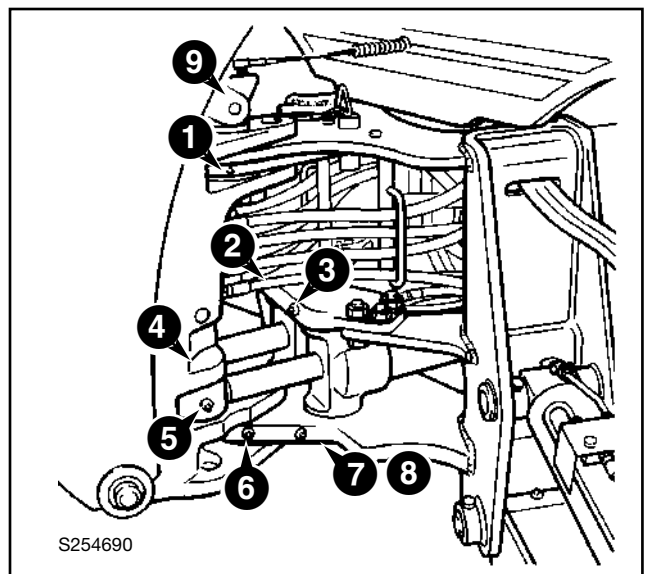
3 grease points each end - Total 6 Grease Points



Kingpost

9 Grease Points

Note: Figure shows a centremount kingpost, greasing is same for sideshift kingpost.



BRAKES

Parking Brake Adjustment

If you are not confident or technically qualified to carry out this procedure, contact your JCB Dealer.

CAUTION

The parking brake must not be used to slow the machine from travelling speed, except in an emergency, otherwise the efficiency of the brake will be reduced.

Whenever the parking brake has been used in an emergency, always renew both brake pads.

4-2-1-1/2

WARNING

Before adjusting the parking brake, make sure that the machine is on level ground. Put chocks each side of all four wheels. Disconnect the battery so that the engine cannot be started. If you do not take these precautions the machine could run over you.

2-3-2-4

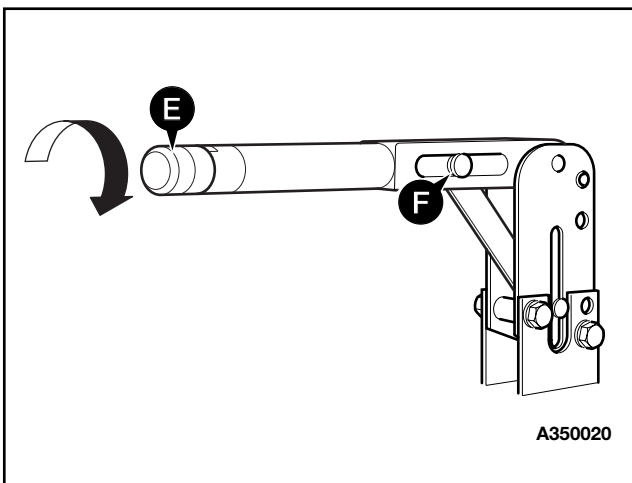
The parking brake should be fully engaged when the lever is vertical. The parking brake indicator light should light when the brake is engaged with the forward/reverse lever away from neutral (starter switch at IGN).

WARNING

Over adjustment of the parking brake could result in the parking brake not fully releasing

0011

- 1 Disengage the parking brake (lever horizontal).
- 2 Turn handle grip **E** clockwise, half a turn.
- 3 Test the parking brake, see **Testing the Parking Brake** in *OPERATION* Section.
- 4 If the brake fails the test, repeat steps 2 and 3. If there is no more adjustment and pin **F** is at the end of its travel get the brake checked by your JCB Dealer.



Checking the Foot Brake Fluid Level

WARNING

Faulty brakes can kill. If you have to add oil to the brake reservoir regularly get the brake system checked by your JCB Dealer. Do not use the machine until the fault has been put right.

2-3-2-5

- 1 Park the machine on firm level ground, engage the parking brake and set the transmission to neutral. Raise and chock the loader arms. Lower the backhoe to the ground and stop the engine.
- 2 Remove the reservoir cap **A** and check the level. The MAX and MIN marks are marked on the side of the reservoir **B**. If necessary, add fluid as in Step 3.

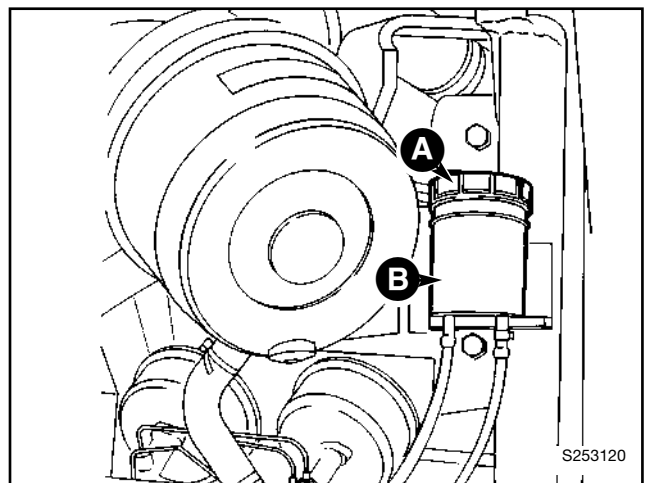
If the level has fallen below the MIN mark, get the system checked by your JCB Dealer.

WARNING

Using incorrect brake fluid could damage the system. See **Service Capacities and Lubricants** in **MAINTENANCE** Section. The fluid can harm your skin. Wear rubber gloves. Cover cuts and grazes.

4-3-2-3

- 3 If required, carefully pour the recommended fluid (DO NOT USE ORDINARY BRAKE FLUID) until it reaches the correct level.
- 4 Refit the reservoir cap. Wipe up any spillage.



ENGINE COOLING SYSTEM

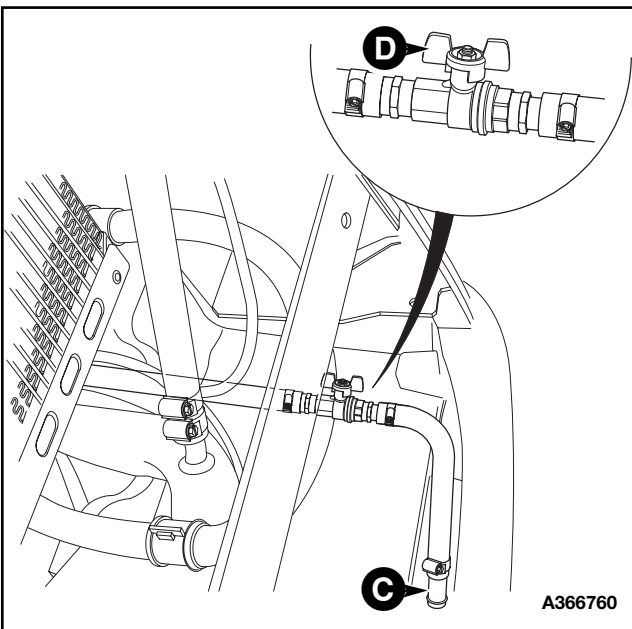
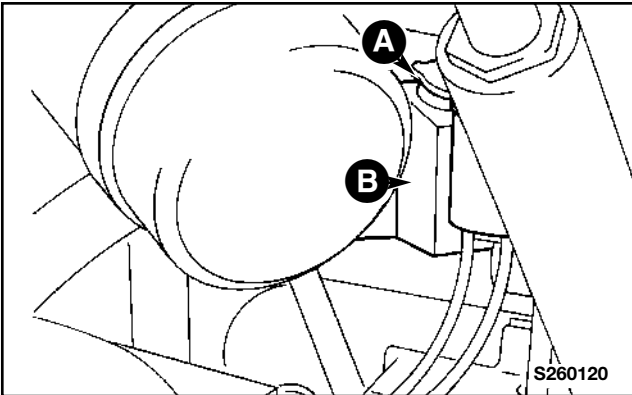
Checking the Coolant

⚠ WARNING

The cooling system is pressurised when the coolant is hot. Hot coolant will burn you. Make sure the engine is cool before checking the coolant level or draining the system.

2-3-3-3

- 1 Park the machine on level ground. Engage the parking brake. Stop the engine and let it cool down.
- 2 The coolant level should be between the COLD/MIN and the HOT/MAX marks on coolant reservoir **B**. Fill with pre-mixed water/antifreeze if necessary.



Changing the Coolant

⚠ WARNING

The cooling system is pressurised when the coolant is hot. Hot coolant will burn you. Make sure the engine is cool before checking the coolant level or draining the system.

2-3-3-3

- 1 Park the machine on level ground. Engage the parking brake. Stop the engine and let it cool down.
- 2 Carefully loosen cap **A**. Let any pressure escape. Remove the cap.

⚠ CAUTION

Keep your face away from the drain hole when removing the drain plug.

2-3-3-4

- 3 Attach a drain tube to drain extension **C**. With the free end of the tube in a container, open the drain valve **D**.
- 4 When all the coolant has drained, flush the system using clean water.
- 5 Shut the drain valve **D** and remove drain tube.
- 6 Use the necessary mix of clean, soft water and antifreeze. See **Coolant Mixtures** (MAINTENANCE section). Fill to the COLD/MIN level on coolant reservoir **B**.
- 7 Start the engine and run at idle to circulate the coolant, top up with coolant as necessary.
- 8 Refit the filler cap. Make sure it is tight.
- 9 Run the engine for a while, to raise the coolant to working temperature and pressure. Stop the engine. Check for leaks.

Note: Make sure the cab heater control is in the hot position. This will ensure the coolant mixture circulates through the entire cooling system.

ENGINE COOLING SYSTEM (continued)

Adjusting the Fan Belt

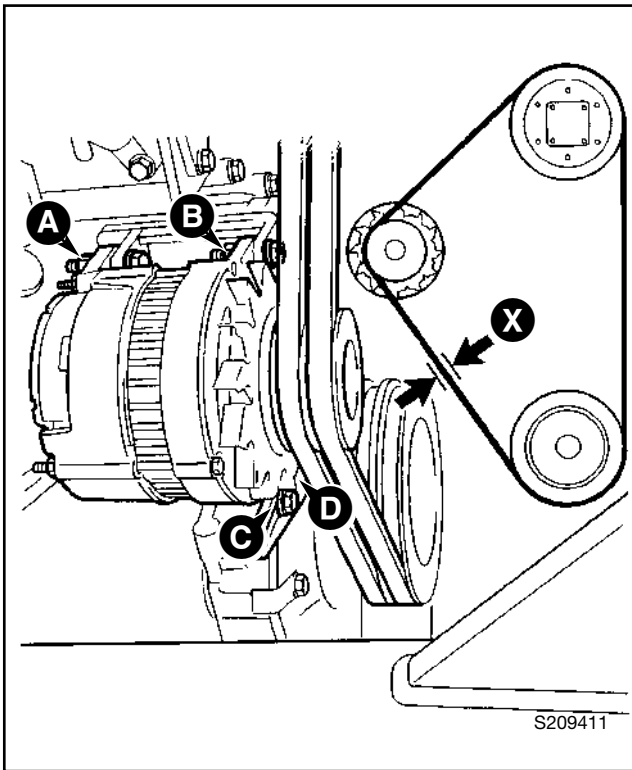
WARNING

Make sure the engine cannot be started. Disconnect the battery before doing this job.

2-3-3-5

- 1 Park the machine on firm level ground, engage the parking brake and set the transmission to neutral. Raise and block the loader arms. Lower the backhoe to the ground and stop the engine.
- 2 Loosen pivot fastening bolts **A** and **B**. Loosen adjustment link fastening bolts **C** and **D**.
- 3 Position the alternator so that there is 10 mm (3/8 in) slack at point **X**.
- 4 Tighten bolts **C** and **D**, then bolts **A** and **B**.

Note: If a new belt is fitted, the belt tension must be checked again after the first 20 hours of operation.

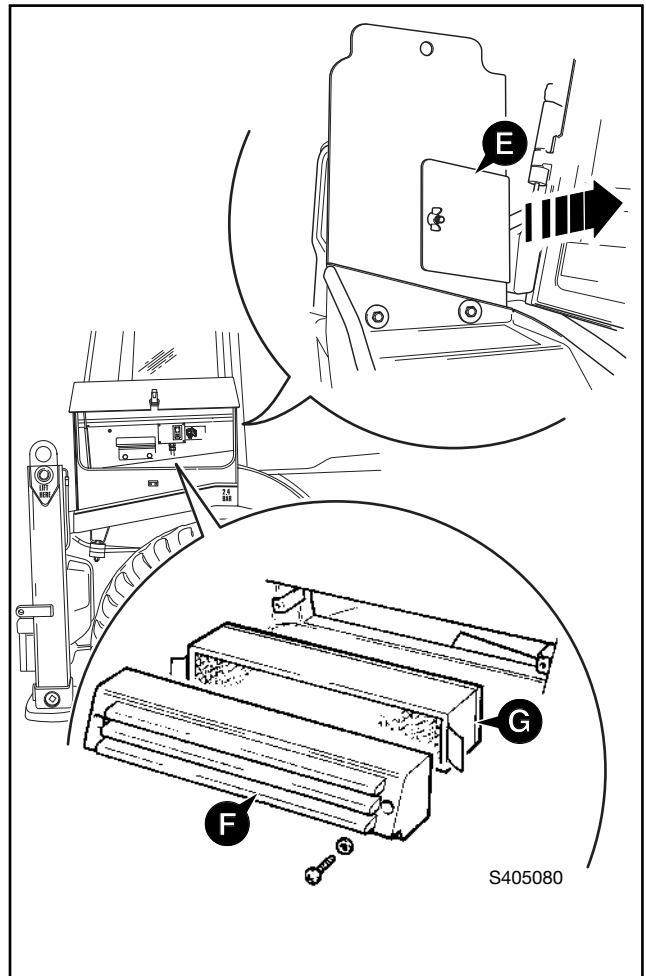


Cleaning the Cab Heater Filter

- 1 Park the machine on firm level ground, engage the parking brake and set the transmission to neutral. Lower the attachments to the ground and stop the engine.
- 2 Remove the panel retaining screw and then remove the panel **E**.
- 3 Remove the filter cover retaining screws and then remove the filter cover **F**.
- 4 Knock loose dust off the filter **G**. Carefully blow compressed air through all the folds of the filter, blow in the opposite direction to the arrows marked on the filter.

Note: The compressed air must be set at a pressure no greater than 7 bar (100 lb/in²).

- 5 Refit the filter cover **F** and panel **E**, secure with the retaining screw.



BACKHOE QUICK-HITCH (MECHANICAL TYPE) (continued)

Removing Backhoe Quick-Hitch Attachments

- 1 Park the machine on firm level ground. Engage the parking brake and set the transmission to neutral.
- 2 Position the attachment so that it is approximately 150 mm (6 inches) from the ground, as shown at **G**.
- 3 If the attachment is hydraulically operated, disconnect the hydraulic hose(s) as follows:

WARNING

Fine jets of hydraulic fluid at high pressure can penetrate the skin. Do not use your fingers to check for hydraulic fluid leaks. Do not put your face close to suspected leaks. Hold a piece of cardboard close to suspected leaks and then inspect the cardboard for signs of hydraulic fluid. If hydraulic fluid penetrates your skin, get medical help immediately.

INT-3-1-10/1

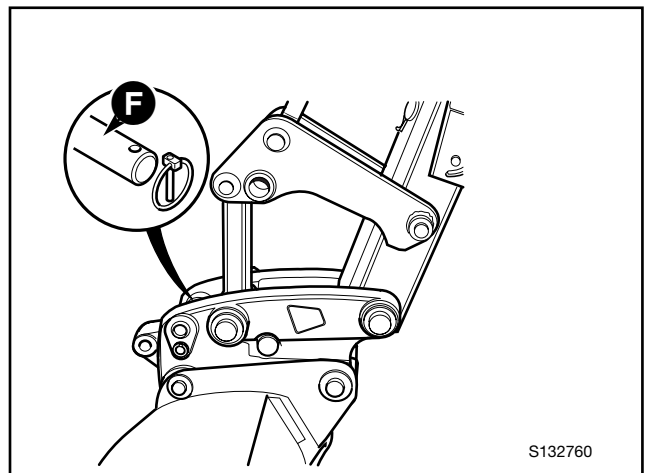
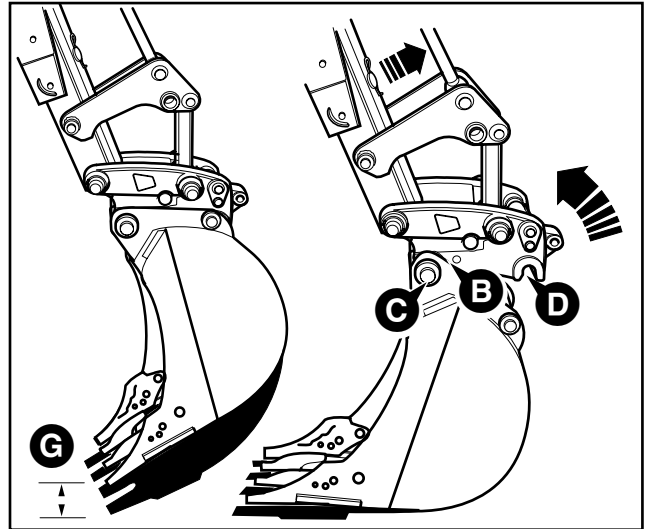
- a Stop the engine.
 - b Operate the auxiliary control footpedal, this will release any hydraulic pressure trapped in the system.
 - c Disconnect the hydraulic hose(s).
- 4 Disengage the attachment:
 - a Remove the latch hook locking pin **F**.
 - b Insert a bar into the hole of the latch hook **H**.

WARNING

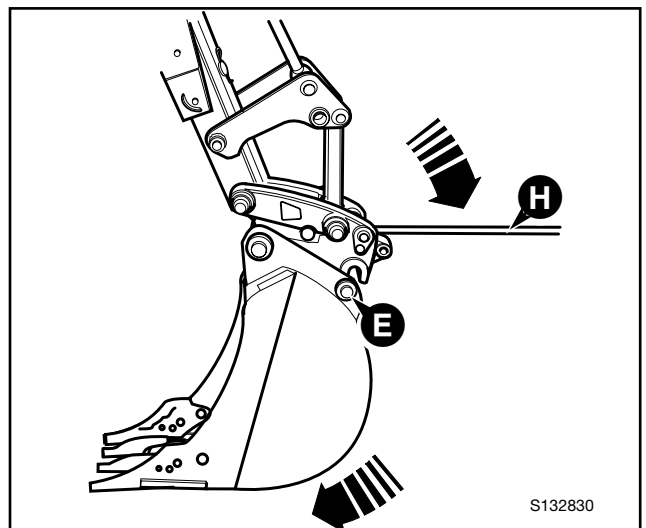
The attachment will roll forward when released. Stand clear and to one side when releasing the attachment.

2-4-4-1

- c Apply a downward pressure on the bar to release the pivot pin **E** from the latch hook.
- d Rest the attachment on the ground.
- e Slowly roll the quick-hitch and raise the dipper arm simultaneously to release slot **B** from pivot pin **C**.



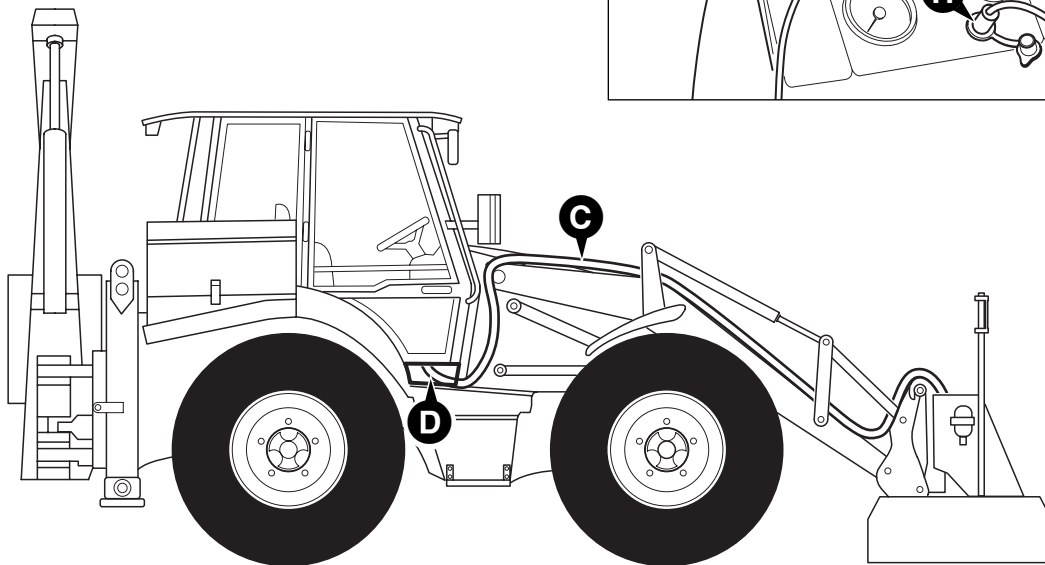
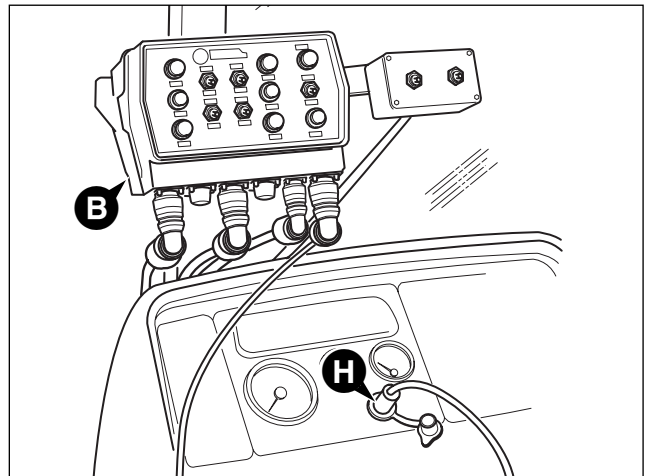
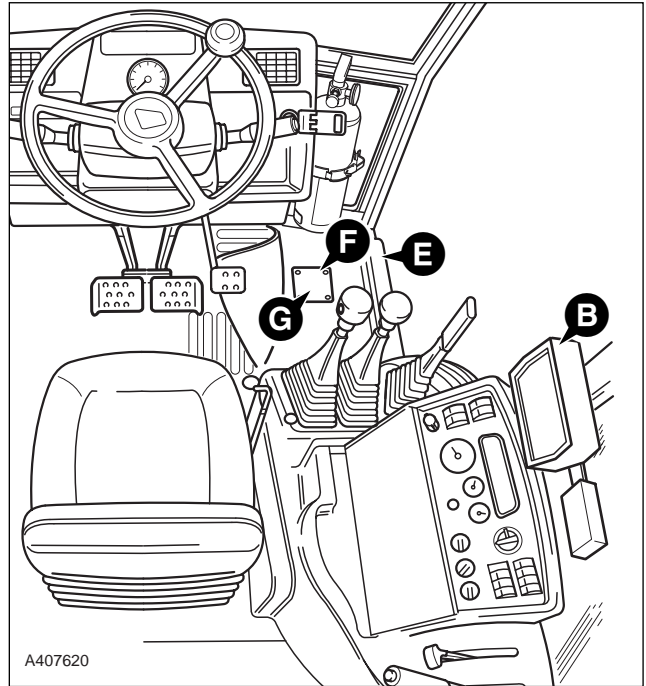
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LASER LEVELLING EQUIPMENT (continued)

- 4 Prepare to route the leveller electrical cable **C** into the cab as follows; Remove the plastic cover **D**. Remove the silver kick strip **E**. Fold back the floor mat to reveal the cover plate **F**. Undo the securing screws and remove the cover.
- 5 Route the leveller electrical cable **C** along the loader arm and inside the cab through the cab floor at position **G**. Route the cable to the control panels **B**. Couple the various connectors as shown in the applicable laser leveller documents. Tie the cable **C** at intervals to the loader arm, make sure it cannot be trapped in the linkages. Make sure that the cable in the cab is routed clear of the machine controls.
- 6 Couple the power cable to the auxiliary electrical socket **H**.



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