⚠ WARNING

Study This Manual Before Starting The Machine

You must understand and follow the instructions in this manual. You must observe all relevant laws and regulations. If you are unsure about anything, ask your JCB distributor or employer. Do not guess, you or others could be killed or seriously injured.

INT-1-1-1

⚠ CAUTION

Do not fit an attachment to this machine which is not JCB approved. Consult your JCB distributor before fitting any non approved attachment.

8-4-1-6

In this manual and on the machine, there are safety notices. Each notice starts with a signal word. The signal word meanings are given below.

⚠ DANGER

Denotes an extreme hazard exists. If proper precautions are not taken, it is highly probable that the operator (or others) could be killed or seriously injured.

INT-1-2-1

⚠ WARNING

Denotes a hazard exists. If proper precautions are not taken, the operator (or others) could be killed or seriously injured.

INT-1-2-2

⚠ CAUTION

Denotes a reminder of safety practices. Failure to follow these safety practices could result in injury to the operator (or others) and possible damage to the machine.

INT-1-2-3

CALIFORNIA

Proposition 65 Warning

⚠ WARNING

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects and other reproductive harm.

⚠ WARNING

Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. WASH HANDS AFTER HANDLING.

0013

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

Introduction

Page

About this Manual
Machine model and serial number 1
Using this Manual 1
Units of measurement 1
Page numbering 1
Left side/right side 1
Using the machine 1
Cab/Canopy 1

The JCB Backhoe Loader 2

Safety check list ..... 3 - 6
General safety 3
Operating safety 4
Maintenance safety ..... 5 - 6

Safety decals ..... 7 - 8

Identifying your machine
Machine identification plate 9
Typical vehicle identification number 9
Typical engine identification number 9
Serial plates 10

Operation

Introduction 21

Before entering the cab 21

Entering/leaving the cab 22

Doors and windows
Opening and closing the doors 23
Opening and closing the side windows 23
Opening and closing the rear window 24

Seat controls 25

Seat belt
Fasten the seat belt 27
Check the seat belt is operating correctly 27
Release the seat belt 27

Engine and drive controls, switches and instruments
Layout 28
Controls 29-31
Multi-purpose steering column switch 32
Backhoe Mode Switch and Reset Button 33
Front console switches 34
Side console switches 34
2/4 wheel drive select switch 35
Steer mode selector switch 36
Re-phasing the steer system 36
Starter switch 37
Steering-wheel tilt adjustment 37
Removing/installing the radio 38
Cab interior light 38
Face level fan (if fitted) 38
Instruments 39-40

Page

Air conditioning and heater controls 41

Loader controls
Standard bucket 42
Hydraulic speed control (If Fitted) 42
Loader bucket 43-44
Bucket level indicator 45
Multipurpose loader bucket 45

Stabilizer controls
Lever controls 46

Backhoe controls
SAE Plus ('+') pattern 47-49
ISO Excavator pattern 50-51
Backhoe attachment control (if fitted) 53
Kingpost clamps 53

Boom and swing lock
Boom lock 54
Swing lock 55

Before starting the engine 56

Starting the engine 57

Jump-starting the engine 58

Preparing the machine for travel
Backhoe attachments 59
Tucked-in travel position 59
Central protruding travel position 59
Road traveling position 60
Site traveling position 62

Testing the parking brake 63

Getting the machine moving 64-65

Stopping and parking the machine 66

Using the attachments and site safety 67-68

Working with the loader
Operating practices 69
Filling the loader bucket 69
Loading a truck 70
Getting the machine unstuck 70

Working with the backhoe
Operating practices 71
Preparing to use the backhoe 71
Repositioning the adjustable tipping lever 72
Removing a bucket 73
Installing a bucket 73
Digging 74
Sideshifting the Backhoe - Manual 75
Sideshifting the Backhoe - Powered 76
Using the extending dipper (if fitted) 77
Lifting with the backhoe 78

Operating in low and high temperatures 79

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

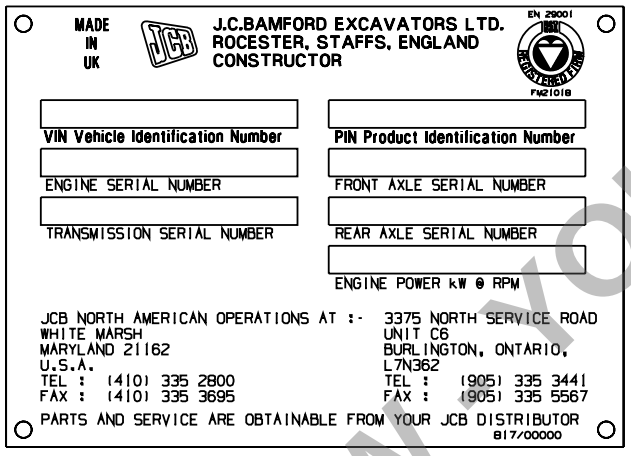
IDENTIFYING YOUR MACHINE

Machine Identification Plate

Your machine has an identification plate mounted on the loader tower. The serial numbers of the machine and its major units are stamped on the plate.

The serial number of each major unit is also stamped on the unit itself. If a major unit is replaced by a new one, the serial number on the identification plate will be wrong. Either stamp the new number of the unit on the identification plate, or simply stamp out the old number. This will prevent the wrong unit number being quoted when replacement parts are ordered.

The machine and engine serial numbers can help identify exactly the type of equipment you have.



A246740

Typical Vehicle Identification Number (VIN)

SLP	217	T	S	2	E	0903000
A	B	C	D	E	F	G

A World Manufacturer Identification

B Machine Model

C Steer Type (T= 2WS, F=4WS)

D Build Type (S=Sideshift, C=Centermount, L=Loader)

E Year of Manufacture:
2 = 2002
3 = 2003
4 = 2004
5 = 2005
6 = 2006
7 = 2007

F Manufacturer Location (E = England)

G Product Identification Number (PIN)

Typical Engine Identification Number

AR	50262	U	500405	P
A	B	C	D	E

AR = 4 cylinder naturally aspirated - low emission
AK = 4 cylinder turbo - low emission
RE = 4 cylinder naturally aspirated - low emission stage 2
RG = 4 cylinder turbo - low emission stage 2

Where the service procedure differ between the engine types, the text and/or illustration will specify.

A Engine Type
AB = 4 cylinder turbo

B Build Number

C Country of Origin

D Engine Sequence Number

E Year of Manufacture

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

ENGINE AIR FILTER

Changing the Elements

⚠ CAUTION

The outer element must be renewed immediately if the warning light on the instrument panel remains illuminated after the engine has been switched OFF and ON again after a short pause.
0156

Notice: Do not attempt to wash or clean the elements - they must only be renewed.

Notice: Do not run the engine with the dust valve **J** removed.

Notice: A new inner element must be fitted at least every third time the outer element is changed. As a reminder, mark the inner element with a felt tipped pen each time the outer element is changed.

1 Stop the engine.

2 Remove the engine side panel (left hand side).

3 If changing the inner element, cover the end of the hose to prevent rain and dirt from getting into the engine.

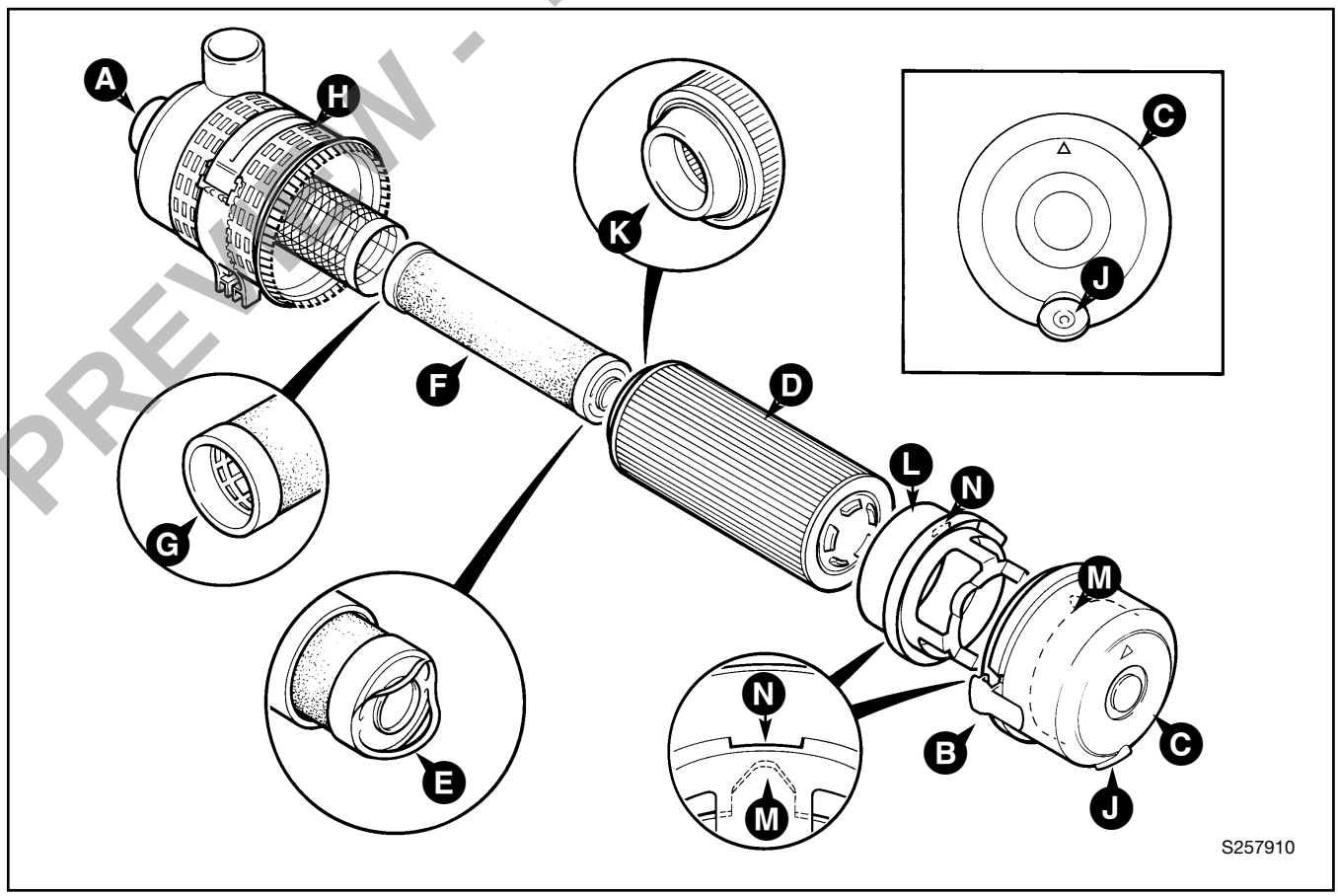
4 Depress clips **B** and lift off cover **C**. Remove outer element **D**. Take care not to tap or knock the element. If the inner element is to be changed, lift up pulls **E** and remove inner element **F**. On turbocharged engines, remove pulsation ring **L**.

5 Clean inside the canister **H**, pulsation ring **L**, cover **C** and dust valve **J**.

6 Insert the new elements into the canister, pushing them firmly in so that seals **G** and **K** are fully seated. On turbocharged engines, assemble the pulsation ring **L** into the cover, making sure that tongue **M** fits into slot **N**. Fit cover **C** with dust valve **J** at the bottom. Push the cover firmly into position and make sure it is secured by clips **B**.

Notice: Pulsation ring **L** is not fitted.

7 Refit the induction hose to stub pipe **A**. Make sure that the wire is connected to the **Air Filter Blocked** switch.



PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

TESTING THE PARKING BRAKE

SAFETY NOTICE: Ensure all routine WARNINGS and CAUTIONS are observed before operating machines.

⚠ WARNING

Before testing the parking brake make sure the area around the machine is clear of people.
2-2-4-5

1 Enter the machine. Fasten your seat belt and park the machine on a level dry surface.

2 Fully apply the parking brake **1**.

3 On machines with two brake pedals ensure they are locked together.

4 Start the engine and raise the attachments to the appropriate travelling position.

5 Select fourth gear **2** for syncro shuttle machines or **3** for powershift machines.

6 Push down hard on foot brake pedal **4**.

7 Select forward drive **5**.

⚠ WARNING

If the machine starts to move during the following test, immediately apply the foot brakes and reduce the engine speed.
2-2-5-1

Test the parking brake as follows:

8 Move the parking brake lever fractionally forward until the warning light **6** is just extinguished.

9 Slowly release the foot brake pedal **4**.

10 If the machine has not moved, use the accelerator pedal to gradually increase the engine speed to 1500 RPM. The machine should not move.

11 Do not do this test for longer than 20 seconds.

12 Reduce the engine speed to idle and select neutral **5**.

13 Return the park brake lever **1** to the fully on position from its partially applied position.

14 Lower attachments and stop the engine.

15 If the machine moved during this test, adjust the parking brake and repeat the test. See **Parking Brake Adjustment** (MAINTENANCE Section).

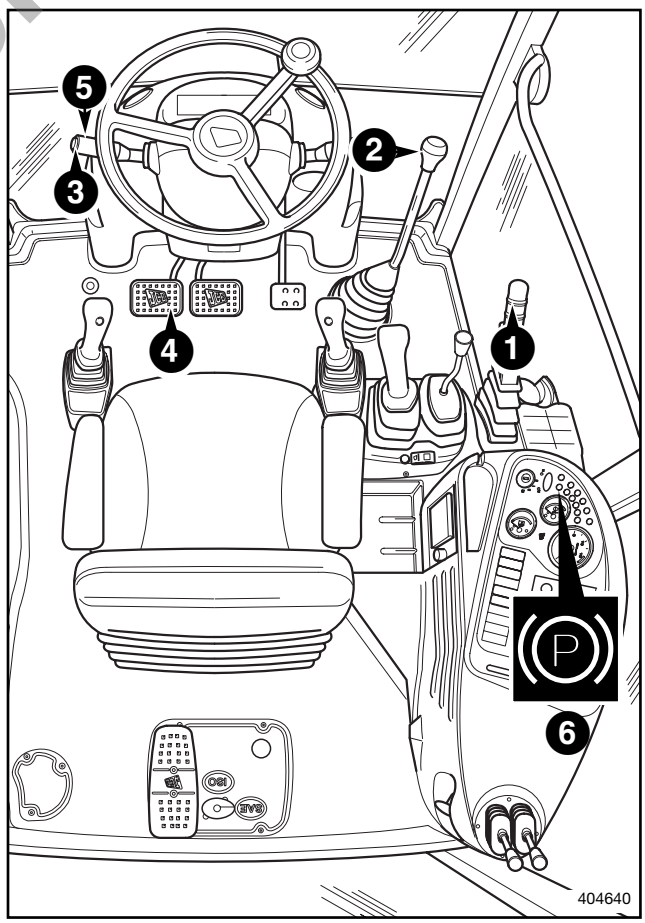
If you have any queries concerning this test procedure or parking brake adjustment, consult your local JCB distributor.

⚠ WARNING

Do not use a machine with a faulty parking brake.
3-2-3-10

⚠ CAUTION

Non approved modifications to axle ratios, machine weight or wheel and tyre sizes may adversely affect the performance of the parking brake.
3-2-3-11



PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

BACKHOE QUICK-HITCH (HYDRAULIC TYPE) (continued)

Installing Backhoe Quick-Hitch Attachments

1 Set the attachment on firm level ground. Use safe and correct lifting equipment to move the attachment. If there is already an attachment fitted to the machine then see ***Removing Backhoe Quick-Hitch Attachments.***

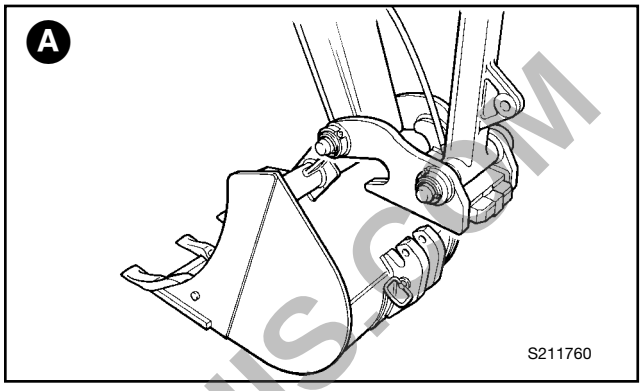
2 Position the machine so that the Quick-Hitch mounting area aligns with the attachment pivot pins. Engage the parking brake and set the transmission to neutral.

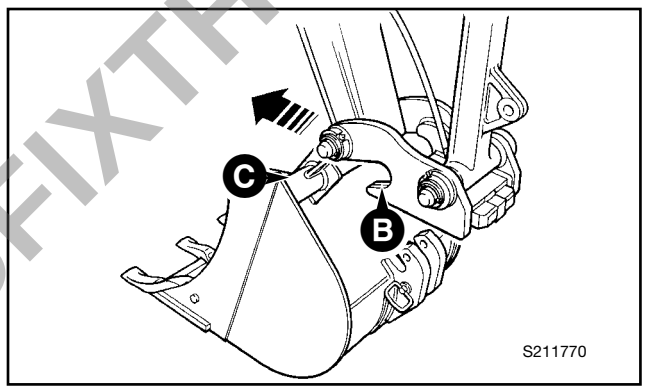
3 Engage the attachment:

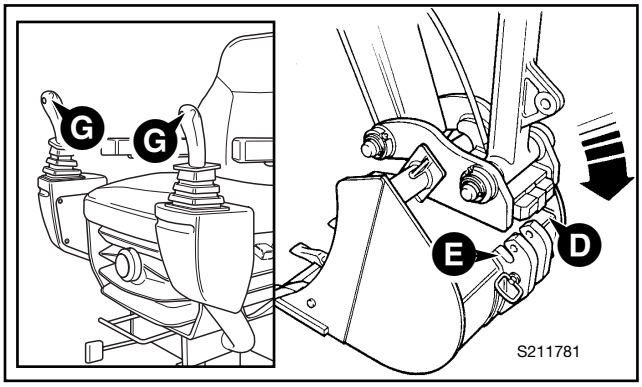
Notice: Latch hook **D** is operated by accumulator pressure, to pressurise the accumulators move the bucket control lever so that the ram is fully extended, hold the lever until the relief valve 'blows off'. The accumulator will need re-charging after every three operations.

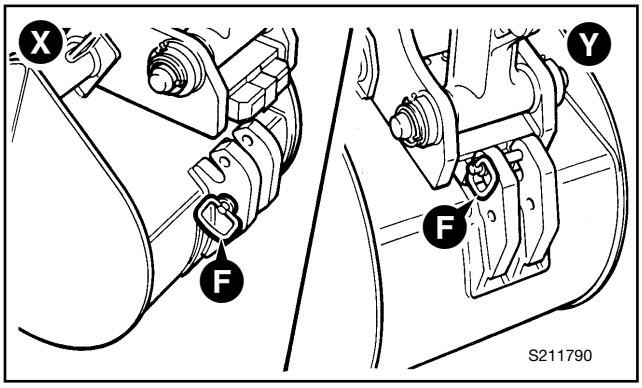
- **a** Put the Quick-Hitch in the position shown at **A**.
- **b** Make sure pin **F** is in its stowage position, as shown at **X**. Use the backhoe controls to engage slot **B** onto the pivot pin **C** of the attachment.
- **c** Press the hydraulic hitch enable switch **H** to the on position (a warning buzzer will sound).
- **d** Simultaneously press the controls buttons **G** to retract the latch hook **D**. Use the backhoe controls and roll the Quick-Hitch fully forward. Release buttons **G** and make sure latch hook **D** has fully engaged in hooks **E**.
- **e** Press the hydraulic hitch enable switch **H** to the off position (the warning buzzer should be off).
- **f** Fit the latch hook locking pin **F** in the lock position, as shown at **Y**.

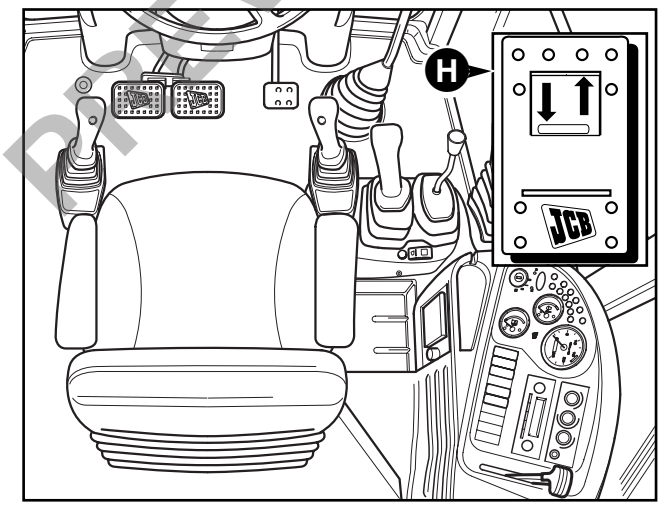
....cont'd











PREVIEW - YOUFIXTHIS.COM

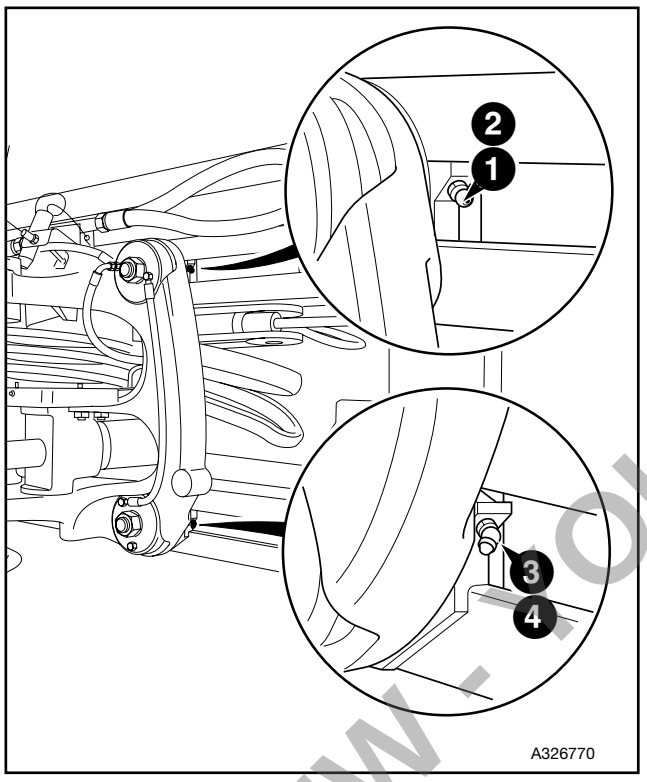
Download full manual at youfixthis.com

GREASING
(continued)

Power Sideshift

Total 4 Grease Points

Notice: Release the kingpost clamps and lower the excavtor to the ground before greasing.

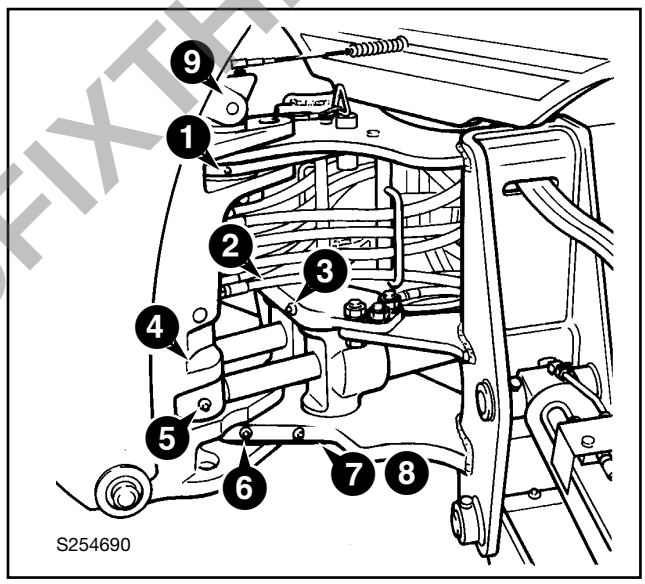


Kingpost

9 Grease Points

Notice: Figure shows a centermount kingpost, greasing is same for sideshift kingpost.

Notice: It is recommended that grease points 2 and 3 are lubricated using a hand grease gun. The use of a power grease gun may result in the mounting plate being distorted.



PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

LIFTING REGULATIONS

Lifting Regulations

⚠ WARNING

The safe working load indicated on lifting accessories such as chains etc. is not the safe working load of the machine. Consult your handbook for the safe working load of the machine.
4-5-1-1

The owner and/or operator must make sure that he fully understands the laws and regulations concerning the use of the JCB Backhoe Loader as an earthmover and as a crane. Consult your JCB distributor for further information.

If your machine has not been fitted with an approved lifting point such as a hook or shackle then it must not be used as a lifting tool. Use the machine for earthmoving purposes only.

When loads are to be lifted by the backhoe unit, a bucket must be instaled.

Notice: Even if the 'Extra-Dig' is only partially extended, then the lower of the two safe working load figures must be used.

LOADER PERFORMANCE

Loader Performance

	214/214S lbs (kgs)	**214/214S SiteMaster** lbs (kgs)	**215/215S/215E** lbs (kgs)	**217/217S** lbs (kgs)
Bucket Breakout Force				
- GP Bucket	12000 (5442)	-	12250 (5555)	12400 (5624)
- MP Bucket	12000 (5442)	12000 (5442)	12250 (5555)	12400 (5624)
Loader Arm Breakout Force				
- GP Bucket	11100 (5043)	-	11684 (5300)	13058 (5922)
- MP Bucket	11100 (5043)	10692 (4849)	11684 (5300)	13058 (5922)
Lift Capacity to Full Height				
- GP Bucket	6750 (3061)	-	6900 (3129)	7500 (3401)
- MP Bucket	6100 (2766)	6100 (2766)	6283 (2849)	6500 (2948)
Clamp Force				
- GP Bucket	-	-	-	-
- MP Bucket	6486 (2942)	6486 (2942)	6486 (2942)	6486 (2942)

Notice: Multi-purpose bucket jaw opening width - 3ft 1in (0.94m)

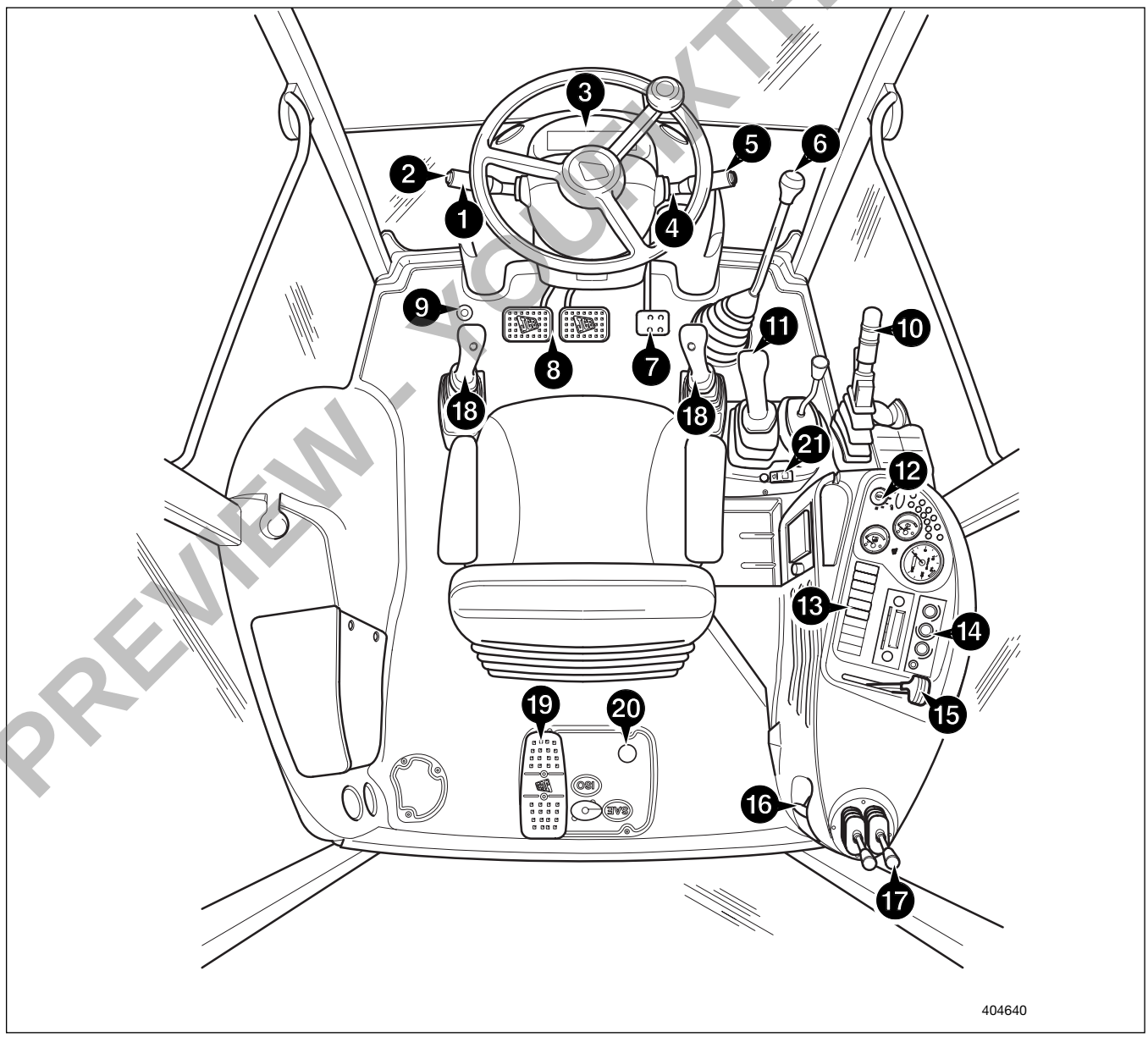
PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

ENGINE AND DRIVE CONTROLS, SWITCHES AND INSTRUMENTS

1 Gear select switch ①
2 Forward/reverse lever & horn
3 Instrument panel
4 Front console switches
5 Multi-purpose steering column switch
6 Gearshift lever ②
7 Accelerator pedal
8 Brake pedals & locking bar
9 Kickdown Switch ③
10 Parking brake lever
11 Loader controls
12 Starter switch
13 Side console switches
14 Heater contols
15 Hand throttle lever
16 Remote boom lock
17 Stabilizer controls
18 Backhoe controls
19 Auxiliary control pedal
20 Hammer Control
21 Backhoe Mode Switch and Reset Button

① Powershift machines only.
② Syncro shuttle machines only
③ Powershift 6 speed machines only



9048 - 2

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

WORKING WITH THE BACKHOE (continued)

Sideshifting the Backhoe - Manual

Notice: Before sideshifting the backhoe, make sure that the kingpost rails are clear of debris.

1 Use the stabilizers to set the machine level and stable, with the kingpost **A** vertical.

2 Rest the bucket on the ground, straight behind the machine.

3 Release the clamps, press the rocker switch **B** to the 'ON' position, the switch light should be illuminated.

4 Loosen the kingpost on its rails, operate the boom up and down a few times.

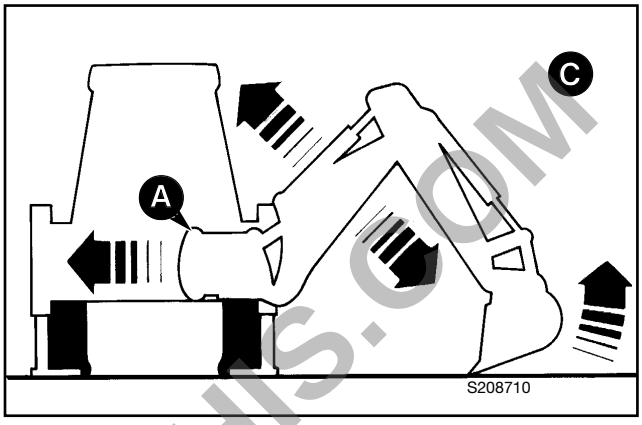
5 Raise and slew the backhoe directly to one side of the machine as shown at **C**. Slew to the left if you want to sideshift to the right. Slew to the right if you want to sideshift to the left. Set the bucket on the ground, with the dipper at 90° to the boom as shown.

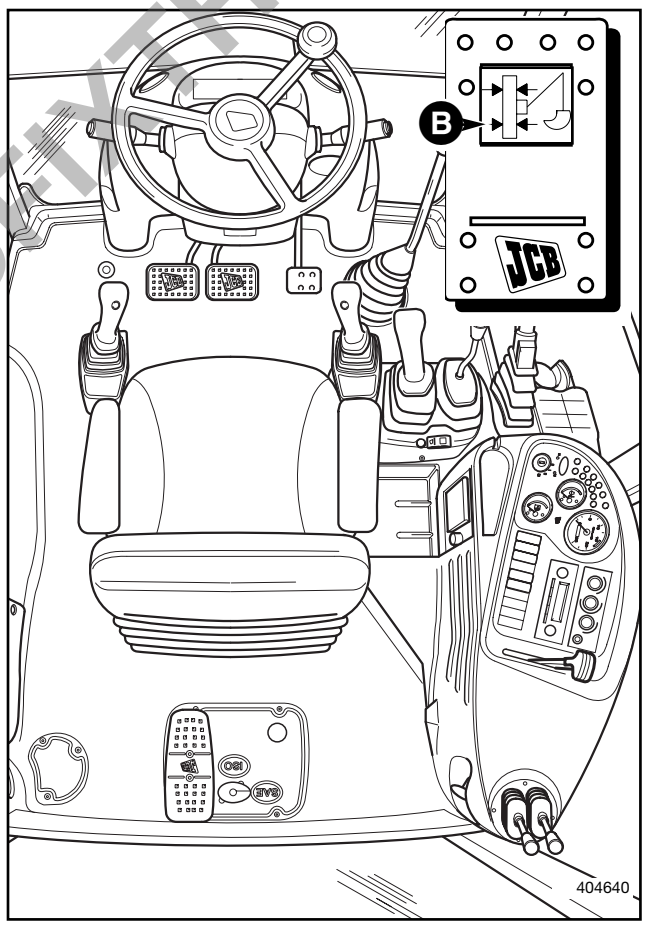
6 Open the bucket. As the bucket opens, the kingpost will be pushed across the back of the machine. If the kingpost **A** sticks in mid-travel, raise or lower the boom slightly to keep the kingpost vertical to the rails.

7 Once the kingpost has been sideshifted to the required position, raise and slew the backhoe around so that it is straight behind the machine before applying the clamps. Failure to do so may cause the kingpost to be clamped whilst at a slight angle instead of vertical.

8 Apply the clamps by pressing rocker switch **B** to the 'OFF' position.

Notice: Pressure generated in the backhoe services will ensure the clamps fully engage. Before operating the backhoe, move the bucket control lever to fully crowd the bucket, hold the lever in this position for a minimum of five seconds (engine at 1500 r.p.m.).





PREVIEW - YOUFIXTHIS.COM
Download full manual at youfixthis.com

BACKHOE ATTACHMENT OPERATION

High and Low Flow Attachments

Refer also to ***Backhoe Attachment Control*** *(OPERATION* section).

Attachments fitted to the backhoe are operated by either a 'high flow' of hydraulic fluid or a 'low flow' of hydraulic fluid.

On machines fitted with the appropriate hydraulic hoses and pipework, the operator has the option of operating a high flow attachment or a low flow attachment. However, notice that hoses and pipework may have to be manually re-coupled.

Auxiliary attachments that operate with a high flow rate of hydraulic fluid are:

i Rockbreaker;
ii Patch Planer;
iii Compactor

Auxiliary attachments that operate with a low flow rate of hydraulic fluid are:
i Extending Dipper;
ii Knuckle Boom;
iii Jaw Bucket

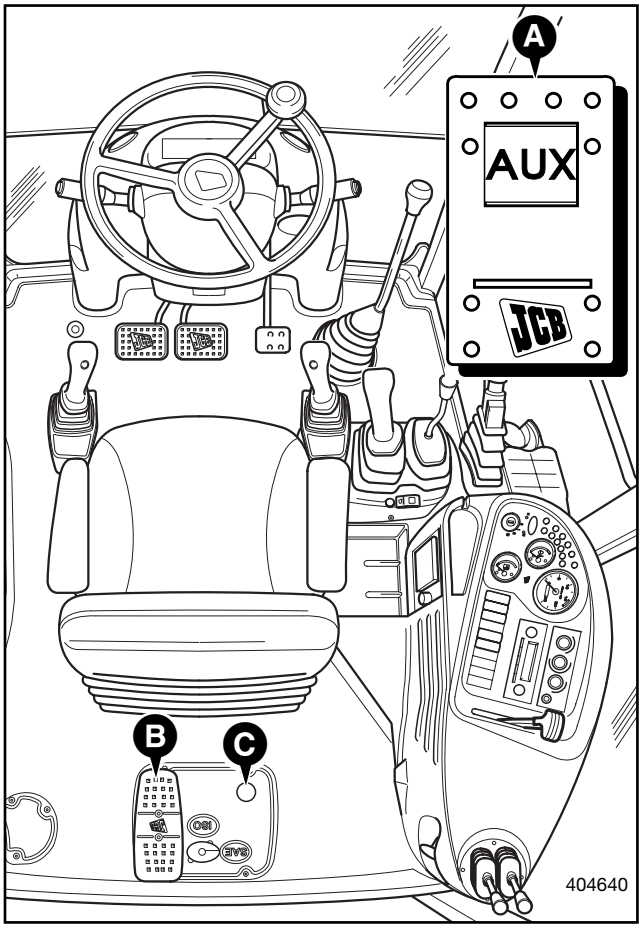
High or low flow is selected using rocker switch **A**, make sure that the rocker switch is in the correct position to suit the type of attachment fitted, this is especially so when operating a low flow attachment.

⚠ CAUTION

Using a high flow of hydraulic oil to operate a low flow optional attachment could damage the attachment. Make sure that the control switch is in the low flow position (switch not pressed down) to operate low flow attachments.
2-4-1-10

With the rocker switch in the off position (switch NOT pressed) a low flow of hydraulic oil operates the optional attachment when the foot operated pedal **B** is pressed.

With the rocker switch in the on position (switch pressed down) a high flow of hydraulic oil operates the optional attachment when the foot operated pedal **B** is pressed or **C** for the rockbreaker option.



9048 - 1

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

TRANSPORTING THE MACHINE

The safe transit of the load is the responsibility of the transport contractor and driver. Any machine, attachments or parts that may move during transit must be adequately secured.
5-2-5-9

Notice : Before transporting the machine make sure you will be obeying the rules and laws of all the areas that the machine will be carried through.

Make sure that the transporting vehicle is suitable. See ***Static Dimensions*** *(SPECIFICATIONS section)* for the dimensions of your machine.

⚠ WARNING

Before moving the machine onto the trailer, make sure that the trailer and ramp are free from oil, grease and ice. Remove oil, grease and ice from the machine tires. Make sure the machine will not foul on the ramp angle. See Static Dimensions (SPECIFICATION section) for the minimum ground clearance of you machine.
2-2-7-5/1

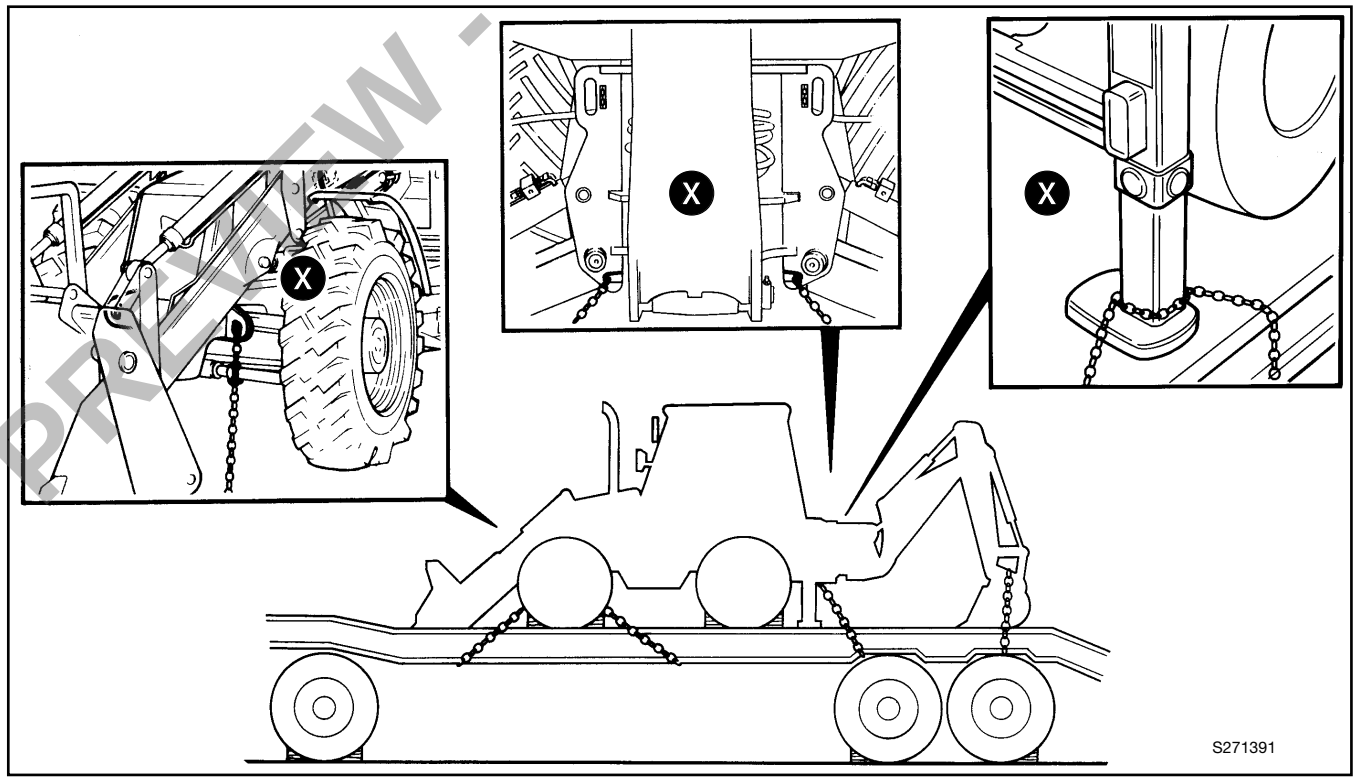
1 Block the Transporter Wheels
Place blocks at the front and rear of the trailer wheels.

2 Move the Machine Onto the Trailer
- **a** Make sure the ramps are correctly in place and secure.
- **b** Set the loader bucket and backhoe as in ***Preparing for Road Travel*** *(OPERATION) section.*
- **c** Carefully drive the machine onto the trailer.
- **d** Engage the parking brake and set the drive to neutral.
- **e** When the machine is safely in position, release the boom lock; lower the loader bucket and backhoe onto the trailer. On sideshift machines, lower the stabilizers. On centremount machines, secure the stabilizers to prevent them moving during transportation.
- **f** Fit the swing lock (see Notice).
- **g** Check that the overall height of the load is within regulations. Adjust if necessary.
- **h** Switch off the engine.
- **i** Secure the cab.
- **j** Cover the exhaust stack.

Notice: If for any reason the swing lock can not be fitted, then the bucket must be securely lashed to the trailer bed, if no bucket is fitted, then secure the dipper end to the trailer bed.

3 Anchor the Machine
Put blocks at the front and rear of all four tires. Anchor the machine to the trailer with suitable chains. The anchor points **X** are shown on the illustration.

4 Measure the Machine Height
Measure the maximum height of the machine from the ground. Make sure the truck driver knows the clearance height before he drives away.



9048 - 1

PREVIEW - YOUFIXTHIS.COM

Download full manual at youfixthis.com

PREVIEW ONLY

You're viewing 12 of 176 pages

The full manual includes:

- All 176 pages, complete
- Searchable PDF (find any keyword)
- No watermarks
- Instant download
- Print-ready quality

GET FULL MANUAL NOW

JCB 214, 214S, 215, 215E, 217, 217S Operator Manual

Scan or click anywhere
youfixthis.com

Click anywhere on this page to get the full manual