Service Manual

4DX

Backhoe Loader

Published by

Product Support Department,
JCB India Limited
23/7, Mathura Road,
Ballabhgarh – 121004
INDIA

Tel: 0091 129 4299251
Fax 0091 129 2309051

Part No: 550/42914

General Information 1
Care & Safety 2
Routine Maintenance 3
Attachments A
Body & Framework B
Electrics C
Controls D
Hydraulics E
Transmission F
Brakes G
Steering H
Engine K

June 2006 Issue 1

MidWestTech | JCB 4DX Backhoe Loader Service Manual | Publication 550-42914 Order the manual at mid-west-tech.com >

Contents	Page No.
Machine Identification Plate	1 - 1
Engine Identification Number	1 - 2
Serial Plates	1 - 2
Torque Settings	2 - 1
Service Tools	
- Body & Framework	3 - 1
- Hydraulics	3 - 3
- Transmission	3 - 4

MidWestTech | JCB 4DX Backhoe Loader Service Manual | Publication 550-42914 Order the manual at mid-west-tech.com >

Contents	Page No.
Safety Notices	1 - 1
General Safety	2 - 1
Operating Safety	3 - 1
Maintenance Safety	4 - 1

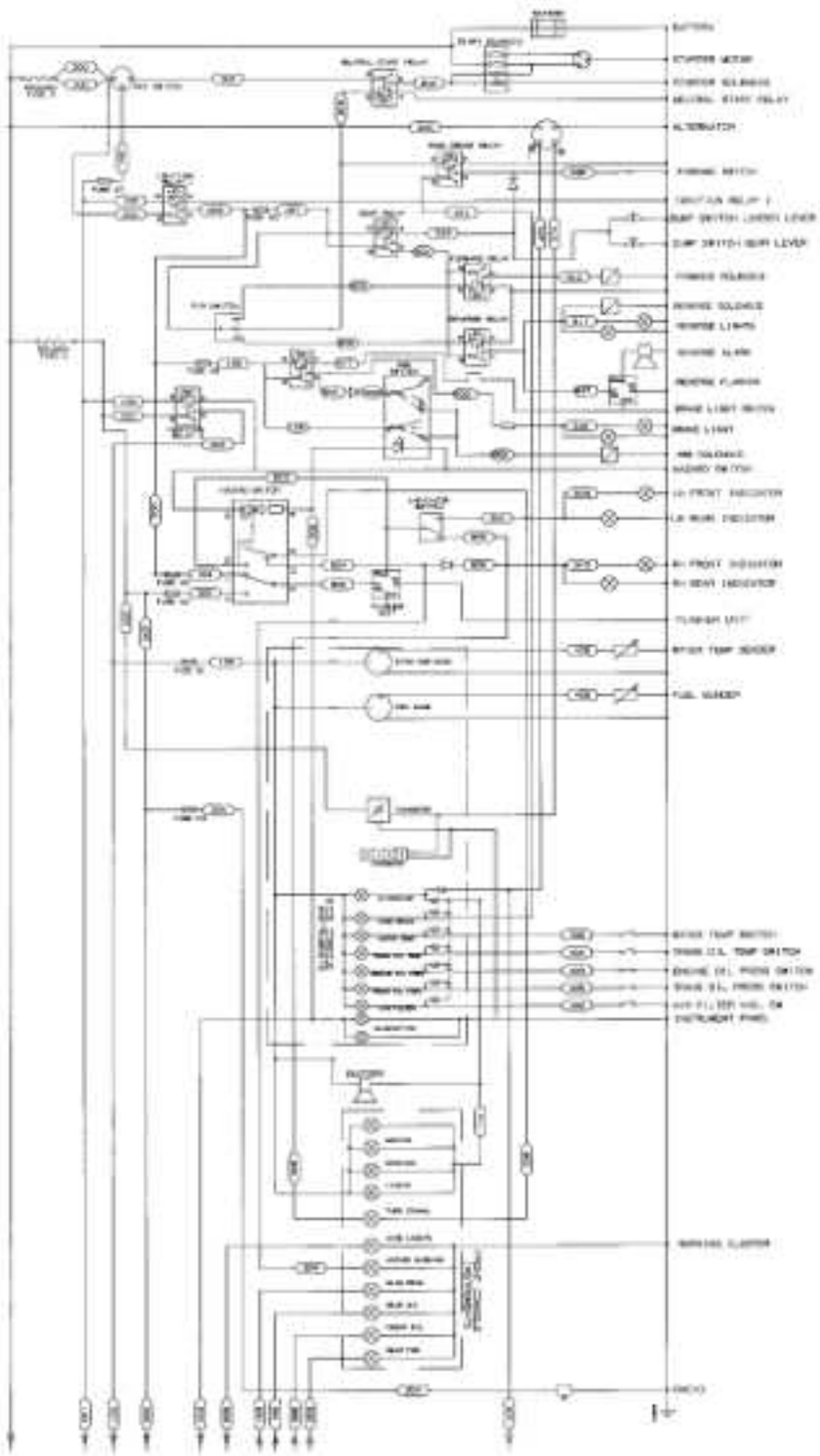
MidWestTech | JCB 4DX Backhoe Loader Service Manual | Publication 550-42914 Order the manual at mid-west-tech.com >

Contents **Page No.**

Checking for Damage	1 - 1
Cleaning the Machine	1 - 2
Tyres and Wheels	
Tyre Inflation	1 - 3
Checking the Wheel Nut Torques	1 - 3
Lubricants - Health and Safety	1 - 4
Loader Arm Safety Strut	
Fitting and Removing	1 - 5
Engine Panels	
Opening and Closing the Bonnet	1 - 6
Service Schedules	2 - 1
Service Capacities	2 - 4
Coolants	2 - 5
Engine Preservation	2 - 6
Greasing	
General	3 - 1
Loader Arms	3 - 1
Backhoe & King Post	3 - 2
Front Axle (2 Wheel Drive Machines)	3 - 3
Front Axle (4 Wheel Drive Machines)	3 - 4
Driveshafts	3 - 5
6 - in - 1 Clamshovel	3 - 6
Loader Quickhitch	3 - 6
Backhoe Quickhitch	3 - 6
Extending Dipper	3 - 7
Oiling	
Park Brake Cable	3 - 8
Control Levers	3 - 8
Engine Air Filter	
Cleaning the Pre-cleaner	4 - 1
Changing the Elements	4 - 2
Engine Oil and Filter	
Checking & Change	4 - 3
Fan Belt – Check Tension	4 - 4
Fuel System	
Filling the Tank	4 - 5
Draining the Moisture Separator	4 - 6
Changing the Filter Element	4 - 6
Bleed the System	4 - 6

MidWestTech | JCB 4DX Backhoe Loader Service Manual | Publication 550-42914 Order the manual at mid-west-tech.com >

Electrical Circuit



MidWestTech | JCB 4DX Backhoe Loader Service Manual | Publication 550-42914 Order the manual at mid-west-tech.com >

Smooth Ride System

System Type	A piston type accumulator operates as a liquid spring absorbing displaced fluid from the lift rams. Selectable switch in the cab.
Charging Gas	Air Free Dry Nitrogen
Accumulator capacity	1.0 Litre (58 Cu.in.)
Accumulator Weight	2.0 4.4 Kg (9.75 lb)

Accumulator Charge Pressure
As a general guide for given weights (loaded) see below:

	Bar	Kgf/cm^2	lbf/in^2
Shovel weights up to 700 Kg	13.8	14	200
Shovel weights 700 – 950 Kg	19	19.4	275
Shovel weights over 950 Kg	24	24.5	350

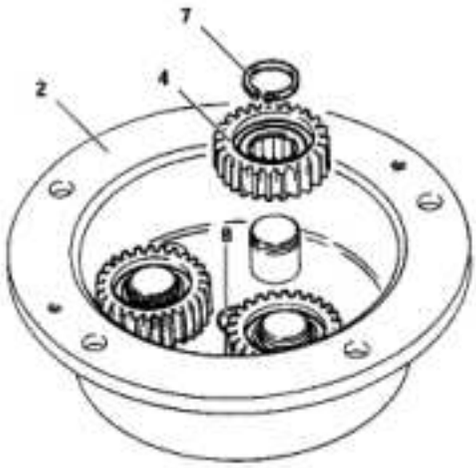
Note: Replacement accumulators will only be supplied in an uncharged, non pressurized condition for Health and Safety / Air Freight hazardous goods requirements.

MidWestTech | JCB 4DX Backhoe Loader Service Manual | Publication 550-42914 Order the manual at mid-west-tech.com >

Hub

Dismantling

The following illustrations show the axle removed from the machine but the hubs may be dismantled without removing the axle.



1 Drain oil from the hub.

2 Remove screws **1**.

3 Lever the planet gear carrier **2** off the bearing carrier. Remove and discard 'O' ring **3**.

4 Remove planet gears **4** only if defective. Note that gears can only be removed as assemblies, which comprise the gear, the bearing **5** and two 'L' shaped circlips **6**. To remove a planet gear, first remove the external circlip **7**.

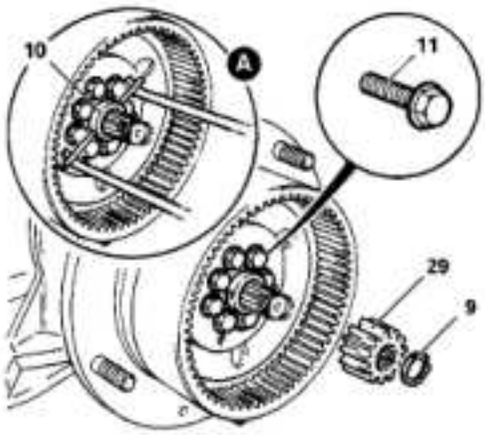
5 Pull off the planet gear.

6 The driveshaft thrust pad **8** is drilled and tapped M6 for removal purposes.

7 Remove circlip **9** to allow the sun gear **29** to be slid off the drive shaft.

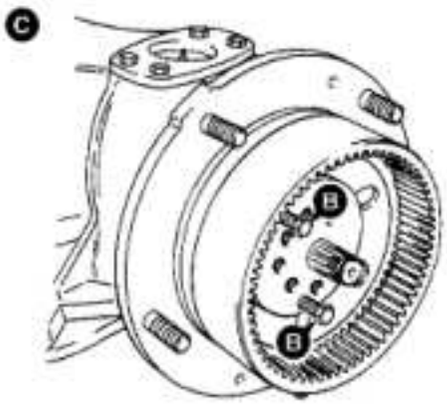
8 To remove the 'Verbus Ripp' bolts **11**, it is necessary to remove the spacer **10**. Revolve the spacer with a suitable drift to align the holes in the spacer **10** with the space between the bolts.

9 Using two dowels and two heel bars, remove the spacer using the method shown at **A**.



10 Remove the 'Verbus Ripp' bolts **11**. These bolts are very tight and care must be taken not to distort the bolt heads. Use as short an extension bar as possible.

11 Using 2 high grade M14 bolts **B** as jacking screws, remove the annulus carrier assembly. Shown at **C**.

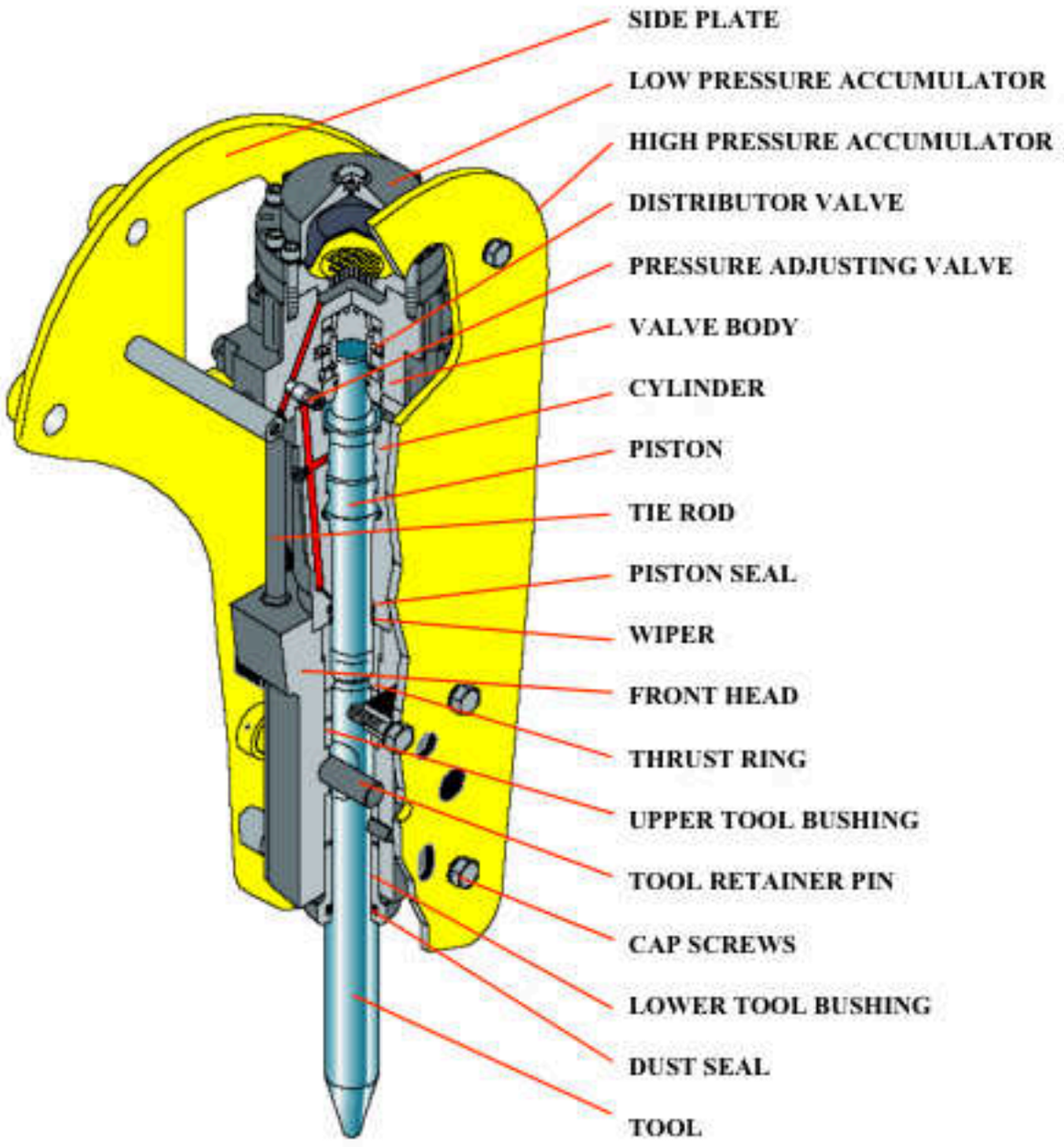


Note: Fretting between the hub swivel 23 and annulus carrier 14 mating faces might be evident; this condition is normal, do not attempt to repair. If the hub swivel and annulus carrier are to be re-used, the carrier must be assembled in the same angular position it was removed; match mark the hub swivel and carrier before removing the carrier.

12 Remove circlip **15** to separate the annulus ring **16** from the annulus carrier **14**.

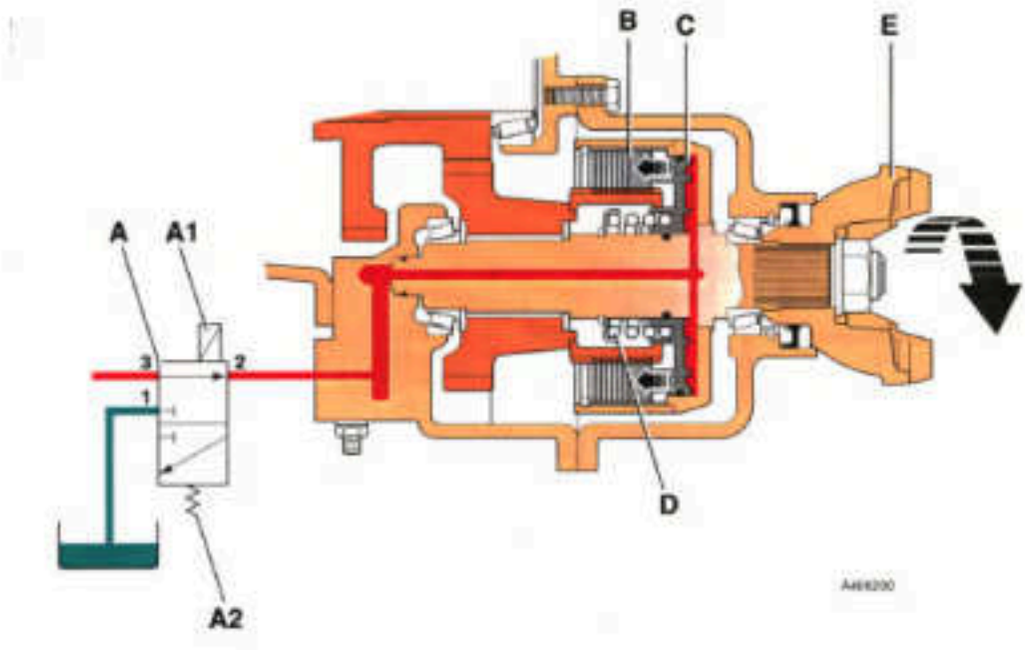
MidWestTech | JCB 4DX Backhoe Loader Service Manual | Publication 550-42914 Order the manual at mid-west-tech.com >

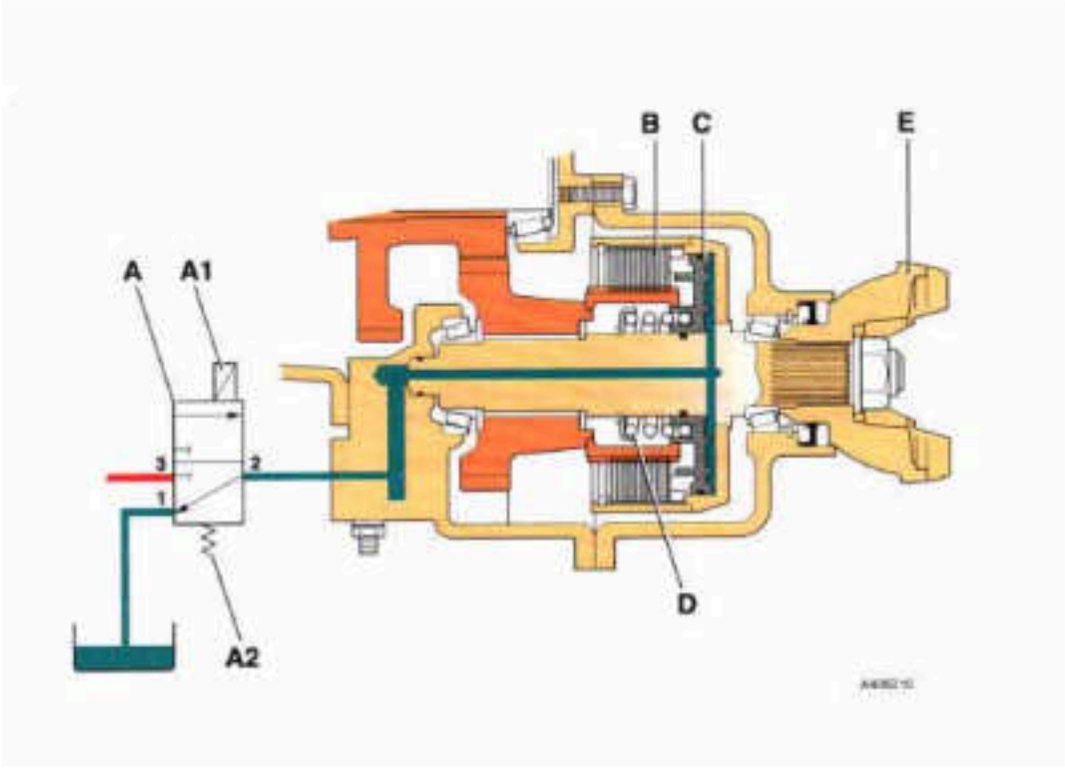
Major Components



MidWestTech | JCB 4DX Backhoe Loader Service Manual | Publication 550-42914 Order the manual at mid-west-tech.com >

2 / 4 wheel Drive Clutch





MidWestTech | JCB 4DX Backhoe Loader Service Manual | Publication 550-42914 Order the manual at mid-west-tech.com >