Service Manual

LOADALL

528-70 & 528S Machines

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Introduction - Zinc Plated Fasteners and Dacromet Fasteners

Later Loadalls are assembled using an improved type of corrosion resistant finish. This type of finish is called Dacromet and replaces the original Zinc and Yellow plating used on earlier machines.

The two types of fasteners can be readily identified by colour and part number suffix as follows:

Fastener Type	Colour	Part Number
Zinc and Yellow	Golden finish	'Z' (e.g. 1315/3712Z)
Dacromet	Mottled silver finish	'D' (e.g. 1315/3712D)

Note: As the Dacromet fasteners have a lower torque setting than the Zinc and Yellow fasteners, the torque figures used must be relevant to the type of fasteners.

Note: A Dacromet bolt should not be used in conjunction with a Zinc and Yellow plated nut, as this could change the torque characteristics of the torque settings further. For the same reason, a Dacromet nut should not be used in conjunction with a Zinc and Yellow plated bolt.

Note: All bolts used on JCB machines are high tensile and must not be replaced by bolts of a lesser tensile specification.

Only use the following when no setting is specified in the text of the manual.

Metric Grade 8.8 Bolts

Bolt size Diameter	Hexagon (A/F)	Zinc Plated Fasteners Torque Settings			Dacromet Fasteners Torque Settings		
mm	mm	Nm	kgf m	lbf ft	Nm	kgf m	lbf ft
M6 x 1.0	10	12	1.2	9	9	0.9	7
M8 x 1.25	13	28	3.0	21	22.5	2.3	17
M10 x 1.5	17	56	5.7	42	47.5	4.8	35
M12 x 1.75	19	98	10	72	80	8.2	59
M14 x 2	22				133	13.6	98
M16 x 2	24	244	25	180	200	20.4	148
M18 x 2.5	27	350	36	258	278	28.4	205
M20 x 2.5	30	476	48	352	392	40	289
M24 x 3	36	822	84	607	675	69	498
M30 x 3.5	46	1633	166	1205	1348	138	994

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Service Tools

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The following parts are replacement items for kits and would normally be included in the kit numbers above.

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Replacement items for kit no. 892/00253

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921/52602	Spacer 12.80 mm
921/52603	Spacer 12.85 mm
921/52604	Spacer 12.90 mm
921/52605	Spacer 12.95 mm
921/52606	Spacer 13.00 mm
921/52607	Spacer 13.05 mm
921/52608	Spacer 13.10 mm
921/52609	Spacer 13.15 mm
921/52610	Spacer 13.20 mm
921/52611	Spacer 13.25 mm
921/52612	Spacer 13.30 mm
921/52613	Spacer 13.35 mm
921/52614	Spacer 13.40 mm
921/52615	Spacer 13.45 mm
921/52616	Spacer 13.50 mm

Note: To maintain a complete kit, order a replacement spacer for the one used.

Numerical List			Page No
* **Hub Service Kit**	892/01092		7-6
998/10623	Puller Beam		
998/10607	Inner Bearing Plate		
1315/3731Z	Bolt M16x220		
1370/0601Z	Nut M16		
998/10614	Tube		
998/10624	ModifiedWheel Stud		
998/10615	Wheel Bearing CarrierPuller		
1370/0701Z	Nut M20		
1420/0012Z	Washer M20		
998/10610	Puller Rod		
1370/0401Z	Nut M12		
1420/0009Z	Washer M12		
998/10608	Bearing Centre Puller		
1315/3414Z	Bolt M10x60		
1370/0301Z	Nut M10		
998/10606	Bearing Fitting Tube		
998/10616	Puller Handle Nut		
1315/3835Z	Bolt M20x300		
445/12303	Washer		
917/02800	Bearing		
892/00891	Seal Dolly		

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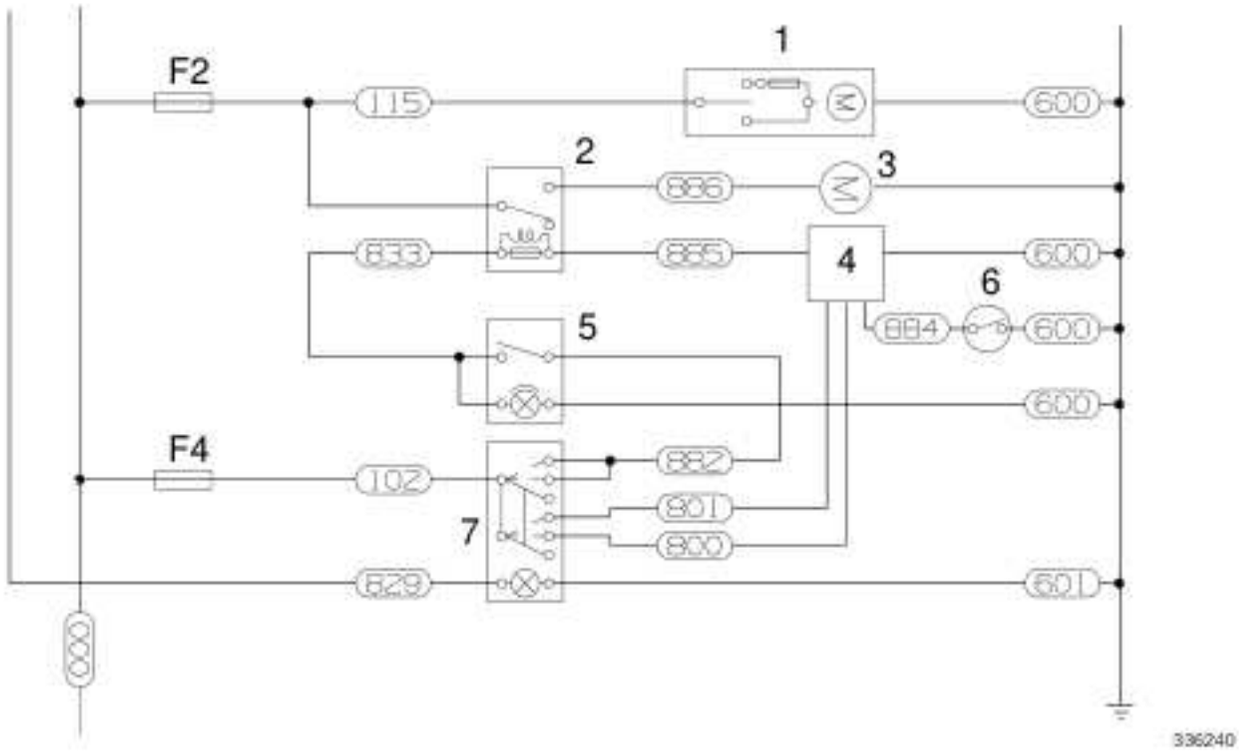
Wiring Diagram

Harness Wires

Use the illustration below to complete continuity checks on the air conditioning system and heater harness wires.

Key

1 Face fan
2 Air conditioning relay
3 Compressor
4 Heater
5 Air conditioning switch
6 Receiver dryer
7 Heater switch



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Drive Head-Assembly

Pinion Depth

For general guidance on crownwheel and pinion adjustment, see **Crownwheel and Pinion Adjustment** (Section F).

1 Assemble the pinion inner bearing and its cup on a flat surface.

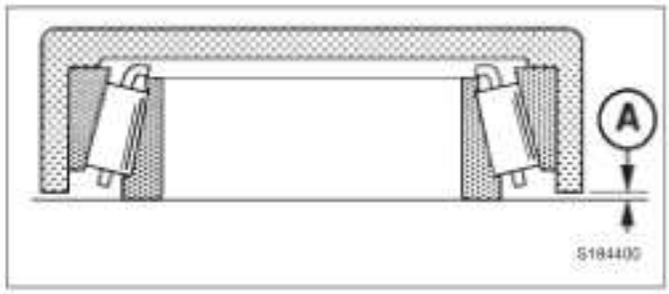
2 Place Service Tool 892/00174 over the bearing assembly. Measure gap **A**. Add tool depth (30.01 mm) to gap **A** to give bearing depth.

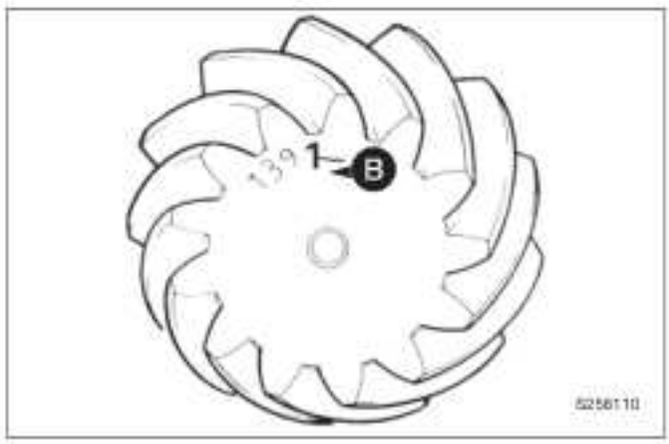
3 Note the mounting distance figure **B** etched on the pinion and the deviation figure **C** on the drive head housing. Both figures are in units of 0.01 mm.

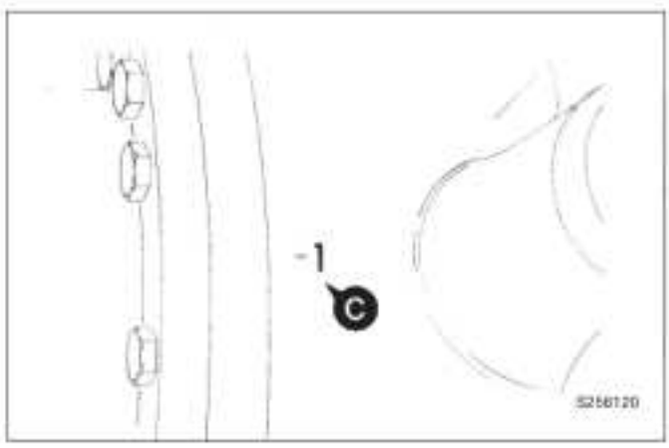
4 If dimension **B** is **positive**, **add** it to the bearing depth. If dimension **B** is **negative**, **subtract** it from the bearing depth.

5 If dimension **C** is **positive**, **subtract** it from the total. If dimension **C** is **negative**, **add** it to the total.

6 Subtract the result from the standard value of 31.19 mm to give the required shim thickness.







Example (Dimensions in mm)

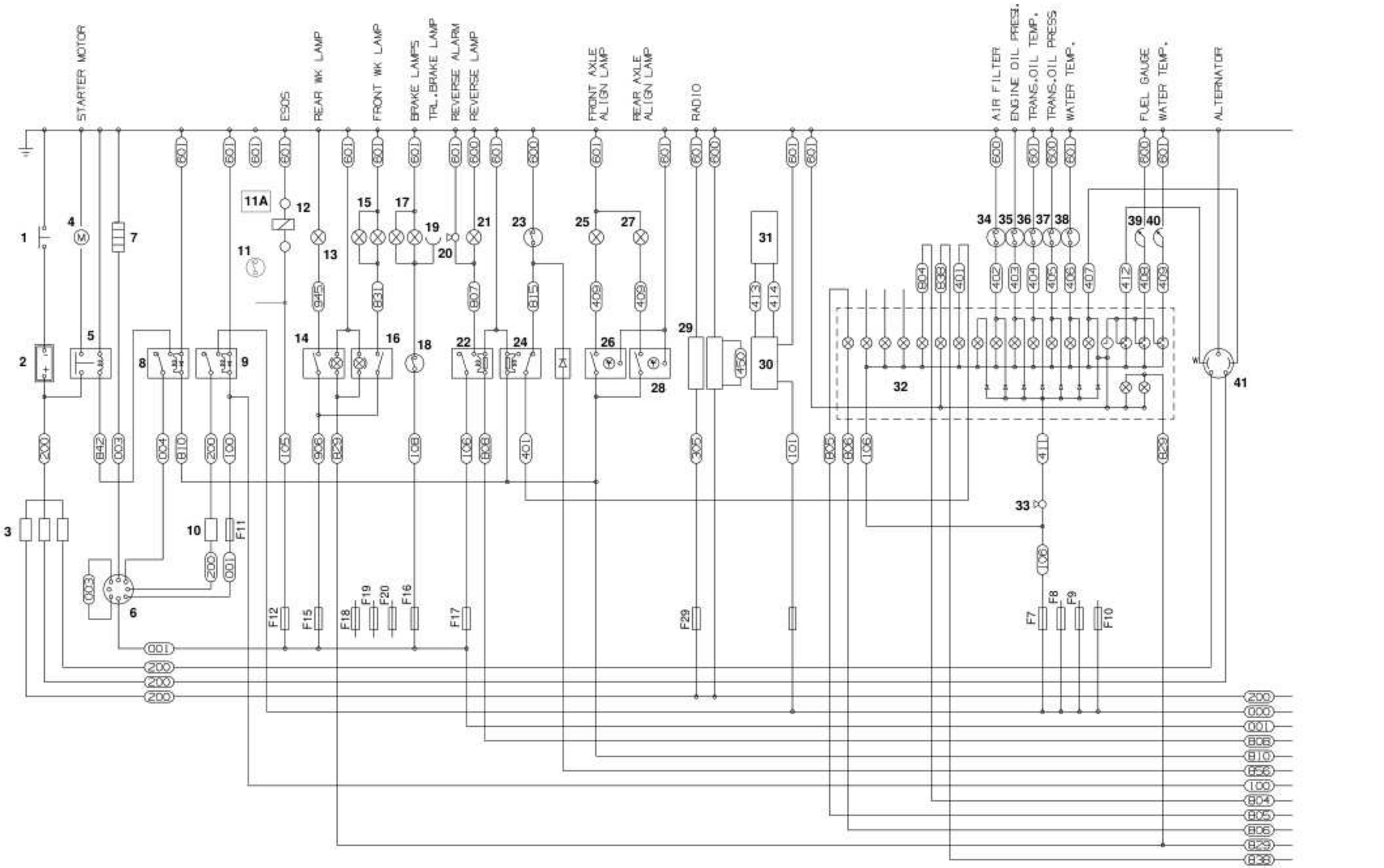
Dimension **A**	0.25
Add tool depth	+ 30.01
Total	30.26
Add dimension **B** if positive. (Subtract if negative.)	+ 0.01
Total	30.27
Add dimension **C** if negative. (Subtract if positive.)	+ 0.01
Total	30.28
Standard Value	31.19
Less total above	- 30.28
SHIM THICKNESS	0.91

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Note: The brakes generate a high temperature when operating, this means that the casing will be hot to touch, this condition is normal.

FAULT	POSSIBLE CAUSE	ACTION
A One or more brakes do not apply. (Brake travel not excessive, brakes not pulling to one side.)	**1** Master cylinder fault.	**1** Check master cylinder to identify fault area, service as required.
	2 Friction/counter plate distortion.	**2** Renew friction/counter plates - BOTH sides of relevant axle.
B Pedal travel excessive (but not touching floor.)	**1** Air in hydraulic system.	**1** Check fluid reservoir level. Check for fluid/air leaks, rectify as required. Bleed the brake system.
	2 Leak in hydraulic system.	**2** Check for fluid loss at master cylinder and brake piston, all pipes and fittings for loose connections. Rectify as required. Top up brake reservoir and bleed the brake system.
	3 Friction/counter plate distortion.	**3** See Item A2.
C Pedal hard to operate.	**1** Tightness at pedal pivot.	**1** Inspect pedal pivot. Free-off/ lubricate.
	2 Fluid contamination/seal damage.	**2** Flush system and renew all hydraulic seals. Bleed the brake system.
	3 Misaligned push rod/pedal.	**3** Check and rectify as required.
	4 Kinked or crushed brake pipes.	**4** Check/renew brake pipework.
D Pedals touch floor under constant pressure - no fluid loss.	**1** Master cylinder fault.	**1** See Item A1.
	2 Friction/counter plate distortion.	**2** See Item A2.
	3 Air in hydraulic system.	**3** See Item B1.
E Pedal touches floor under constant pressure - and fluid loss.	**1** External fluid leaks.	**1** Visually check brake circuit for fluid loss, service as required. Top up brake reservoir and bleed the brake system.
	2 Internal fluid leaks.	**2** See **Brake Seal or Component Leakage**.

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