



# Service Manual

**JS70**

from machine no. 695501

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## Introduction

This publication is designed for the benefit of JCB Distributor Service Engineers who are receiving, or have received, training by JCB Technical Training Department.

These personnel should have a sound knowledge of workshop practice, safety procedures, and general techniques associated with the maintenance and repair of hydraulic earthmoving equipment.

Renewal of oil seals, gaskets, etc., and any component showing obvious signs of wear or damage is expected as a matter of course. It is expected that components will be cleaned and lubricated where appropriate, and that any opened hose or pipe connections will be blanked to prevent excessive loss of hydraulic fluid and ingress of dirt. Finally, please remember above all else **SAFETY MUST COME FIRST!**

The manual is compiled in sections, the first three are numbered and contain information as follows:

- 1 = General Information** - includes torque settings and service tools.
- 2 = Care & Safety** - includes warnings and cautions pertinent to aspects of workshop procedures etc.
- 3 = Routine Maintenance** - includes service schedules and recommended lubricants for the whole machine.

The remaining sections are alphabetically coded and deal with Dismantling, Overhaul etc. of specific components, for example:

- A = Attachments**
- B = Body & Framework ...etc**

The page numbering in each alphabetically coded section is not continuous. This allows for the insertion of new items in later issues of the manual.

Section contents, technical data, circuit descriptions, operation descriptions etc. are inserted at the beginning of each alphabetically coded section.

All sections are listed on the front cover; tabbed divider cards align directly with individual sections on the front cover for rapid reference.

Where a torque setting is given as a single figure it may be varied by plus or minus 3%. Torque figures indicated are for dry threads, hence for lubricated threads may be reduced by one third.

'Left Hand' and 'Right Hand' are as viewed from the rear of the machine facing forwards.

**Note:** In this manual the term 'swing' may sometimes be used in place of 'slew' and the term 'arm' may sometimes be used in place of 'dipper'.

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## Bolt and Nut Torque Specifications

Tighten the bolts and nuts according to the table. Before and after daily work, check the bolts and nuts for looseness and for those missing. Tighten if loose and renew if missing.

Tighten the bolts and nuts after the first 50 hours of the running-in stage and every 250 hours thereafter.

**Torque Tightening Table**

No	Tightening Point	Bolt Diameter	Wrench	Tightening Torque		
				Nm	kgf m	lbf ft
			mm			
1†	Travel Motor	M16	24	268~312	27.2~31.8	197~230
2†	Drive Sprocket	M14	22	173~202	17.6~20.6	128~149
3†	Idler Wheel	M10	17	63~73	6.9~7.4	46~54
4†	Upper (Carrier) Roller	M16	24	267~312	27.2~31.8	197~230
5†	Lower (Track) Roller	M12	19	109~127	11~13	80~94
6†	Grease Cylinder	M12	19	109~127	11~13	80~94
7†	Track Guard	M12	19	109~127	11~13	80~94
8	Shoe Bolt	U1/2 - 38	19	196~235	20~24	145~173
9†	Counterweight	M24	36	660~770	67.3~78.5	487~568
10†	Turntable Bearing (Undercarriage)	M16	24	252~283	25.7~28.9	186~209
11†	Turntable Bearing (Slew Frame)	M16	24	252~283	25.7~28.9	186~209
12†	Slew Equipment	M16	24	273~318	27.8~32.4	201~235
13†	Engine (Engine Mount)	M16	24	167~216	17~22	123~159
14†	Engine Bracket	M10/M16	17/24	65~75/167~216	6.6~7.7/17~22	48~55/123~159
15	Radiator	M10	17	30~35	3.1~3.6	22~26
16†	Hydraulic Pump	M10/M12	17/19	63~73/109~127	6.4~7.4/11~13	46~54/80~94
17†	Hydraulic Oil Tank	M16	24	160~172	16.3~17.5	118~127
18†	Fuel Tank	M16	24	160~172	16.3~17.5	118~127
19†	Control Valve	M12	19	53~65	5.4~6.6	39~48
20†	Rotary Coupling	M10	17	63~73	6.4~7.4	46~54
21	Cab	M16	24	79~88	8~9	58~65
22	Battery	M10	17	20~30	2~3	15~22

**Note:** Use JCB Threadlocker and Sealer (High Strength) on those marked † and tighten to the torque listed in the above table.

## General Torque Settings

**Note 1:** The figures quoted are for non-plated fasteners and are to be used only when there is no torque setting specified in the relevant procedure in this service manual.

**Note 2:** The 4T grade settings DO NOT APPLY to fasteners used on the engine. If any 4T specification fasteners are found on the engine, these must be tightened to the figure quoted in the relevant engine manual.

Bolt Size	Strength Grade of Bolt or Stud								
	4T			8.8			10.9		
	Nm	kgf m	lbf ft	Nm	kgf m	lbf ft	Nm	kgf m	lbf ft
<b>M3</b>	0.39	0.04	0.28	-	-	-	-	-	-
<b>M4</b>	0.78	0.08	0.57	-	-	-	-	-	-
<b>M5</b>	1.67	0.17	1.2	-	-	-	-	-	-
<b>M6</b>	2.84	0.29	2.1	8.04	0.82	5.9	11.3	1.15	8.3
<b>M8</b>	7.06	0.72	5.2	19.6	2.00	14.5	27.7	2.82	20.4
<b>M10</b>	14.0	1.43	10.3	39.1	3.99	28.8	55.0	5.61	40.6
<b>M12</b>	24.6	2.51	18.1	68.5	6.98	50.5	96.2	9.81	71
<b>M16</b>	61.9	6.31	45.7	173	17.6	127.6	242	24.7	178.5
<b>M20</b>	122	12.4	90	337	34.4	249	475	48.4	350
<b>M22</b>	167	17.0	123	464	47.3	342	652	66.5	481
<b>M24</b>	210	21.4	155	584	59.5	431	821	83.7	606
<b>M27</b>	311	31.7	229	864	88.1	637	1220	124	900
<b>M30</b>	420	42.8	310	1170	119	863	1650	168	1217
<b>M33</b>	576	58.7	425	1600	163	1180	2260	230	1667
<b>M36</b>	736	75.1	543	2050	209	1512	2880	294	2124
<b>M39</b>	961	98.0	709	2680	273	1977	3760	383	2773
<b>M42</b>	1190	121	878	3300	336	2434	4640	473	3422
<b>M45</b>	1490	152	1099	4140	422	3054	5820	593	4293
<b>M48</b>	1780	182	1312	4960	506	3659	6970	711	5141

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