



Service Manual

JS130

from machine no. 758000

JS160

from machine no. 702000

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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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JS130/JS160 and Variants

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.

Tightening Torque Table

No	Tightening Point	Bolt Diameter	Wrench mm	JS130/JS160		
				Tightening Torque		
				Nm	kgf m	lbf ft
1†	Travel Motor	M16	24	270~310	27.6~31.8	200~230
2†	Drive Sprocket	M16	24	220~310	27.6~31.8	200~230
3†	Idler Wheel	M16	24	270~310	27.6~31.8	200~230
4†	Upper (Carrier) Roller	M16/M20	24/30	270~310/520~608	27.6~31.8/53.2~62.2	200~230/385~450
5†	Lower (Track) Roller	M16	24	270~310	27.6~31.8	200~230
6†	Track Guard	M16	24	270~310	27.6~31.8	200~230
* 7	Shoe Bolt	M16	24	310~360/640~750	32~37/65~76.5	229~266/472~553
8	Counter weight	M27	41	845~980	86~100	622~723
9†	Turntable Bearing (Undercarriage)	M16/M20	24	280~310/475~550	28.4~31.8/48.4~55.3	205~230/350~400
10†	Turntable Bearing (Slew Frame)	M16/M20	24	280~310/475~550	28.4~31.8/48.4~55.3	205~230/350~400
11†	Slew Equipment	M16/M20	24	280~310/475~550	28.4~31.8/48.4~55.3	205~230/350~440
12†	Engine (Engine Mount)	M16	24	265~310	27~32	195~230
13†	Engine Bracket	M10	17	65~75	6.5~7.6	47~55
14	Radiator	M12	19	60~70	6.2~7.2	45~52
15†	Hydraulic Pump	M10	17	65~75	6.5~7.6	47~55
16†	Hydraulic Oil Tank	M16	24	205~285	21~29	152~210
17†	Fuel Tank	M16	24	225~285	22.4~29	162~210
18†	Control Valve	M16	24	270~310	27.6~31.8	200~230
19†	Rotary Coupling	M12	19	110~125	11.1~13.0	80~94
20	Cab	M16	24	127~137	13~14	94~101
21	Battery	M10	17	20~30	2.1~2.9	15~21

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

The tightening torques for the bolts and nuts not listed above are as follows:

Bolt Diameter (size)			M6	M8	M10	M12	M14	M16	M18	M20
Hex. bolt	Wrench	mm	10	13	17	19	22	24	27	30
	Tightening Torque	Nm	6.9	15.7	32.3	58.8	98.0	137.2	196.0	274.4
		kgf m	0.7	1.6	3.2	5.9	9.8	13.7	19.6	27.4
		lbf ft	5	12	24	43	72	101	145	202
Hex. socket head bolt	Wrench	mm	5	6	8	10	12	14	14	17
	Tightening Torque	Nm	8.8	21.6	42.1	78.4	117.6	176.4	245.0	343.0
		kgf m	0.88	2.2	4.2	7.8	11.8	17.6	24.5	34.3
		lbf ft	6.5	16	31	58	87	130	181	253

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

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