HM Medium Breakers 1

HM Large Breakers 2

Service Manual

HM Range Medium and Large Hydraulic Breakers, Serial Nos. 1095001 onwards

Published by
JCB Attachments
Waterloo Park, Beamhurst
Uttoxeter, Staffordshire ST14 5PA
England
Tel: +44 (0)1889 506043

PRINTED IN ENGLAND

Publication No. 9803/1420_04

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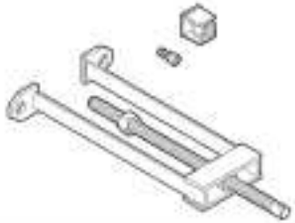
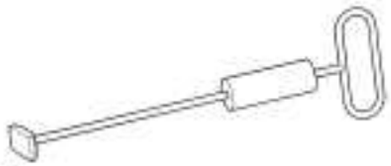
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Item	Part No.	Description		HM165Q	HM265Q	HM365Q	HM495Q
A 	998/11247	Shackle	Disassembly/assembly of piston and liner			●	●
	Comprises of:						
	998/11228	Extractor assembly				●	●
	1370/0901	M24 Nut				●	●
	998/11229	Screw				●	●
	998/11230	Foot				●	●
	998/11231	Disk				●	●
	998/11232	Tube				●	●
B 	998/11245	Extractor	Removal of piston guide			●	●
	Comprises of:						
	998/11217	Handle				●	●
	998/11218	Weight				●	●
	998/11219	Pull rod				●	●
	998/11220	Disk				●	
	826/00920	Roll pin				●	●
	2203/0012	M10 Circlip				●	●
	1370/0301	M10 Nut				●	●
	998/11221	Disk					●
C 	TBA	Mandrel	Fitting of liner assembly				

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4 Technical Specifications

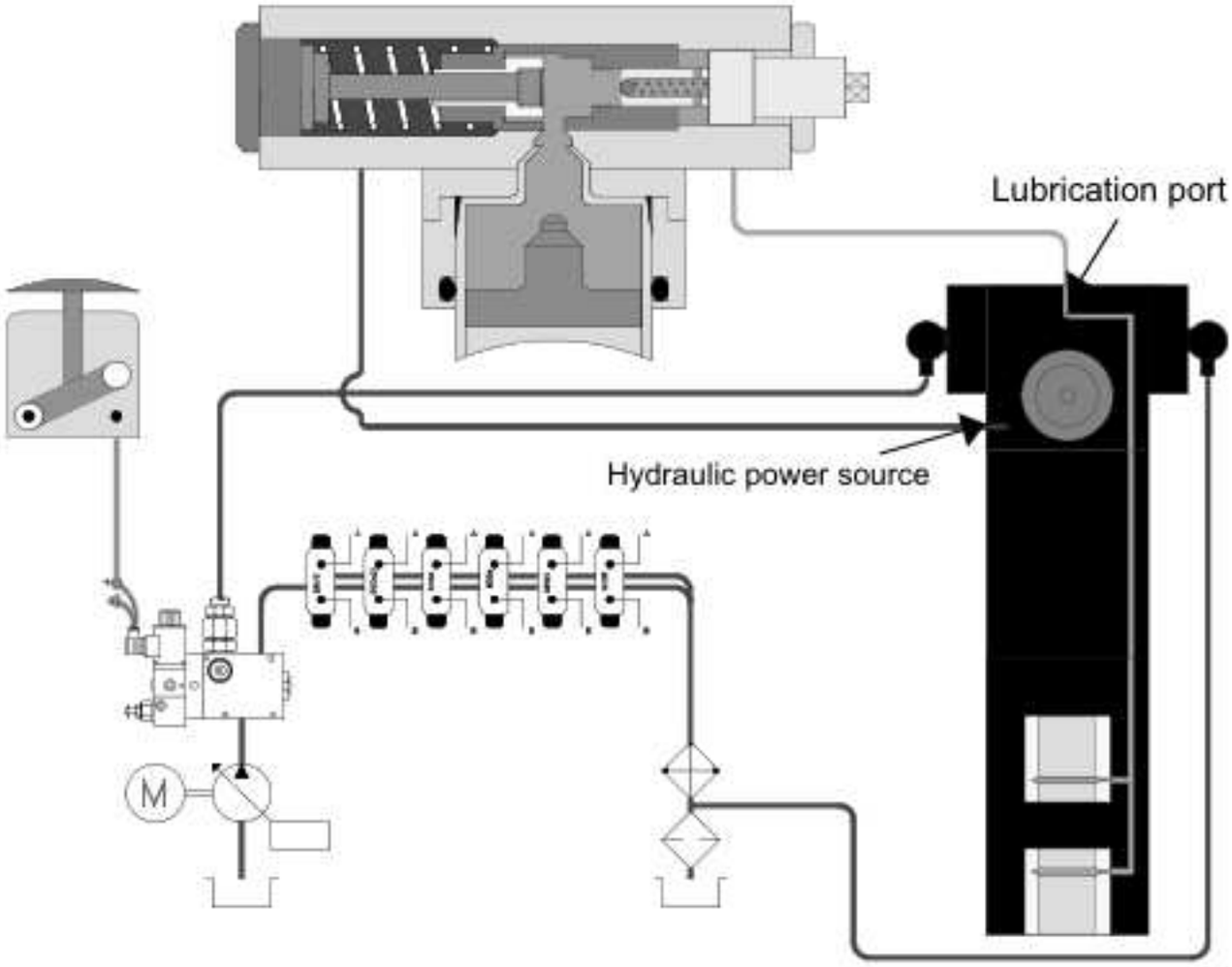
4.1 Breaker Specifications

Model	JCB HM 860Q	JCB HM 1260Q
Service weight*	850 kg (1875 lb)	1250 kg (2756 lb)
Serial No. from	1095001 on	1095001 on
Recommended carrier class	12 - 18 t (26460 - 39683 lb)	14 - 22 t (30870 - 48510 lb)
Impact rate	420 - 750 blows/min	350 - 600 blows/min
Impact energy (calculated)	1781 Joules	2404 Joules
Dimensions (excluding tool)		
Length	1366 mm (54 in)	1579 mm (62 in)
Width	410 mm (16 in)	495 mm (19.5 in)
Depth	560 mm (22 in)	630 mm (25 in)
Oil flow rate	80 - 110 l/min (18 - 24 UK gal/min) (22 - 29 US gal/min)	90 - 120 l/min (20 - 27 UK gal/min) (24 - 33 US gal/min)
Operating pressure	140 - 170 bar (2030 - 2465 psi)	140 - 170 bar (2030 - 2465 psi)
Static pressure (to be set on A.R.V. for breaker circuit)	210 bar (2045 psi)	210 bar (2045 psi)
Maximum return line pressure	12 bar (174 psi)	12 bar (174 psi)
Tool diameter	100 mm (3.94 in)	115 mm (4.53 in)
Piston accumulator**		
Minimum gas pressure	11 bar (159.5 psi)	5.2 bar (75.4 psi)
Required gas pressure	13.5 bar (195.75 psi)	7 bar (101.5 psi)
Sound pressure level measured r - 10 m (32.8 ft)	92 L^F dB (A)	90 L^F dB (A)
Sound power level*** guaranteed	121 L_{WA} dB (A)	120 L_{WA} dB (A)
Connecting thread on ports »**P**« and »**T**«	BSP 3/4"	BSP 1"

* Hydraulic breaker including breaker housing, tool and medium sized hanger bracket.
** Depending on the oil flow rate.
*** At operating temperature of 60 to 70 °C (140 to 158 °F) and no contact pressure to the tool.
**** Measuring process based on directive 2000/14/EC

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Installation Schematic – Breaker not Operating



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Operating Principles

Stage 1 - Start Up

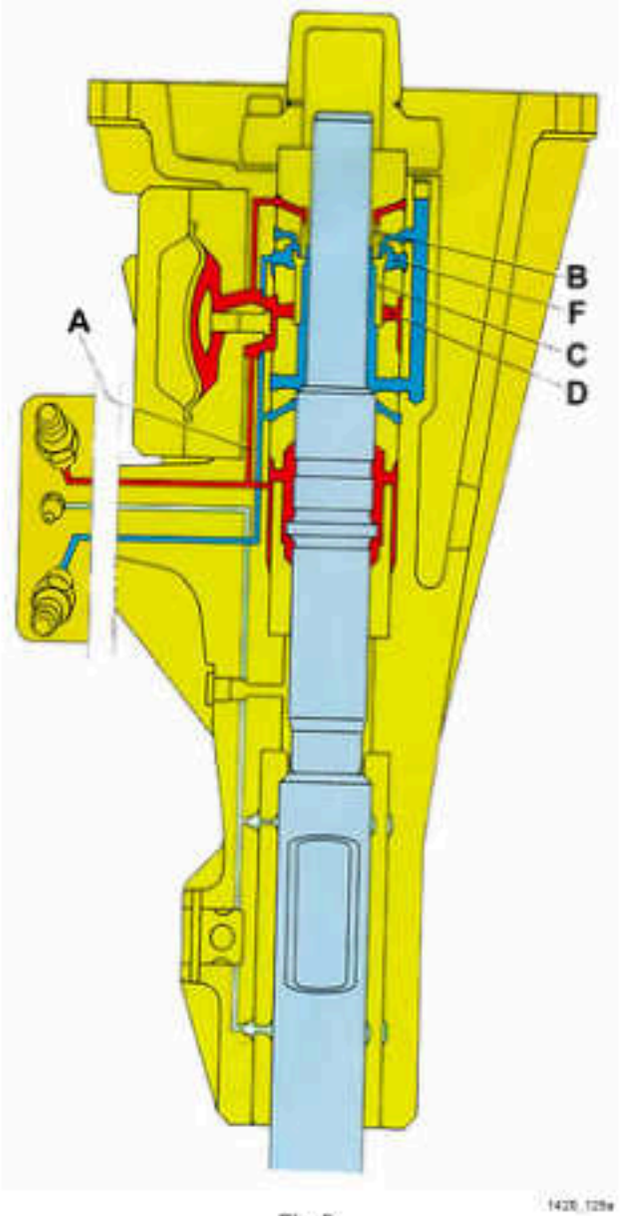


Fig 5.

When the hammer is started, the front cylinder chamber is pressurised. At the same time, the accumulator and the pins **B**, which give a holding force on the main valve **C**, are pressurised via the channel **A**.

This causes the piston to begin its return stroke.

Stage 2 - Return Stroke

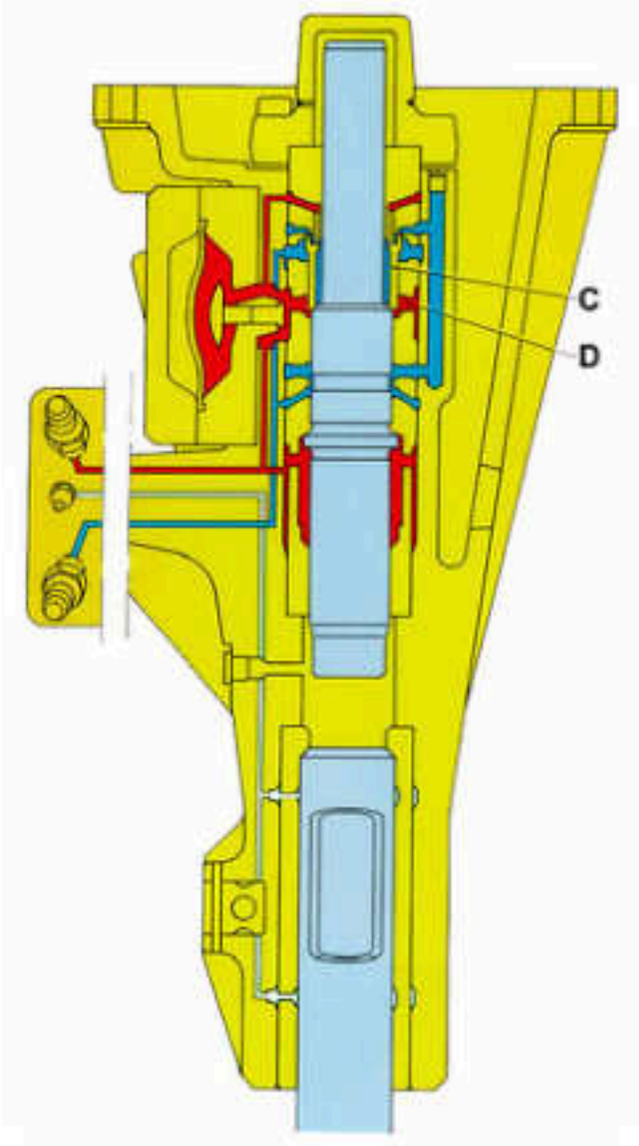


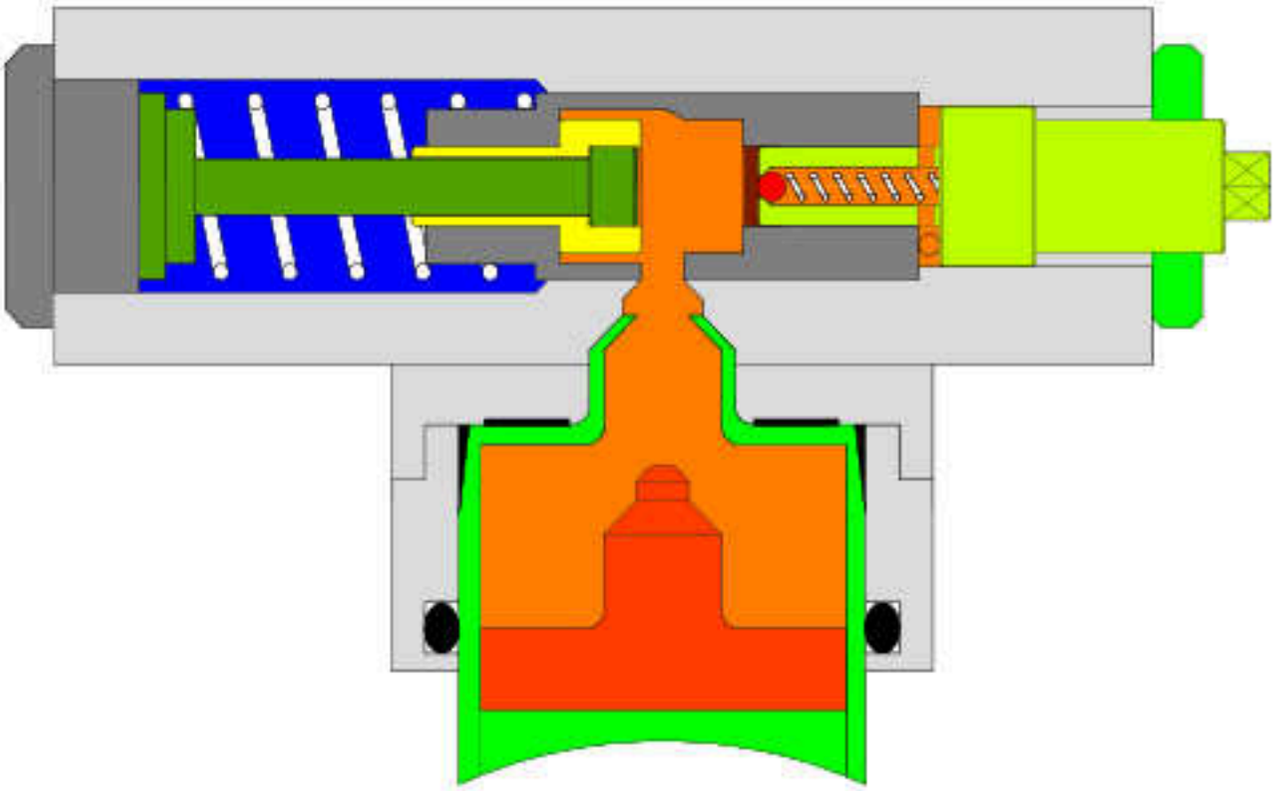
Fig 6.

When the rear edge of the piston meets the main valve **C**, the holding force is overcome and the valve moves backwards.

When the front edge of the valve uncovers port **D**, the front edge becomes pressurised, causing the valve to move backwards more rapidly than the piston. The rear cylinder chamber is now pressurised. This causes the piston to begin its working stroke because of the difference in the front and rear piston pressure areas.

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Minimum Adjusted Pump Delivery



1 Loosen locknut.

2 Screw adjuster in fully and then unscrew by 2 turns.

3 Retighten locknut.

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