NEW HOLLAND CONSTRUCTION

LB75



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SERVICE MANUAL

NEW HOLLAND

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CYLINDER BLOCK	
Cylinder block	Cast iron monobloc with replaceable dry - fitted cylinder liners, incorporating seatings for crankshaft bearings, camshaft and pushrod tappet assemblies
Internal diameter of cylinder liners *	104.000 to 104.024 mm (4.0976 to 4.0985 in)
External diameter of cylinder liners *	107.020 to 107.050 mm (4.2165 to 4.2177 in)
Diameter of cylinder bores *	106.850 to 106.900 mm (4.2098 to 4.2118 in)
Interference fit between cylinder liners and bores	0.120 to 0.200 mm (0.047 to 0.0788 in)
Liner internal diameter oversizes	0.6 mm (0.0236 in)
Liner external diameter oversizes	0.2 mm (0.00788 in)
Maximum permissible liner ovality or taper due to wear **	0.12 mm (0.004728 in)
Diameter of main shell bearing seats	84.200 to 84.230 mm (3.317 to 3.31866 in)
Diameter of camshaft bearing seats:	
- front	54.780 to 54.805 mm (2.158 to 2.161 in)
- centre	54.280 to 54.305 mm (2.1386 to 2.1396 in)
- rear	53.780 to 53.805 mm (2.1189 to 2.1199 in)
Diameter of standard tappet bores in crankcase	15.000 to 15.018 mm (0.591 to 0.5917 in
Tappet oversizes	0.1 -0.2 -0.3 mm (0.0039, 0.0078, 0.0118 in)

* = After reaming ** = In area swept by the piston rings

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CRANKSHAFT AND BEARINGS DATA	SPECIFICATIONS
Standard journal diameter	79.791 to 79.810 mm (1) (3.143 to 3.144 in)
Journal undersizes	0.254 - 0.508 - 0.762 - 1.016 mm (0.010 - 0.020 - 0.030 - 0.040 in)
Standard main bearing shell thickness	2.168 to 2.178 mm (0.0854 to 0.0858 in)
Main bearing shell undersizes (internal diameter)	0.254 - 0.508 - 0.762 - 1.016 mm (0.010 - 0.020 - 0.030 - 0.040 in)
Bearing shell to journal clearance	0.034 to 0.103 mm (0.00134 to 0.004 in)
Maximum permitted wear clearance	0.180 mm (0.007092 in)
Standard crankpin diameter	63.725 to 63.744 mm (1) (2.510 to 2.5115 in)
Crankpin undersizes	0.254 - 0.508 - 0.762 - 1.016 mm (0.010 - 0.020 - 0.030 - 0.040 in)
Standard big-end bearing shell thickness	1.805 to 1.815 mm (0.0711 to 0.0715 in)
Big-end bearing shell undersizes (internal diameter)	0.254 - 0.508 - 0.762 - 1.016 mm (0.010 - 0.020 - 0.030 - 0.040 in)
Big-end bearing shell to crankpin clearance	0.033 to 0.087 mm (0.001300 to 0.00342 in)
Maximum permitted wear clearance	0.180 mm (0.007092 in)
Standard crankshaft thrust washer thickness	3.378 to 3.429 mm (0.133 to 0.135 in)
Thrust washer oversizes (thickness)	0.127 - 0.254 - 0.381 - 0.508 mm (0.005 - 0.010 - 0.015 - 0.0200 in)
Width of main bearing including thrust washers	31.766 to 31.918 mm (1.25 to 1.257 in)
Width of corresponding crankshaft journal	32.000 to 32.100 mm (1.26 to 1.264 in)
Crankshaft assembly endfloat	0.082 to 0.334 mm (0.0032 to 0.013 in)
Max. permitted wear endfloat	0.40 mm (0.01576 in)
Maximum ovality or taper of journals and crankpin after regrinding	0.01 mm (0.000394 in)
Maximum ovality or taper of worn journals and crankpin	0.05 mm 0.00197 in)
Maximum tolerance for alignment of crankshaft journals with crankshaft supported on the two outer journals	0.10 mm (3.94 in)
Maximum tolerance for alignment, in both directions, of crankpins (3-cylinder engines) or each pair of crankpins (4-cylinder engines) relative to crankshaft journals	0.25 mm (0.00985 in)
Maximum tolerance for run-out between the outer surfaces of the crankshaft journals and the crankshaft centreline	± 0.10 mm (0.00394 in)

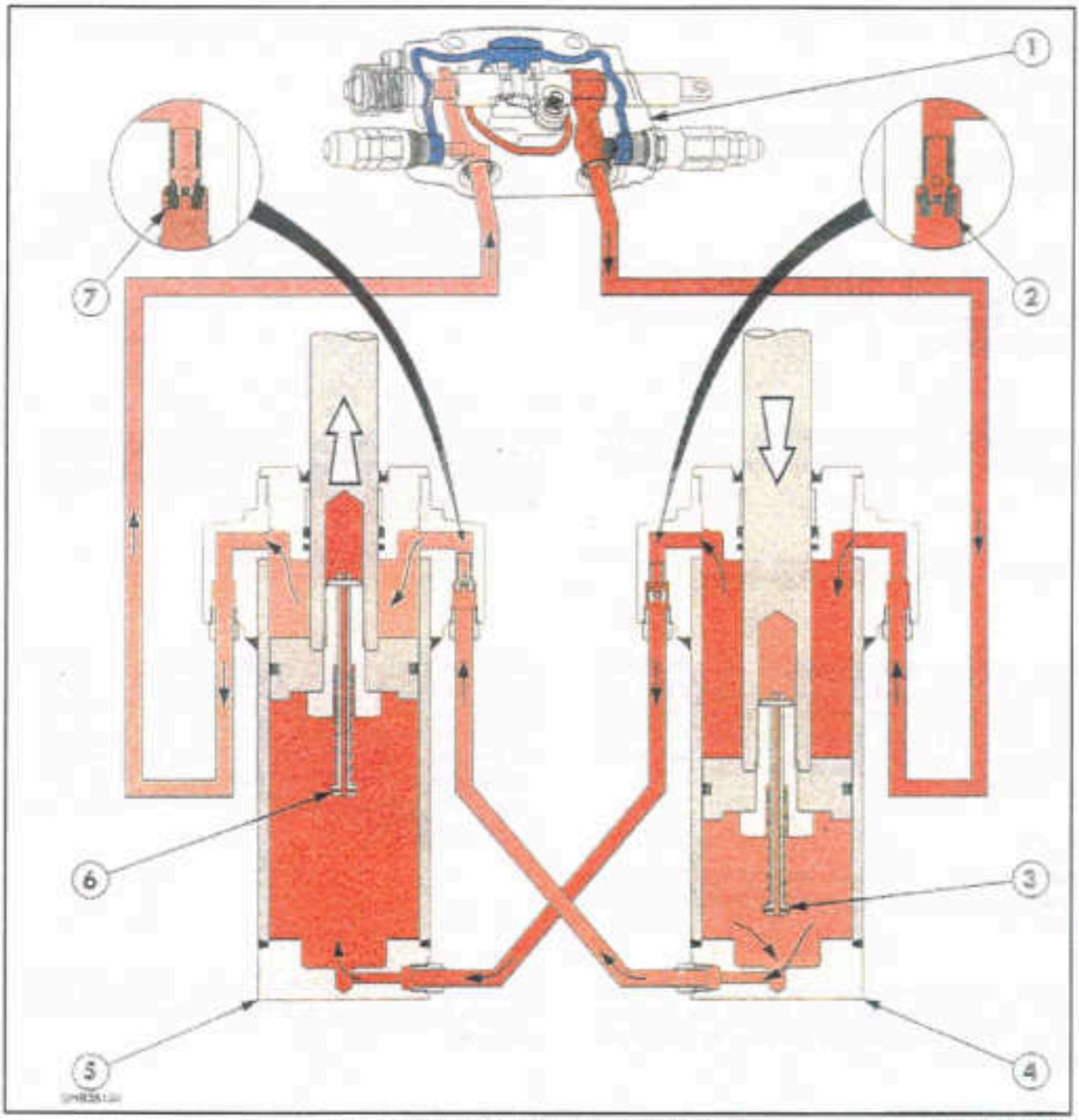
(1) Crankshafts with 0.1 mm (0.00394 in) undersize journals and crankpins and consequently undersize bearing shells may be fitted in factory production.

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CRANKSHAFT AND BEARINGS DATA	SPECIFICATIONS
Maximum permitted tolerance on run-out of flywheel mounting flange surface relative to the crankshaft centreline, measured with 1/100 mm scale dial gauge resting on front flange surface (A, at a diameter of 108 mm (4.225 in) (total gauge reading)	0.025 mm (0.000985 in)
Maximum permitted tolerance on co-axial alignment of flywheel centering seat (B, relative to the crankshaft journals (total gauge reading)	0.04 mm (0.001576 in)

CONNECTING ROD DATA	SPECIFICATIONS
Connecting rods	cast-iron with oil way
Diameter of small end bushing seat	41.846 to 41.884 mm (1.6487 to 1.650 in)
Outside diameter of small end bushing	41.979 to 42.017 mm (1.654 to 1.655 in)
Interference between small end bushing and seat	0.095 to 0.171 mm (0.00374 to 0.00673 in)
Inside diameter of small end bushing (measured after fitting)	38.004 to 38.014 mm (1.497 to 1.4977 in)
Diameter of big end shell bearing seats	67.407 to 67.422 mm (2.655 to 2.656 in)
Max. tolerance for parallelism between the small end and big end axes measured at 25 mm (0.985 in)	± 0.07 mm (0.002758 in)
Max. weight difference between con rods in same engine	25 grams (0.88 ounces)

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Swing Cylinder Operation — Right-Hand Swing

Figure 8-139

1. Control Valve Swing Section
2. One Way Restrictor
3. Cushioning Rod
4. Right-Hand Cylinder
5. Left-Hand Cylinder
6. Cushioning Rod
7. One Way Restrictor

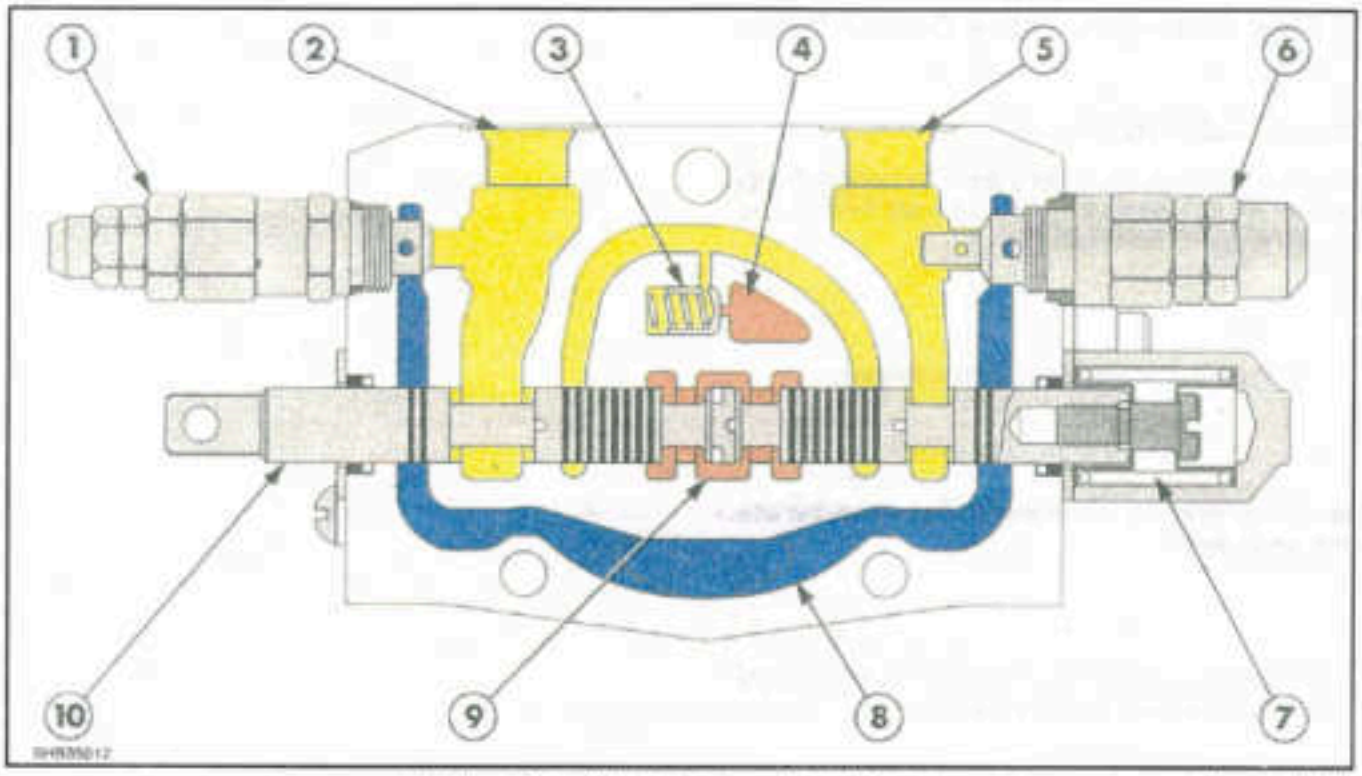
Pump Pressure Oil

1st Stage Restricted Return Oil

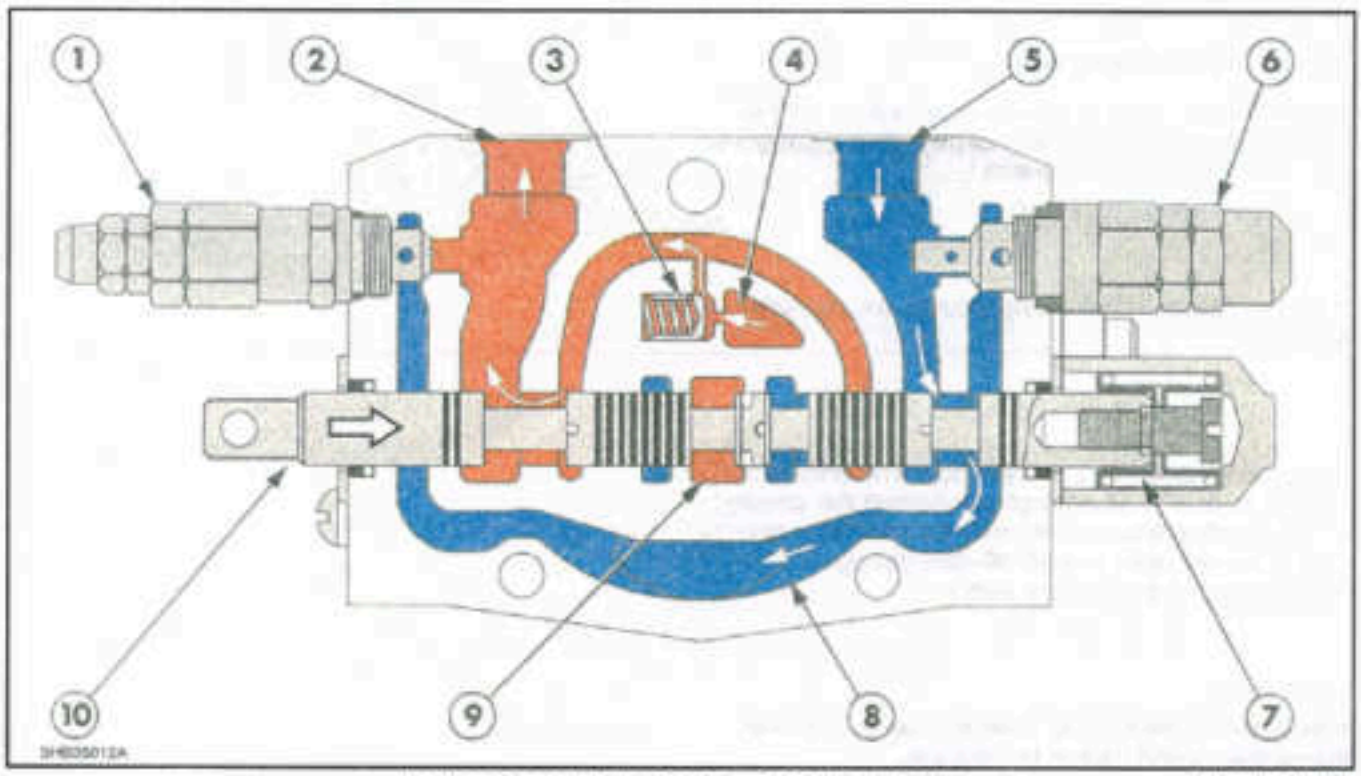
2nd Stage Restricted Return Oil

Return to Reservoir Oil

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Backhoe Control Valve Section — Neutral Position Figure 8-86



Backhoe Control Valve Section — Operating Position Figure 8-87

1. Circuit Relief Valve
2. Cylinder Port
3. Check Valve
4. Parallel Gallery
5. Cylinder Port
6. Circuit Relief Valve
7. Centering Spring
8. Exhaust Gallery
9. Staggered Open Center Gallery
10. Spool

Pump Pressure Oil Trapped Oil Return to Reservoir Oil

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