Service Manual

Wheeled Loading Shovel - 427, 437 and 457

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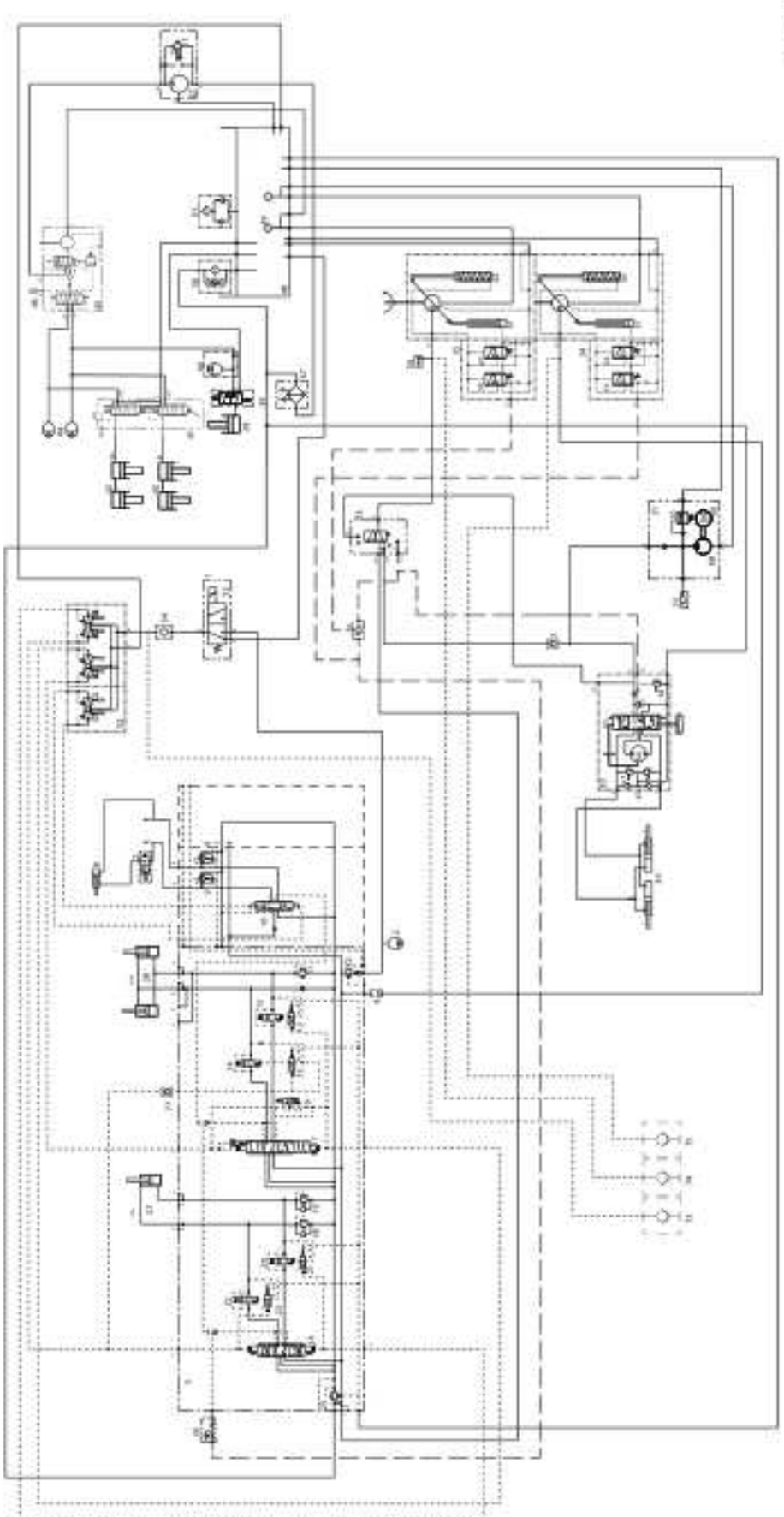


Fig 8.

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9 Install the second axle bevel-gear **G**.



Fig 283.

10 Install the outer and inner-disks **H** in alternating order, start with an inner-disk. For more information refer to ***Calculate the Installation Clearance, Step*** 11.



Fig 284.

11 Calculate the Installation Clearance (0.2-0.7mm):

a Measure the dimension **I** from the mounting-face of the differential housing to the plane-face of the outer-disk.

For example, dimension **I** = 44.30mm



Fig 285.

b Measure the dimension **II** from the contact-face of the outer-disk to the mounting-face on the housing-cover.

For example, dimension **II** = 43.95mm



Fig 286.

c Calculation example:

Dimension **I**	44.30mm
Dimension **II**	43.95mm
Difference = disk clearance	0.35mm

Note: *Use the outer-disks (which have different thicknesses) to set the installation clearance to the correct dimension. (S=2.7, S=2.9, S=3.0, S=3.1, S=3.2, S=3.3 or S=3.5mm). Make sure that the difference in thickness between the left and the right disk-packages is a maximum of 0.1mm.*

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FC	SPN	FMI	IC	Description of the Fault Code	Reaction of the TCU	Repair Procedures
B7	5700	0	87	A High Temperature at the Sump		
				The TCU measures a temperature in the oil sump that is over the allowed threshold.	No reaction OP-Mode: normal	Cool down the machine Check the oil level Check the temperature sensor
B8	5710	0	88	A High Temperature at the Retarder		
				The TCU measures a temperature in the retarder oil that is over the allowed threshold.		Check the oil level Check the temperature sensor
B9	5720	0	89	An Over-Speeding Engine		
					If configured, the retarder is applied OP-Mode: normal	
BA	5730	0	90	The Differential Pressure Oil Filter		
				The TCU measures a voltage at the differential pressure switch which is out of the allowed range: -A cable/connector is defective, it has a SC to the battery or earth -The oil filter is polluted -The differential pressure switch is defective	No reaction OP-Mode: normal	Check the oil filter Check the wiring from the TCU to the differential pressure switch Check the differential pressure switch (measure the resistance)

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Addendum Tooth Position

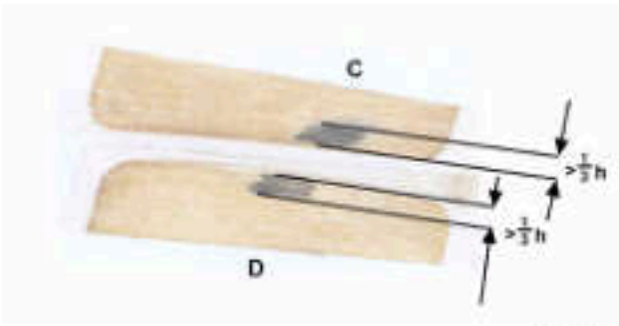


Fig 5. Poor Contact Pattern

C Convex

D Concave

The contact pattern on the convex and concave flanks is too far in the top section.

The contact pattern is too small and is not at a tangent to the flank middle line.

Adjustment: Add a thicker shim to the pinion.

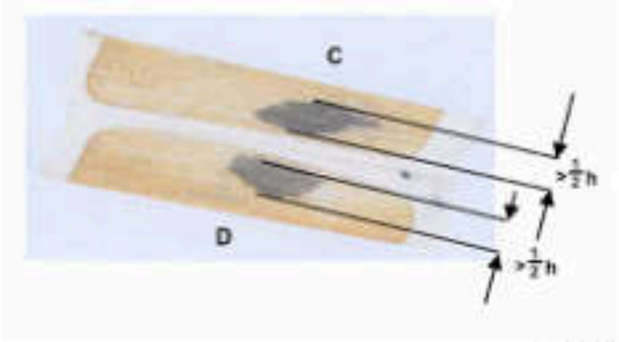


Fig 6. Contact Pattern Okay

The convex contact pattern must be visible in the direction of the tooth centre depth.

A minimum 50% of the flank in the direction of the tooth depth is covered.

Line Contact Pattern

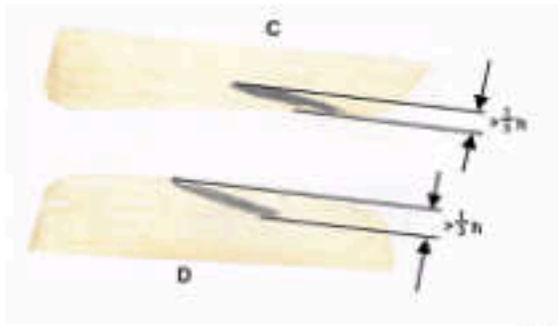


Fig 7. Poor Contact Pattern

C Convex

D Concave

The contact pattern on the convex and concave flanks is too far up on the crown-wheel. The contact pattern is also too small and is not at a tangent to the middle line of the flank.

Adjustment: Add a thicker shim to the pinion.

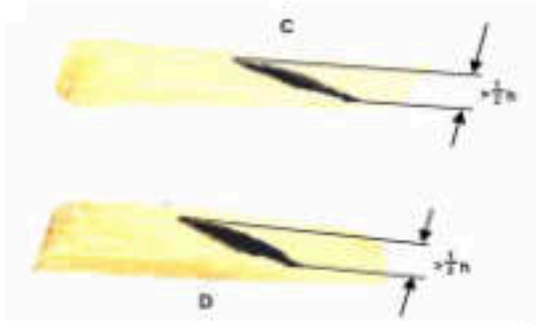


Fig 8. Contact Pattern Okay

The convex contact pattern must have an impression at the tooth middle line. A minimum of 50% of the tooth depth (flank) is covered.

Note: *An edge **X** on the root of the tooth is allowed, this is caused by the shot-peening process.*

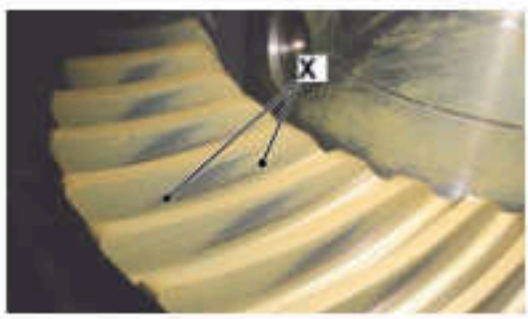


Fig 9.

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C100380-1

Fig 6.

If during setup, the choice is made to increase the recorded hours, you must accept a warning message before the value is changed.



C100380-2

Fig 7.

If there is a need to reduce the stored hours value, the third page of the tool can be used which is locked until an unlock code from JCB Service is entered.

To unlock the page, the challenge code must be emailed to JCB Service.

JCB will then respond with an unlock code which allows that particular computer to reduce the stored hours value for a limited time.

Once this time limit has expired the tool is locked again and the procedure has to be repeated.



C100380-3

Fig 8.

Select 'Unlock Fields' **A** from the 'Utilities' menu.

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