Service Manual

Wheeled Loading Shovel - 434S/435S

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Technical Data

Air Conditioning Option

Binary Switch Settings	
Low pressure	2.05 bar (29.8 lbf/ in. 2.1Kg/cm)
High pressure	23.5 bar (341 lbf/ in, 24Kg/cm)
Thermostatic Switch Settings	
Cut out	32.0°F to 34.0°F (0°C to 1.1°C)
Cut in	44.0°F to 46.0°F (6.6°C to 7.7°C)
Refrigerant	
1.3 Kg of R134a Gas	
Oil	
Type	Pag oil
Quantities:	
- Recharge the system	1.5 fluid oz. (42.6 millilitres)
- Condenser replacement	2.0 fluid oz (56.8 millilitres)
- Evaporator replacement	3.0 fluid oz. (85.2 millilitres)
- Hoses replacement	2 to 4 fluid oz. (56.8 to 113.6 millilitres)
- Receiver Drier replacement	2.0 fluid oz. (56.8 millilitres)
- Compressor replacement	None - pre charged

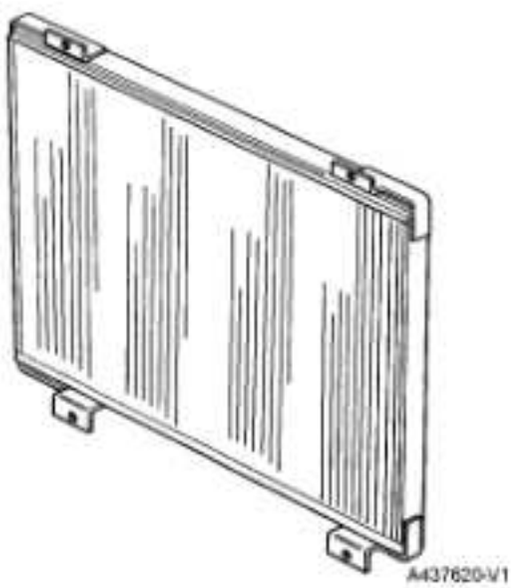


Fig 1. Typical Condenser

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12 Rear Grille Harness

721/12218 1 ⇨ C-90)

Main components connected to this harness
- Rear chassis connector
- Auxiliary lighting
- Reverse alarm
- Number plate light

13 Cab Harness

721/12117 1 ⇨ C-91)

Main components connected to this harness
- Ignition switch
- Column switch
- Wiper motor
- Chassis connector
- EMS
- Cab switches
- Loader control lever
- Transmission computer
- Fuse boxes
- Air conditioning
- Diagnostic port
- Heated screen
- Roadlighting
- Hazard switch
- Park brake switch
- ZF Computer
- Dallas key pad
- CCTV
- Ignition relays

14 CAN Backbone Harness

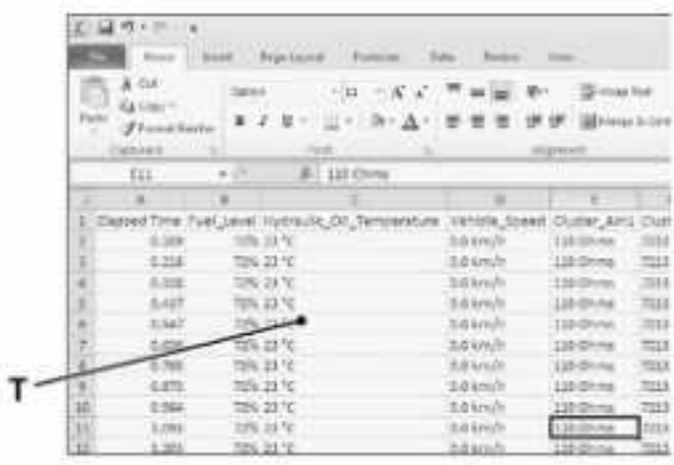
727/00004 1 ⇨ C-97)

Main components connected to this harness
- ?

15 Throttle Link Harness (T3 Only)

721/12119 1 ⇨ C-98)

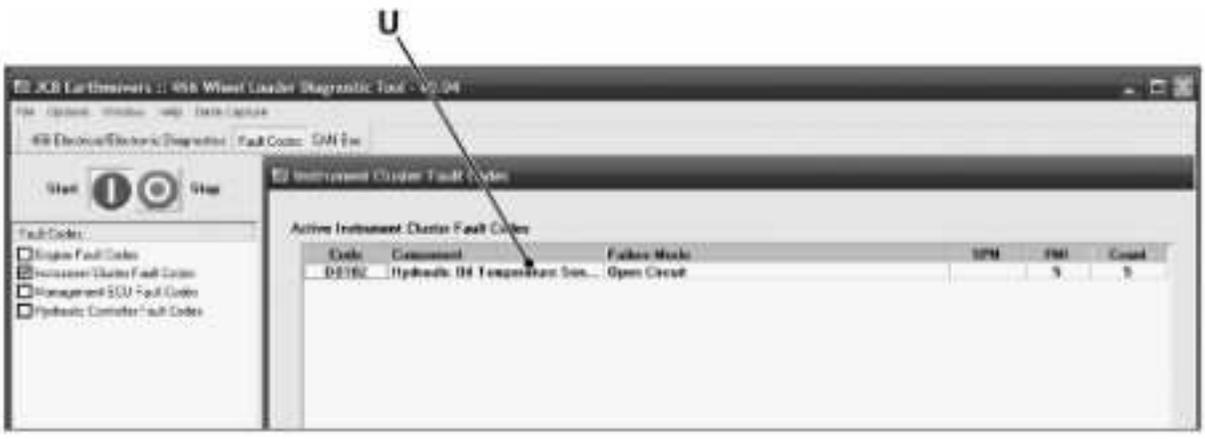
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C109870-1

Fig 110.

Sample data log **T** exported and viewed in Excel.



C109870-2

Fig 111.

Fault code screen showing ant current active fault codes on the machine, with a description and occurrence count at **U**.

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Electronic Monitoring System (EMS) - 434S

434S

General

C164 (EMS 728/80077) is the EMS system first introduced in January 2006.



Fig 84.

With the introduction of this new type EMS there is a requirement for advanced Standard Software Tools. These tools are available within JCB Servicemaster 2. They will come under the Large Wheeled Loader screen shown: ⇨ *Fig 85. (C-113).*



Fig 85.

Note: *For these diagnostic tools to work correctly, the Data Link Adaptor (892/01174) must be connected (in conjuction with the interrogation lead 71820237) between the Diagnostic Connector and the PC, and the machine's ignition must be turned ON.*

EMS Tools

Following is an outline of the available software tools and how they are to be used.

Service Tools

1 

Flash Loader program - to download the latest software files to the EMS (these are called Application files). This can be used by double clicking the icon as shown.

2 

Set-up program - to enter the machine Serial Number, Rolling Radius etc. and Languages. This program can be used by double clicking the icon as shown

3 
Diagnostics

Diagnostics program - to help fault find on the machine. This includes information about the Electronic Engine, Transmission and the EMS. This program can be used by double clicking the icon as shown.

4 
Service History

Service History program - for checking when the machine was last maintained by a JCB Dealer. This program can be used by double clicking on the icon as shown.

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Addendum Tooth Position

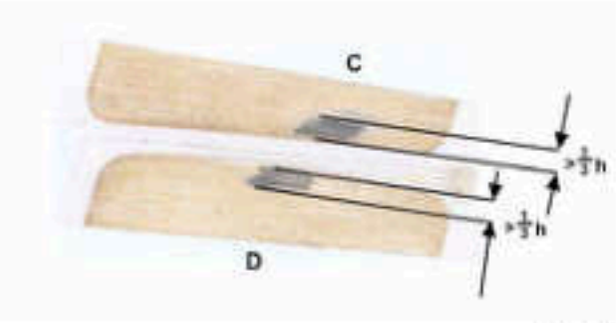


Fig 31. Poor Contact Pattern

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.

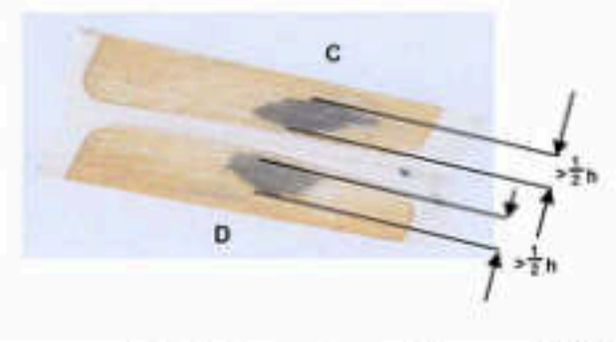


Fig 32. Contact Pattern Okay

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

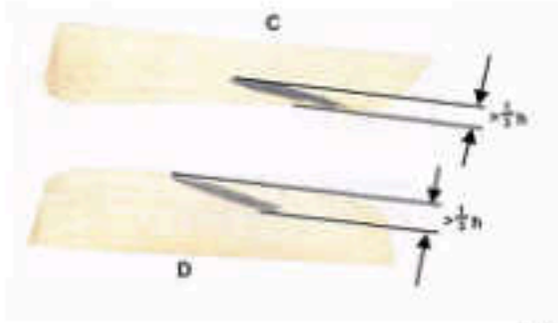


Fig 33. Poor Contact Pattern

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.

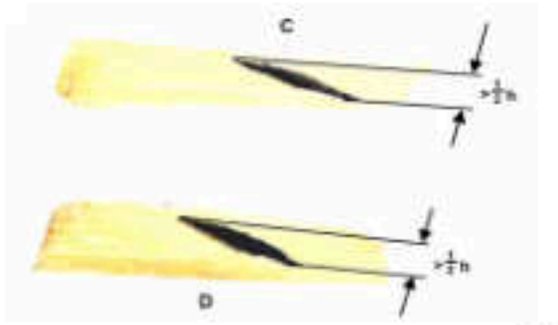


Fig 34. Contact Pattern Okay

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.*

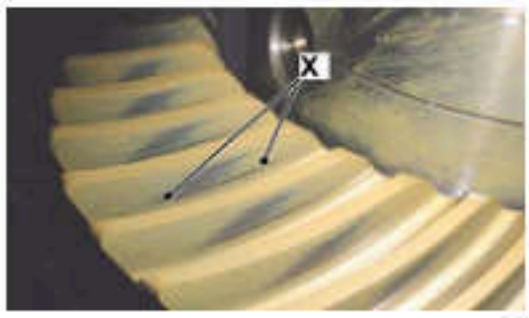


Fig 35.

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