SERVICE MANUAL

WHEELED EXCAVATOR

JS145W, JS160W, JS175W

EN - 9813/2650 - ISSUE 3 - 08/2016

This manual contains original instructions, verified by the manufacturer (or their authorized representative).

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Foreword

The Operator's Manual

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You and others can be killed or seriously injured if you operate or maintain the machine without first studying the Operator's Manual. You must understand and follow the instructions in the Operator's Manual. If you do not understand anything, ask your employer or JCB dealer to explain it.

Do not operate the machine without an Operator's Manual, or if there is anything on the machine you do not understand.

Treat the Operator's Manual as part of the machine. Keep it clean and in good condition. Replace the Operator's Manual immediately if it is lost, damaged or becomes unreadable.

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7. Remove the oil seal installation tool, remove the old hub and install the fixing bolt. Repeat steps 5 and 6 to fully install the rear oil seal.
8. Remove the oil seal installation tool.

After Installation

1. Install the flywheel, refer to (PIL 15-54).

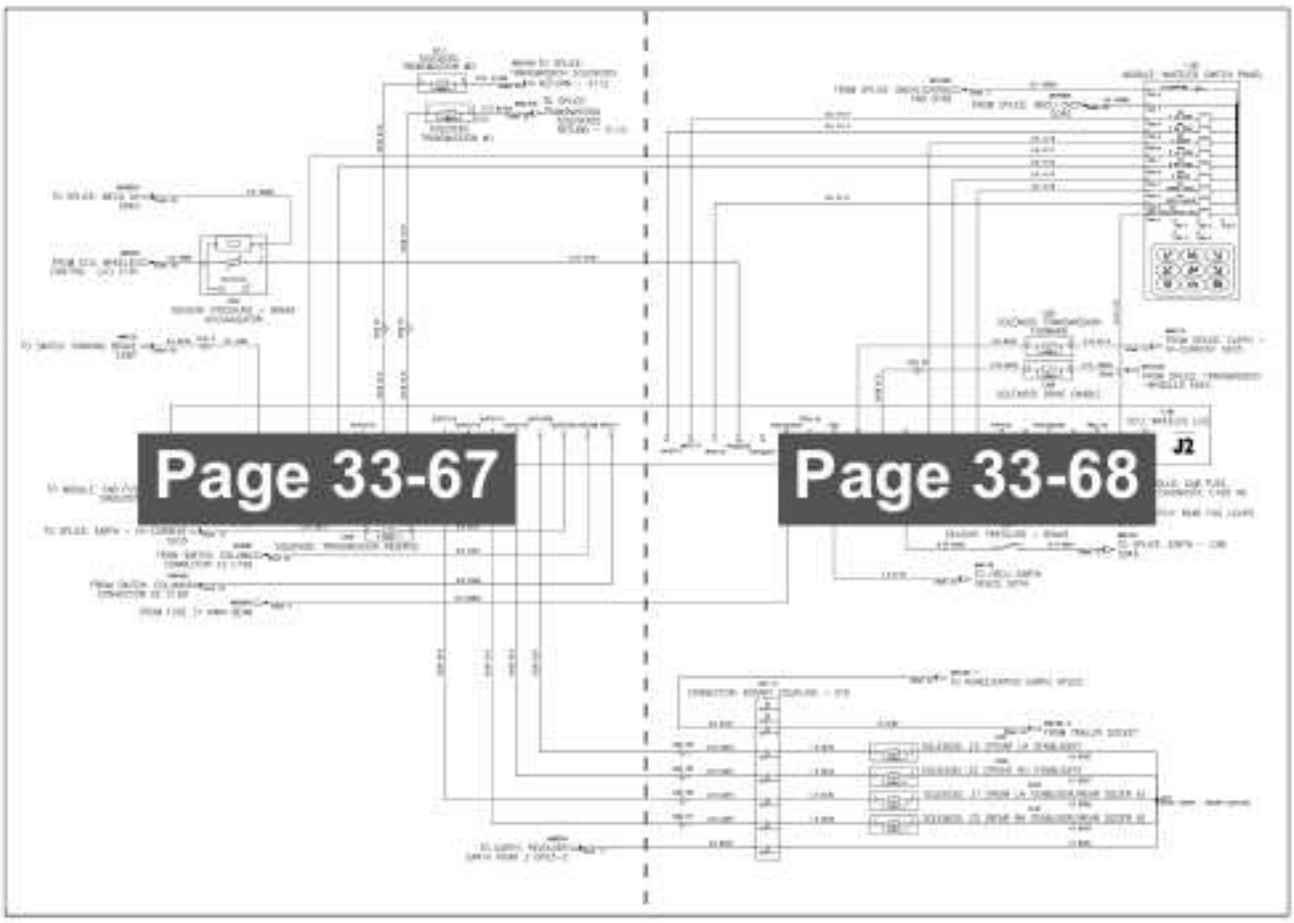
Table 42. Torque Values

Item	Nm
E	47

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Key to Schematic Sheets - Refer to Table 289.

Figure 963. 333/K5421 issue 3 - sheet 21 of 22 - Wheeled ECU (WECU) connector J2



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- Make sure that 1 in 5 fuel tank fills use standard diesel to EN590 specification, this will help to prevent 'gumming'.
- Make sure regular oil sampling is completed (look for excessive unburnt fuel content, water or wear particles.
- Make sure regular oil sampling is completed (look for excessive unburnt fuel content, water or wear particles.
- Change the engine oil and filter more frequently (as a minimum half the recommended intervals), or as indicated by oil sampling.
- Change the fuel filters more frequently (as a minimum half the recommended intervals), or if there are engine performance related issues.
- Make sure the fuel is stored correctly, care must be taken to make sure no water enters the machine fuel tank (or the storage tank). Water will encourage micro-bacterial growth.
- Make sure that the fuel pre-filter is drained DAILY (not every week as currently advised).
- Use heater kits in low ambient temperature territories.
- The biodiesel must meet the following standards: ASTM D6751, DIN 51606, ISO 14214

If necessary use a test kit to confirm the fuel specification. Testing kits are available (not from JCB currently), use the internet as a source for the kits.

If performance related issues are to be reported to JCB Service, and the engine has been run on biodiesel, then the fuel system must be filled with standard diesel (at least 2 x tank fills) to EN590 specification and relevant stall speeds recorded prior to making the report.

Warranty

JCB have shown a commitment to support the environment by approving the use of biodiesel blended fuels.

Using a B20 blend of biodiesel requires caution and additional servicing of the engine is required. Refer to:-Service Requirements for use of B20 Biodiesel.

Failure to follow the additional recommended service requirements may lead to a warranty claim being declined.

Failures resulting from the incorrect use of biodiesels or other fuel additives are not defects of the JCB Ecomax engine workmanship and therefore will not be supported by JCB Warranty.

Usage and Effects of Fuels

Acceptable Fuels

- Ultra Low Sulphur Diesel (EN590) - Available throughout the UK, Europe and North America since March 1999. This fuel has a maximum sulphur content of 0.001% (0.0015% in North America) by weight and a further reduction in the natural lubricity and aromatic content than experienced with low sulphur diesel. Major oil producers will add lubrication improvers and also maintain the total aromatic content to an acceptable level.
- B20 Biodiesel - 7–20% - Biodiesel refers to pure fuel before it is blended with diesel fuel. When biodiesel is blended with diesel fuel it is referred to as B5, B20 etc., where the number indicates the percentage of biodiesel in the fuel, for example B5 contains 5% biodiesel. Biodiesel has different characteristics than mineral based fuels, this could lead to seals swelling, fuel system corrosion and seal damage. Biodiesels will 'cloud' at higher temperatures than mineral based fuels. To explain Cloud Point - the lowest temperature at which fluid can flow and performs its functions is referred to as Pour Point. Just prior to reaching its Pour Point the diesel fluid becomes 'cloudy' due to crystallization of waxy constituents - this is know as Cloud Point. Using diesel at temperature below its cloud point can result in filter clogging. To prevent this happening preheating will be required. Using B20 biodiesel can result in unburnt fuels accumulating in the engine oil, ultimately this can affect the engine oil efficiency and lead to engine damage (with standard diesel any unburnt fuel evaporates off the lubricating oil). The natural properties of biodiesel make it a good medium for micro bacterial growth, these microbes can cause fuel system corrosion and early fuel filter blocking. Biodiesels must be stored to exclude water absorption and oxidation. It will be necessary to consult and seek advice from your fuel supplier, the effectiveness of conventional antibacterial additives when used in biodiesel is still being investigated in the fuel industry. A high percentage biodiesel mixture (>20%) can lead to fuel gelling and filter blocking in low temperature operation, it may also effect the power and performance of the engine. To minimise the risk of engine damage when using a B20 mix, there are additional service requirements. If the recommended actions are not taken there may be the following consequences:- low temperature filter clogging- injectors lacquering / stickingdeterioration of seals and rubber hoses- corrosion of metal parts in the fuel system- engine performance problems. These risks will be increased if the

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Figure 648.



5. Attach the shoe plate to the swash plate. Place the pump casing with its regulator mounting face down, attach the tilting bush of the swash plate to the tilting pin, and attach the swash plate and shoe plate to the swash-plate support.
   5.1. Manually check that the swash plate can be moved smoothly.
   5.2. Apply clean oil to sliding sections of swash plate and swash plate support so that the drive shaft can be fitted easily.
   5.3. Take care not to damage shoe plate surface.
6. Repeat step 5 for the other pump section.

Figure 649.



7. Install the drive shafts together with their bearing, bearing spacers and snap ring to each pump section.

Figure 650.



8. Install a new O-ring1 into the seal cover.
   8.1. Apply grease lightly to O-ring.
9. Install the seal cover on the swash plate support with socket head screws 4.

Figure 651.



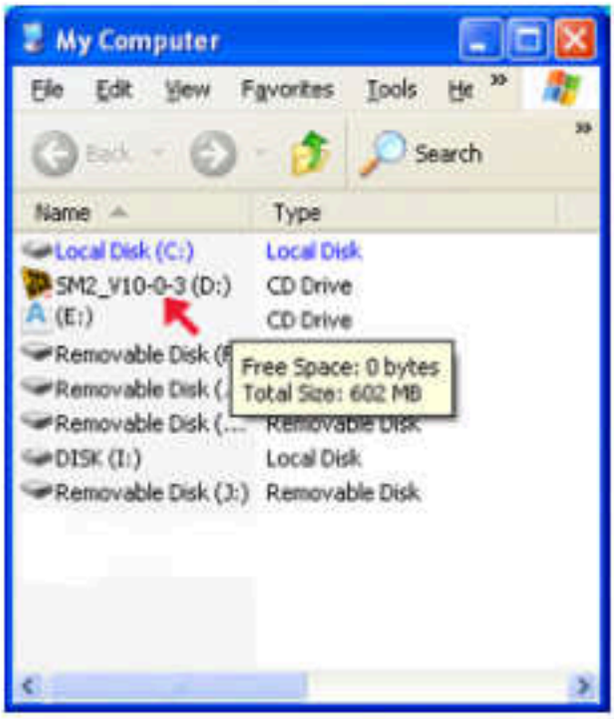
Figure 652.



   9.1. Take care not to damage the oil seal inside the seal cover.
10. Assemble the cylinder sub-assembly consisting of the cylinder, the piston sub-assemblies, set plate, the spherical bush and the cylinder spring.

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Figure 1204.



4. Select and open the "Setup.exe" application.
5. A new window "JCB Servicemaster Setup" will appear on the screen.
   5.1. Click the "Install V10.0.3" option to start the setup application. Refer to Figure 1205.

Figure 1205.



6. A new window "Select Setup Language" will appear on the screen. Refer to Figure 1206.
   6.1. Use the drop down option to select the suitable language.
   6.2. Click the "OK" option to confirm selected language.

Figure 1206.



7. A warning message window will appear on the screen. Refer to Figure 1207.
   7.1. Click the "OK" option.

Figure 1207.



8. A new window "JCB Servicemaster Installation Wizard" will appear on the screen. Refer to Figure 1208.
   8.1. Click the "Next" option to proceed.

Figure 1208.



9. Put "User Name" and "Organization" details into the "Customer Registration" screen. Refer to Figure 1209.
   9.1. Click the "Next" option when you inserted details.

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