JALTEST OHW USE CASES

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jaltest DIAGNOSTICS

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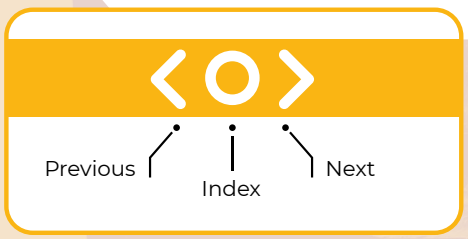


Introduction

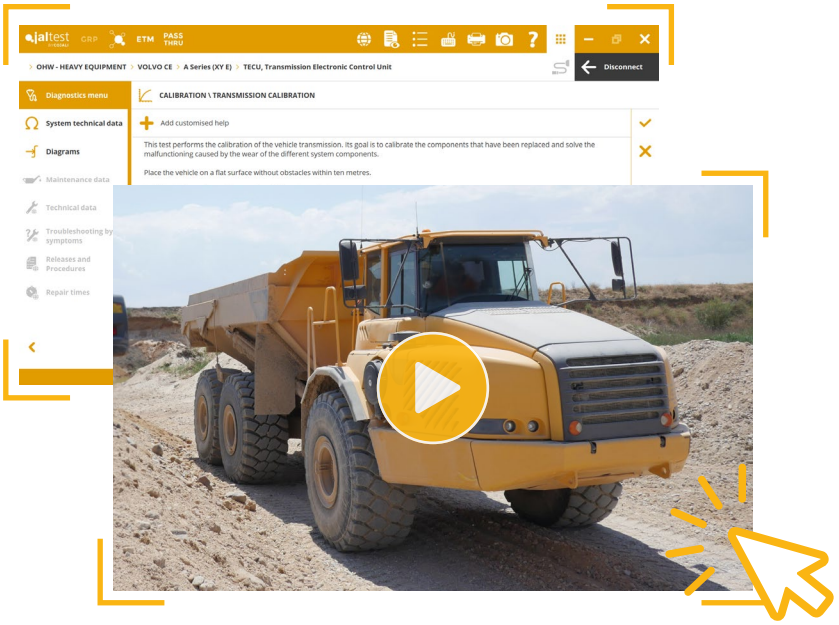
Over time the existence of multiple brands of **construction machinery** with a wide range of solutions is growing each day. This variety reinforces the need for a multibrand diagnostics tool with sufficient capacities to face all the daily challenges of a technician in a specialised workshop (advanced functionalities, technical information and troubleshooting guides, among many other tasks).

Today, most vehicle systems are equipped with electronic control and a large number of cables, sensors, actuators and control units, which are present in the machine from end to end. Furthermore, the antipollution regulations and the efficiency imposed on new vehicles do not allow control without the aforementioned electronic components. Therefore, it is essential to have diagnostic tools, such as Jaltest, which are capable of dealing with failures and facilitating the technician tasks.

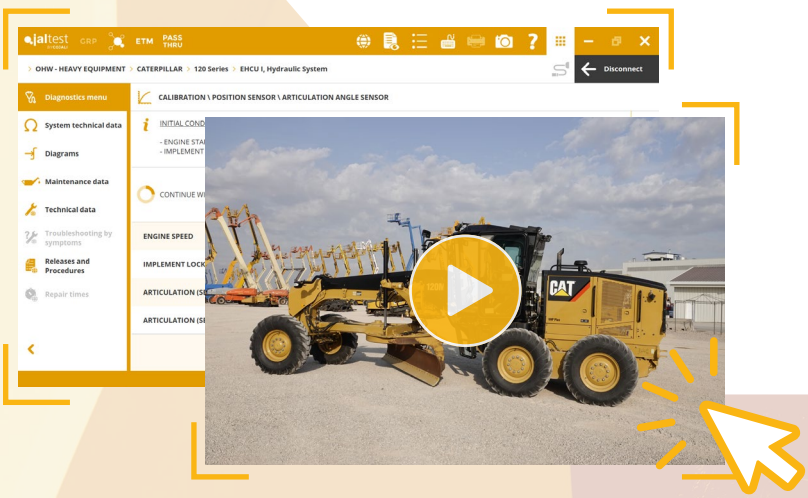
The purpose of this document is to show the reader the last technologies of the **construction machinery** and how Jaltest makes its diagnostics and repair easier.

1 - Transmission calibration in Volvo articulated hauler

Volvo articulated haulers from D and E series have the “Powertronic” automatic transmission of Volvo. Wear or replacement of the transmission components requires its calibration to obtain a smooth gear shift at the exact moment, thus achieving greater comfort and performance at any speed.



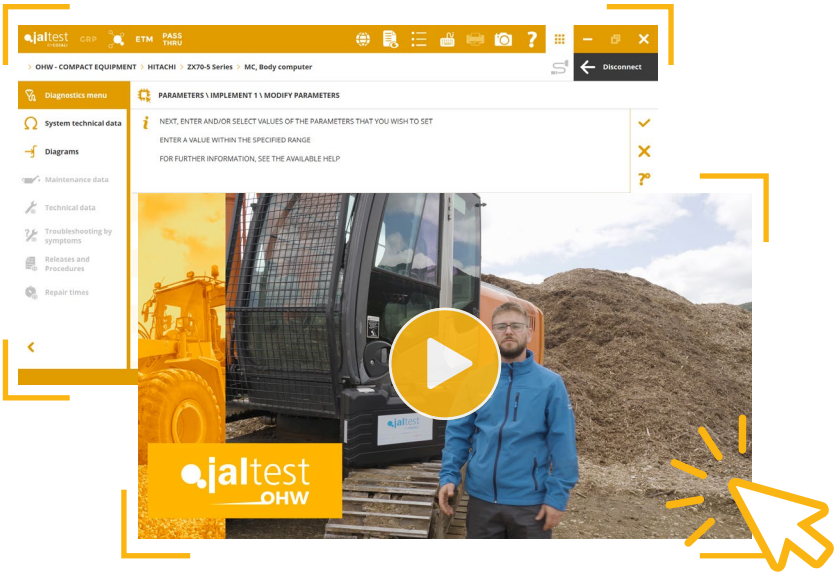
2 - Calibration of the articulation and steering position sensor in Caterpillar 140M motor graders



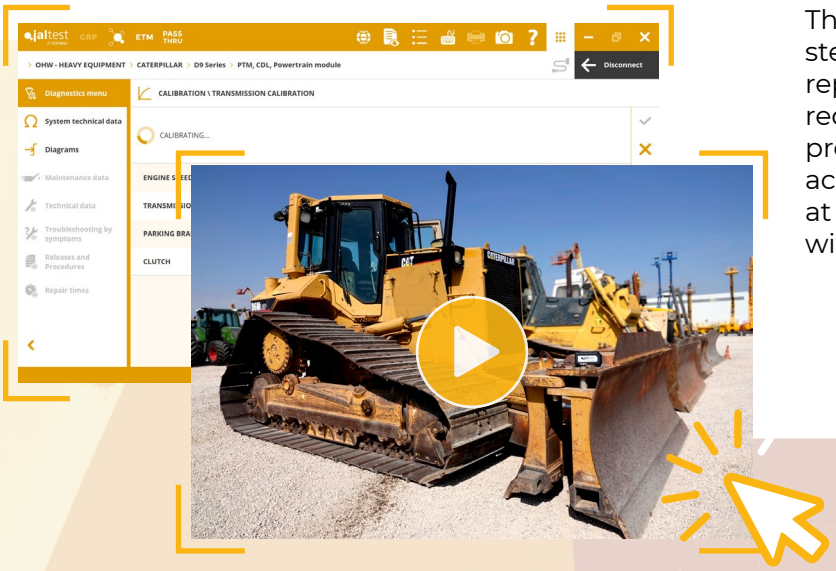
Motor graders are machines used in land levelling tasks, hence the need for all the elements used to carry out these levelling tasks to be well calibrated and adjusted. Wear or replacement of the articulation and steering position sensors requires their calibration to obtain a correct detection of the machine positions, thus achieving greater performance and working precision.

3 - Implement configuration in Hitachi excavators

Due to the nature of this type of machines, excavators can carry out a wide range of tasks with only the change of the implement. The use of different implements implies the configuration of operating parameters of the hydraulic system of the machine, such as enabling the auxiliary lines or modifying the flow rates. This achieves a correct operation of the work tool, thus achieving greater flexibility of use of the machine.



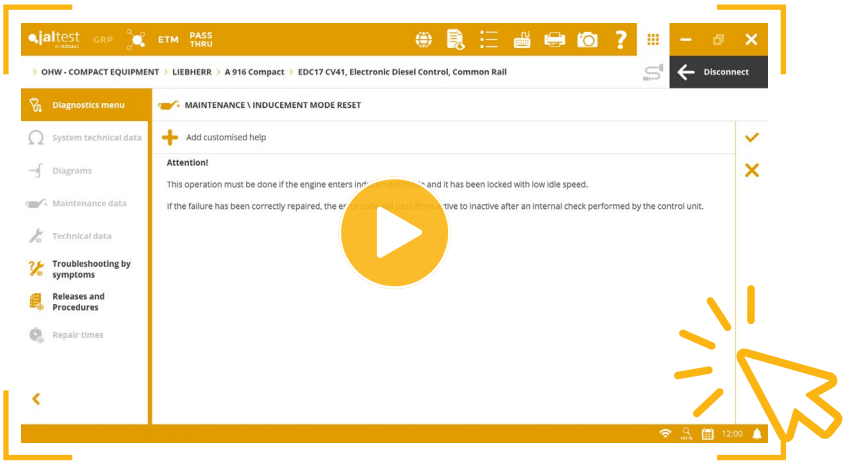
4 - Powertrain calibration in Caterpillar Dozer



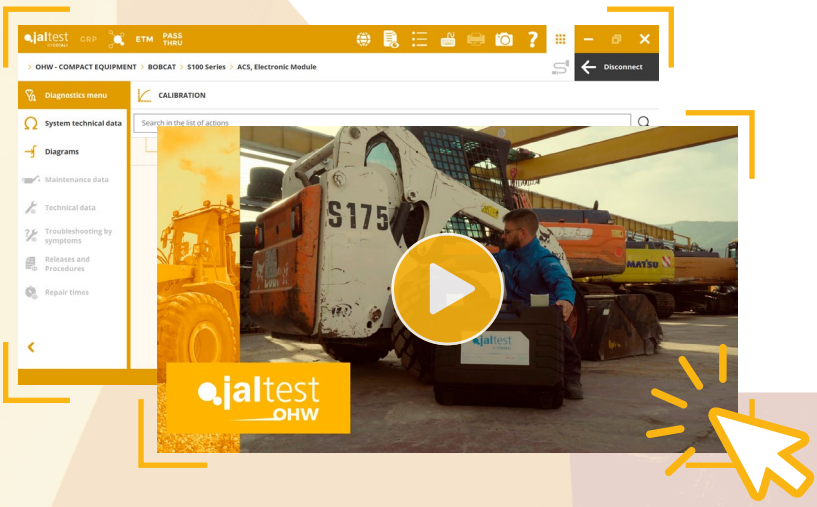
This type of machines use the powertrain as steering and displacement system. Wear or replacement of the powertrain components requires its calibration to obtain a greater precision during forward and displacement, thus achieving greater comfort and performance at any speed, as well as a linear displacement without deviation of the machine.

5 - Inducement mode reset in Liebherr wheel excavator

This machine has a Liebherr D924 engine. The faulty operation of the machine aftertreatment system due to an error in the AdBlue/DEF pump causes the machine power limitation. However, the inducement mode reset is available in Jaltest and, once the defective components have been replaced or repaired, it is possible to delete this machine limitation and obtain 100% of engine power again.



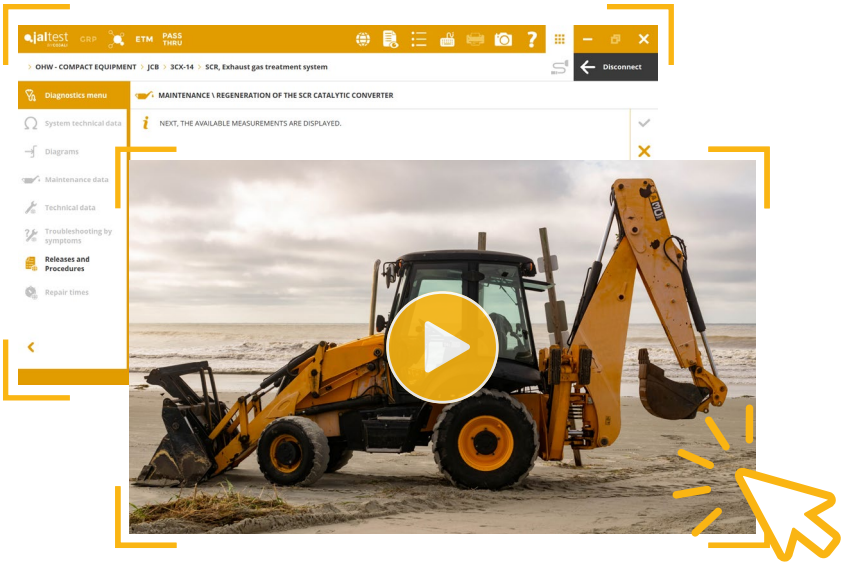
6 - Calibration of the hydraulic system actuators in Bobcat S 700 skid-steer loader



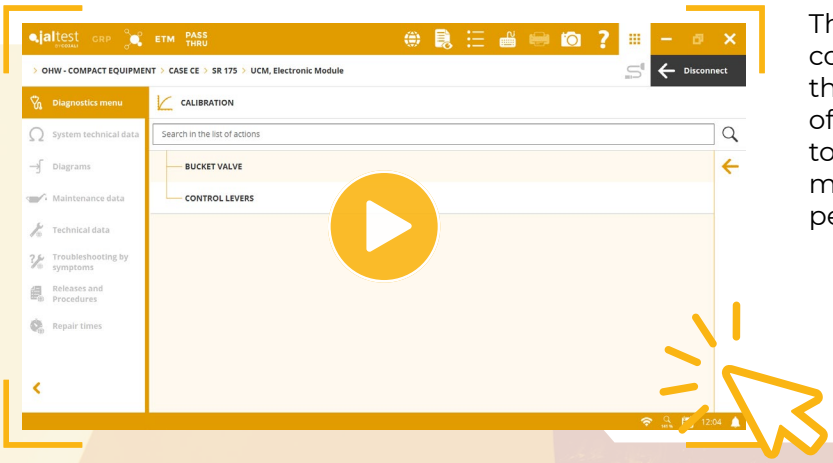
This machine has two actuators to control the boom and bucket hydraulic system. Wear or replacement of these components generates an error with W3223 code “Required calibration”, that requires their calibration to obtain a smooth operation at the exact moment, thus achieving greater comfort and performance.

7 - SCR regeneration process in JCB 3CX backhoe loader

This machine has a JCB engine equipped with SCR system. After operation, the cancellation of the regeneration process by the operator for more than 3 consecutive times causes the engine power limitation. However, the maintenance of the SCR system regeneration is available in Jaltest and it is possible to delete this machine limitation and obtain 100% of engine power again.



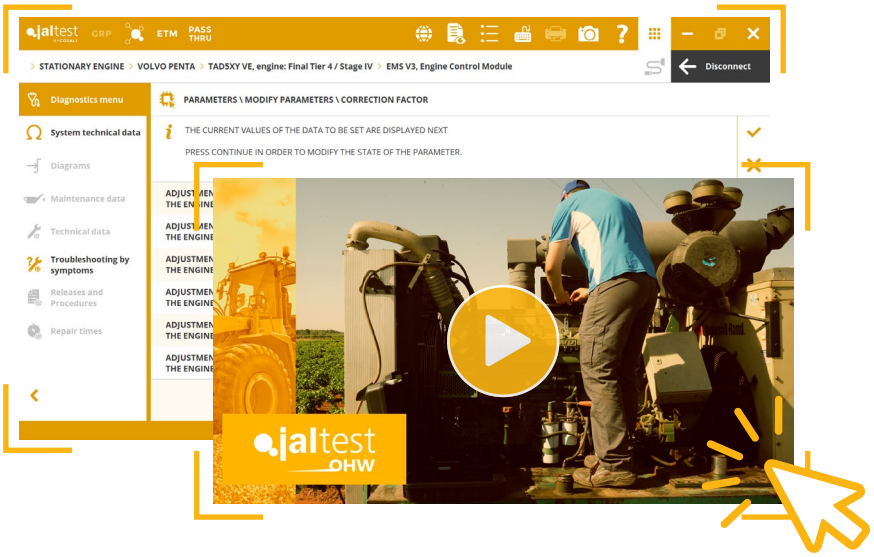
8 - Control lever calibration in CASE skid-steer loader



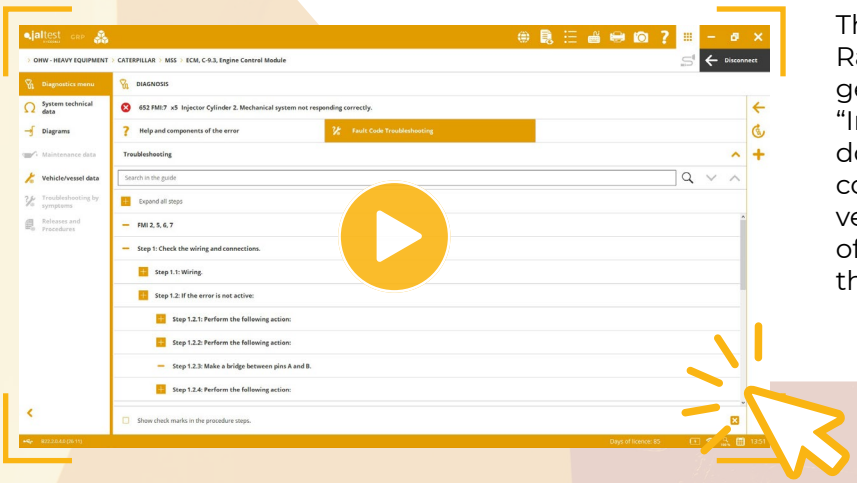
This machine has two Joysticks with electronic control to manage the hydraulic system and the propulsion system. Wear or replacement of these components requires their calibration to obtain a smooth operation at the exact moment, thus achieving greater comfort and performance at any speed.

9 - Modification of compensation parameters in Volvo Penta engines

These Volvo Penta engines are used in many stationary applications such as light generators, water pumps, compressors, etc. These engine compensation factors vary depending on the application and can be modified with Jaltest in such a way that an engine can be configured according to its intended purpose, obtaining a smooth operation during acceleration and obtaining power at the exact moment.



10 - Operation check of the Caterpillar C-9.3 injection system



These Caterpillar engines have a Common Rail injection system that, due to wear, generates the DTC 652 FMI 7 error codes “Injector Cylinder 2. The mechanical system does not work correctly”. To repair these error codes, the performance of the fuel system verification check is required, where a check of all the injectors will be carried out, verifying that their operation is within the set values.

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