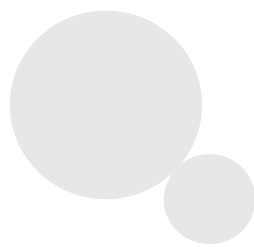


Jaltest OHW 17.3 Innovations



www.jaltest.com



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1 Jaltest OHW in numbers

Once again, new version **Jaltest 17.3** software offers more improvements and innovations which show that it is the benchmark **multibrand diagnostic** tool in the OHW (Off High-Way) sector.

Here below a table with some main data of the development of the application is shown:

Version 17.3		
	New	Total
Brands	3	66
Models	112	369
Systems	485	1955
Systems with Technical Data	300	1057
Systems with Wiring Diagrams	227	725

Next, a summary of this Jaltest OHW version update, which includes, among others, the innovations listed below, is shown:

- Possibility for the customer to create troubleshootings.
- Comments in diagnostic reports.
- Development of all JCB engine families.
- SCR- related memory reset for MB engines.

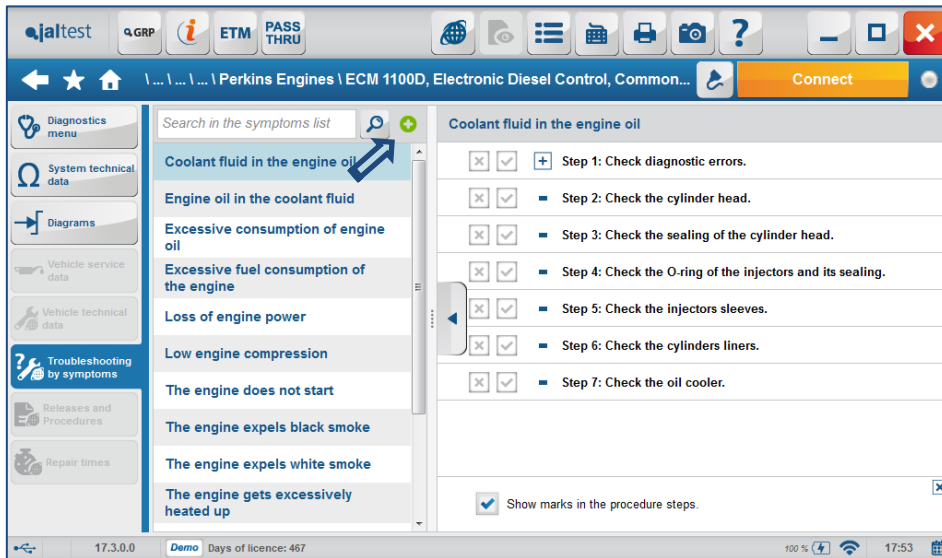
In addition, more technical releases, wiring diagrams, fuses and relays box diagrams, troubleshootings by symptoms and error codes, System Displays and much more are included.

If you wish, you can use '**Jaltest Report**' to access to additional information about the specific coverage for each brand.

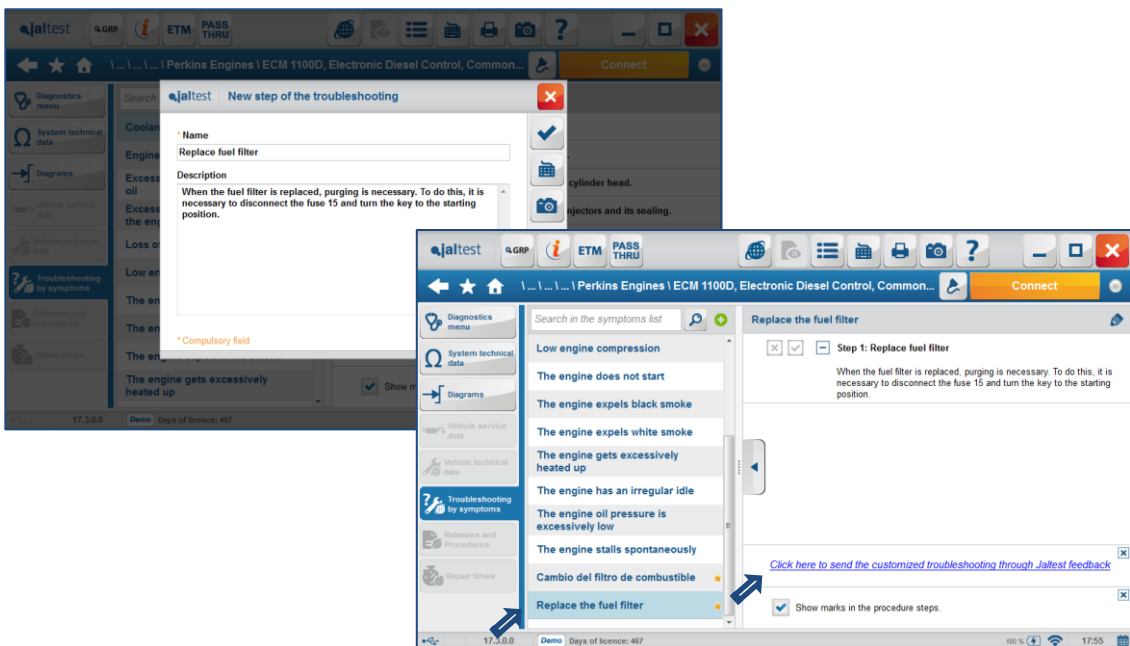
2 New software functions

2.1 Customer's troubleshooting and procedures

Possibility for the customer to create troubleshooting and specific procedures. In addition, they can be shared through Jaltest feedback service.

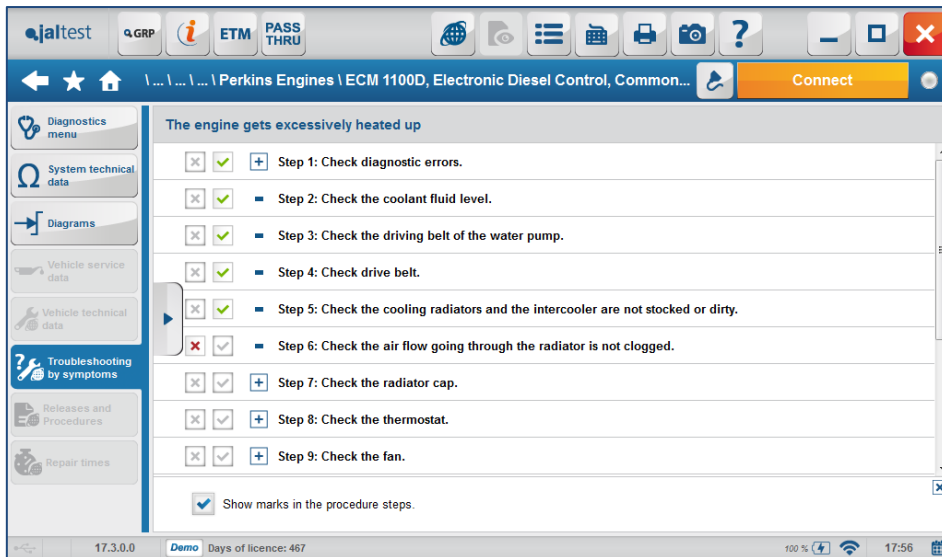


After adding a specific troubleshooting, verification steps should be determined. A compulsory name for each step should be assigned, while the description is optional.



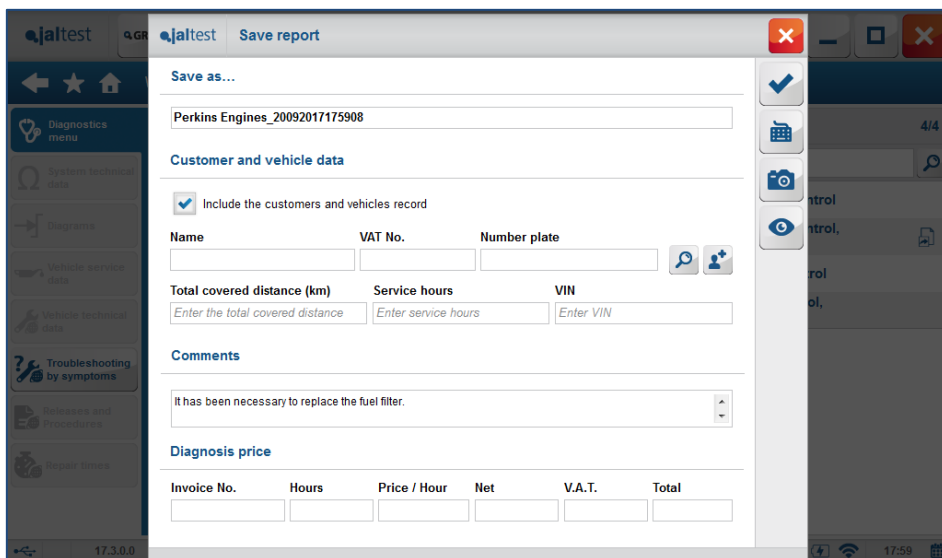
2.2 Verification marks in troubleshooting and procedures steps

In order to facilitate the customer the guided information monitoring, verification marks in troubleshooting and procedures steps are enabled. The customer will be able to use these marks to indicate either that a step has not been followed, that it has been followed correctly or the verification has been erroneous.

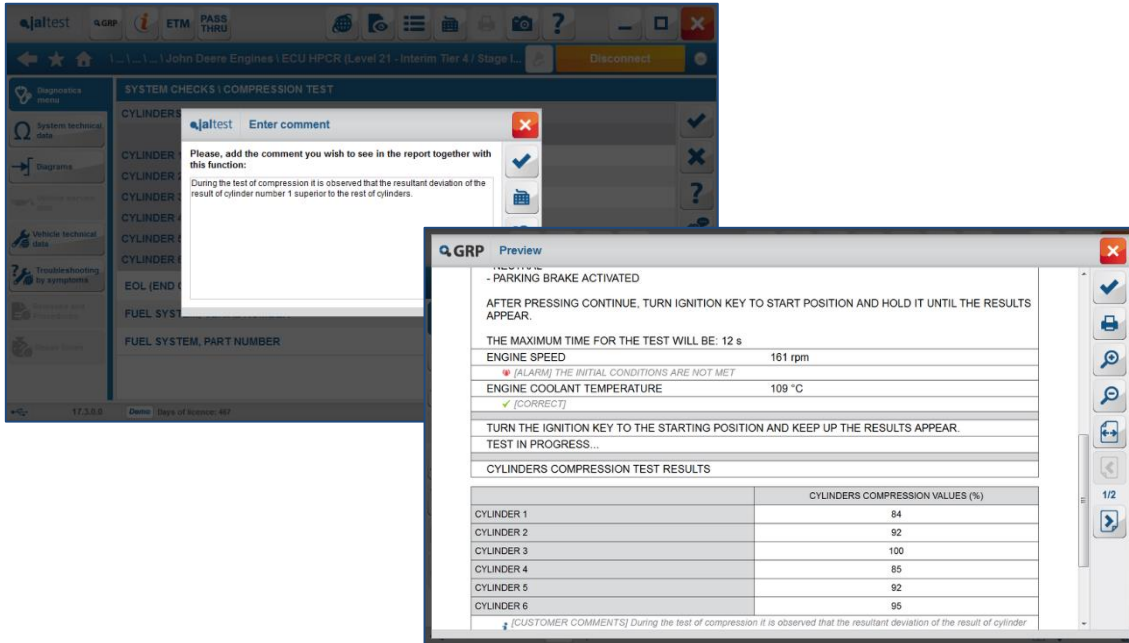


2.3 Report management improvements

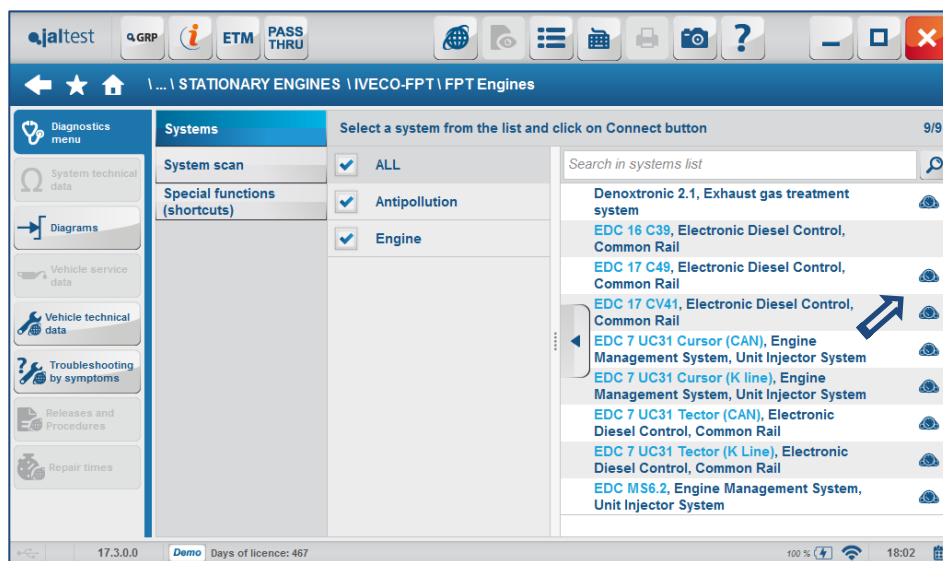
General comments can be included and edited in diagnostic reports. In addition, it is possible to add comments at any time during the diagnostic session.



It is possible to add comments to the fault reading result, either during the system checking, in an actuation or for a system measurement in particular, etc.



2.4 Shortcuts to System Display

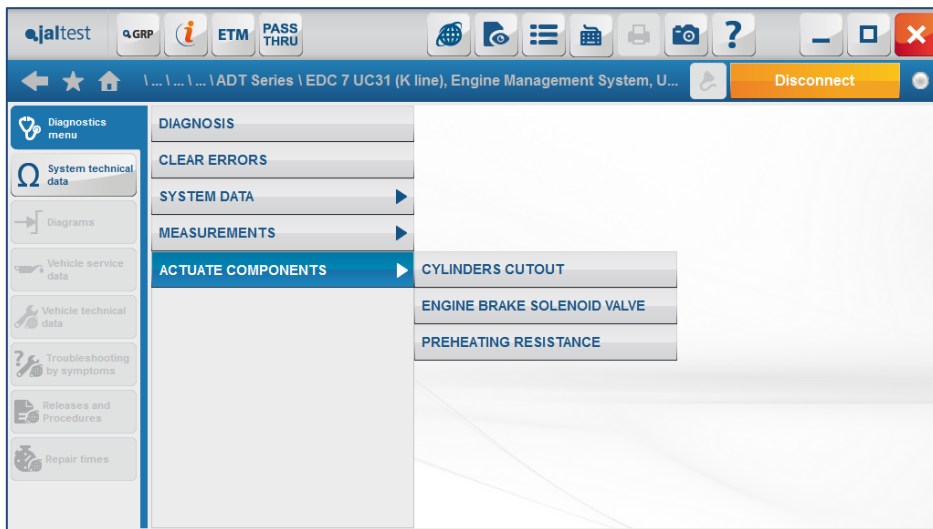


3 New models and coverage improvements

3.1 OHW and construction vehicles

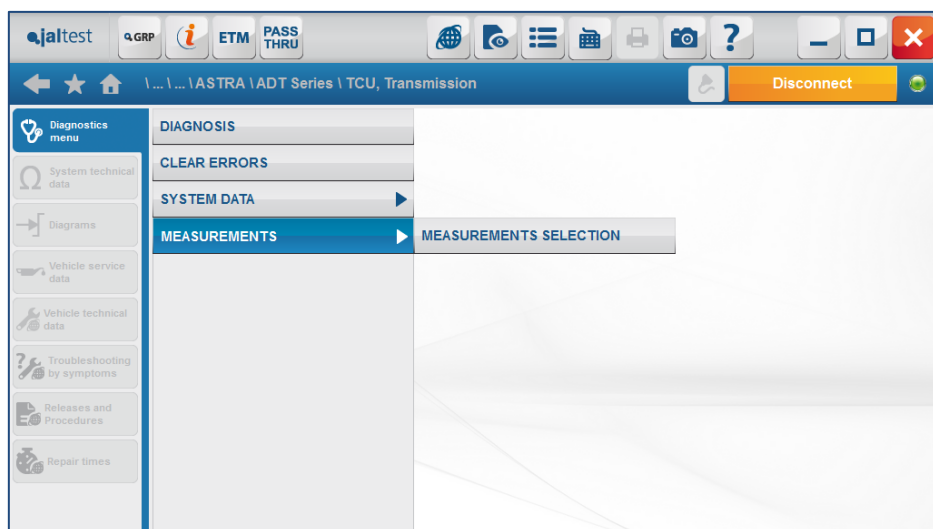
3.1.1 ASTRA

- **EDC 7 UC31 Iveco Cursor (K Line)**, Engine management system. Full system development through K protocol.



- Astra ADT Series

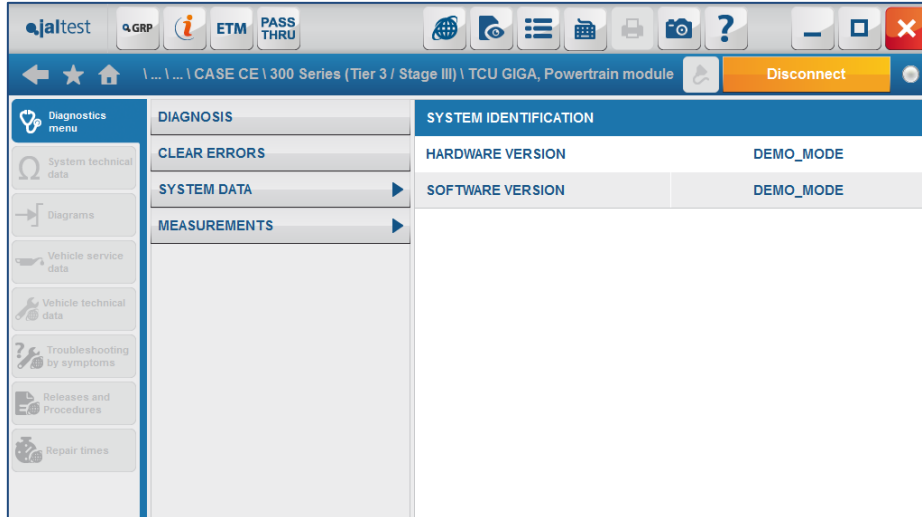
- **Full Automatic Powershift (ZF)**, Transmission. New system development.



- Astra ADT Series

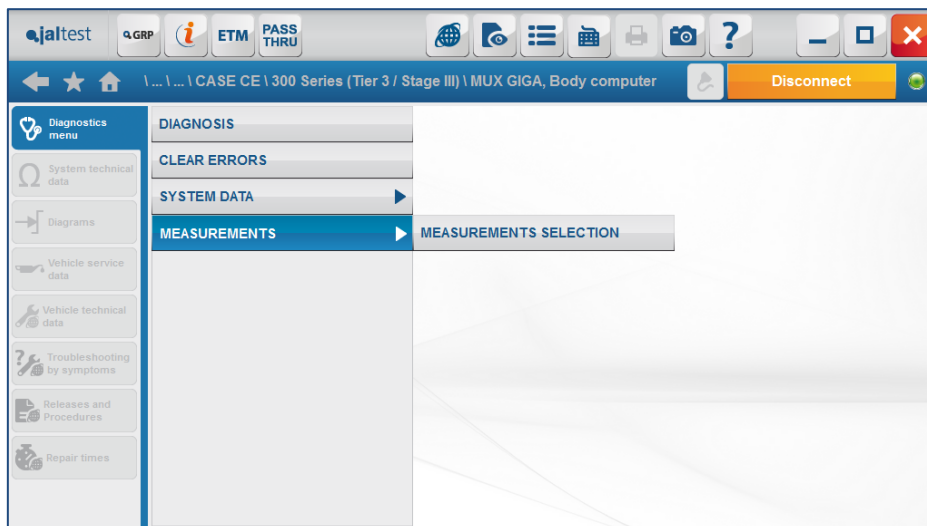
3.1.2 CASE CE

- **TCU**, Powertrain module.
New development. System connection, diagnostics, error clearing and measurements.



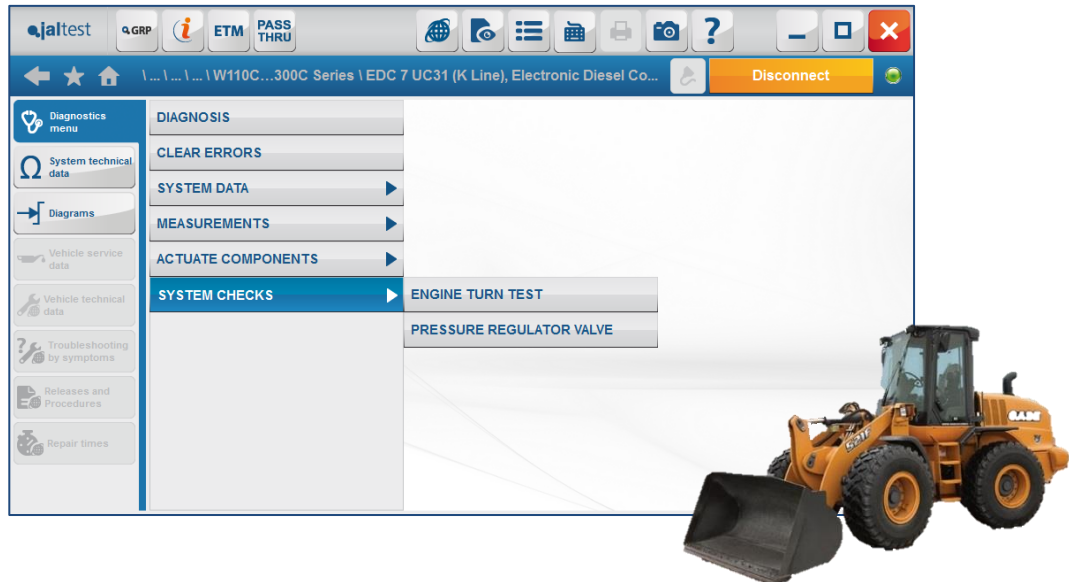
Functions developed in the models listed below:

- 300 series
- **MUX**, Central Computer.
New development. System connection, diagnostics, error clearing and measurements.



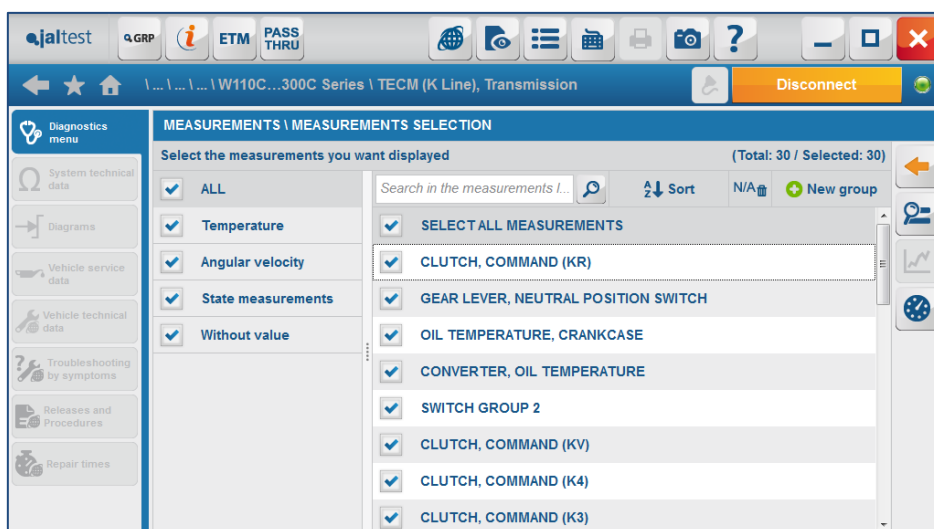
Functions developed in the models listed below:

- 300 series
- **TECM (CAN)**, Transmission.
New development. System connection and measurements display. Available in:
 - 521E...921E Series
 - 800 / 800B Series
 - 800C Series
 - F Series
 - F Series
 - N / NXT / SN / SNWT / Series
 - N / SN / SNWT Series
 - N / SN Series
 - SM Series
 - SR / ST Series
 - ST Series
- **UCM (CAN)**, Electronics module.
New development available in:
 - 021...321F Series
 - 750M Series
 - 800C Series
 - M Series
 - SR130 / SR160 Series
 - SR175 / SV185 Series
 - TR / TV / SR / SV Series
- **EDC 7 UC31, Iveco Tector (K Line) (CNH)**, Electronic engine control unit.
New system designed with K Line protocol and advanced diagnostic functions.



Available in:

- 300 Series
- 521E...921E Series
- 800 / 800B Series
- F Series
- Heavy 3 Series
- L PowerStat Series
- M Series
- N / SN / SNWT Series
- SM Series
- SR / ST Series
-
- **Full Automatic Powershift (ZF), Transmission.**
Implementation of system measurements through ZF protocol.

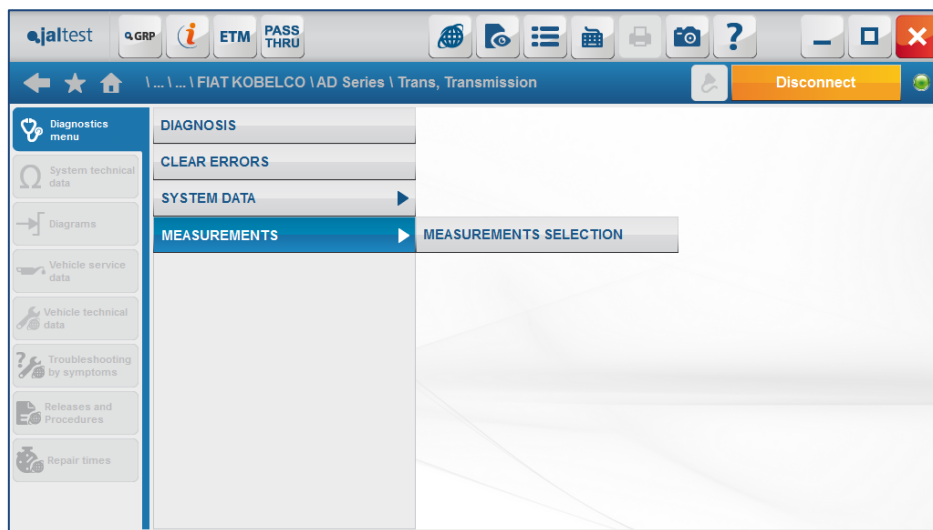


Available in:

- 1200E Series
- 300 Series
- 521D...721D Series
- 521E...921E Series
- 800 / 800B Series
- 800 C series
- 820C Series
- F Series

3.1.3 FIAT - KOBELCO

- **Full Automatic Powershift (ZF),** Transmission.
A new ZF Automatic powershift transmission is included in three brand models.

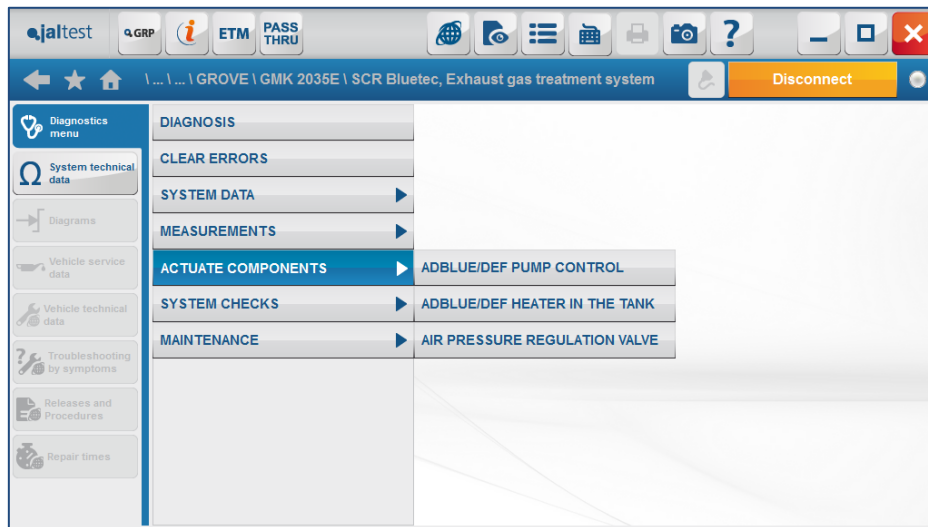


Available in:

- Fiat Kobelco AD Series
- Fiat Kobelco WE Series
- Fiat Kobelco G Series

3.1.4 GROVE

- **MB AdBlue BlueTec**, Exhaust gas treatment system.
SCR-related memory reset for MB engines. This action allows deleting errors present caused by the excesses with respect to the level of nitrogen oxides emissions allowed. It also allows cancelling the power limitation eventually linked to the previously mentioned.

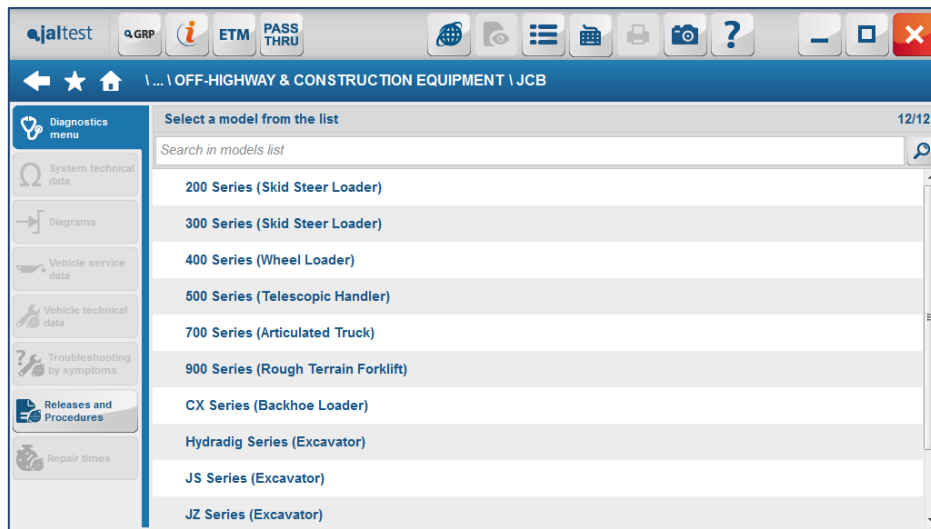


Available in:

- GMK 20135E
- GMK 3050
- GMK 3055
- GMK 3060
- GMK 4100B
- GMK 4115
- GMK 4115L
- GMK 5115
- GMK 5130
- GMK 5135
- GMK 5150
- GMK 5150L
- GMK 5165
- GMK 5180
- GMK 5225
- GMK 5250L
- GMK 5275
- GMK 6300L
- GMK 6400

3.1.5 JCB

As the most significant innovation, the OHW and Construction vehicle brand has been created. All engine systems development; advanced diagnostic functions, such as calibrations, maintenances and checks have been included.



The engine systems are available in the models listed below:

- 200 Series (Skid Steer Loader)
- 300 Series (Skid Steer Loader)
- 400 Series (Wheel Loader)
- 500 Series (Telescopic Handler)
- 700 Series (Articulated Truck)
- 900 Series (Rough Terrain Forklift)
- CX Series (Backhoe Loader)
- Hydradig Series (Excavator)
- JS Series (Excavator)
- JZ Series (Excavator)
- TM Series (Wheel Loader)
- VM Series (Vibratory Compactor)

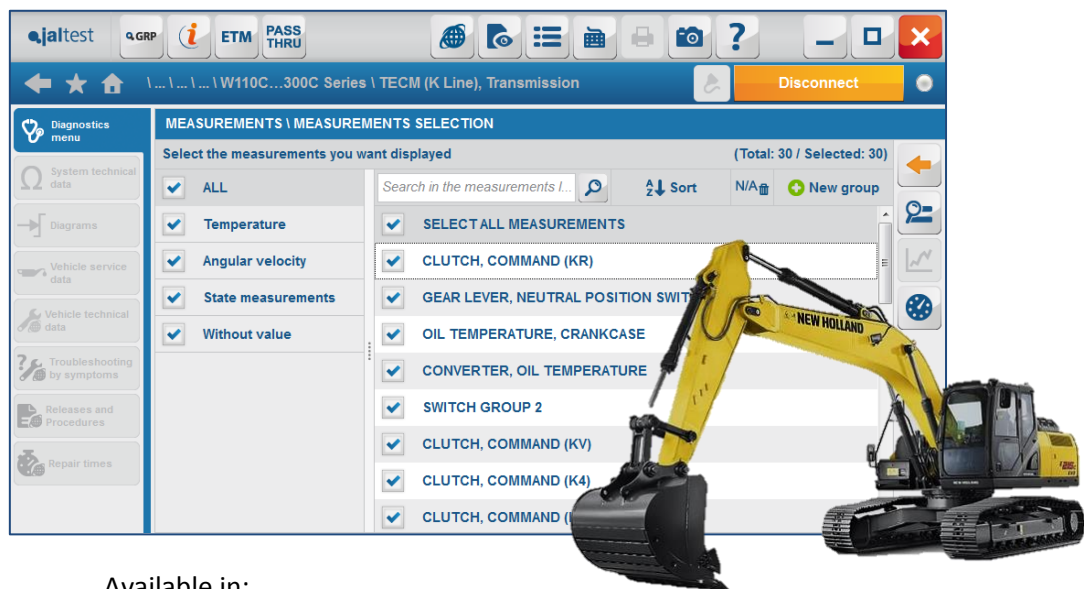
3.1.6 NEW HOLLAND CE

In this new version, 17.3, new systems associated with New Holland models have been developed, such as:

- **UCM (CAN)**, Electronics module.

The system shared with Case CE, which is the other CNH group brand, has been developed. Development of system connection, ECU data and measurements display.

- 200 Series
 - BB / BC / UC Series
 - BC Series
 - D/DC Series
- **Full Automatic Powershift (ZF),** Transmission.
Development of the system measurements.



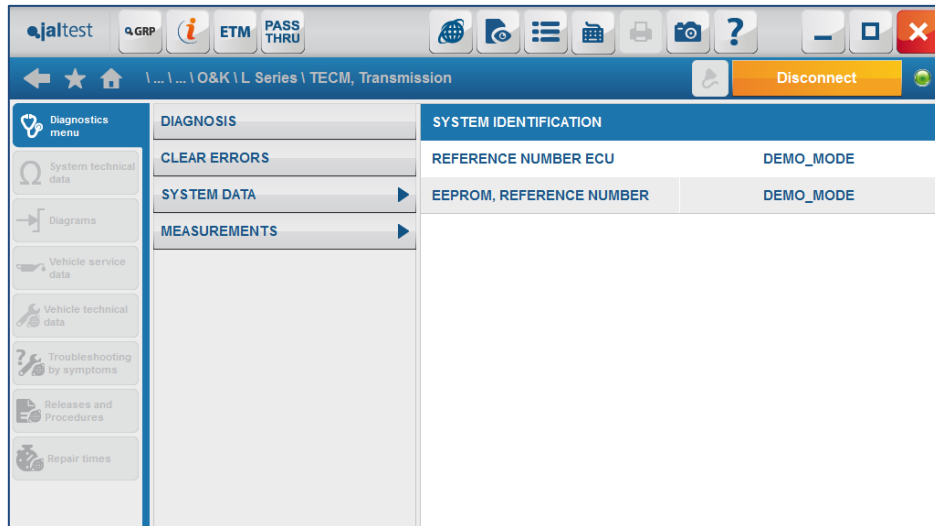
Available in:

- AD Series
- RG / F / G Series
- W / LWB Series
- W110C...300C Series
- WB Series

3.1.7 O&K

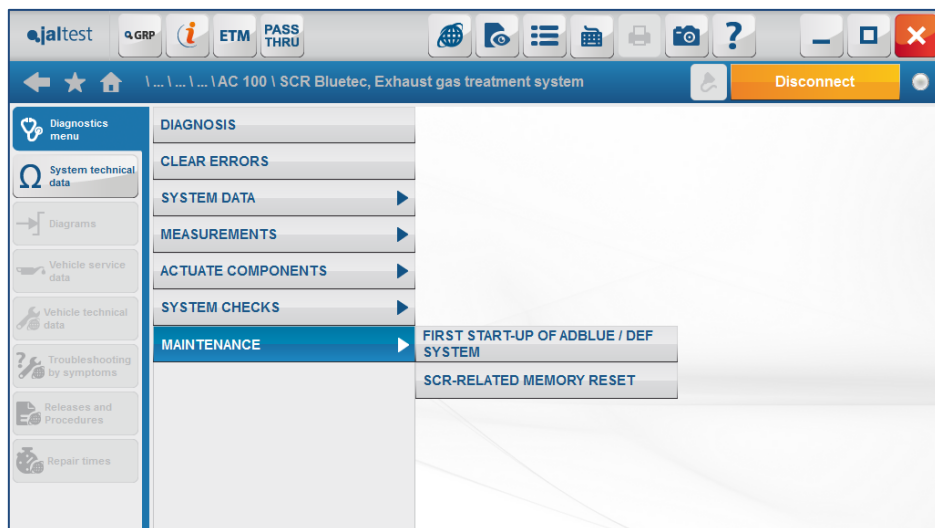
A new ZF Automatic powershift transmission is included in a model of the brand (L Series).

- **Full Automatic Powershift (ZF),** Transmission.



3.1.8 TEREX-DEMAG

An exhaust gas treatment system has been added to those brand models which included Mercedes engines with the appropriate regulation to be included in this system.



Available in:

- AC100
- AC 100-4L
- AC 1000-9
- AC 120-1
- AC 140
- AC 160-2
- AC 250-6
- AC 350
- AC 350-6
- AC 40/2L

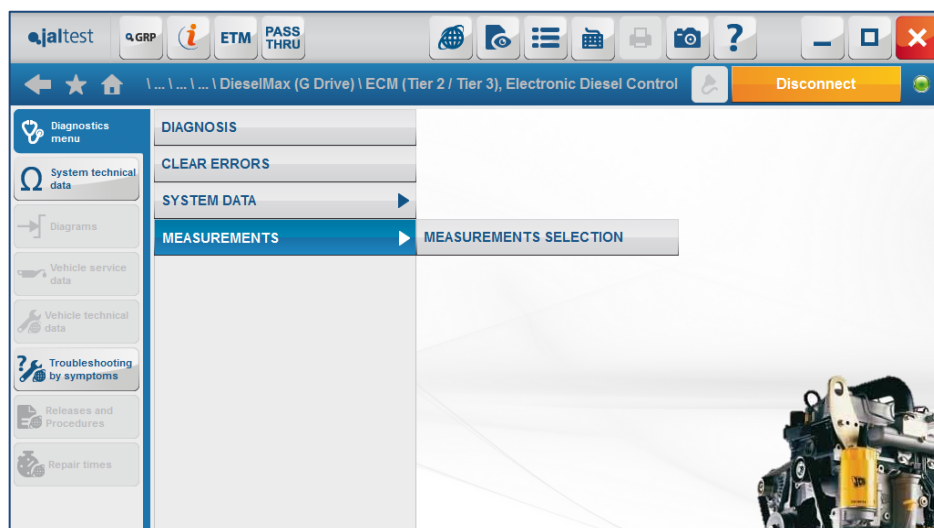
- AC 50-1
- AC 500-2
- AC 500-8
- AC 60/3
- AC 700
- AC 700-9
- AC 80-2
- AT 15
- AT 15-3
- AT 20
- AT 22

3.2 Stationary engine

3.2.1 JCB

Next, we will find the engine models assigned with the JCB stationary engines.

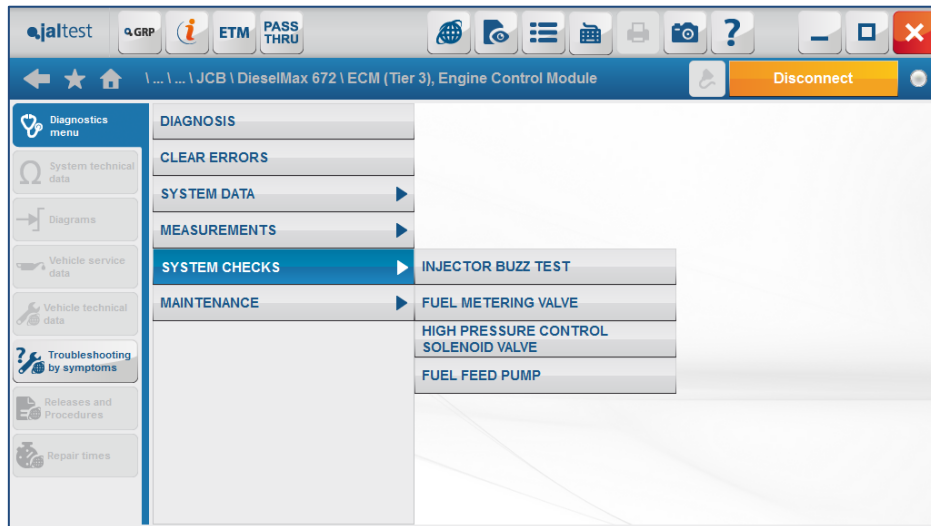
- **JCB DieselMax Tier 2 / Tier 3**, Engine management system.



Available in:

- DieselMax
- DieselMax (G Drive)
- DieselMax (IPU)
- DieselMax (OEM Base)

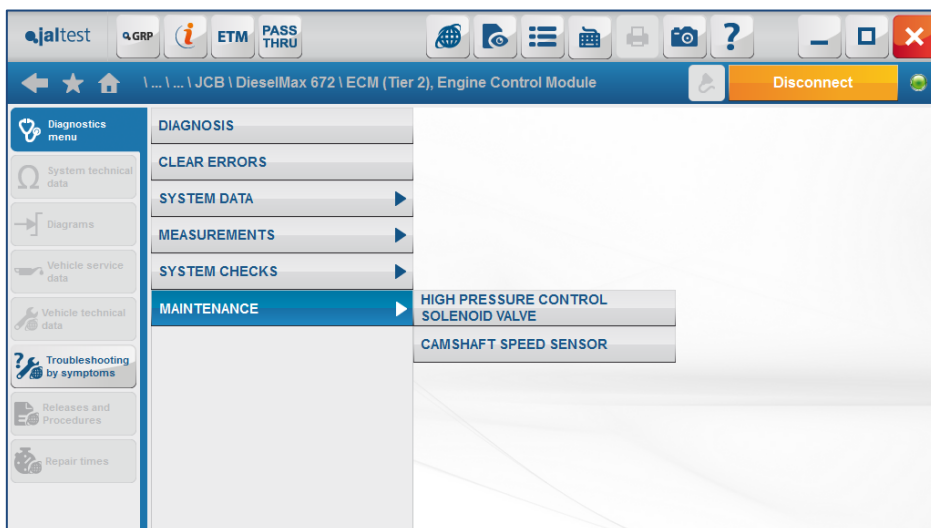
- **JCB DieselMax Tier 3 6 cylinder**, Engine management system



Available in:

- DieselMax 672
- DieselMax 672 (G Drive)
- DieselMax 672 (IPU)
- DieselMax 672 (OEM Base)

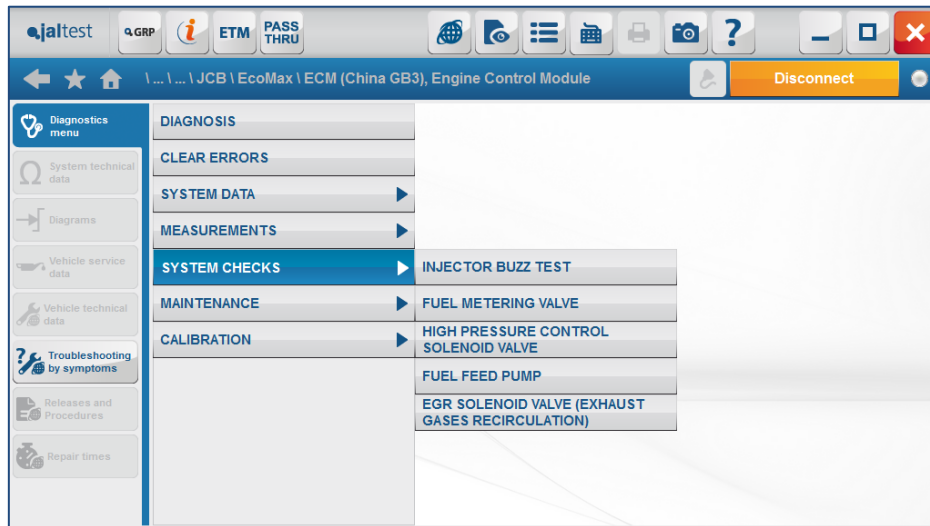
- **JCB DieselMax Tier 2 6 cylinder**, Engine management system



Available in:

- DieselMax 672
- DieselMax 672 (G Drive)
- DieselMax 672 (IPU)
- DieselMax 672 (OEM Base)

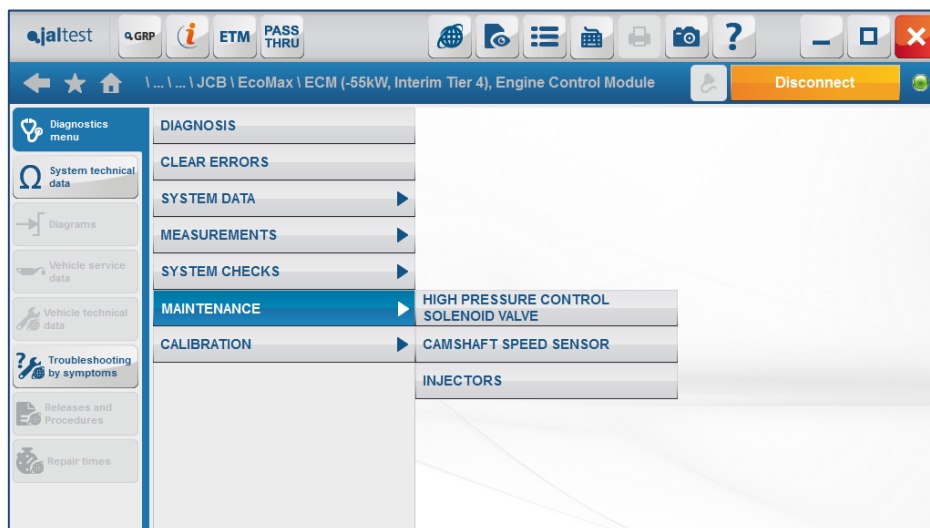
○ **JCB Ecomax China GB3**, Engine management system



Available in:

- Ecomax
- EcoMax (G Drive)
- EcoMax (IPU)
- EcoMax (OEM Base)

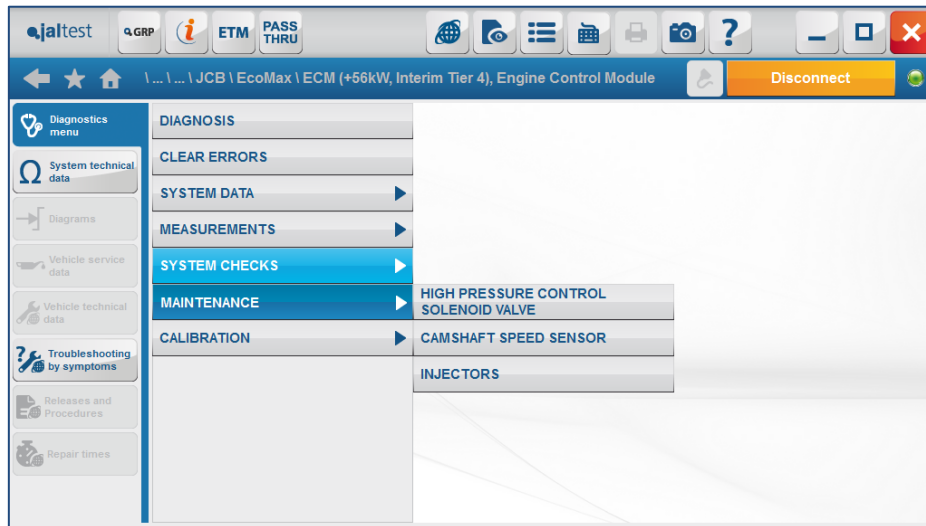
○ **JCB Ecomax iT4 55kW**, Engine management system



Available in:

- Ecomax
- EcoMax (G Drive)
- EcoMax (IPU)
- EcoMax (OEM Base)

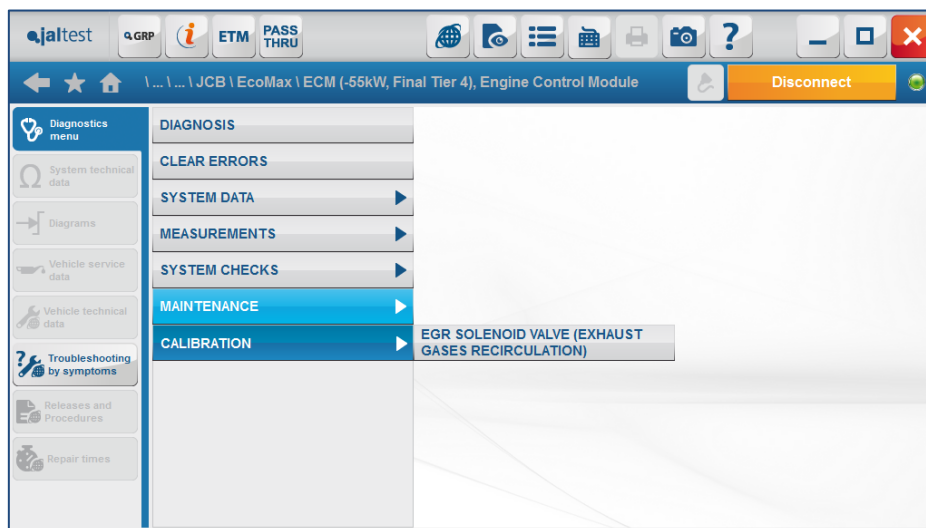
- **JCB Ecomax iT4 +56kW**, Engine management system



Available in:

- Ecomax
- EcoMax (G Drive)
- EcoMax (IPU)
- EcoMax (OEM Base)

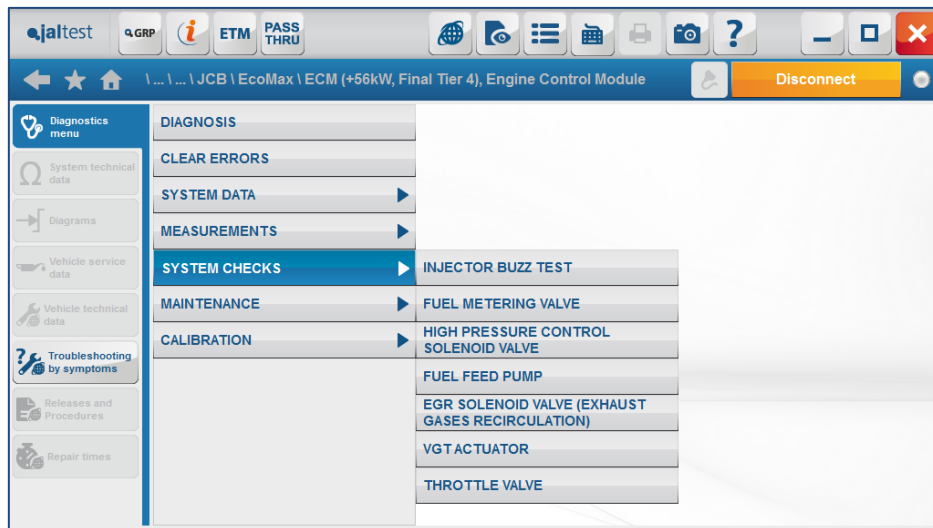
- **JCB Ecomax FT4 55kW**, Engine management system



Available in:

- Ecomax
- EcoMax (G Drive)
- EcoMax (IPU)
- EcoMax (OEM Base)

- **JCB Ecomax FT4 +56kW**, Engine management system



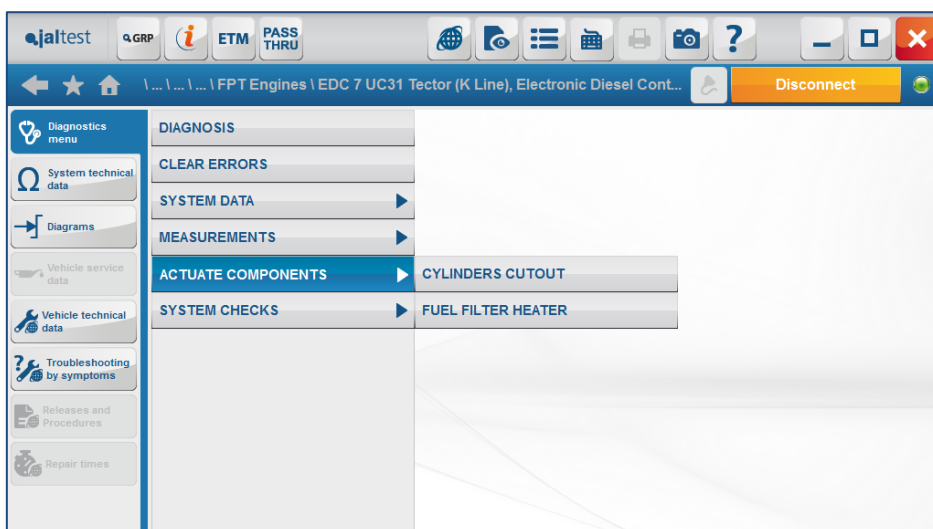
Available in:

- Ecomax
- EcoMax (G Drive)
- EcoMax (IPU)
- EcoMax (OEM Base)

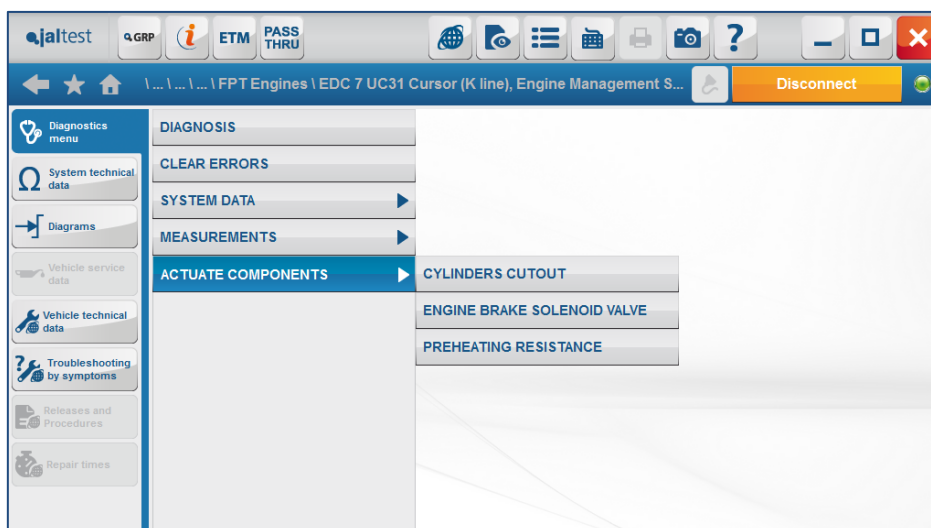
3.2.2 IVECO FPT

Those Iveco Tector and Cursor engines that use K Line as communication protocol have been also associated with stationary engines.

- **EDC 7 UC31 Iveco Tector (K Line)**, Engine management system.

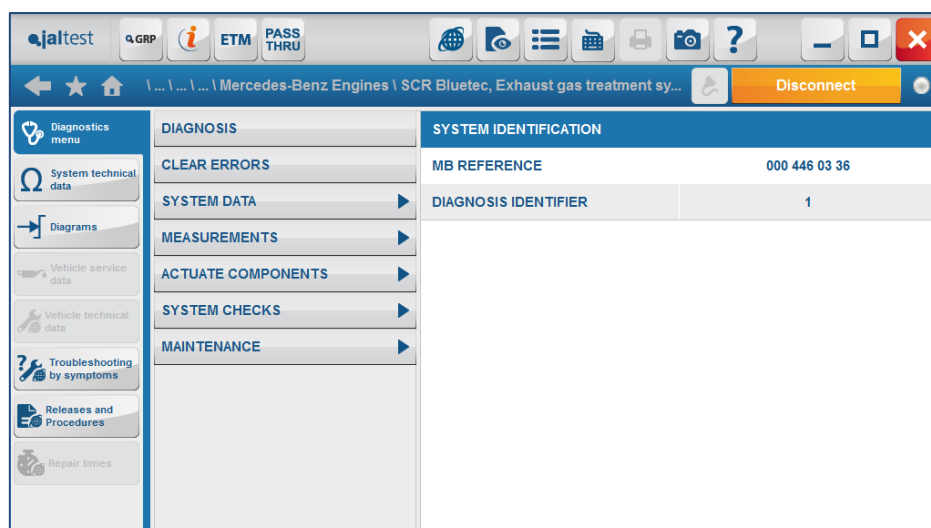


- **EDC 7 UC31 Iveco Cursor (K Line)**, Engine management system.



3.2.3 MERCEDES-BENZ

An exhaust gas treatment system has been included within the brand models which included Mercedes engines with the suitable standard so that the system is detected.



It is available in the models listed below:

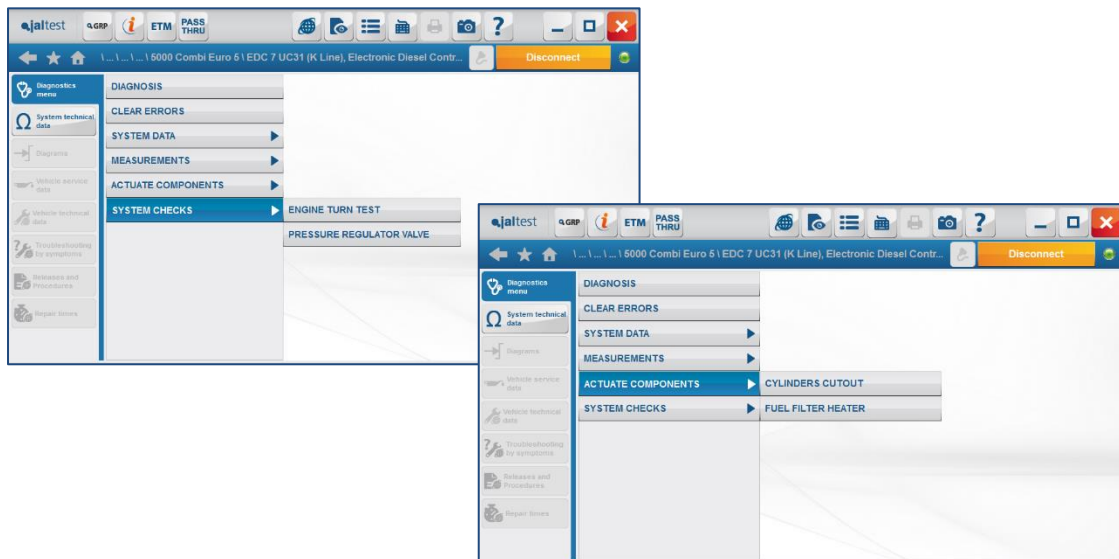
- Vario 613 D
- Vario 616 D
- Vario 813 D/DA
- Vario 816 D/DA
- Vario 818 D/DA

3.3 Street Sweepers

3.3.1 DULEVO

Engine models have been associated with two models (5000 Combi Euro 5 and 5000 Evolution T Series) which are available in street sweepers. It formerly operated via CAN but ,in 17.3 everything has been redesigned so that it operates via K Line protocol.

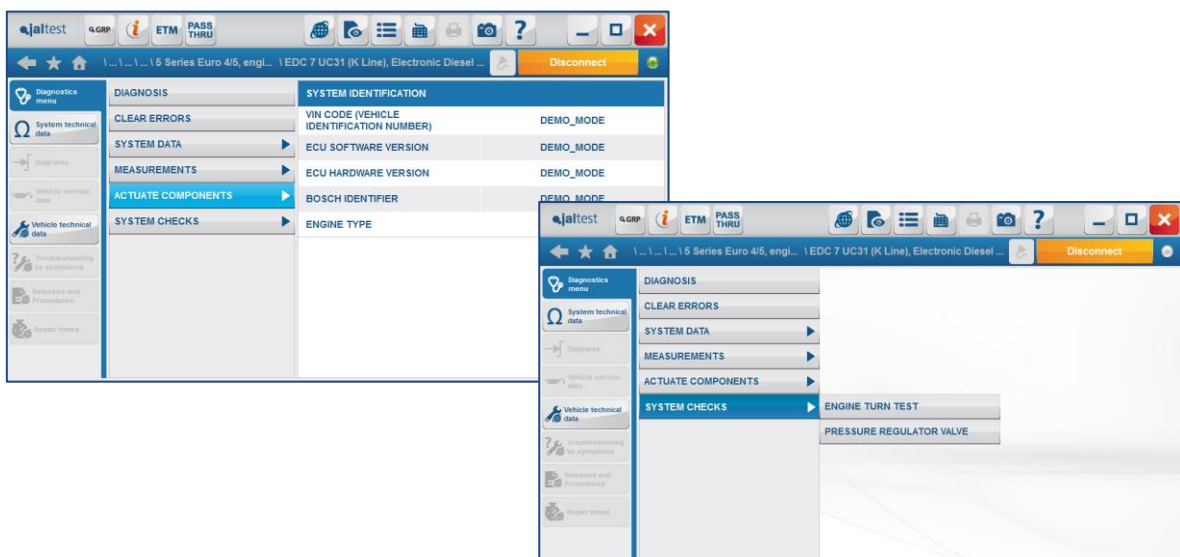
- **EDC 7 UC31 Iveco Tector (K Line)**, Engine management system



3.3.2 RAVO

As in the previous Street sweepers brand, Iveco Tector engine is associated via K Line with two of the models of this brand (5 Series Euro 4/5 and 5 Series Tier 3).

- **EDC 7 UC31 Iveco Cursor (K Line)**, Engine management system.



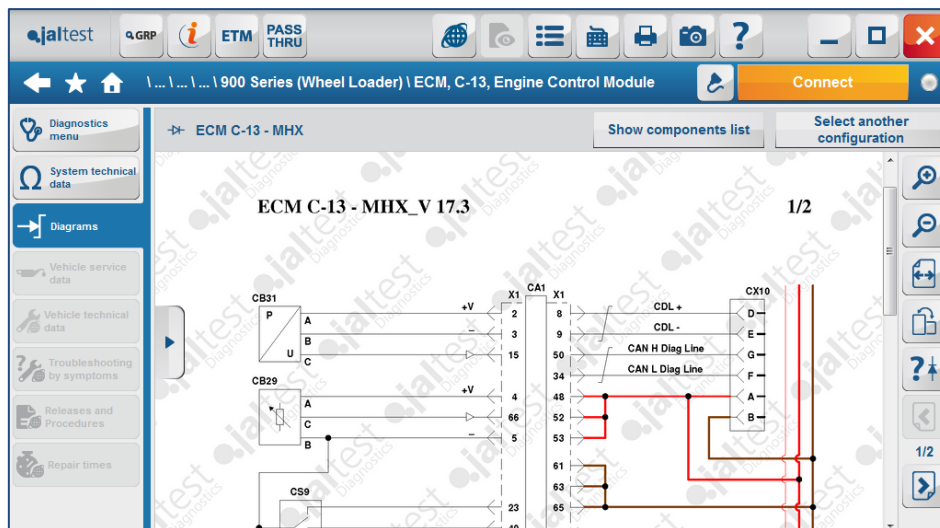
4 Content innovations by brands

4.1 CATERPILLAR

- CDL, Caterpillar, Engine C-13 – OHW

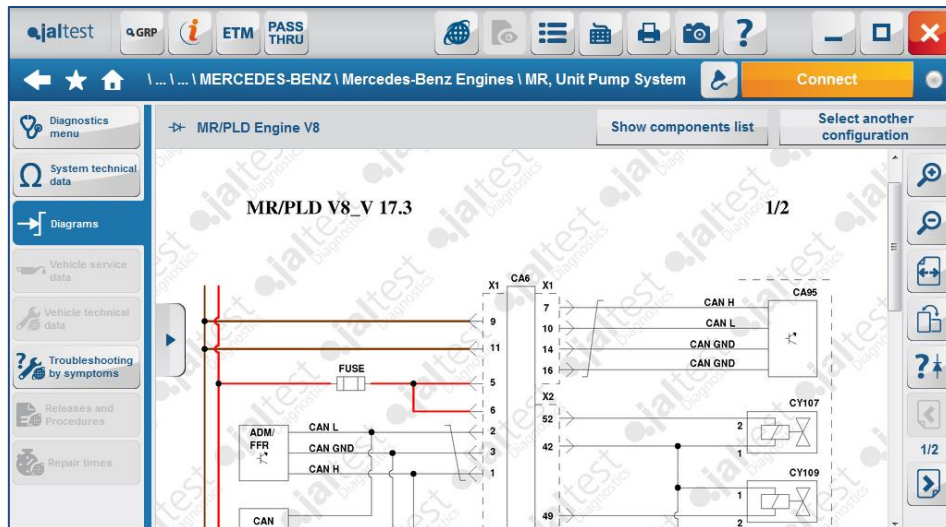
WIRING DIAGRAMS

- 900 Series
- 300 Series
- 700 Series
- 100 / 10 Series



4.2 MERCEDES BENZ

- **MB_MR**
 - Mercedes-Benz Engine

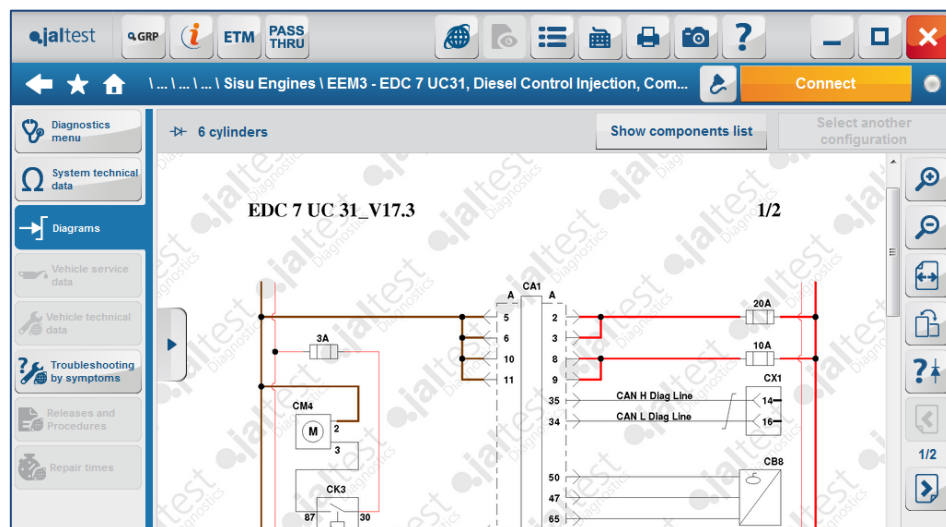


4.3 SISU

- **SA 0, EEM3 - EDC 7 UC31 (SISU)**

WIRING DIAGRAMS:

- Sisu Engines



IMAGES:

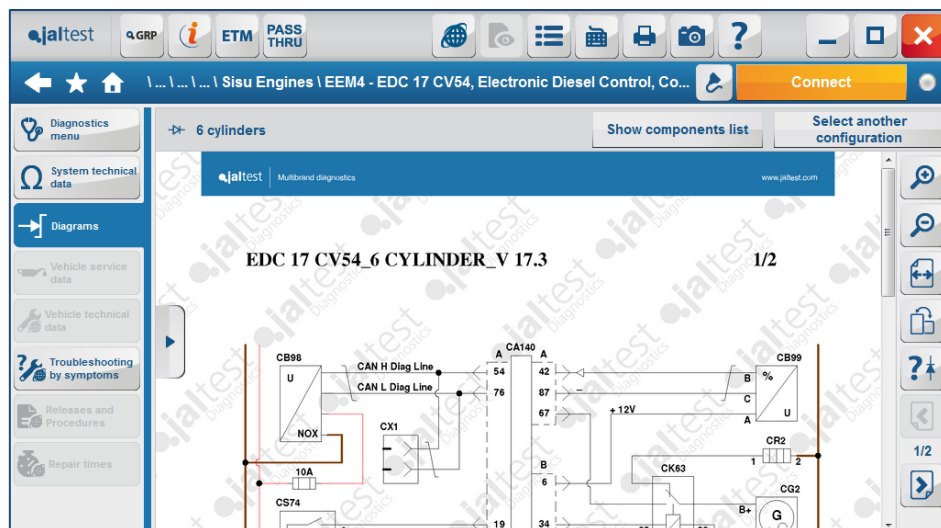
- Sisu Engines



- **SYSTEM: SA 0, EEM4 - EDC 17 CV54 (SISU)**

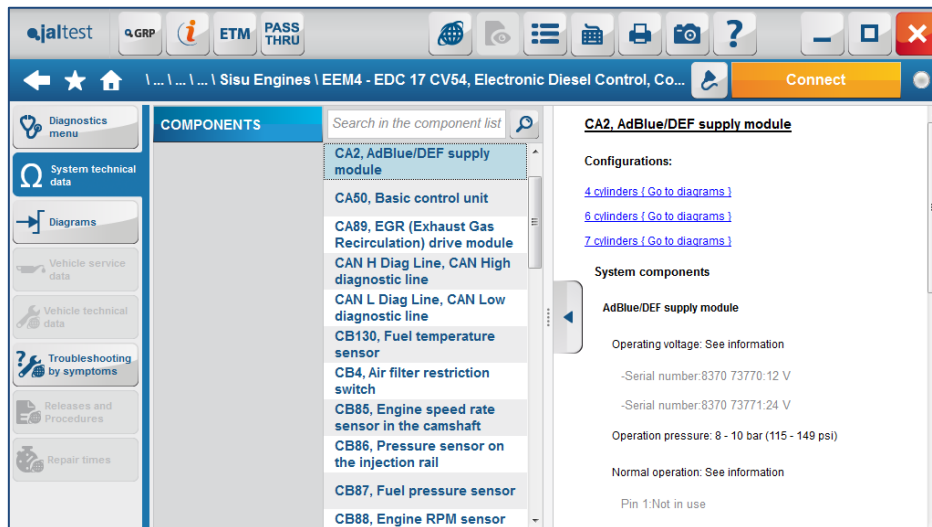
WIRING DIAGRAMS:

- Sisu Engines



TECHNICAL DATA:

- Sisu Engines

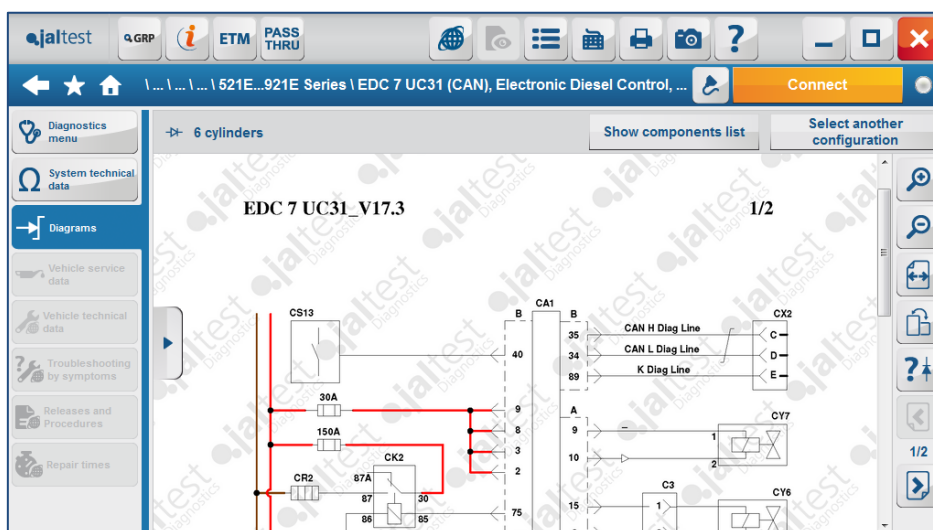


4.4 IVECO

- **SYSTEM: EDC 7 UC31 Iveco Eurocargo (TECTOR)**

WIRING DIAGRAMS:

- Heavy 3 Series
- L PowerStat Series
- 521E...921E Series
- F Series



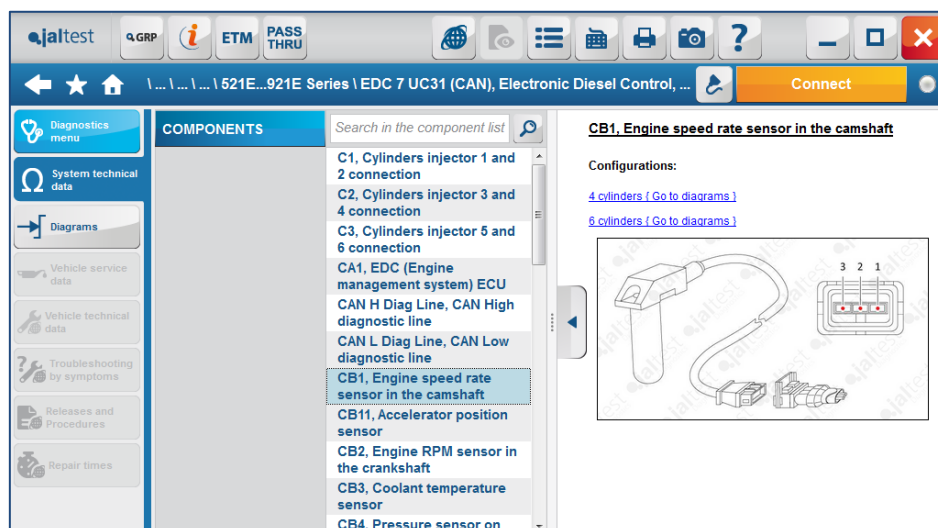
IMAGES:

- 521E...921E Series
- F Series
- Heavy 3 Series
- L PowerStat Series



TECHNICAL DATA:

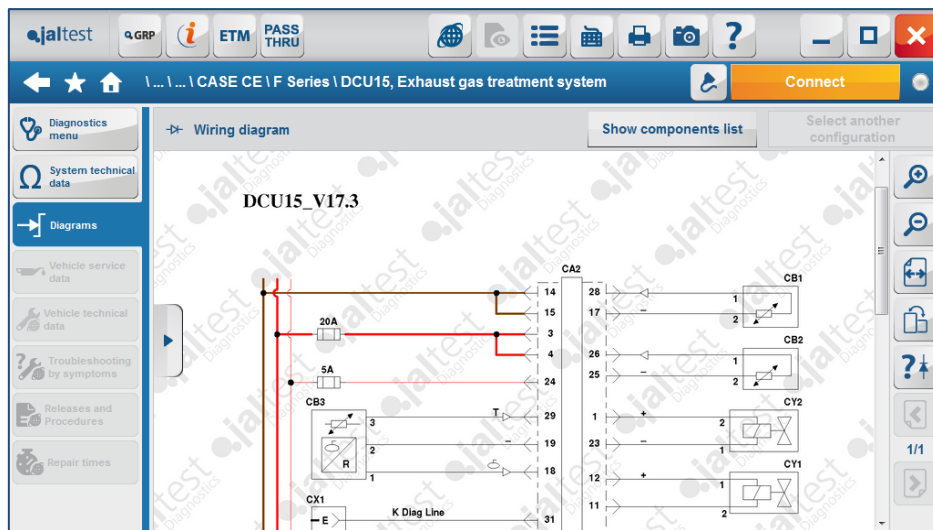
- 521E...921E Series
- F Series
- Heavy 3 Series
- L PowerStat Series



- **SYSTEM: AdBlue Denox 2.1 Iveco**

WIRING DIAGRAMS:

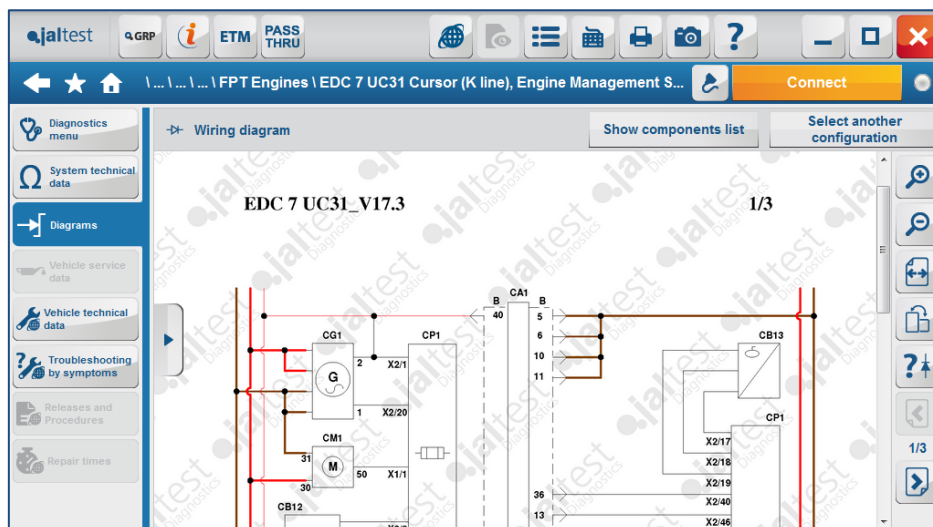
- F Series



- **SYSTEM: EDC 7 UC31 Iveco Stralis (CURSOR)**

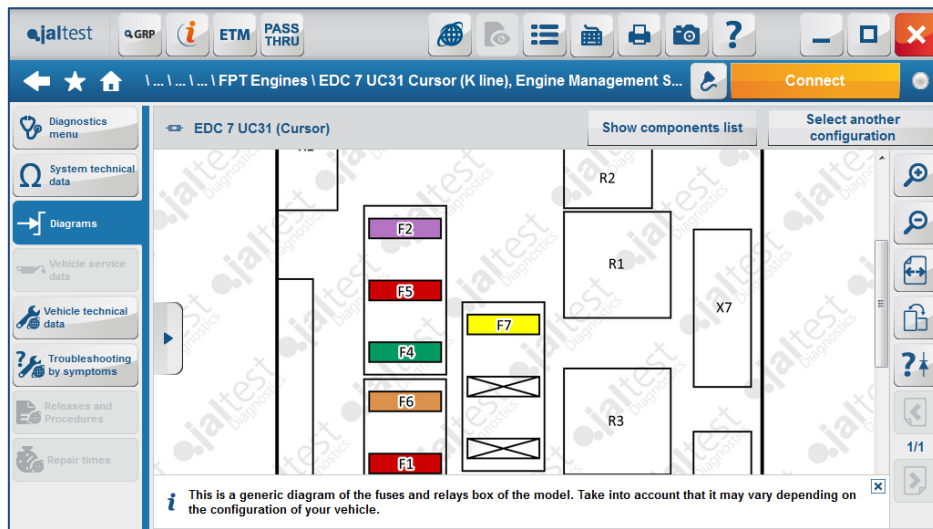
WIRING DIAGRAMS:

- FPT Engines



FUSES BOX:

- FPT Engines



- **SYSTEM: EDC 17 CV41 - FPT Iveco Euro 6 + Denox 2.2**

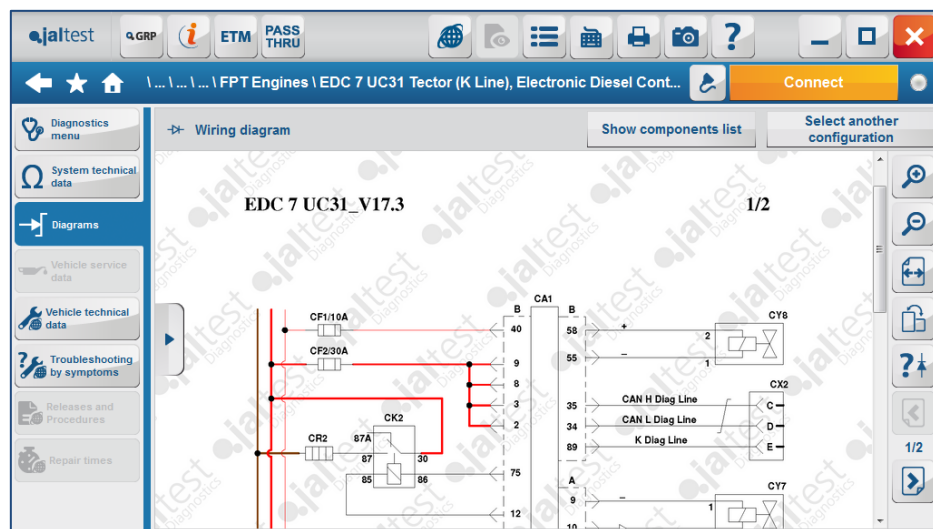
FUSES BOX:

- FPT Engines

SYSTEM: EDC 7 UC31 Iveco Tector (K Line) (CNH) - OHW

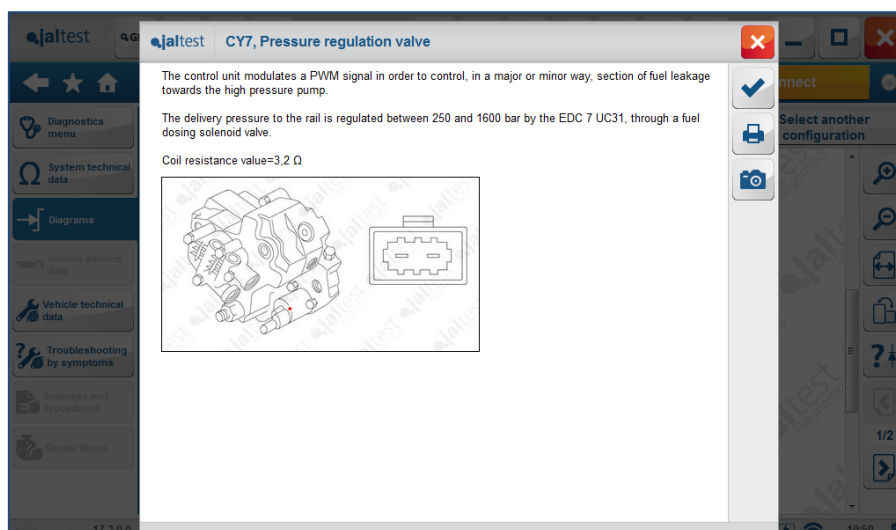
WIRING DIAGRAM:

- FPT Engines



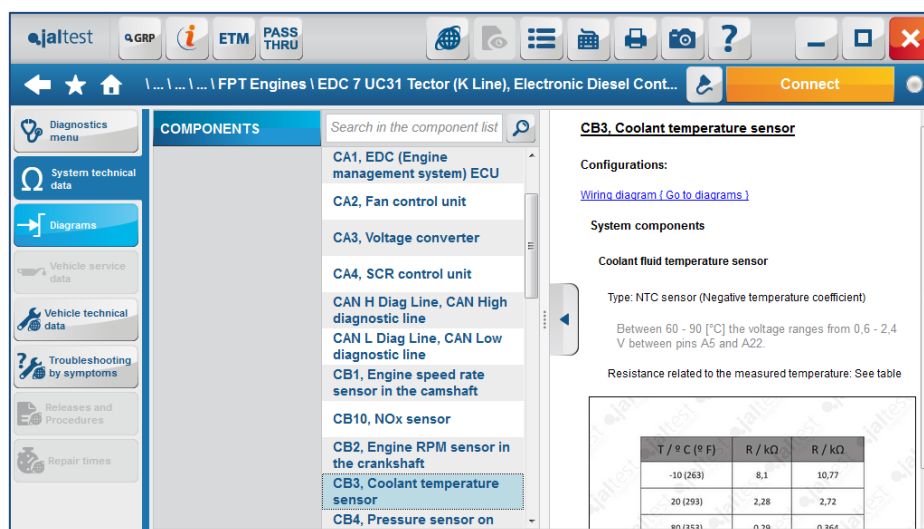
IMAGES:

- FPT Engines



TECHNICAL DATA:

- FPT Engines



COMPONENTS RELATED TO THE ERROR:

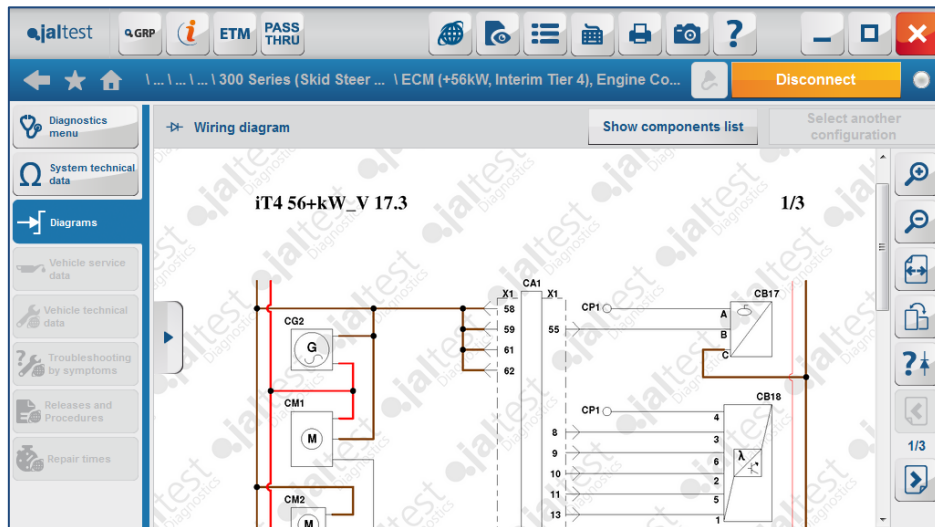
- FPT Engines

4.5 JCB

- **SYSTEM: SA 0, JCB Ecomax iT4 56+kW - OHW**

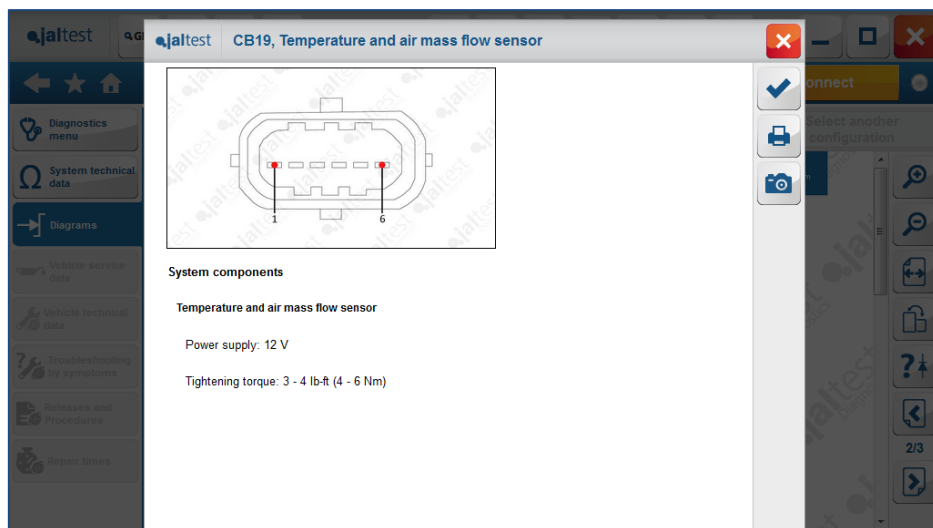
WIRING DIAGRAMS:

- System Manufacturers



IMAGES:

- System Manufacturers



TECHNICAL DATA:

- System Manufacturers

The screenshot shows the JALTEST interface with the following details:

- Header:** JALTEST logo, search bar, and status indicators (GRP, ETM, PASS THRU).
- Navigation:** Home, back, forward, and Disconnect buttons.
- Left Panel:** Diagnostics menu, System technical data, Diagrams, Vehicle service data, Vehicle technical data, Troubleshooting by symptoms, Releases and Procedures, Repair times.
- General Section:** Search in the component list.
- COMPONENTS List:**
 - CA1, EDC (Engine management system) ECU
 - CA2, Variable Geometry Turbine VGT actuator
 - CA3, Control display
 - CAN H Diag Line, CAN J1939 High diagnostic line
 - CAN L Diag Line, CAN J1939 Low diagnostic line
 - CB1, Engine speed rate sensor in the camshaft
 - CB10, Knock Sensor
 - CB11, Fuel pressure sensor in the common rail
 - CB12, Coolant temperature sensor
 - CB13, Fuel temperature sensor
 - CB14, Oil temperature
- CA1, EDC (Engine management system) ECU Details:**
 - Configurations: [Wiring diagram](#) | [Go to diagrams](#)
 - Wiring Diagram:** A schematic diagram of the ECU connector with pins labeled 4, 56, 59, 62, 53, 57, 60. Pin 4 is labeled X1=X2.
 - Location:** A photograph of the ECU installed in the engine compartment.

COMPONENTS RELATED TO THE ERROR:

- System Manufacturers

The screenshot shows the JALTEST interface with the following details:

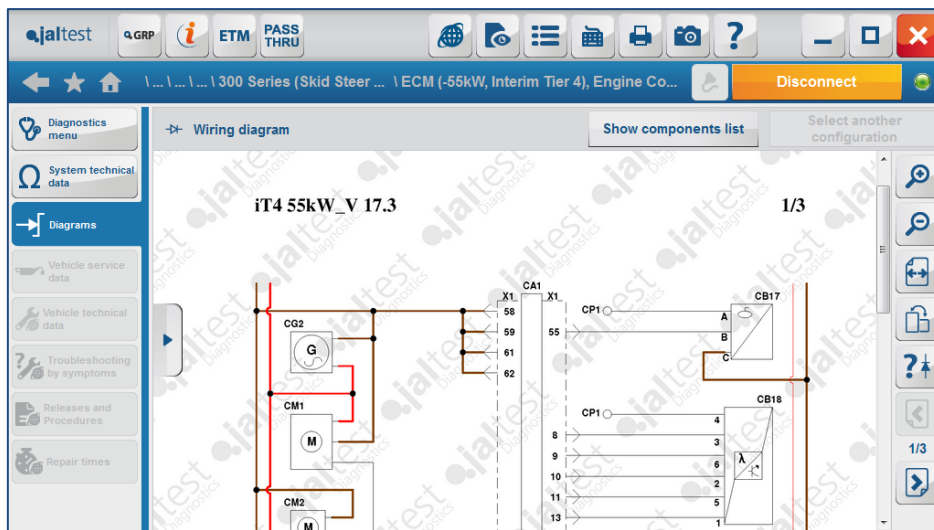
- Header:** JALTEST logo, search bar, and status indicators (GRP, ETM, PASS THRU).
- Navigation:** Home, back, forward, and Disconnect buttons.
- Left Panel:** Diagnostics menu, System technical data, Diagrams, Vehicle service data, Vehicle technical data, Troubleshooting by symptoms, Releases and Procedures, Repair times.
- DIAGNOSIS Section:**
 - Error: **P0404-00 x1 Control valve of EGR volume.**
 - Buttons: Freeze Frame Data, Help and components of the error.
 - COMPONENTS RELATED TO THE ERROR:**

Name	Wiring diagram
CY10, Exhaust gases recirculation solenoid valve (EGR)	See information about the component Wiring diagram

- **SYSTEM: SA 0, JCB Ecomax iT4 55kW – OHW**

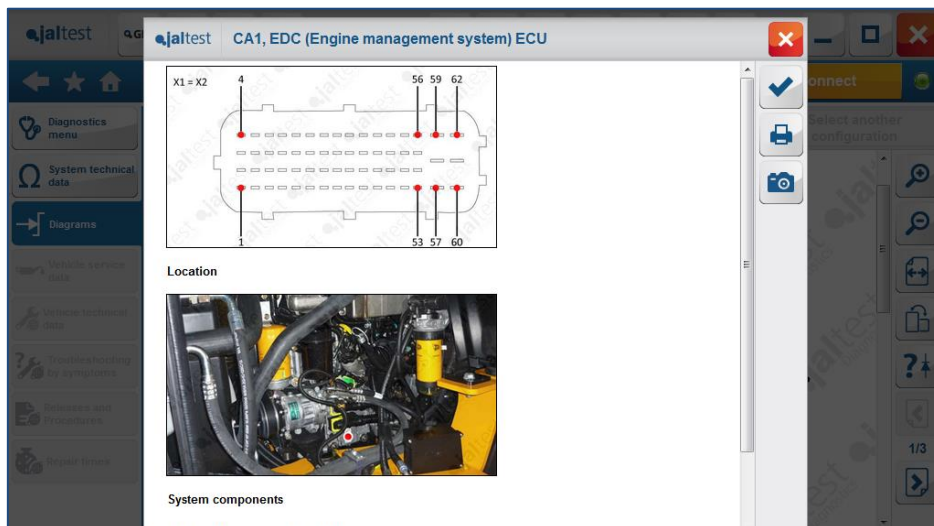
WIRING DIAGRAMS:

- System Manufacturers



IMAGES:

- System Manufacturers



TECHNICAL DATA:

- System Manufacturers

The screenshot shows the JALTEST software interface. The top bar includes the JALTEST logo, a search bar, and various icons. The main window is titled "300 Series (Skid Steer ... | ECM (-55kW, Interim Tier 4), Engine Co...". The left sidebar contains navigation options: Diagnostics menu, System technical data, Diagrams, Vehicle service data, Vehicle technical data, Troubleshooting by symptoms, Releases and Procedures, and Repair times. The main area is divided into "General" and "COMPONENTS" sections. The "COMPONENTS" list includes: CA1, EDC (Engine management system) ECU; CA3, Control display; CAN H Diag Line, CAN J1939 High diagnostic line; CAN L Diag Line, CAN J1939 Low diagnostic line; **CB1, Engine speed rate sensor in the camshaft**; CB10, Knock Sensor; CB11, Fuel pressure sensor in the common rail; CB12, Coolant temperature sensor; CB13, Fuel temperature sensor; CB14, Oil temperature sensor; and CB15, Accelerator position. The right panel displays the selected component's details: "CB1, Engine speed rate sensor in the camshaft". It includes a "Configurations:" section with a link to "Wiring diagram (Go to diagrams)". Below this is a wiring diagram showing three terminals labeled 1, 2, and 3. A "Location" section shows a photograph of the engine with a red dot indicating the sensor's position.

COMPONENTS RELATED TO THE ERROR:

- System Manufacturers

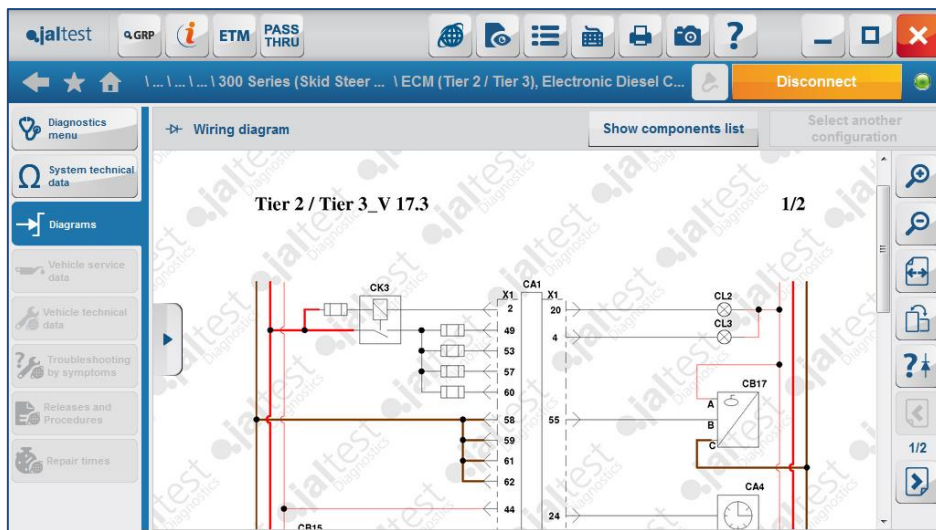
The screenshot shows the JALTEST software interface displaying a diagnostic error. The top bar is identical to the previous screenshot. The main window title is the same. The left sidebar is also the same. The main area is titled "DIAGNOSIS" and shows an error code: "P0091-11 x1 Pressure control solenoid. Open circuit or shortcircuit to ground." Below the error code, there is a "Freeze Frame Data" section and a "Help and components of the error" button. The "COMPONENTS RELATED TO THE ERROR" section contains a table with the following data:

Name	Wiring diagram
CY9, Injection actuation pressure control valve (IAPCV)	See information about the component

- **SYSTEM: SA 0, JCB DieselMax Tier 2 / Tier 3 - OHW**

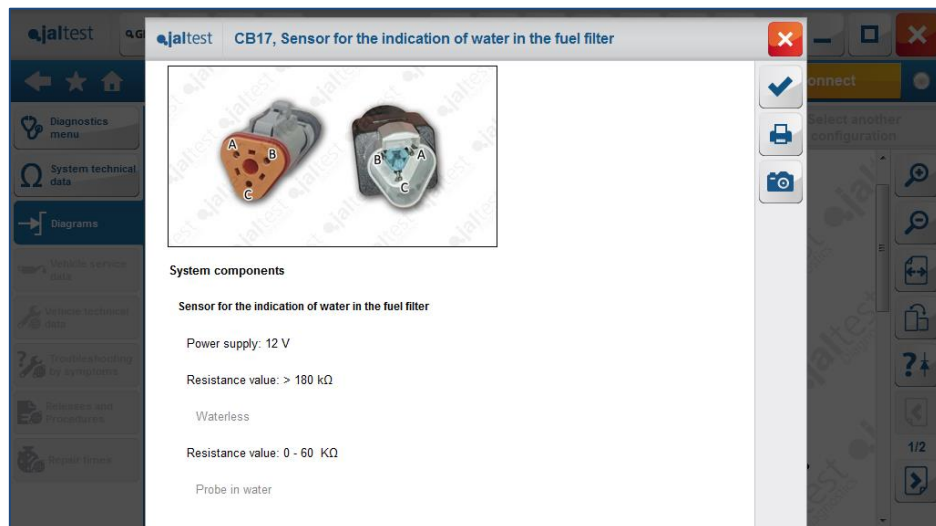
WIRING DIAGRAMS:

- System Manufacturers



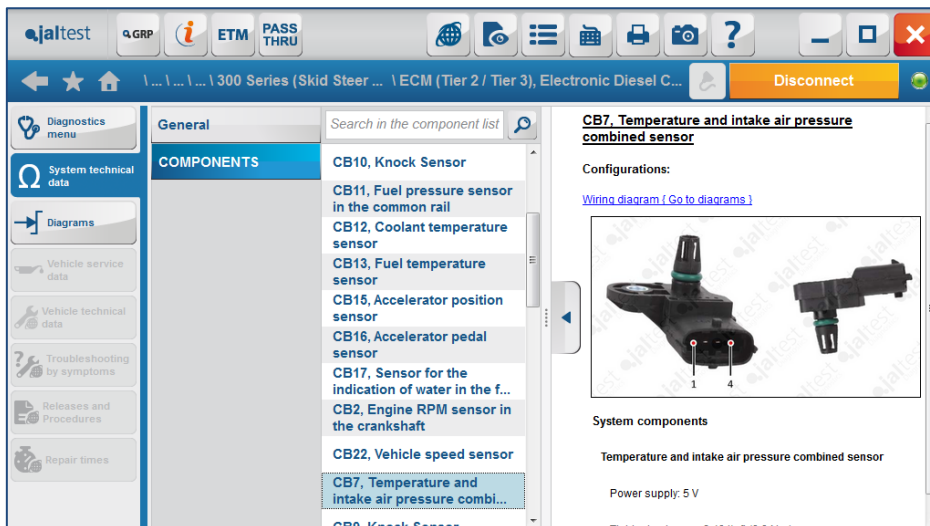
IMAGES:

- System Manufacturers



TECHNICAL DATA:

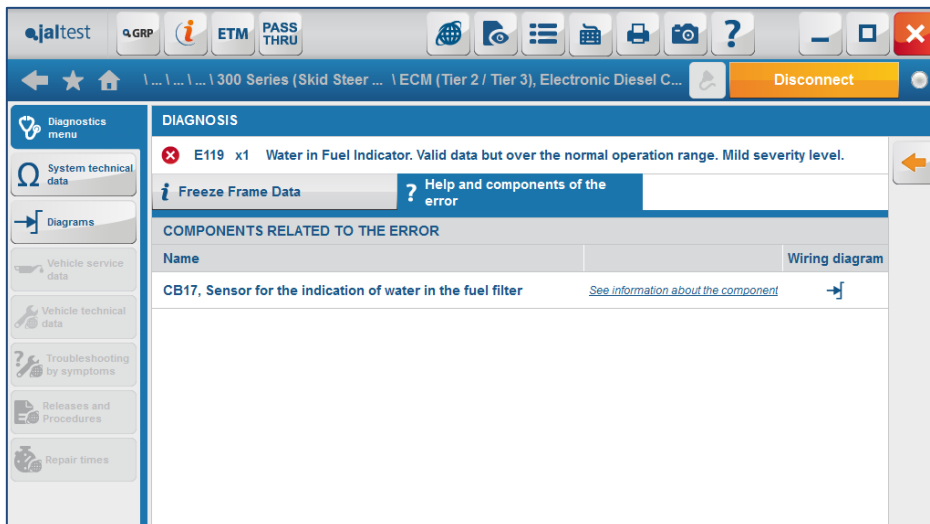
- System Manufacturers



The screenshot shows the JALTEST software interface. The top navigation bar includes the JALTEST logo, a search icon, and buttons for GRP, ETM, and PASS THRU. The main window displays the 'General' tab for a component. The left sidebar contains navigation options: Diagnostics menu, System technical data, Diagrams, Vehicle service data, Vehicle technical data, Troubleshooting by symptoms, Releases and Procedures, and Repair times. The central pane shows a list of components under the heading 'COMPONENTS'. The selected component is 'CB7, Temperature and intake air pressure combined sensor'. The right pane displays the component's name, configurations, a wiring diagram, and system components. The system components section lists 'Temperature and intake air pressure combined sensor' with a power supply of 5 V.

COMPONENTS RELATED TO THE ERROR:

- System Manufacturers



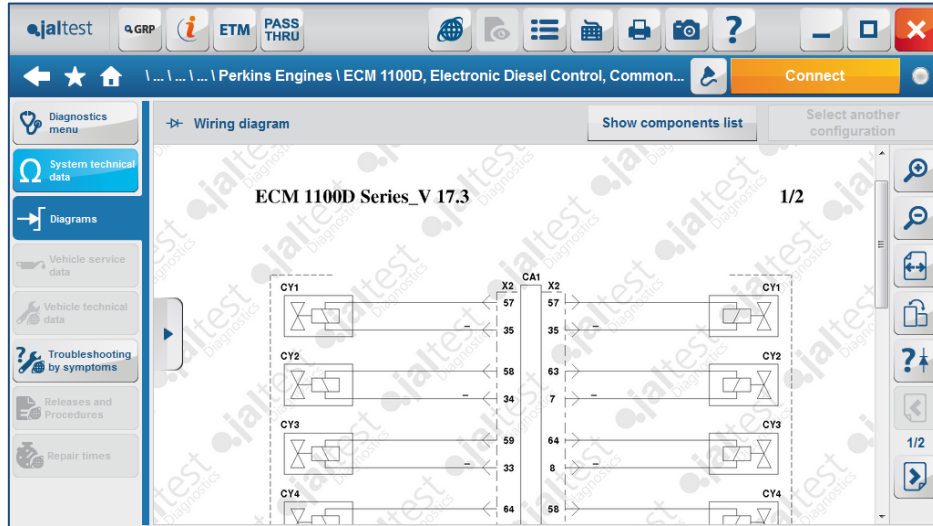
The screenshot shows the JALTEST software interface displaying a diagnosis result. The top navigation bar is the same as in the previous screenshot. The main window displays the 'DIAGNOSIS' tab. The left sidebar is the same as in the previous screenshot. The central pane shows the error code 'E119 x1' with the description 'Water in Fuel Indicator. Valid data but over the normal operation range. Mild severity level.' Below the error code, there is a button for 'Freeze Frame Data' and a link for 'Help and components of the error'. The right pane shows a table of components related to the error. The table has two columns: 'Name' and 'Wiring diagram'. The component listed is 'CB17, Sensor for the indication of water in the fuel filter' with a link for 'See information about the component'.

4.6 PERKINS

- **SYSTEM: SA 0, ECM Perkins 1100D Series (Tier 3)**

WIRING DIAGRAMS:

- Perkins Engines



TECHNICAL DATA:

- Perkins Engine

Tightening torques	
Engine RPM sensor in the crankshaft	
Fuel pressure sensor	
Injector 1 solenoid valve	
Injector 2 solenoid valve	
Injector 3 solenoid valve	
Injector 4 solenoid valve	
Injector 5 solenoid valve	
Injector 6 solenoid valve	
Intake air temperature sensor	
Intake manifold pressure sensor	
Oil pressure sensor	Tightening torque: 7.4 lb-ft (10 Nm)
Pre-heating glow plug	