



Bosch ESI[truck] Heavy Duty Off-Highway Software Update – Q1 2019

Ver 2019/1

Bosch ESI[truck] software release version 2019/1 is full of valuable and timesaving coverage features that you don't want to miss. Included are the details on new coverage additions.

In addition, the new Off-Highway Software package is now available, which gives users the ability to diagnose construction and agricultural vehicles.

Update your Bosch ESI[truck] Diagnostic Scan Tool to software version 2019/1 today to maximize the power of your Bosch ESI[truck] Diagnostic Scan Tool.



Newly Available Software Feature

Off-Highway Software

- Off-Highway coverage was first available with the last revision (2018/3)
- Includes diagnostic coverage for construction, agricultural, stationary engines, street sweepers, and more
- NOTE – these features are only available if you have purchased the ESI[truck] Off-Highway Upgrade Cable Kit and Introductory Software. Learn more about Bosch Off-Highway Software at <https://www.boschdiagnostics.com/pro/products/esitruck-highway-upgrade-cable-kit-introductory-software-license>

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Agricultural Vehicles 2019/I

Introduction

The new software version once again offers more improvements and innovations that consolidate this tool as a benchmark in multibrand diagnosis for agricultural tractors, combine harvesters, forage harvesters, telescopic handlers, and much more...

Below is a summary of the version update, which includes, among others, the following innovations:

- New ISOBUS (ISO 11783) function
- New specific harvest systems for Claas Harvesters
- New checks and maintenance functions, Deutz Final Tier 4 engines
- New functions for Mercedes Benz Final Tier 4 engines
- New parameters in John Deere systems
- New maintenance system in Massey Ferguson 700 Series Final Tier 4 with DCC
- New parameters in Valtra transmissions
- New specific functions for ZF transmissions

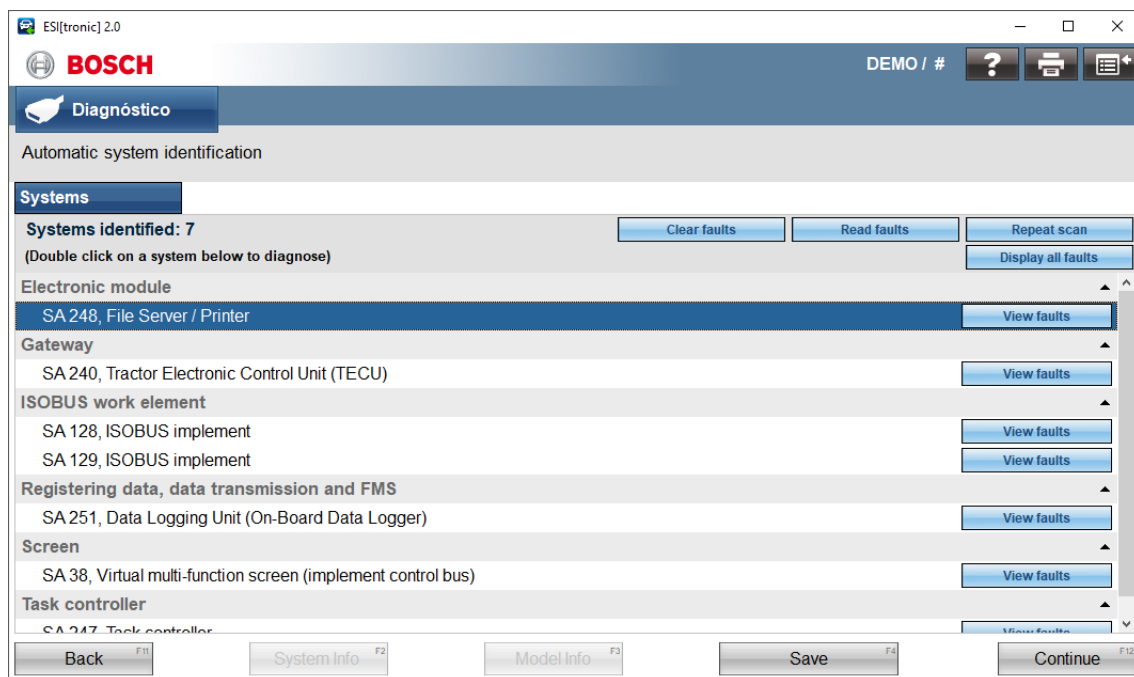
Take into account that this document is only a summary of the most relevant information of this new version.

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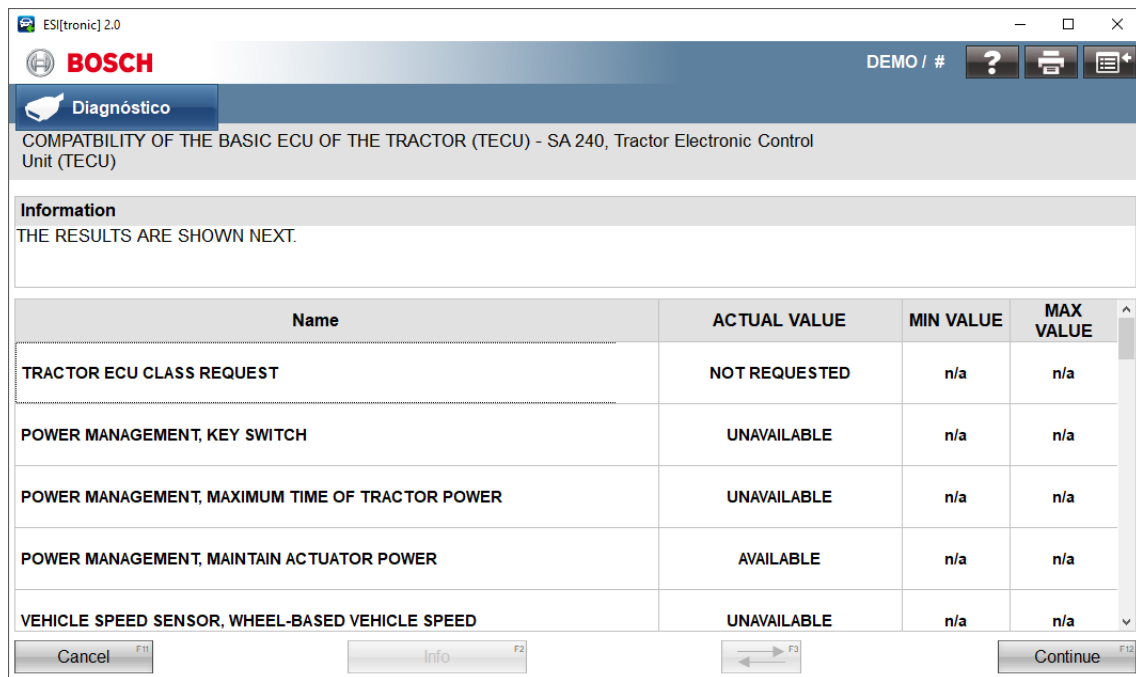
Main new functionalities by brand – AGRICULTURAL VEHICLES

2.1 ISOBUS

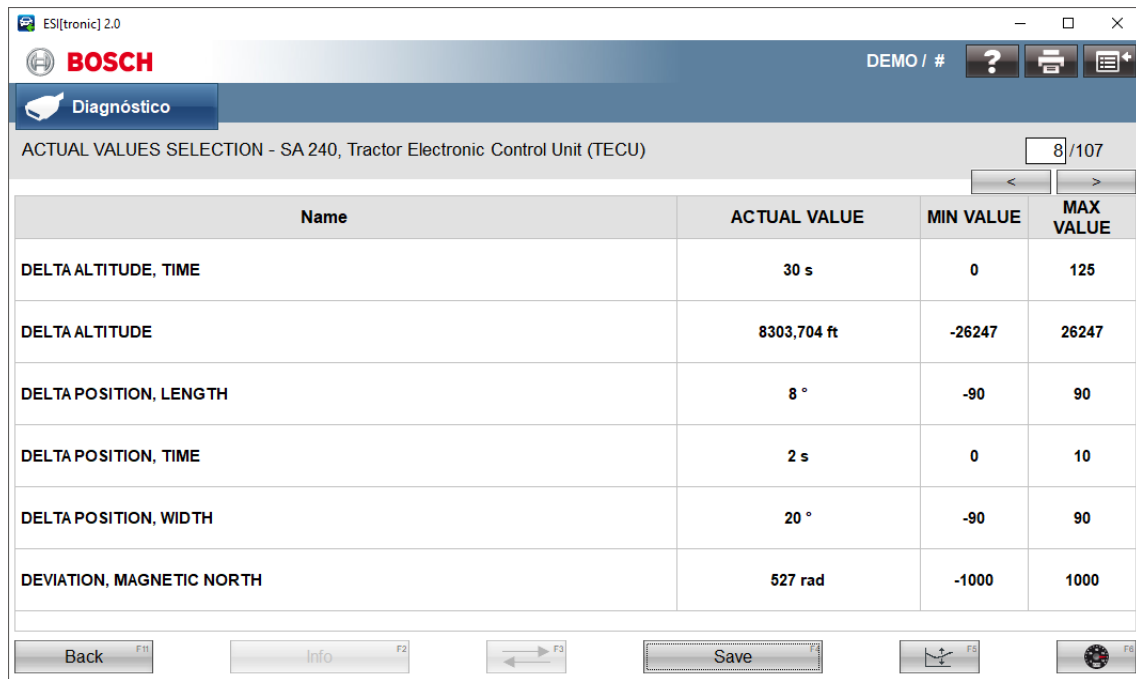
- New **ISOBUS (ISO 11783)** function. Available for all compatible AGV vehicles.



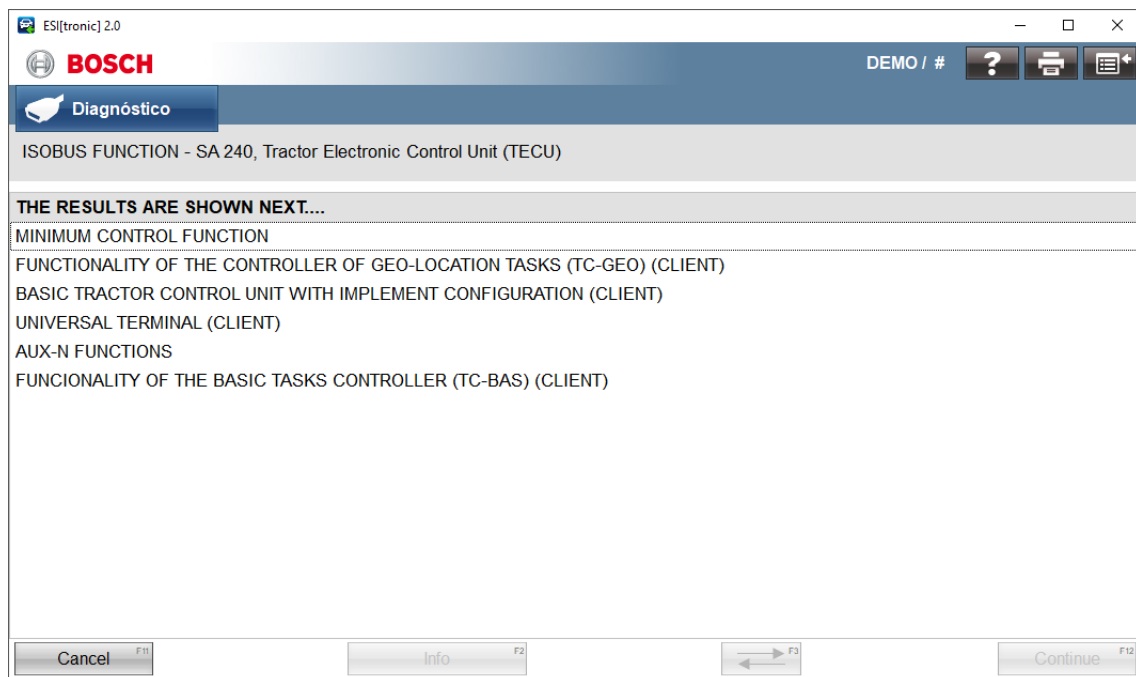
- Advanced **diagnosis functions** for all systems.
-



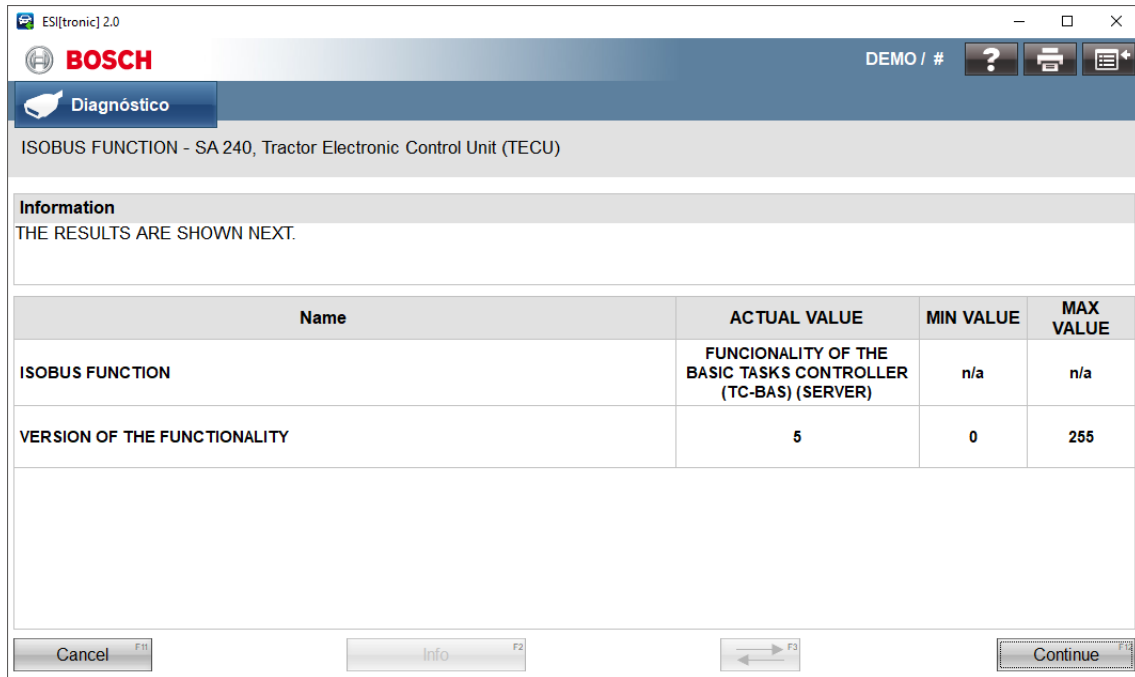
- Specific **actual values selection** for all systems.



- Tractor ECU (TECU) compatibility check

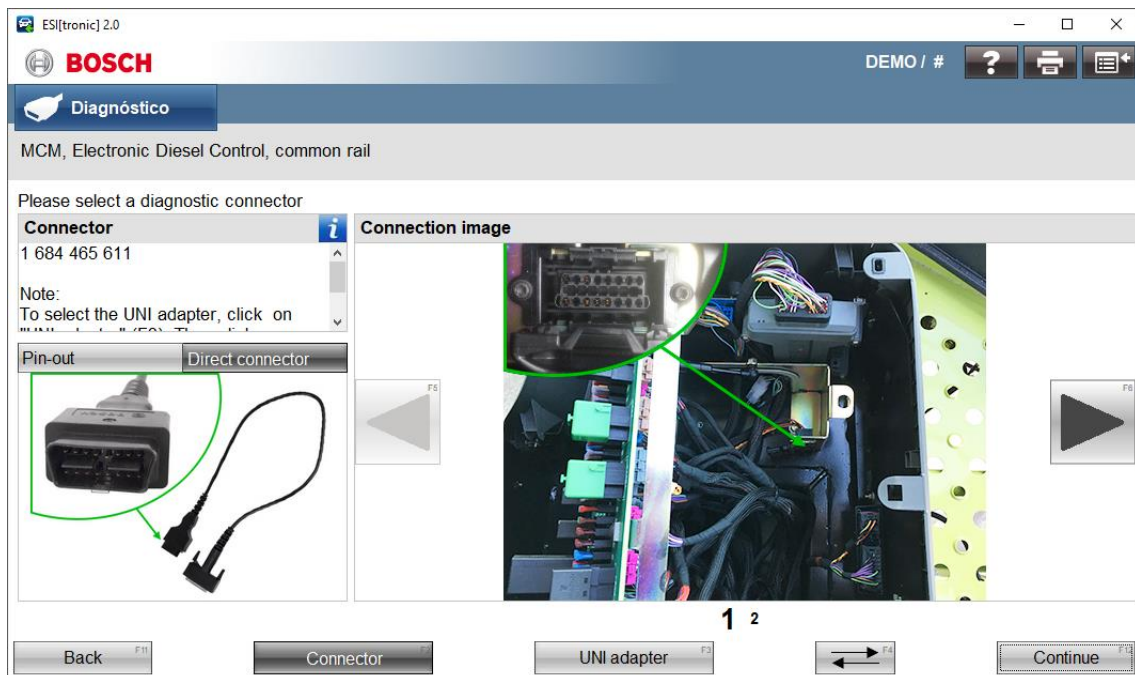


- ISOBUS functionality check for all systems.



2.2 CLAAS

- **New functions** in MCM, Mercedes Benz **Final Tier 4** engine. **Forage** and **combine** harvesters

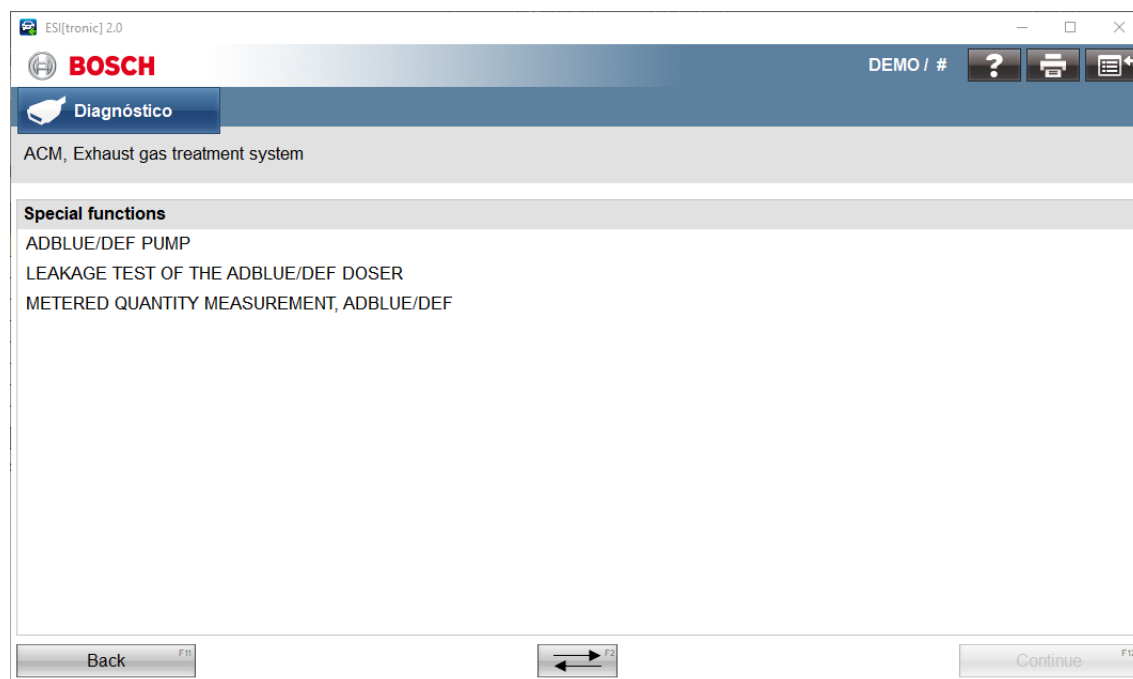


- Parameters
 - Injector coding

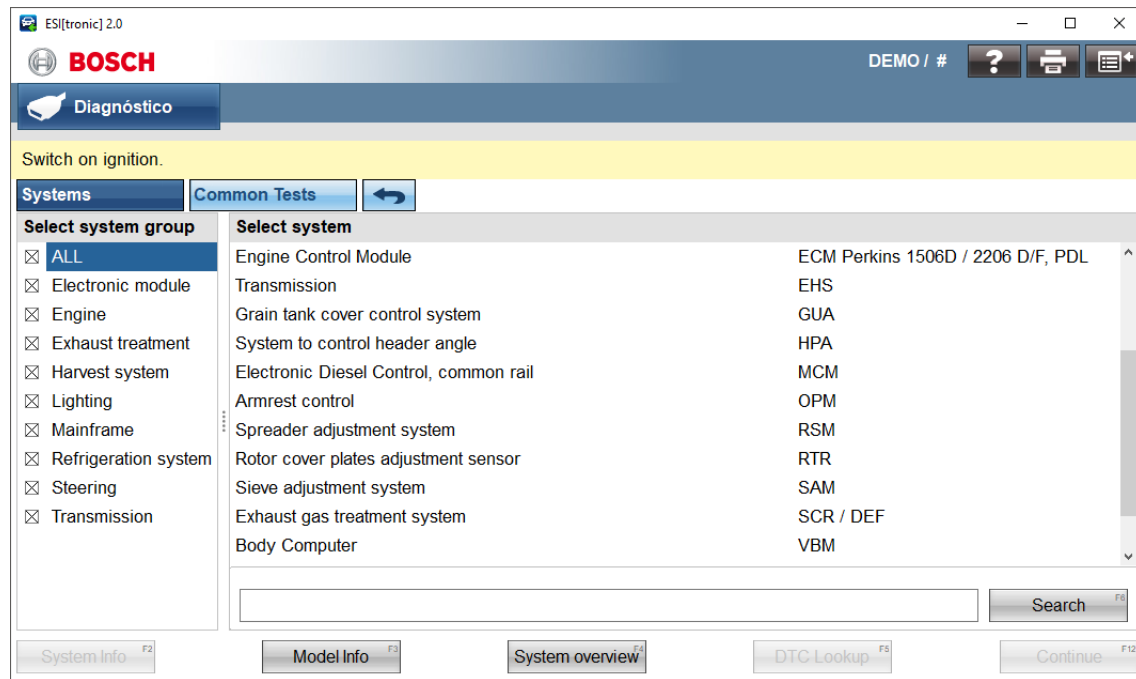
 - Actuators
 - Boost Pressure Actuator
 - Exhaust Gas Recirculation actuator

 - System checks
 - Cylinder compression
 - Quantity correction at idle
 - Exhaust Gas Recirculation actuator

 - Calibration
 - Exhaust Gas Recirculation actuator
- **New functions** in ACM, Mercedes Benz **Final Tier 4**, exhaust gas treatment system, **forage** and **combine** harvesters
- System checks
 - Metered quantity measurement, AdBlue/DEF
 - AdBlue/DEF pump
 - Sealing of the AdBlue/DEF dosing unit
-



- **New specific harvest systems: combine harvesters**
 - CMF - Fan Drive Module
 - EHS - Electro-Hydraulic gear Shift module
 - ACU - Advanced Control Unit
 - ACU 2 - Advanced Control Unit 2
 - RSM - Radial Spreader Module (Includes calibration)
 - HPA – Header tilt control system
 - GUA - Grain tank Unloading Aid module

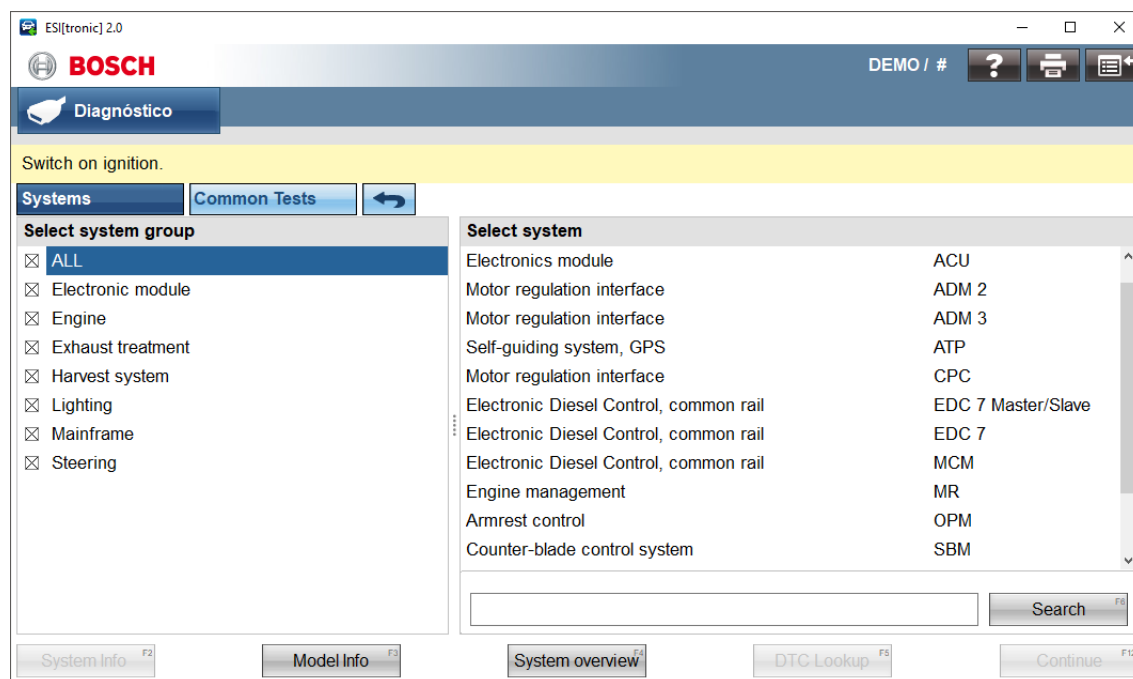


➤ Available in models:

- Lexion Series (C4x)
- Lexion Series (C5x)
- Lexion Series (C6x)
- Lexion Series (C7x)

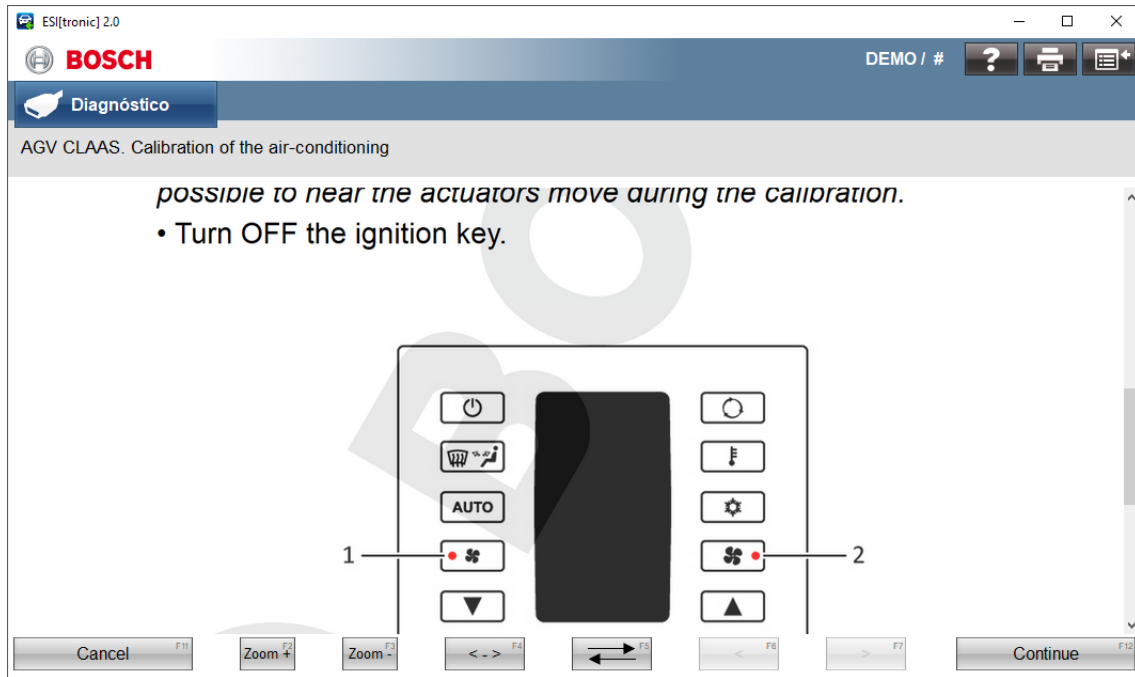
– **New specific harvest systems: forage harvesters**

- OPM – Operating Panel Module
- SBM – Shear Bar adjustment Module
- ACU - Advanced Control Unit

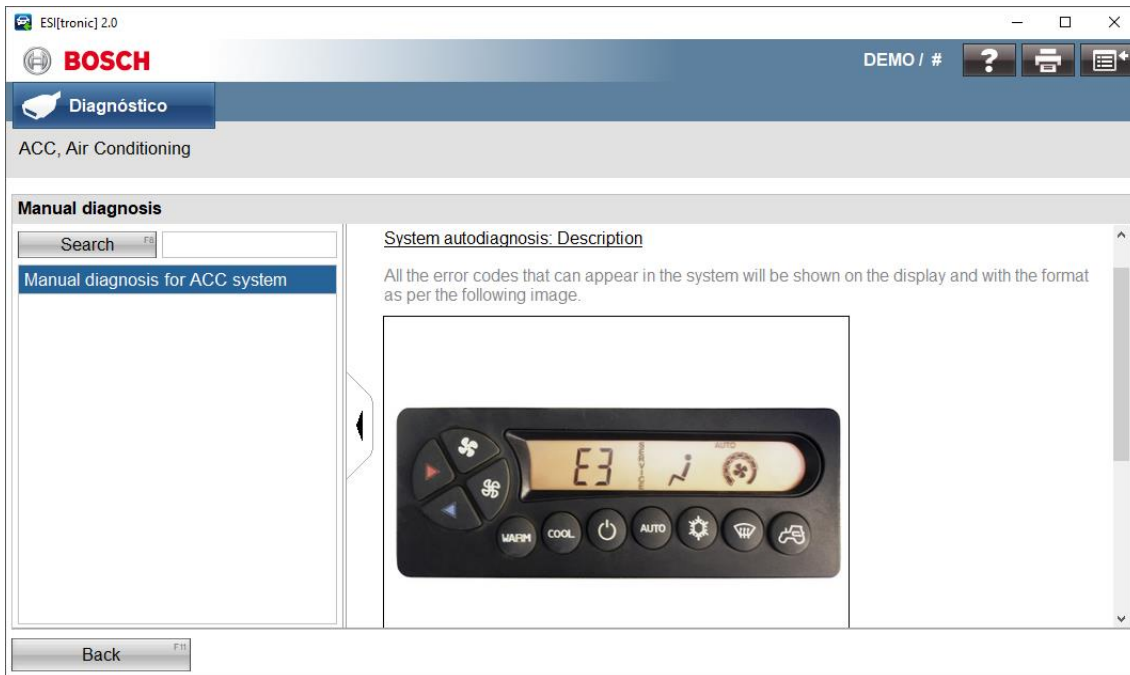


- Available in models:
- Jaguar Series (494)
 - Jaguar Series (496)
 - Jaguar Series (497)
 - Jaguar Series (498)

- **New air conditioning systems for tractors**
 - ACM - Automatic air Conditioner Module (includes calibration)
 - ACC - Automatic Climate Control



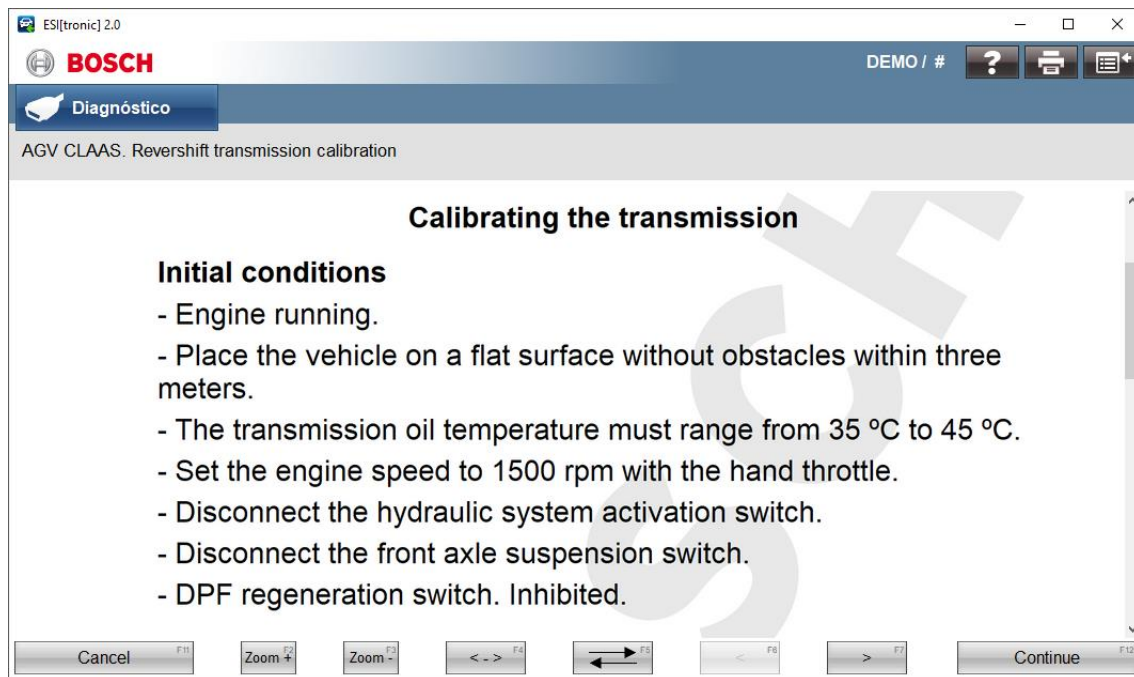
- **New manual diagnosis for ACC, Climate control**



➤ Available in models:

- Arion 4X0 (A32 / A43)
- Arion 5X0 (A18 / A34 / A35)
- Arion 6X0 (A19 / A36 / A37)
- Axion 8X0 (A09 / A30 / A31 / A40 / A41)
- Axion 9x0 (A23 / B06)

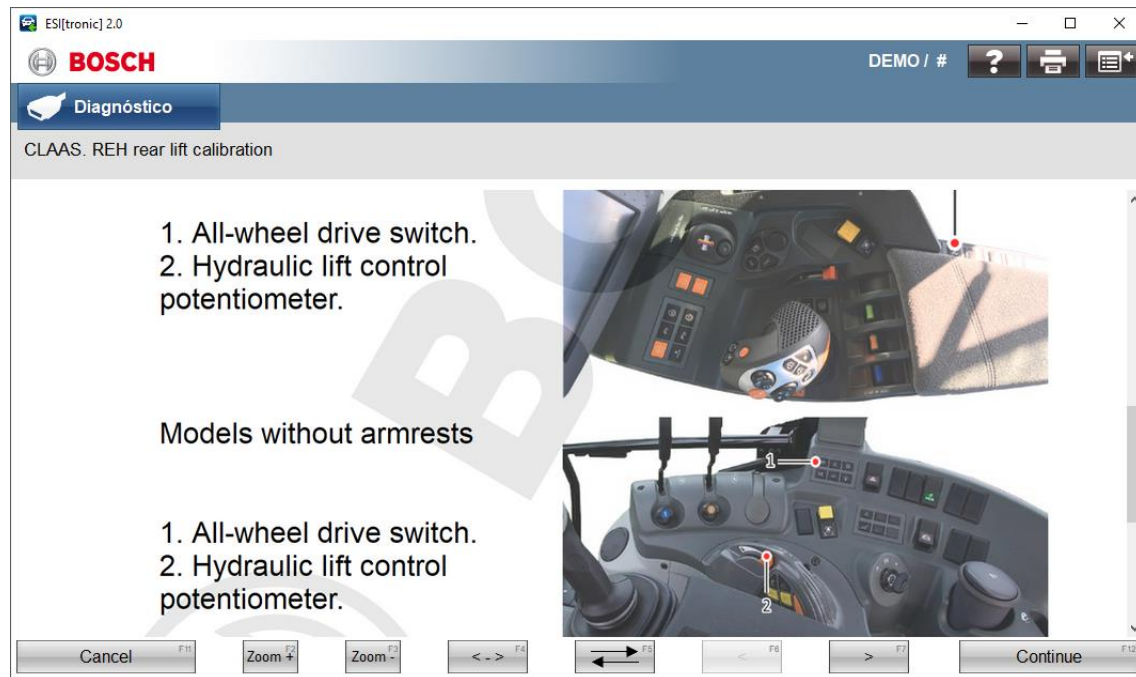
– **New** calibration for **TR1**, Quadrishift/Hexashift transmission



➤ Available in models:

- Arion 4X0 (A21)
- Arion 5X0 – Hexashift (A34 / A35)
- Arion 6X0 – Hexashift (A36 / A37)
- Axion 8X0 – Hexashift (A40)

– **New** calibration for **REH**, Rear Electronic Hitch



➤ Available in models:

- Arion 4X0 (A32 / A43)
- Arion 5X0 (A34 / A35)
- Arion 6X0 (A36 / A37)
- Axion 8X0 (A40 / A41)
- Axion 9x0 (A23 / B06)

– **New** calibration for **TCU**, Transmission Cmatic

➤ Available in models:

- Arion 5X0 – Cmatic (A34 / A35)
- Arion 6X0 – Cmatic (A36 / A37)

– New **wiring diagrams** and system **technical data** in **combine harvesters**

- ACU - Advanced Control Unit
- ACU 2 - Advanced Control Unit

- GDM - Ground Drive Module
- RTR - Rotor cover plate regulation system
- MCM - Motor Control Module (Final Tier 4)
- ACM - Aftertreatment Control Module (Final Tier 4)
- MR – Engine management (Interim Tier 4)
- SCR Bluetec (Interim Tier 4)

ESI[tronic] 2.0

BOSCH DEMO / # ? [Print] [List]

Diagnóstico

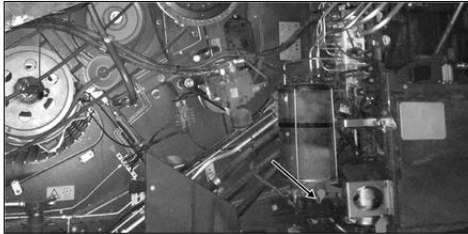
ACU 2, Electronics module A18-b, Central computer

Components

Search [F3]

- A18-b, Central computer
- B4.444, Exhaust pipe position sensor
- B4.81, Lubricating pump piston displ...
- M20, Central lubrication pump**
- Y10.142, Security solenoid valve for t...
- Y10.143, Security solenoid valve for t...
- Y10.242c, Solenoid valve to close the...
- Y10.242o, Solenoid valve to open the...

M20, Central lubrication pump



Back

ESI[tronic] 2.0

BOSCH DEMO / # ? [Print] [List]

Diagnóstico

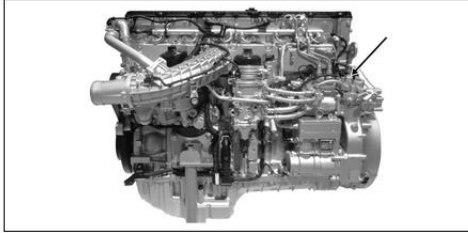
MCM, Electronic Diesel Control, common rail

Components

Search [F3]

- Y10.30, Engine brake 1 solenoid v...
- Y10.61, Engine brake 2 solenoid v...
- Y17, Water pump solenoid valve, c...
- Y2.1, Cylinder 1 injector
- Y2.2, Cylinder 2 injector
- Y2.3, Cylinder 3 injector
- Y2.4, Cylinder 4 injector
- Y2.5, Cylinder 5 injector
- Y2.6, Cylinder 6 injector
- Y4.47, AdBlue / DEF tank heating ...
- Y49.6, Aftertreatment solenoid fuel...**
- Y5.20, Boost pressure actuator
- Y5.2, Exhaust gas recirculation act...

Y49.6, Aftertreatment solenoid fuel shut-off valve

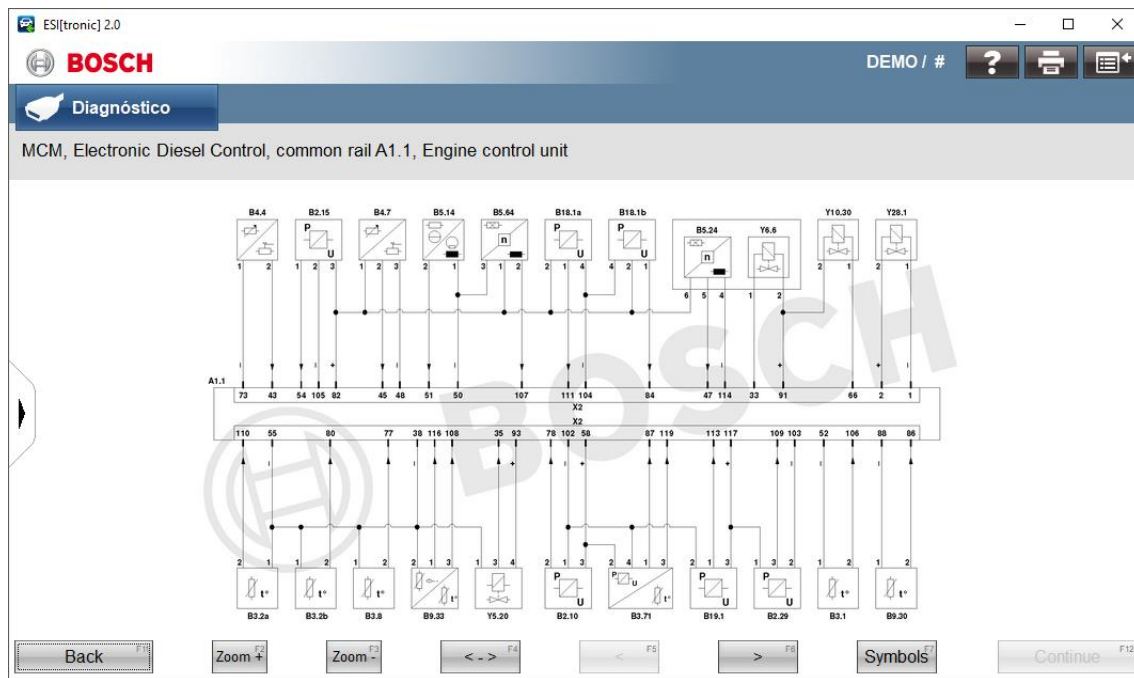


System components

Aftertreatment solenoid fuel shut-off valve

Supply voltage (pin 2): 24 V

Back

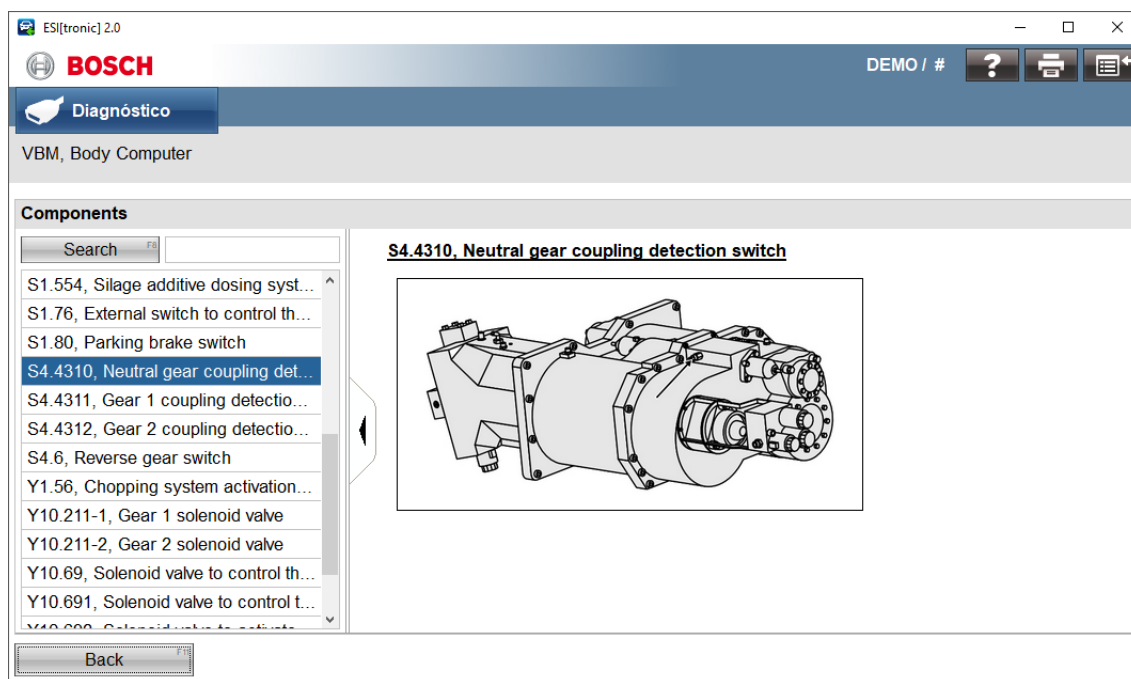


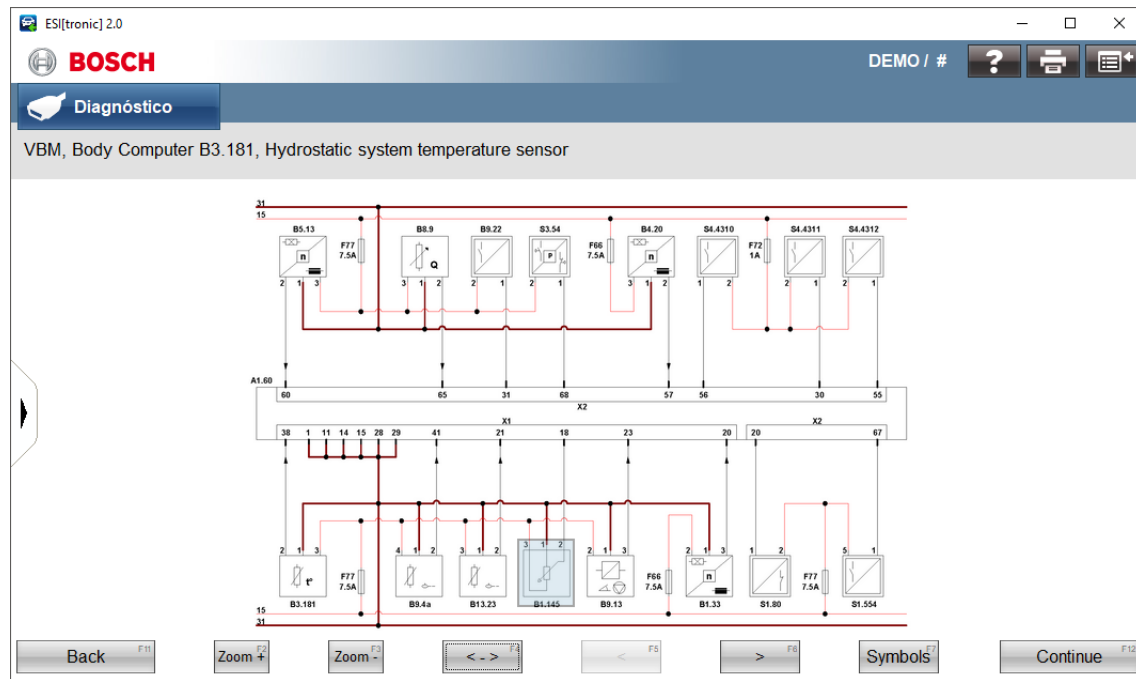
➤ Available in models:

- Lexion Series (C4x)
- Lexion Series (C5x)
- Lexion Series (C6x)
- Lexion Series (C7x)
- Lexion Series (5xx)
- Medion Series
- Mega Series
- Tucano Series (Lxx)
- Tucano Series (C0x)
- Tucano Series (C24 / C26 / C28)
- Tucano Series (C30 / C34 / C38)
- Tucano Series (C20 / C21 / C22)

– New **wiring diagrams** and system **technical data** in forage harvesters

- VBM - Vehicle Base Module
- GDM - Ground Drive Module
- ACU - Advanced Control Unit
- MCM - Motor Control Module (Final Tier 4)
- ACM - Aftertreatment Control Module (Final Tier 4)
- MR – Engine management (Interim Tier 4)
- SCR Bluetec (Interim Tier 4)





➤ Available in models:

- Jaguar Series (492)
- Jaguar Series (493)
- Jaguar Series (495)
- Jaguar Series (494)
- Jaguar Series (496)
- Jaguar Series (497)
- Jaguar Series (498)

– **New vehicle technical data** in all Claas tractors

➤ Available in models:

- Ares 5X6-6X6
- Ares 5X7-6X7
- Arion 5X0 Cebis
- Arion 5X0 Cis

- Arion 6X0 Cebis
- Arion 6X0 Cis
- Atles 9X5-9X6
- Atles 9X5-9X6
- Axion 8X0 Cebis
- Axion 8X0 Cis
- Celtis
- Arion 6X0 C
- Axos
- Ceres
- Elios
- Arion 4X0
- Arion 5X0 - Hexashift
- Arion 5X0 - Cmatic
- Arion 6X0 - Hexashift
- Arion 6X0 - Cmatic
- Axion 8X0 - Hexashift
- Axion 8X0 - Cmatic
- Axion 8X0
- Axion 9X0
- Ares 836

– **New vehicle service data** in all Claas **tractors**

➤ Available in models:

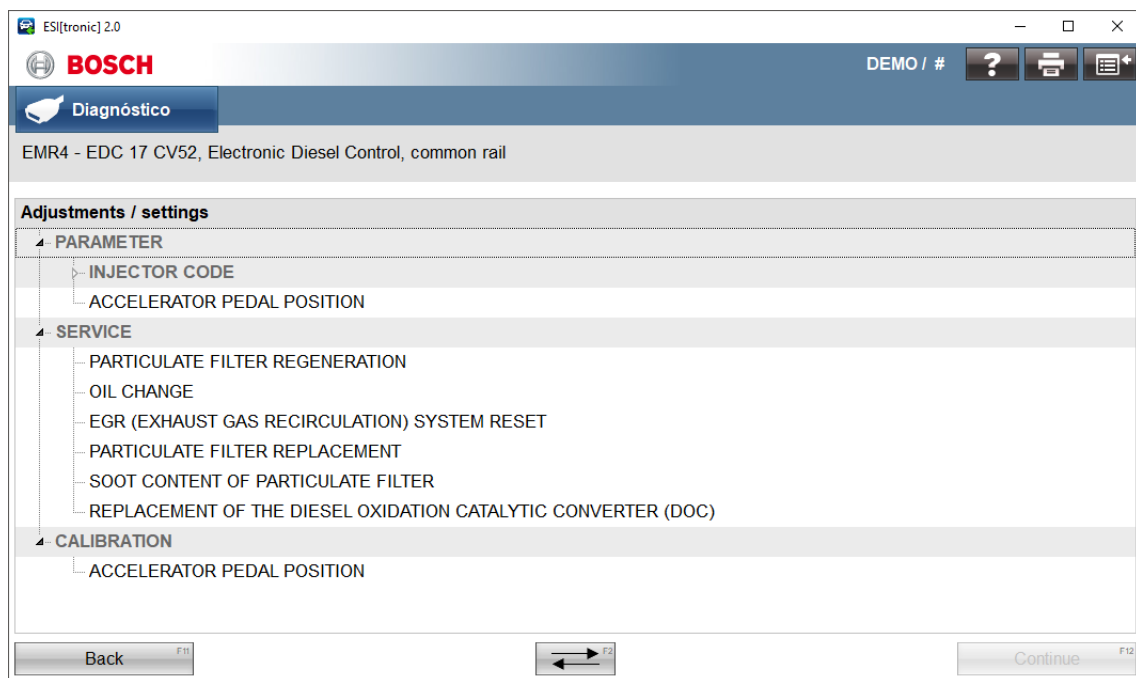
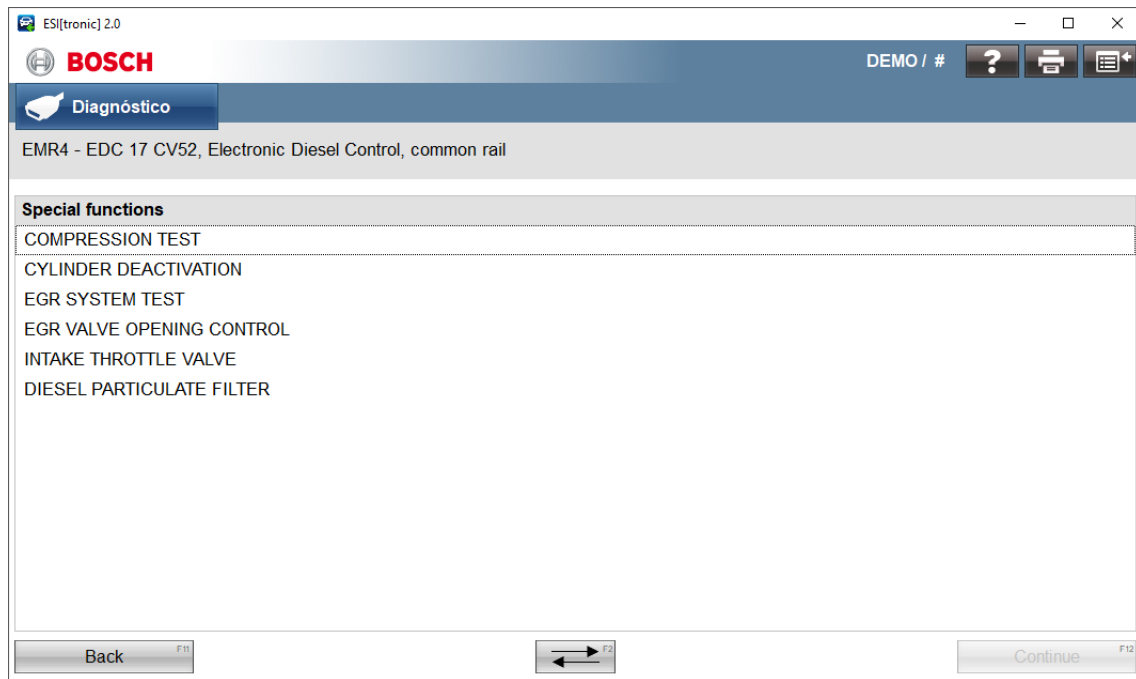
- Ares 5X6-6X6
 - Ares 5X7-6X7
 - Arion 5X0 Cebis
 - Arion 5X0 Cis
 - Arion 6X0 Cebis
 - Arion 6X0 Cis
 - Atles 9X5-9X6
 - Atles 9X5-9X6
 - Axion 8X0 Cebis
 - Axion 8X0 Cis
 - Celtis
 - Arion 6X0 C
-

- Axos
- Ceres
- Elios
- Arion 4X0
- Arion 5X0 - Hexashift
- Arion 5X0 - Cmatic
- Arion 6X0 - Hexashift
- Arion 6X0 - Cmatic
- Axion 8X0 - Hexashift
- Axion 8X0 - Cmatic
- Axion 8X0
- Axion 9X0
- Ares 836

2.3 DEUTZ-FAHR

- **New functions** in Deutz **EMR4 EDC 17 CV52** engines
 - System checks
 - EGR system test
 - EGR valve opening control
 - Intake throttle valve
 - Diesel particulate filter

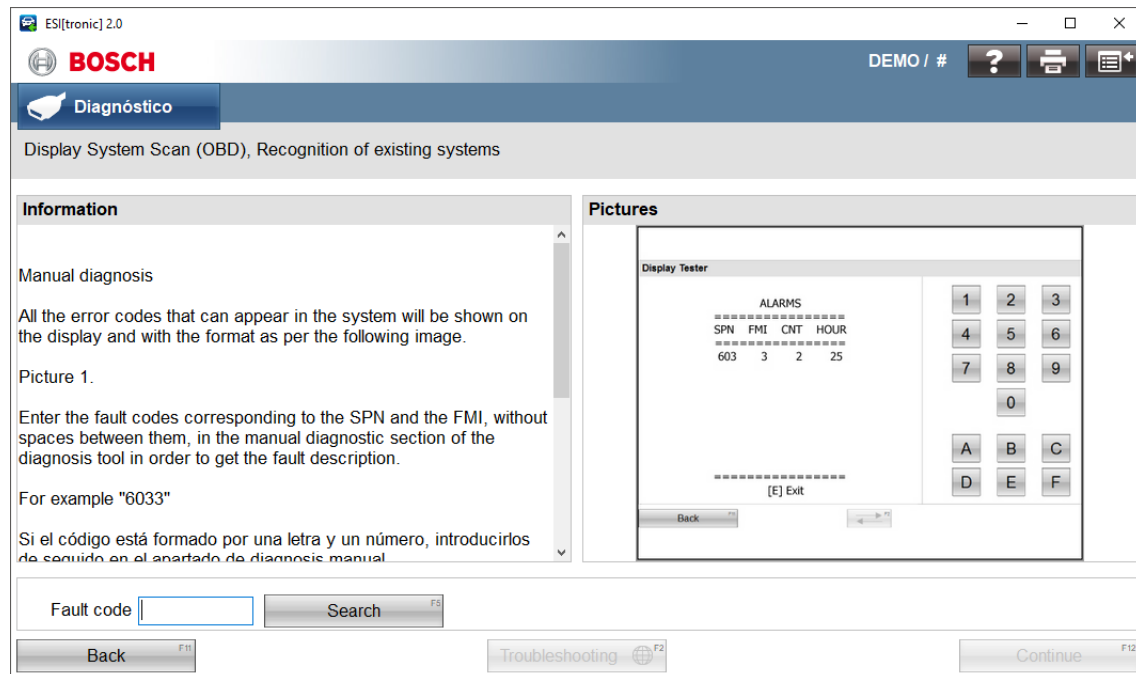
 - Maintenance
 - EGR (Exhaust Gas Recirculation) system reset
 - Particulate filter replacement
 - Soot content on the particulate filter
 - Replacement of the Diesel Oxidation Catalyst (DOC)
-



➤ Available in models:

- 6 Series
- 6 TTV Series
- 7 Series
- 7 ST Series
- 7 TTV Series
- 9 Series

– **Display System Scan**, increase in the number of models with manual diagnosis



➤ New models and expansion of the fault code list:

- 5 Series
- 5 C Series

- 5 TTV Series
 - 6 Series
 - 6 P Series
 - 6 TTV Series
 - 6.4 Series
 - 7 TTV Series
 - Agrofarm Series
 - Agroplus Ecoline Series
 - Agroplus Series
 - Agrotron 400 TTV Series
 - Agrotron 600 TTV Series
 - Agrotron K Series
 - Agrotron L Series
 - Agrotron M Series
 - Agrotron X Series
- **Display System Scan**, increase in the number of manual calibrations
- Clutch pedal calibration
 - Calibration of manual accelerator
 - Calibration of the accelerator pedal
 - Rear lift calibration
 - Steering angle sensor calibration process
 - Climate control calibration
 - Transmission calibration
 - Calibration of the power take-off solenoid valve
 - Calibration of the front axle speed sensor
 - Cabin suspension calibration
 - Spool valves joystick calibration
- **New models with calibration or programming:**
- 5 TTV Series
 - 7 TTV Series
 - Agrotron M Series
 - Agrotron X Series
 - Agrotron K Series
-

- **New functions** in ZF transmissions, PowerShuttle T7000 Series
 - New calibrations
 - Oil pressure of the clutch engagement
 - Clutch pedal potentiometer

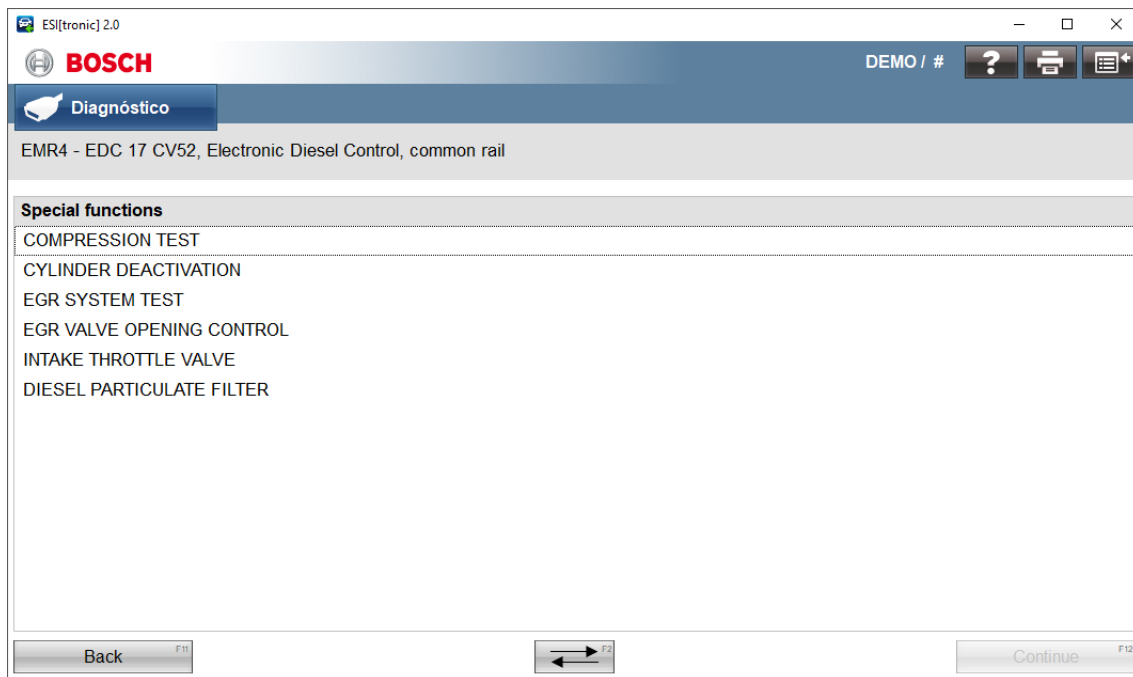


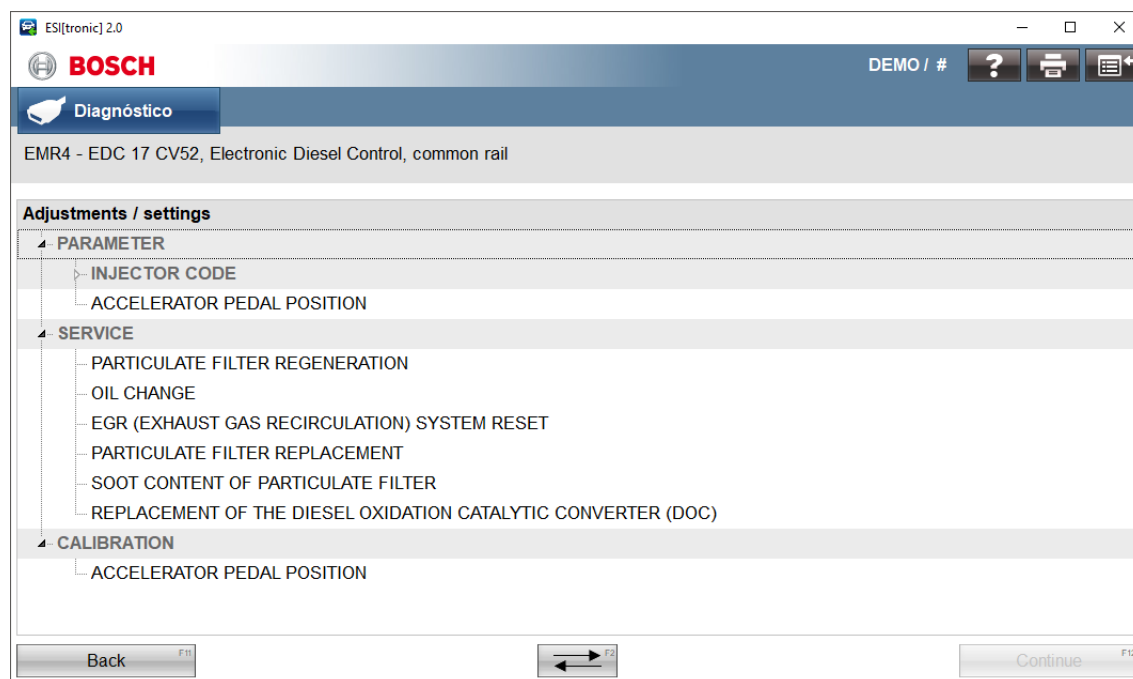
- Available in models:
 - Agrotron 210/215/235/265
 - Agrotron K Series
 - Agrotron L Series
 - Agrotron M Series
 - Agrotron MK3 Series
 - Agrotron Series
 - Agrotron X Series

2.4 FENDT

- **New functions** in Deutz **EMR4 EDC 17 CV52** engines
 - System checks
 - EGR system test
 - EGR valve opening control
 - Intake throttle valve
 - Diesel particulate filter

 - Maintenance
 - EGR (Exhaust Gas Recirculation) system reset
 - Particulate filter replacement
 - Soot content on the particulate filter
 - Replacement of the Diesel Oxidation Catalyst (DOC)



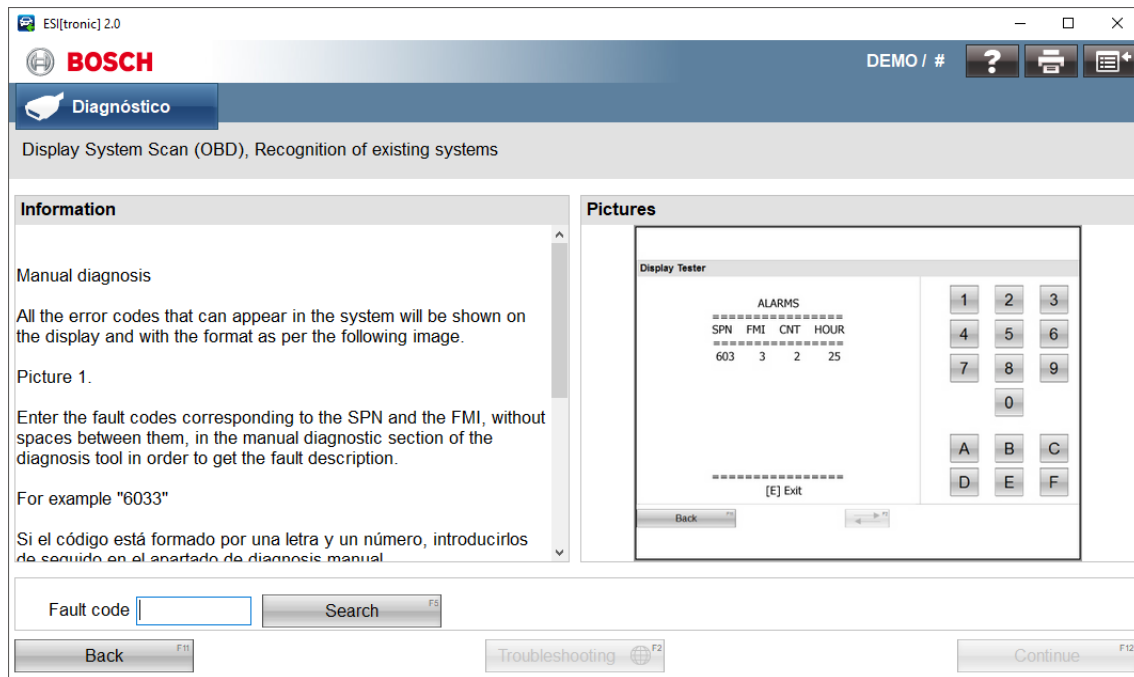


➤ Available in models:

- 500 Vario Series Final Tier 4
- 700 Vario Series Interim Tier 4
- 700 Vario Series Final Tier 4
- 800 Vario Series Interim Tier 4
- 800 Vario Series Final Tier 4
- 900 Vario Series Interim Tier 4
- 900 Vario Series Final Tier 4

2.5 HÜRLIMANN

- **Display System Scan**, increase in the number of models with manual diagnosis



➤ New models and expansion of the fault code list:

- XM T4 V-Drive Series
- XB Max Series
- XB Series
- XA Series
- XM Series
- XL DCR Series
- XM T4 Series

- **Display System Scan**, increase in the number of manual calibrations

- New models with calibration or programming:
 - XM T4 V-Drive Series
 - XM Series
 - XL DCR Series

- **New functions** in ZF transmissions, PowerShuttle T7000 Series

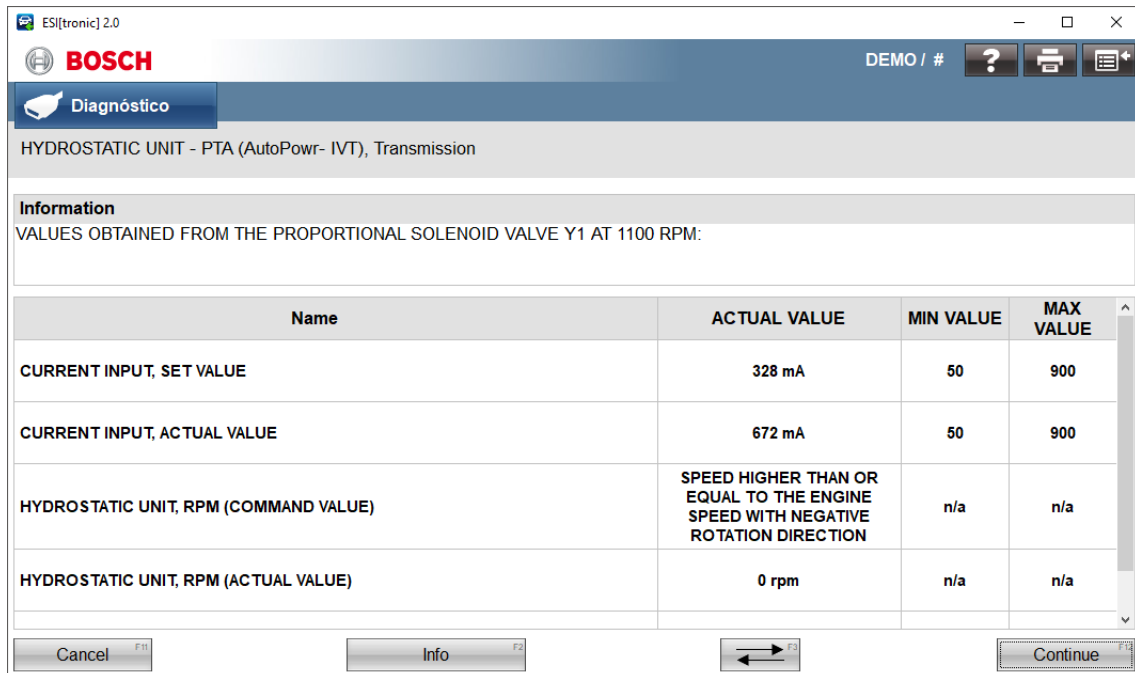
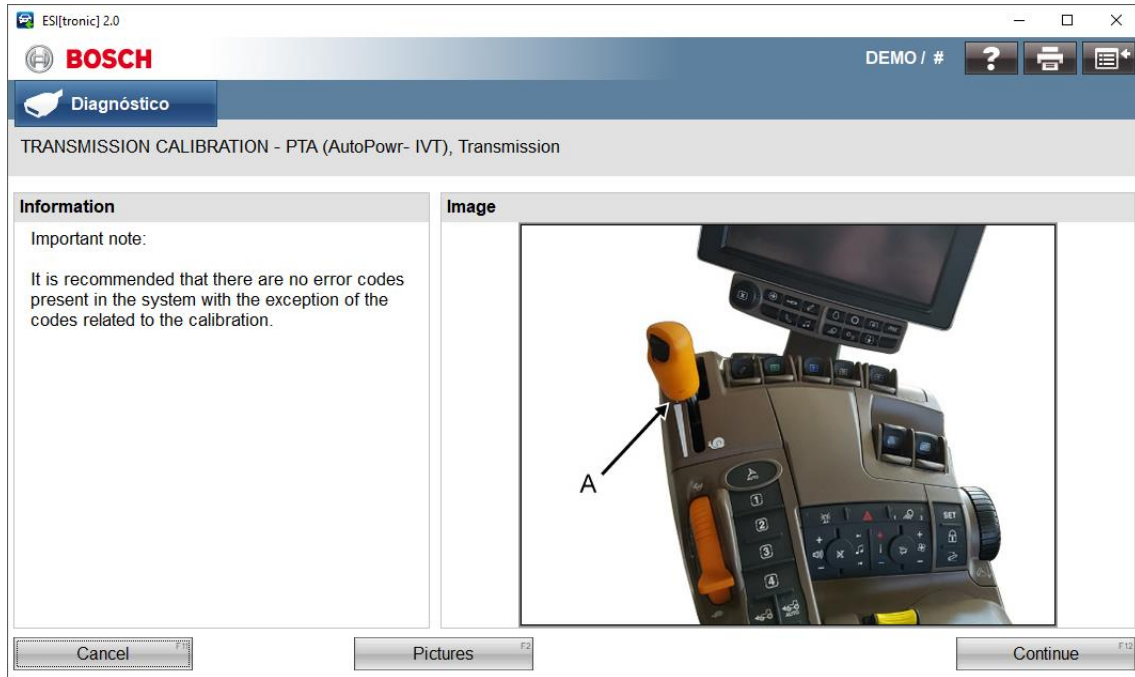
- New calibrations
 - Oil pressure of the clutch engagement
 - Clutch pedal potentiometer



- Available in model:
 - XL DCR Series

2.6 JOHN DEERE

- New **PTA system**, Autopower IVT transmission
 - PTA, advanced functions available: transmission calibration and hydrostatic unit check

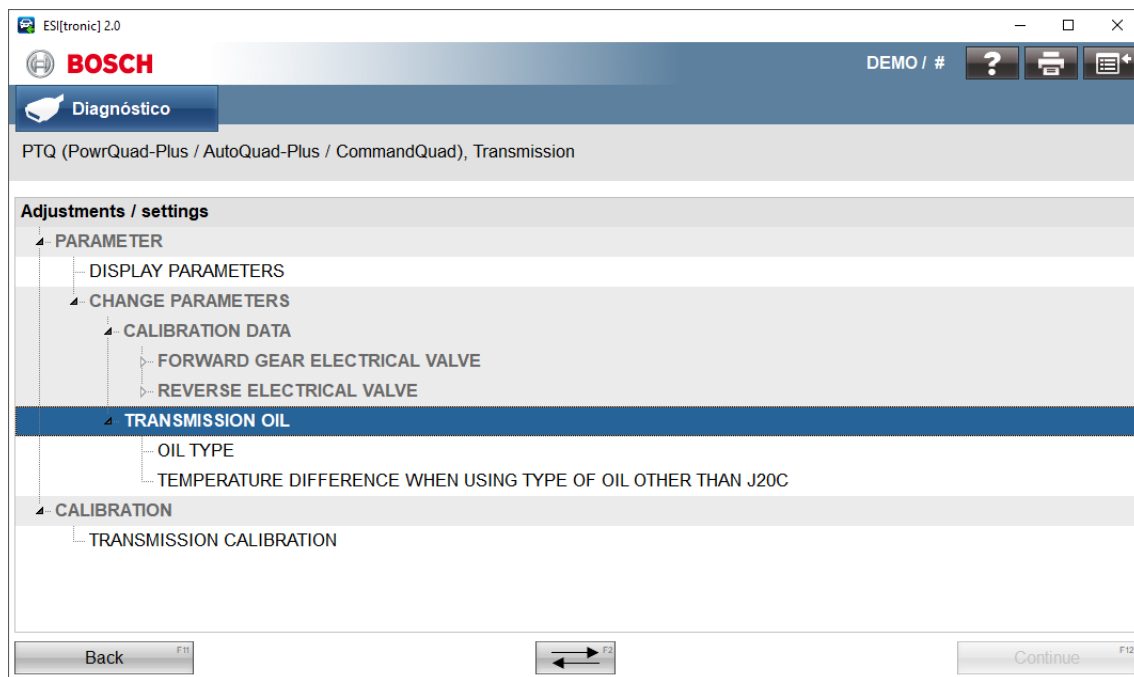


➤ Available in models:

- 6R Series

– **New parameters** in PTQ transmissions, PowerQuad (Semi PowerShift)

- New parameters
 - Forward valve, filling pressure adjustment
 - Forward valve, filling time adjustment
 - Reverse valve, filling pressure adjustment
 - Reverse valve, filling time adjustment
 - Hydraulic oil type setting
 - Temperature factor for oils other than J20C

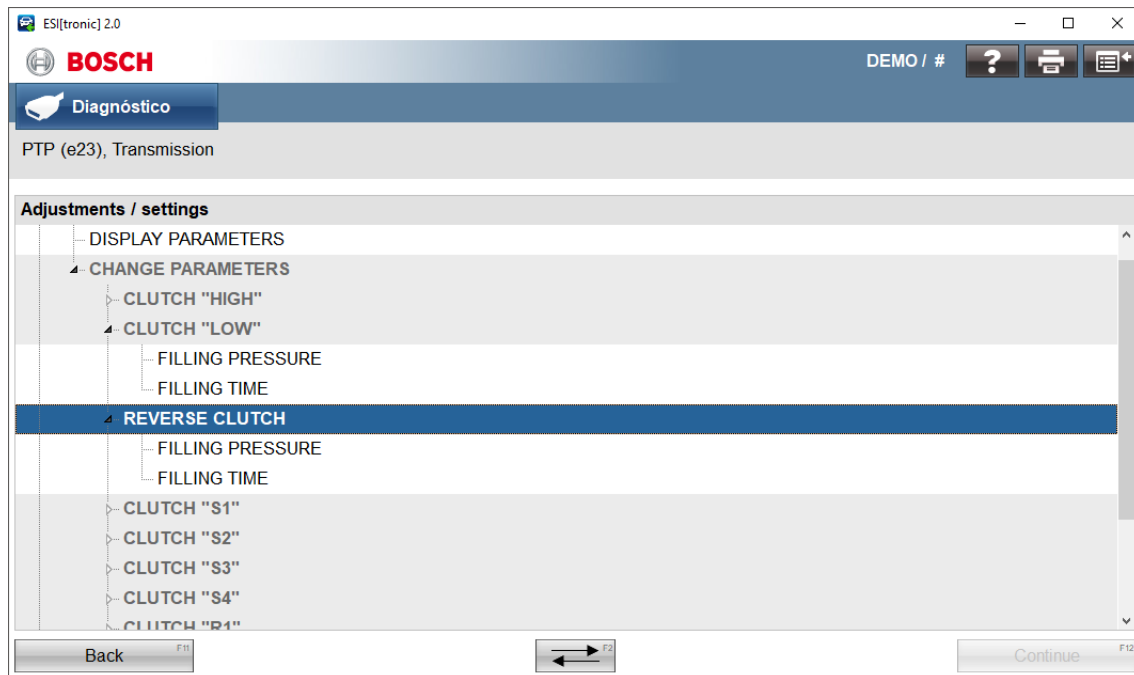


➤ Available in models:

- 7020 Series
- 7030 Series
- 7R Series

– **New parameters** in PTP e23 transmissions (Full PowerShift)

- New parameters
 - Clutch "High", filling pressure
 - Clutch "High", filling time
 - Clutch "Low", filling pressure
 - Clutch "Low", filling time
 - Reverse clutch, filling pressure
 - Reverse clutch, filling time
 - Clutch "S1", filling pressure
 - Clutch "S1", filling time
 - Clutch "S2", filling pressure
 - Clutch "S2", filling time
 - Clutch "S3", filling pressure
 - Clutch "S3", filling time
 - Clutch "S4", filling pressure
 - Clutch "S4", filling time
 - Clutch "R1", filling pressure
 - Clutch "R1", filling time
 - Clutch "R2", filling pressure
 - Clutch "R2", filling time
 - Clutch "R3", filling pressure
 - Clutch "R3", filling time



- Available in models:
 - 8R Series

- 7R Series

 - **New vehicle configuration** in John Deere Tractors
 - BIF, Basic Informator
 - Front power take-off configuration
 - Language
 - Units setting

 - UIC, User Interface
 - Rolling radius
 - Units setting

 - Available in models:
 - 5000 RN Series
 - 5R Series
 - 6030 Series
 - 7030 Series

 - DTI, Multifunction Display
 - Front power take-off configuration
 - Rotating lights
 - Working lights on the front part of the cab roof
 - Working lights on the rear part of the cab roof
 - Working lights mounted at the front of the tractor
 - Working lights on the upper part of the cab pillar
 - Working lights on the lower part of the cab pillar
 - Working lights on the rear mudguards
-



➤ Available in models:

- 6030 Series
- 7030 Series

– New **wiring diagrams** and system **technical data** in **tractors**

- RPT – Rear Power Take-off
- SFA – Suspension management system in the front axle
- FCC – Control unit, front module

➤ Available in models:

- 6R Series
- 6M Series

2.7 LAMBORGHINI

- **New functions** in Deutz **EMR4 EDC 17 CV52** engines
 - System checks
 - EGR system test
 - EGR valve opening control
 - Intake throttle valve
 - Diesel particulate filter

 - Maintenance
 - EGR (Exhaust Gas Recirculation) system reset
 - Particulate filter replacement
 - Soot content on the particulate filter
 - Replacement of the Diesel Oxidation Catalyst (DOC)

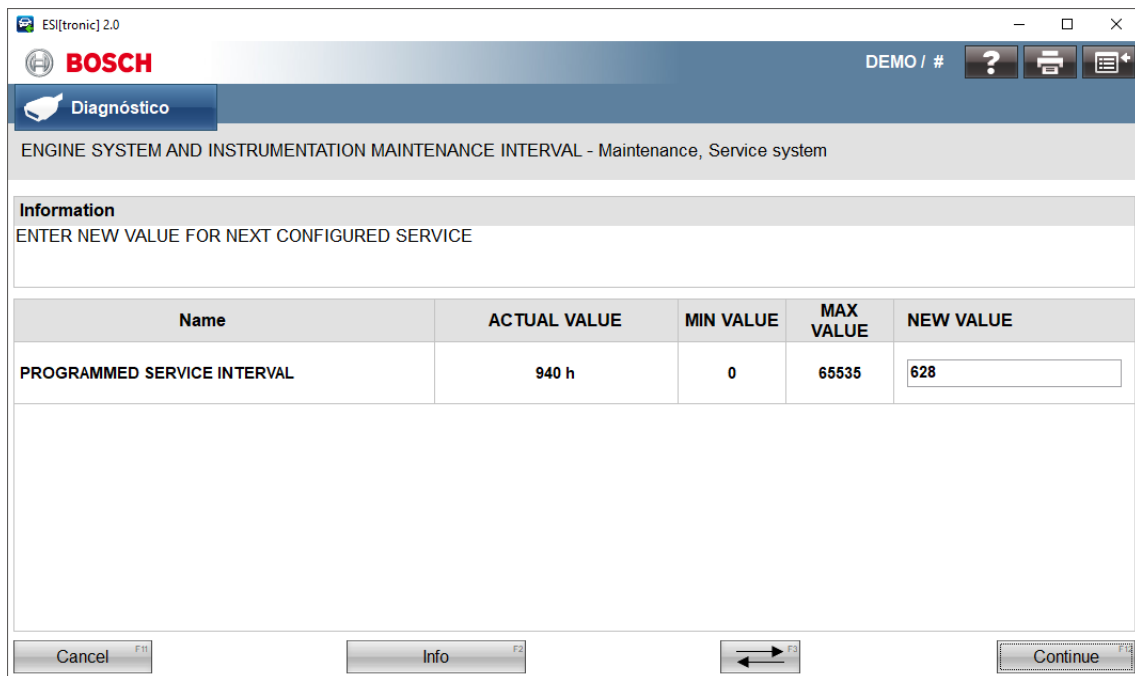
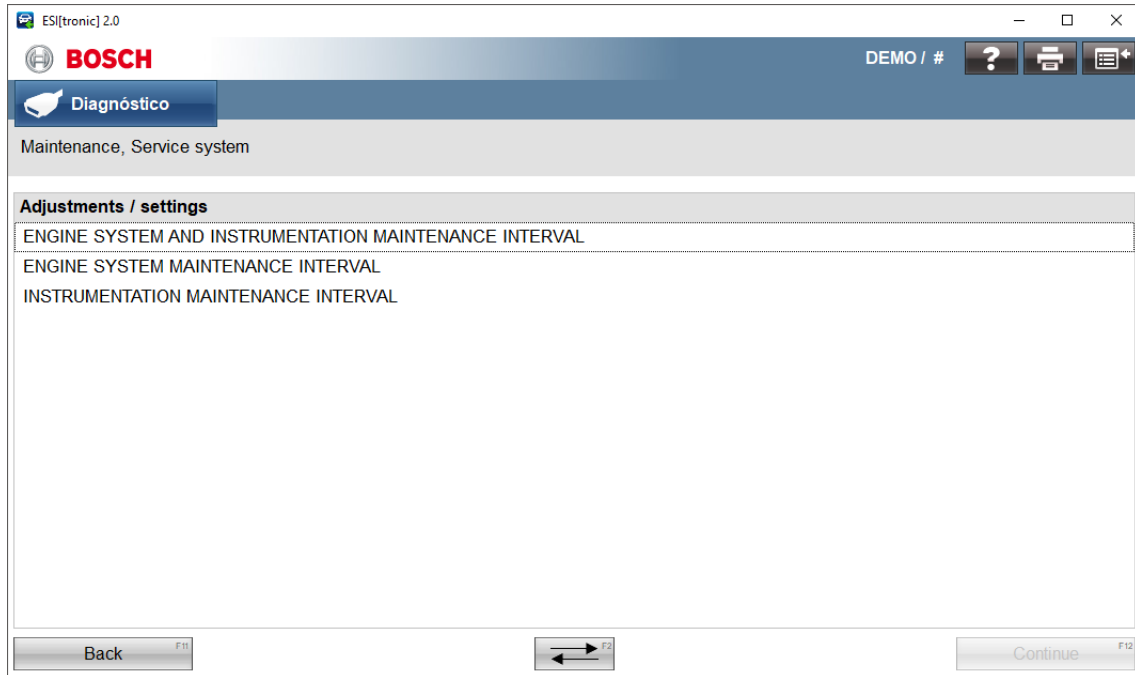
 - Available in models:
 - Match Series
 - R6 100 Series (IT4)
 - R6 200 VRT Series

 - **Display System Scan**, increase in the number of models with manual diagnosis
 - New models and expansion of the fault code list:
 - Nitro VRT Series
 - R6 200 VRT Series
 - R3 Series
 - R3 Evo Series
 - R2 Series
 - R2 Series
 - R6 VRT Series
 - R6 150/170/190 VRT
 - R6 Series
 - R7 DCR Series
 - R6 DCR Series
-

- R8 DCR Series
 - Nitro R Series
 - Nitro Series
 - R6 100 Series (IT4)
 - R6 100 VRT Series
 - R6 100.4 VRT Series
 - R6 100 Hi-Profil Series
 - R6 100.4 Series
- **Display System Scan**, increase in the number of manual calibrations
- New models with calibration or programming:
- Nitro VRT Series
 - R6 200 VRT Series
 - R6 DCR Series
 - R8 DCR Series
 - R6 Series
- **New functions** in ZF transmissions, PowerShuttle T7000 Series
- New calibrations
 - Oil pressure of the clutch engagement
 - Clutch pedal potentiometer
- Available in models:
- R6 DCR Series
 - R6 Series
 - R8 210/215/235/265
 - R8 DCR Series

2.8 MASSEY FERGUSON

- **New maintenance system**, models with DCC Instrument Cluster



➤ Available in models:

- 4700
- 5700

- 6700 Series

- New **wiring diagrams** and system **technical data** in X600 Series
 - DCC3 – Instrument cluster
 - MFA – Armrest control
 - Autotronic 5 – TECU, suspension management system in the front axle

- New **wiring diagrams** and system **technical data** in X700 Series
 - DCC3 – Instrument cluster
 - EEM4F – EDC 17 CV41, Electronic Diesel Control, Common Rail

2.9 SAME

- **New functions** in Deutz **EMR4 EDC 17 CV52** engines
 - System checks
 - EGR system test
 - EGR valve opening control
 - Intake throttle valve
 - Diesel particulate filter

 - Maintenance
 - EGR (Exhaust Gas Recirculation) system reset
 - Particulate filter replacement
 - Soot content on the particulate filter
 - Replacement of the Diesel Oxidation Catalyst (DOC)

 - Available in models:
 - Audax
 - Fortis 100 Series

 - **Display System Scan**, increase in the number of models with manual diagnosis
-

- New models and expansion of the fault code list:
 - Diamond DCR Series
 - Dorado 3 Series
 - Dorado 3 Series
 - Explorer 3 Series
 - Fortis 100 Series
 - Fortis 100.4 Series
 - Fortis Infinity Line 100 Series
 - Iron 115/125/135 Continuo
 - Iron 135-185 DCR
 - Iron 150/170/190 Continuo
 - Iron 3 Series
 - Iron DCR Series
 - Iron Series
 - Virtus J Series
 - Virtus Series

 - **Display System Scan**, increase in the number of manual calibrations

 - New models with calibration or programming:
 - Iron 130-185 DCR
 - Diamond DCR Series
 - Iron DCR Series
 - Iron Series

 - **New functions** in ZF transmissions, PowerShuttle T7000 Series
 - New calibrations
 - Oil pressure of the clutch engagement
 - Clutch pedal potentiometer

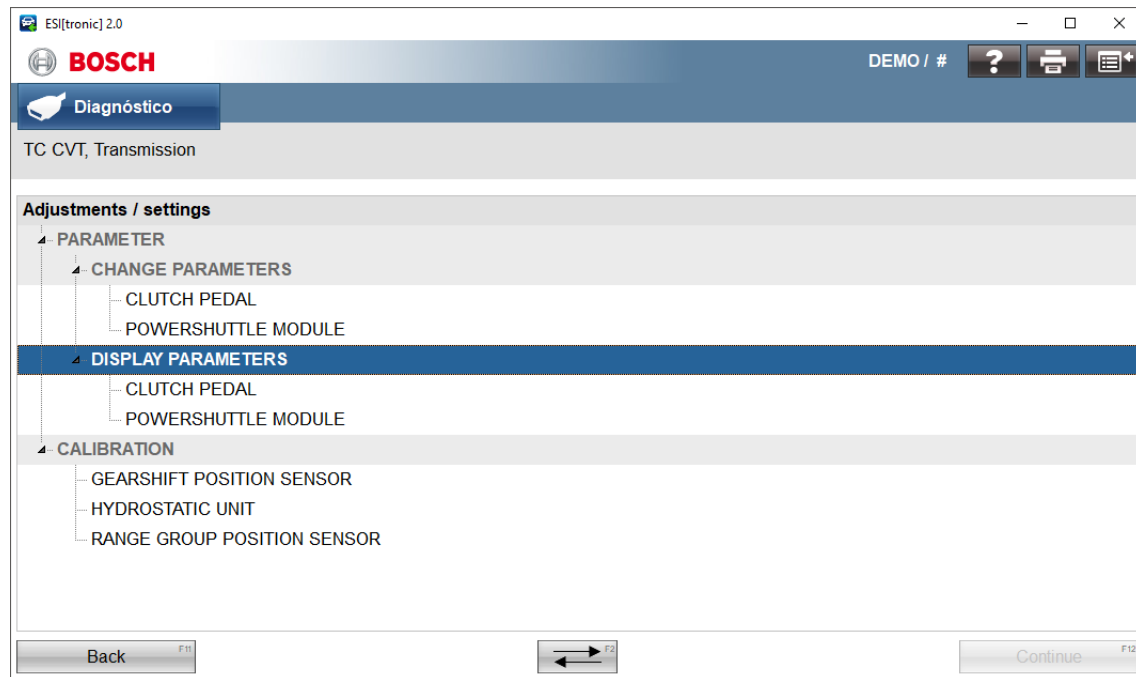
 - Available in models:
 - Diamond 210/215/235/265
 - Diamond DCR Series
 - Iron 100/110/120
 - Iron 130-185 DCR
-

- Iron DCR Series

2.10 VALTRA

– **New parameters** in CVT Transmissions

- PowerShuttle module
 - Behaviour of the PowerShuttle module during the transition from stopped to forward gear
 - Behaviour of the PowerShuttle module during the transition from stopped to reverse gear
 - Behaviour of the PowerShuttle module during the transition from reverse gear to forward gear
 - Behaviour of the PowerShuttle module during the transition from forward gear to reverse gear
 - Behaviour of the PowerShuttle module during the re-engagement of the forward gear
 - Behaviour of the PowerShuttle module during the re-engagement of the reverse gear
 - Behaviour of the PowerShuttle module during the transition from stopped to forward gear (automatic mode)
 - Behaviour of the PowerShuttle module during the transition from stopped to reverse gear (automatic mode)
 - Behaviour of the PowerShuttle module during the transition from stopped to forward gear (clutch pedal)
 - Behaviour of the PowerShuttle module during the transition from stopped to reverse gear (clutch pedal)
 - Clutch pedal
 - Behaviour of the PowerShuttle module during the transition from stopped to forward gear
 - Behaviour of the PowerShuttle module during the transition from stopped to reverse gear
-



➤ Available in models with the following AC codes:

- AC 14.2
- AC 14.22
- AC 14.3
- AC 14.31
- AC 14.32
- AC 14.33
- AC 24.5

– **New parameters** in PowerShift Transmissions

- PowerShuttle module
 - Behaviour of the PowerShuttle module during the transition from stopped to forward gear
 - Behaviour of the PowerShuttle module during the transition from stopped to reverse gear
 - Behaviour of the PowerShuttle module during the transition from reverse gear to forward gear
 - Behaviour of the PowerShuttle module during the transition from forward gear to reverse gear
 - Behaviour of the PowerShuttle module during the re-engagement of the forward gear
 - Behaviour of the PowerShuttle module during the re-engagement of the reverse gear
 - Behaviour of the PowerShuttle module during the transition from stopped to forward gear (automatic mode)

- Behaviour of the PowerShuttle module during the transition from stopped to reverse gear (automatic mode)
 - Behaviour of the PowerShuttle module during the transition from stopped to forward gear (clutch pedal)
 - Behaviour of the PowerShuttle module during the transition from stopped to reverse gear (clutch pedal)

 - Clutch pedal
 - Behaviour of the PowerShuttle module during the transition from stopped to forward gear
 - Behaviour of the PowerShuttle module during the transition from stopped to reverse gear

 - PowerShift module
 - Behaviour of the powershift from gear 1 to gear 2
 - Behaviour of the powershift from gear 2 to gear 3
 - Behaviour of the powershift from gear 3 to gear 4
 - Behaviour of the powershift from gear 4 to gear 5
 - Behaviour of the powershift from gear 5 to gear 4
 - Behaviour of the powershift from gear 4 to gear 3
 - Behaviour of the powershift from gear 3 to gear 2
 - Behaviour of the powershift from gear 2 to gear 1
-

ESI[tronic] 2.0

BOSCH

Diagnóstico

POWERSHIFT MODULE - TC PS, Transmission

Information
THE CONFIGURATION DATA ARE SHOWN NEXT.

Name	ACTUAL VALUE	MIN VALUE	MAX VALUE
POWERSHIFT TRANSMISSION BEHAVIOR FROM GEAR 1 TO GEAR 2, PRE-FILL PRESSURE	-7	-10	10
POWERSHIFT TRANSMISSION BEHAVIOR FROM GEAR 1 TO GEAR 2, INITIAL PRESSURE	-247	-2000	3850
POWERSHIFT TRANSMISSION BEHAVIOR FROM GEAR 1 TO GEAR 2, PRESSURE RATIO	-98	-100	100
POWERSHIFT TRANSMISSION BEHAVIOR FROM GEAR 2 TO GEAR 3, PRE-FILL PRESSURE	4	-10	10
POWERSHIFT TRANSMISSION BEHAVIOR FROM GEAR 2 TO GEAR 3, INITIAL PRESSURE	-740	-2000	4000

Cancel F11 Info F2 F3 Continue F12

➤ Available in models with the following AC codes:

- AC15.2
- AC15.22
- AC15.3
- AC15.31
- AC15.32
- AC15.33
- AC15.34
- AC15.35
- AC16.0
- AC16.2
- AC16.3
- AC16.31
- AC16.33
- AC16.34
- AC16.35
- AC17.2
- AC17.21
- AC18.0
- AC18.4
- AC19.3
- AC19.34

- AC19.4
- AC25.5
- AC26.5
- AC26.51
- AC27.5
- AC27.5

. 3 .

Construction Equipment 2019/I

3.1 Introduction

The new software version once again offers more improvements and innovations that consolidate this tool as a benchmark in multibrand diagnosis for Off-Highway and Construction Equipment, Stationary Engine and Street Sweepers.

Below is a summary of the version update, which includes, among others, the following innovations:

- New diesel particulate filter regeneration available in Volvo CE.
- New diesel particulate filter regeneration available in Caterpillar.
- New calibrations in Caterpillar wheel loader.
- New John Deere brand in OHW and Construction Equipment.
- New maintenances in JCB.
- New OHW Vehicles & construction equipment brands.
- New transmission ZF ergopower.

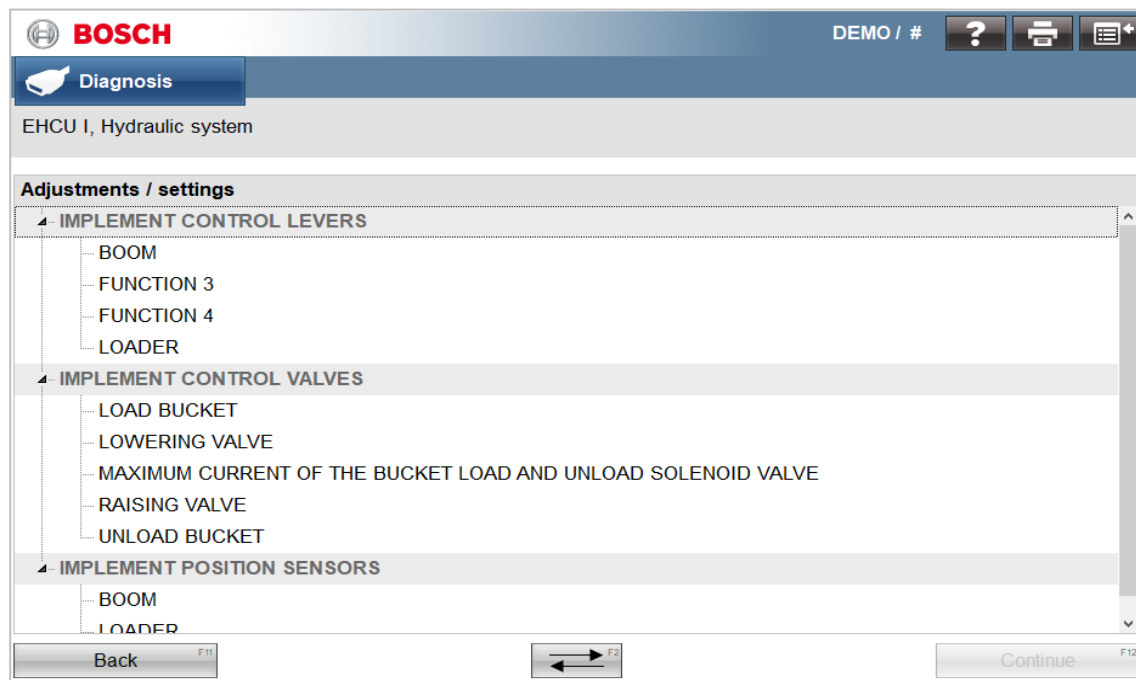
Take into account that this document is only a summary of the most relevant information of this new version.

. 4 .

Main new functionalities by brand Construction Vehicles

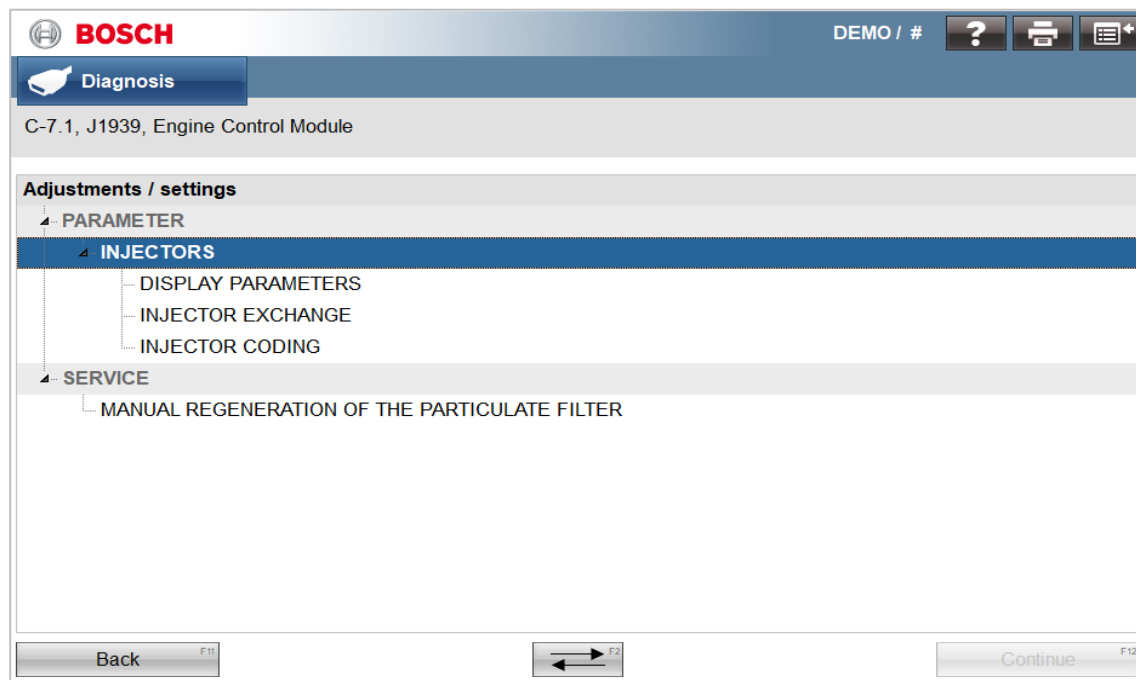
4.1 CATERPILLAR

- New function, **implement calibration** available in 900 Series.

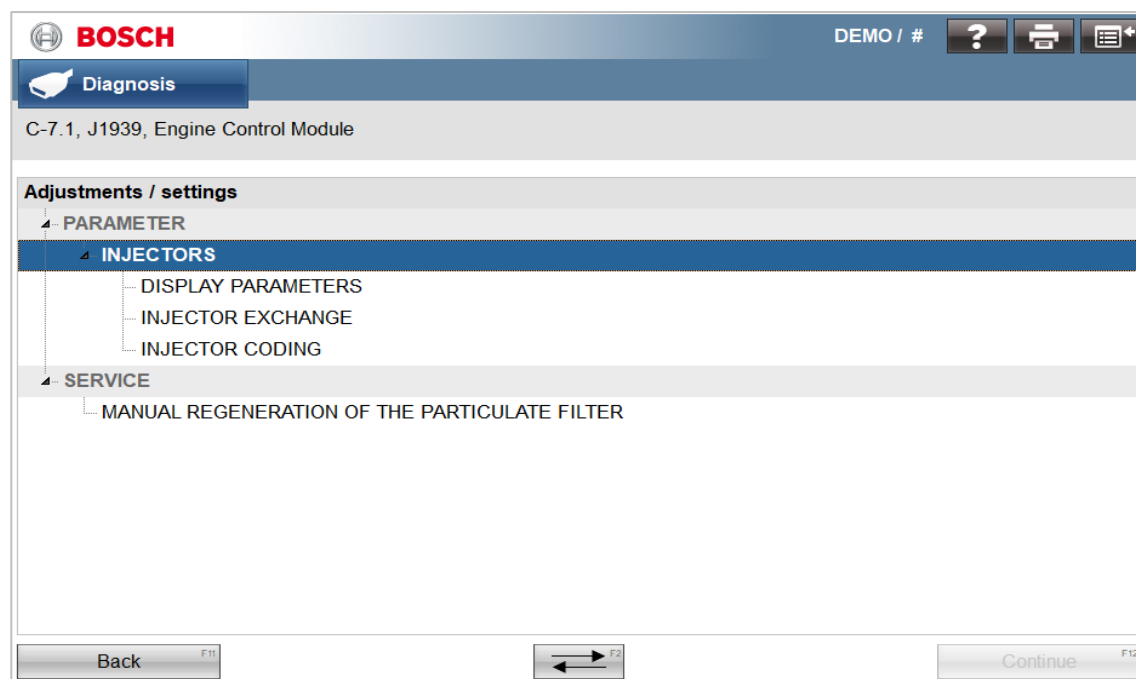


- Load bucket
- Unload bucket

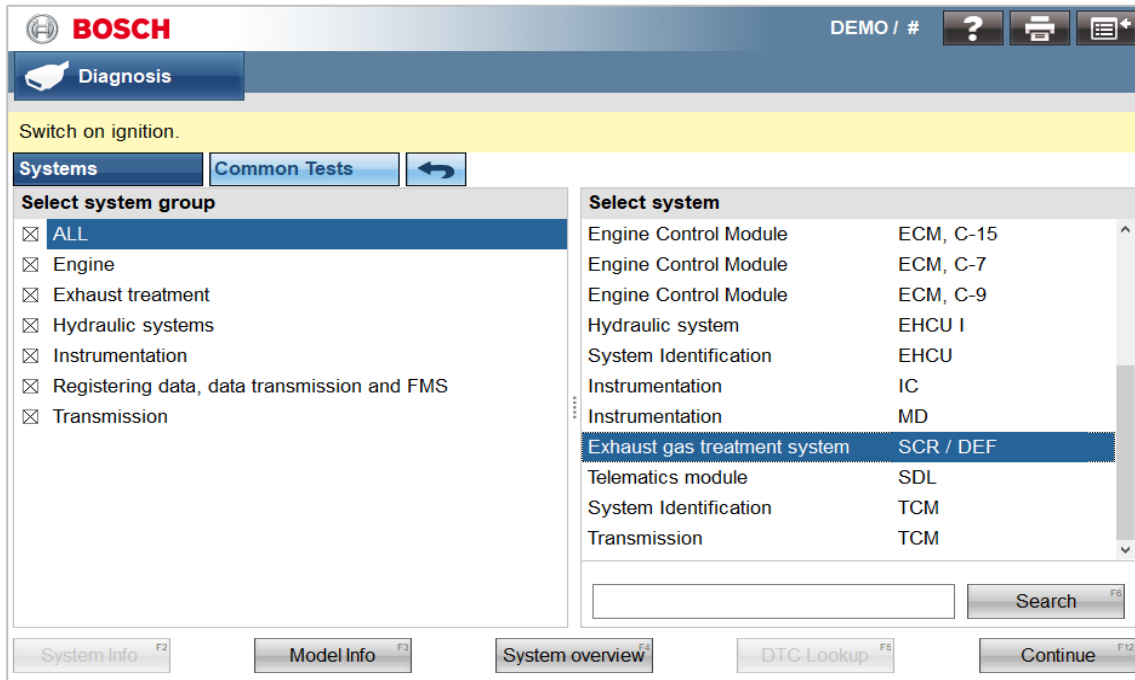
- New function, **injector coding** in J1939 to C-7.1 and C-4.4 / C-6.6 engines



- New **diesel particulate filter regeneration** in J1939 to C-9.3, C-4.4 / C-6.6 and C-7.1



- New system, SCR / DEF – Exhaust gas treatment system



ACTUAL VALUES SELECTION - SCR / DEF, Exhaust gas treatment system

1 / 2

Name	ACTUAL VALUE	MIN VALUE	MAX VALUE
ADBLUE / DEF COOLING CONTROL VALVE, STATUS	OPEN	n/a	n/a
ADBLUE / DEF PRESSURE	288 kPa	0	1000
ADBLUE / DEF TANK TEMPERATURE	140 °F	-40	140
ADBLUE/DEF SYSTEM HEATERS (GLOW PLUG 1), STATUS	ON	n/a	n/a
ADBLUE/DEF SYSTEM HEATERS (GLOW PLUG 2), STATUS	INVALID VALUE	n/a	n/a
ADBLUE/DEF SYSTEM HEATERS (GLOW PLUG 3), STATUS	ON	n/a	n/a

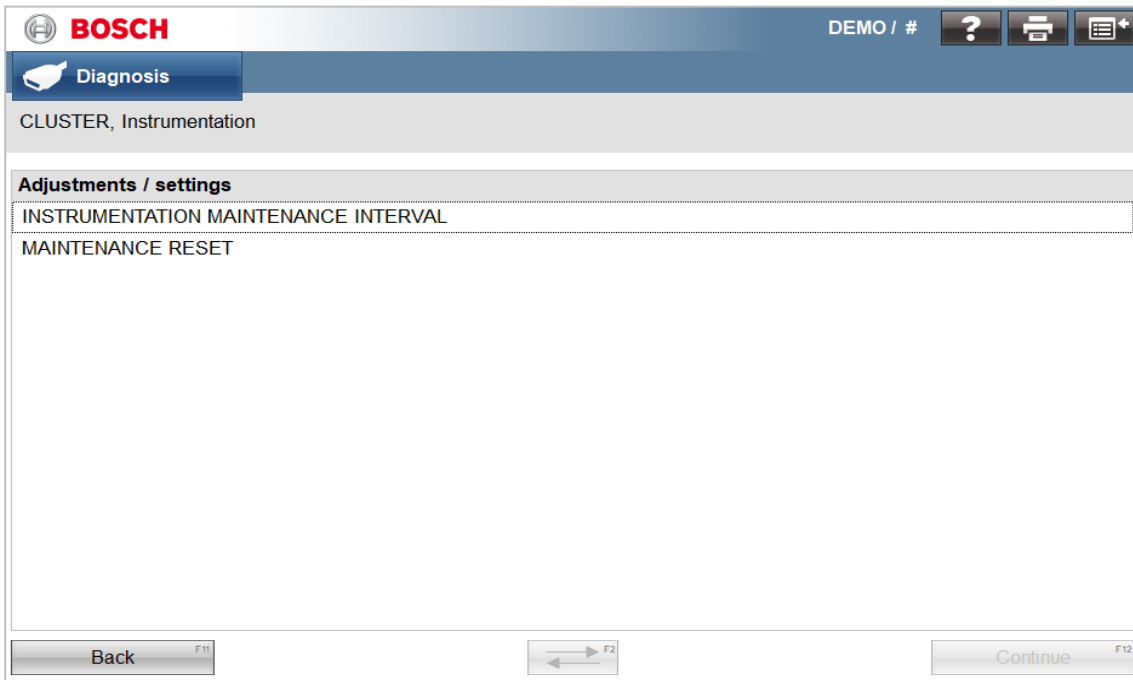
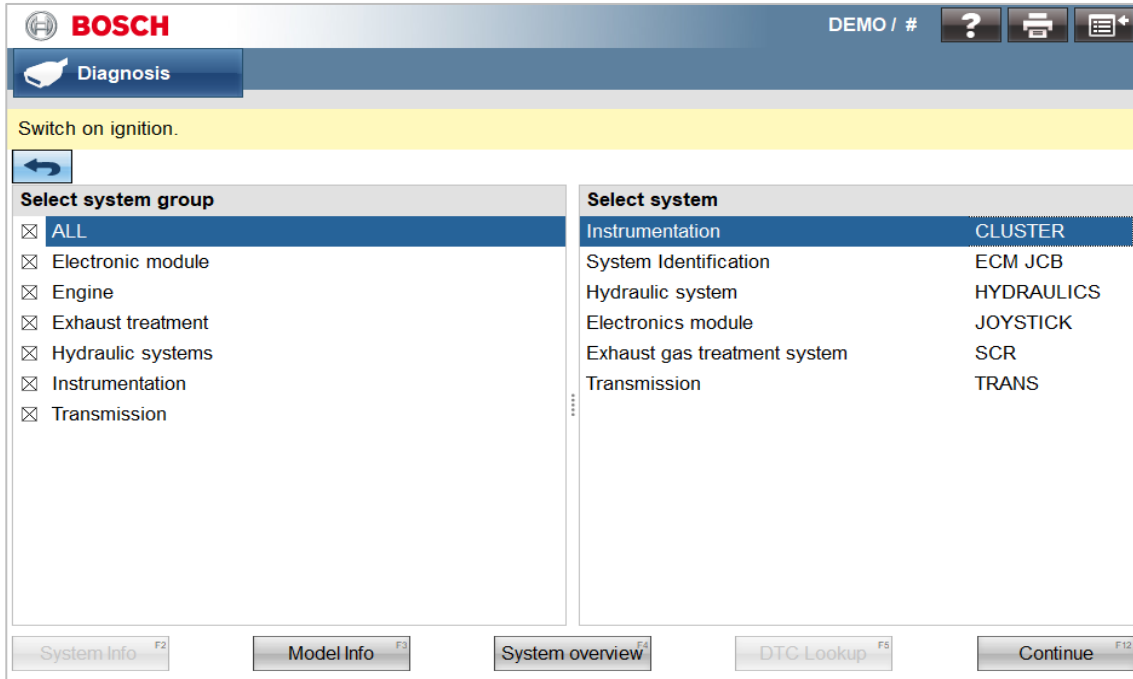
Buttons: Back (F11), Info (F2), Navigation (F3), Save (F4), Print (F5), Home (F6)

➤ Available in models:

- 100 / 20 / 10 Series
- 300 Series
- 600/700/800 Series
- 900 Series

4.2 JCB

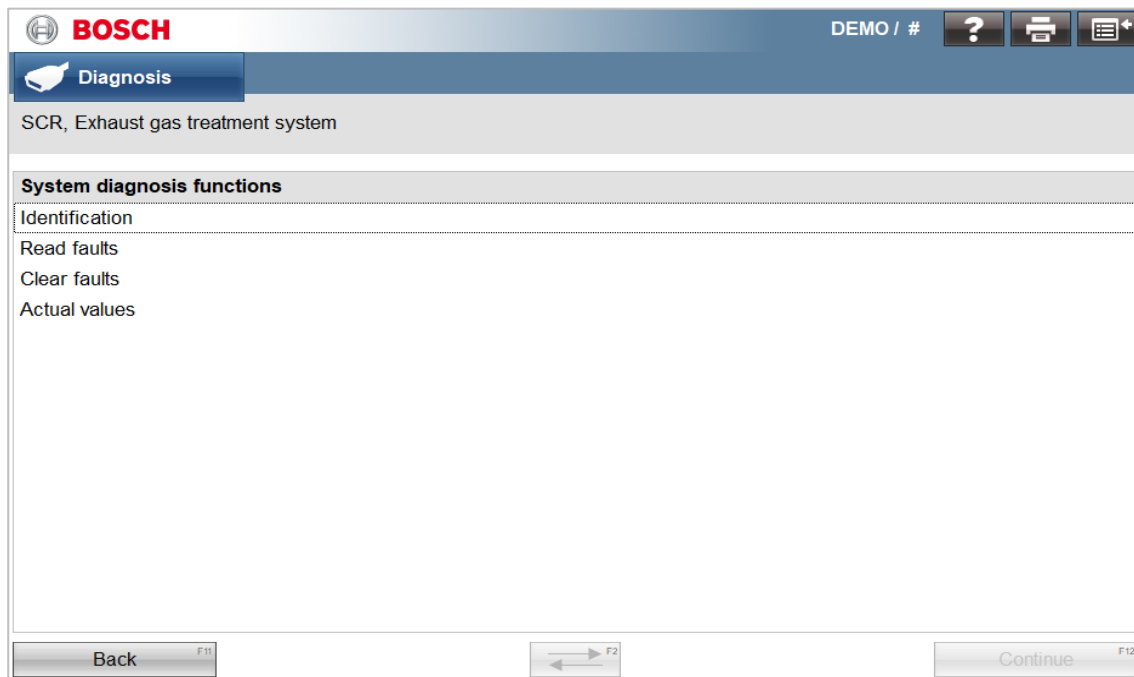
- New maintenance reset, Cluster – Instrument cluster



➤ Available in models:

- 500 Series (Tier 3 / Stage III)
- 500 Series (Interim & Final Tier 4 / Stage IIIB & IV)

- New system, SCR – Exhaust gas treatment system



➤ Available in models:

- 200 / 300 / 400 (FT4) / 500 (FT4) / 700 / 900 Series
- CX / JS / JZ / TM / VM / Hydradig Series

4.3 John Deere

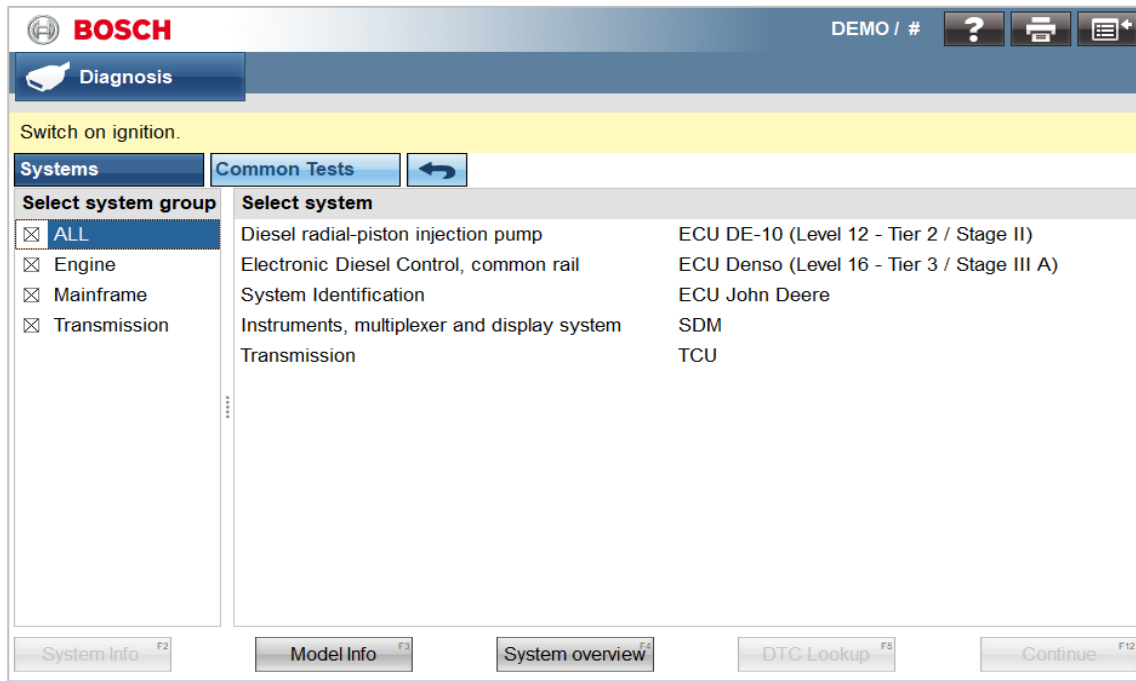
- New brand with new **229 models** classified in 27 families

The screenshot shows the 'Vehicle Identification' screen in the Bosch ESI[truck] software. The interface is divided into three main sections for selection:

- Select a make:** A list of manufacturers including COMETTO, CVS FERRARI, DOOSAN, FIAT KOBELCO, GROVE, HAMM, HITACHI, HYDREMA, HYSTER, HYUNDAI CE, JCB, **JOHN DEERE** (highlighted), KALMAR, and KOBELCO.
- Select a model family:** A list of model families including ALL (highlighted), 300 Series, 700 Series, C Series, CH Series, CT Series, D Series, E Series, EP Series, G Series, GP Series, GR Series, GW Series, and H Series.
- Select a model:** A list of specific models including 1050K (highlighted), 120C, 120D, 130G, 135G, 160C LC, 160D LC, 160G LC, 17D, 17G, 180G LC, and 190GW.

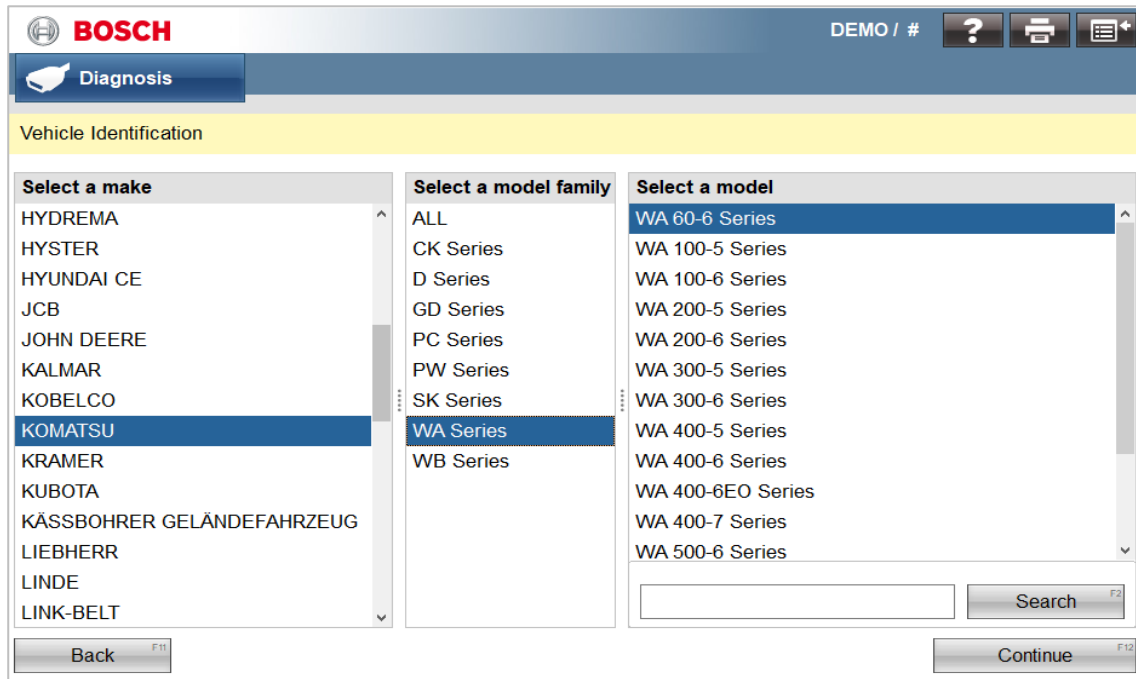
Additional elements include a 'Search' button (F2) below the model list, and 'Back' (F11) and 'Continue' (F12) buttons at the bottom of the screen.

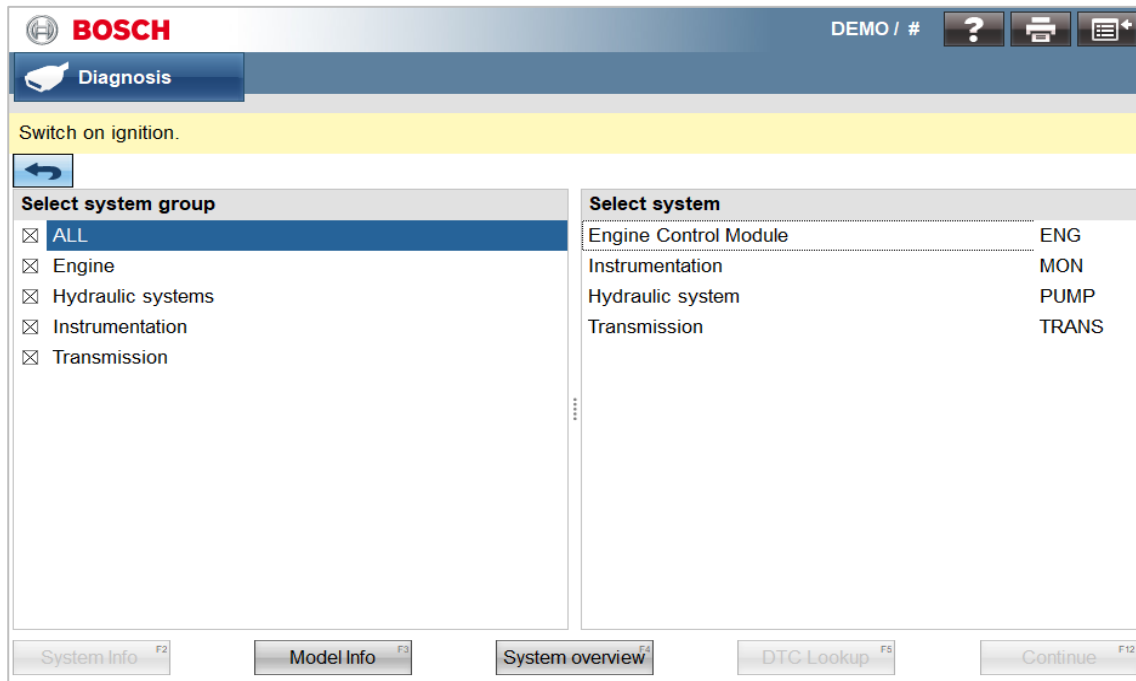
- New systems
 - ECU John Deere – System identification
 - ECU EUI (Level 18 – Tier 3 / Stage III A)
 - HCU – Hydraulic system
 - EMU – Body Computer
 - TCU – Transmission
 - SDM – Instrument cluster



4.4 Komatsu

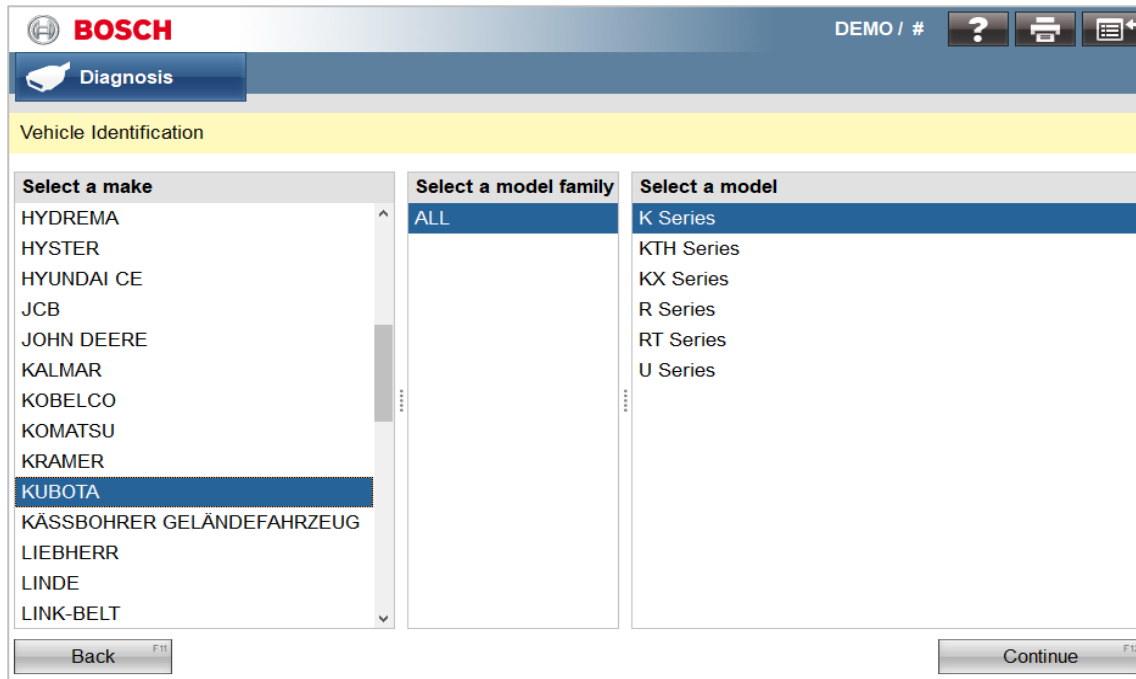
- New models and systems



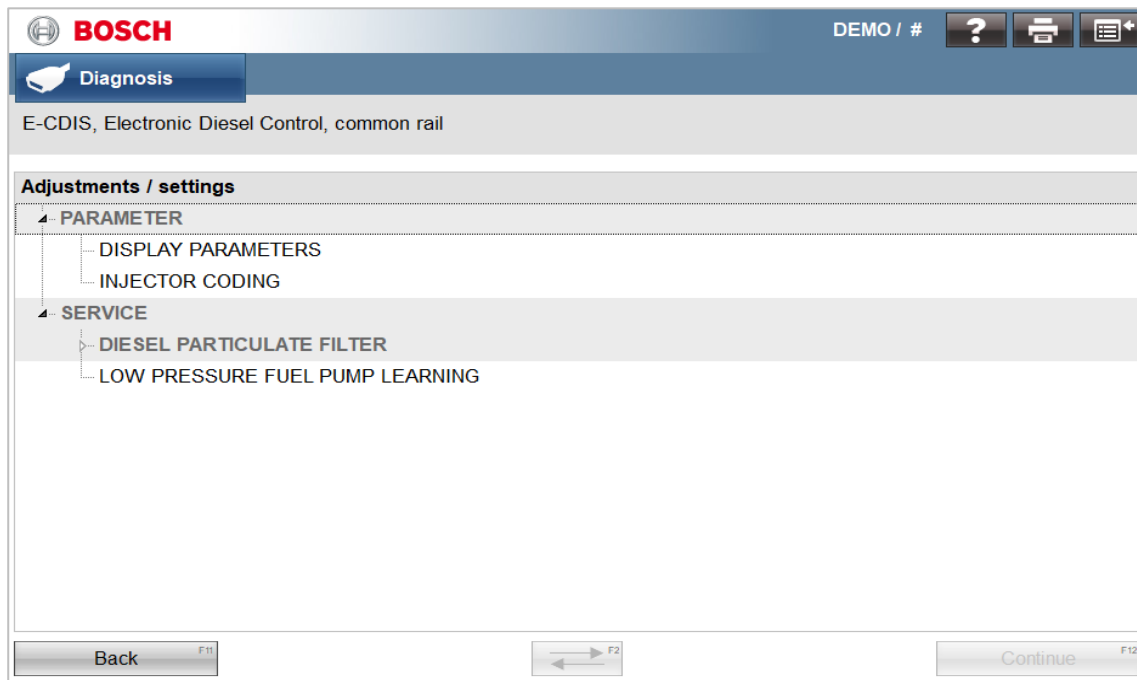


4.5 Kubota

- New models and systems

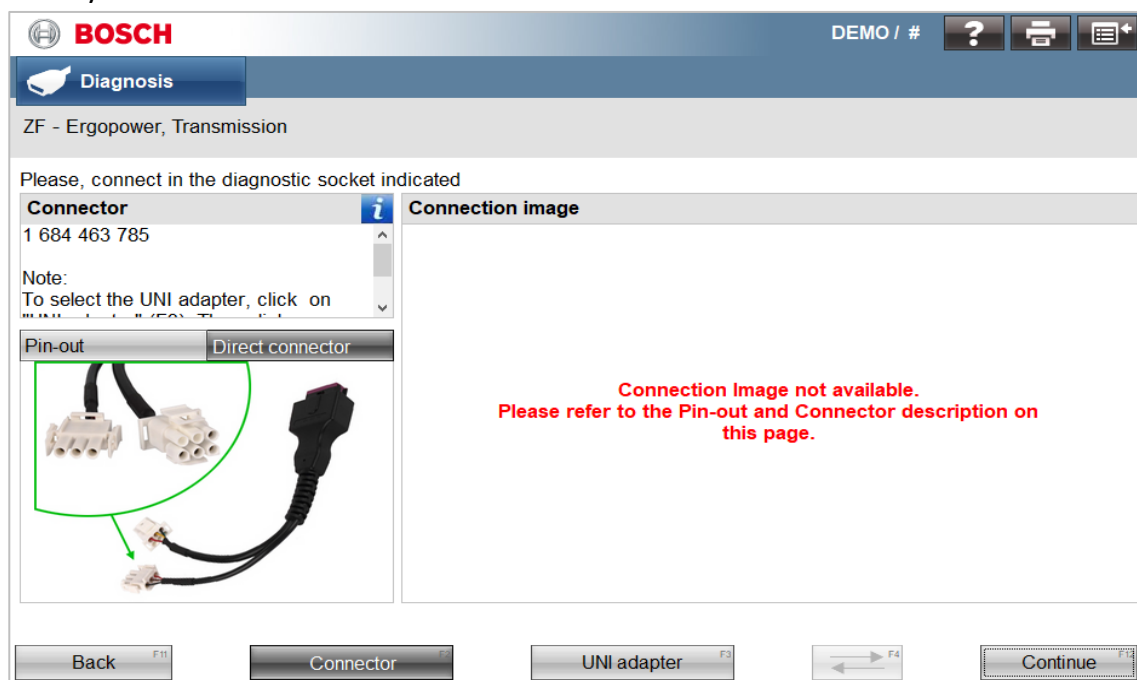


- New functions in E-CDIS – Electronic Diesel Control
 - Injector coding
 - Particulate filter regeneration
 - Aftertreatment system resets



4.6 Transmission ZF

- New system



Name	ACTUAL VALUE	MIN VALUE	MAX VALUE
CLUTCH K1 SOLENOID VALVE	425 mA	0	600
CLUTCH K2 SOLENOID VALVE	250 mA	0	600
CLUTCH K3 SOLENOID VALVE	438 mA	0	600
CLUTCH K4 SOLENOID VALVE	44 mA	0	600
CLUTCH KR SOLENOID VALVE	346 mA	0	600
CLUTCH KV SOLENOID VALVE	500 mA	0	600

➤ Available in Doosan, JCB, Hydrema, Terex, Hyundai

4.7 Volvo CE

- Improve Machine System Scan adding OBD connector and UDS communication protocol

Please select a diagnostic connector

Connector
1 684 465 611

Pin-out | **Direct connector**

Connection image

Connection Image not available.
Please refer to the Pin-out and Connector description on this page.

1 2 3

BOSCH DEMO / # ? [Print] [List]

Diagnosis

Automatic system identification

Systems

Systems identified: 5 Clear faults Read faults Repeat scan
 (Double click on a system below to diagnose) Hide all faults

EDC, Electronic Diesel Control Hide faults

PSID:115	Level of the AdBlue/DEF (diesel exhaust fluid) tank. Tank empty [Long term error, even after repair this fault can't be cleared for a minimum of 400 days or 9600 engine operating hours.]	DEMO	1
PPID:273	AdBlue / DEF pressure.	DEMO	1
PSID:201	SAE J1939 Circuit break during data linking, vehicle control unit.	DEMO	1

Exhaust treatment Hide faults

SA 17, Exhaust treatment

CODE:P229F	Nitrogen oxide sensor.	DEMO	1
CODE:P0658	AdBlue / DEF heating resistor. Supply.	DEMO	1

Instrumentation Hide faults

IC, Instrumentation

CODE:1563278 FMI:9	Internal error in control unit. Device fault.	DEMO	1
--------------------	---	------	---

Mainframe Hide faults

Back System Info Model Info Save Troubleshooting

- New particulate filter regeneration in EMS V3

BOSCH DEMO / # ? [Print] [List]

Diagnosis

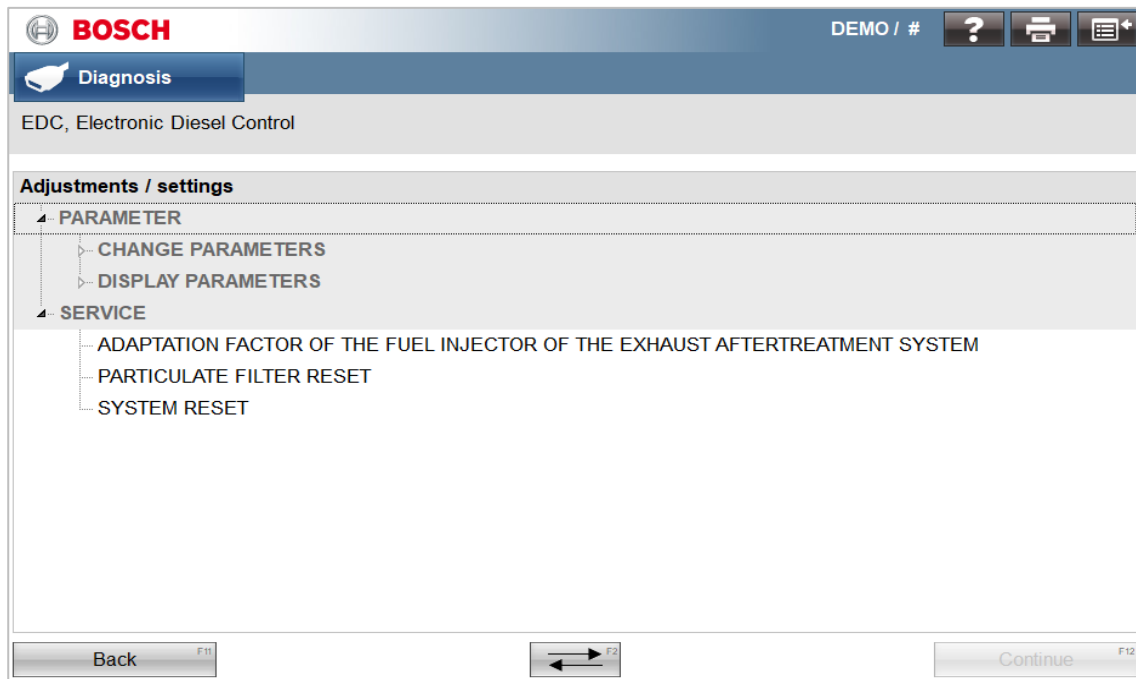
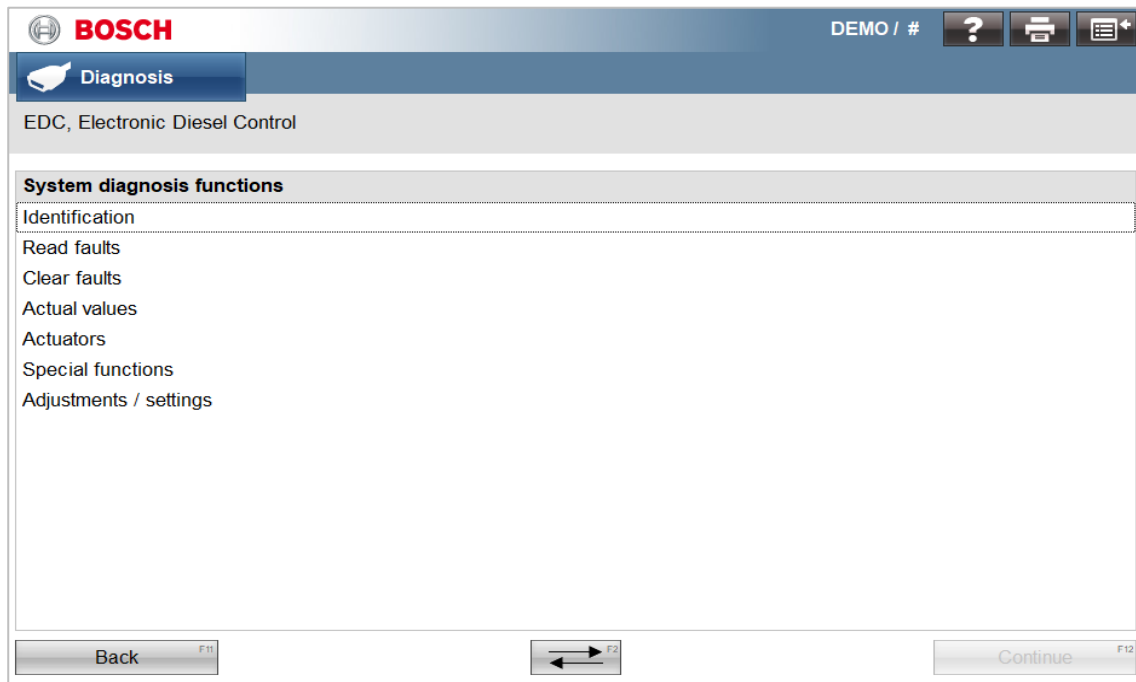
EMS V3, Engine Control Module

Adjustments / settings

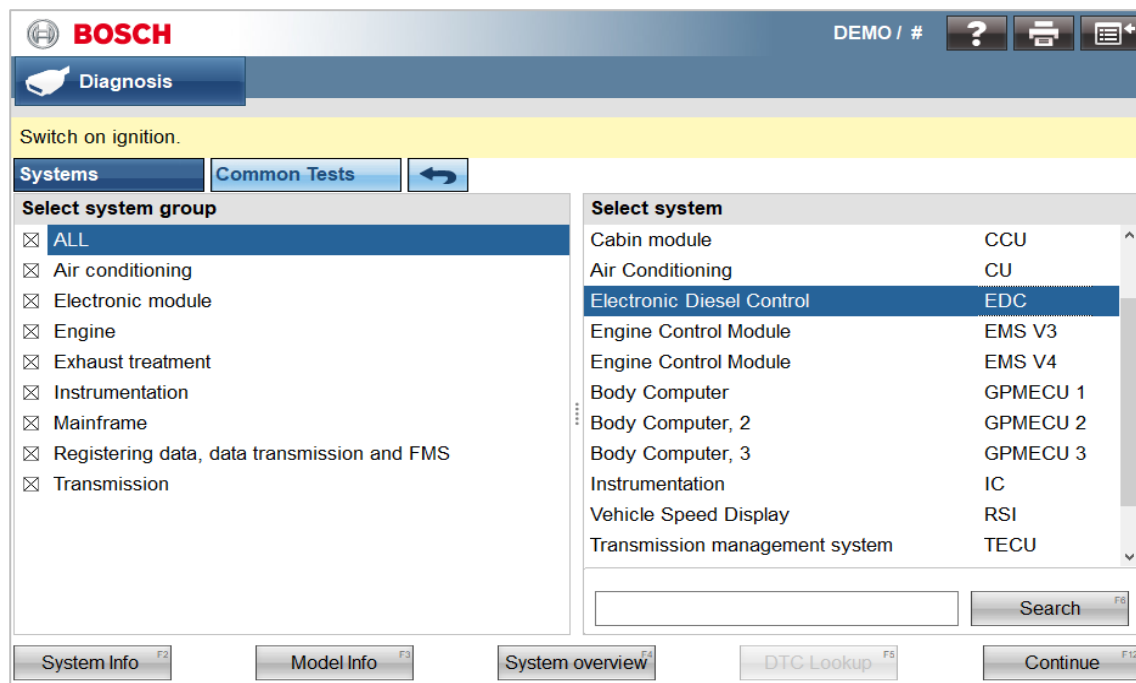
- PARAMETER
 - CHANGE PARAMETERS
 - DISPLAY PARAMETERS
- SERVICE
 - PARTICULATE FILTER REGENERATION
 - PARTICULATE FILTER RESET
 - REGENERATION OF THE SCR CATALYTIC CONVERTER
 - RESET OF THE EXHAUST GASES AFTER-TREATMENT SYSTEM
- CALIBRATION
 - VARIABLE GEOMETRY TURBOCHARGER (VGT)

Back ↔ Continue

- New **particulate filter regeneration** and injector code in EDC

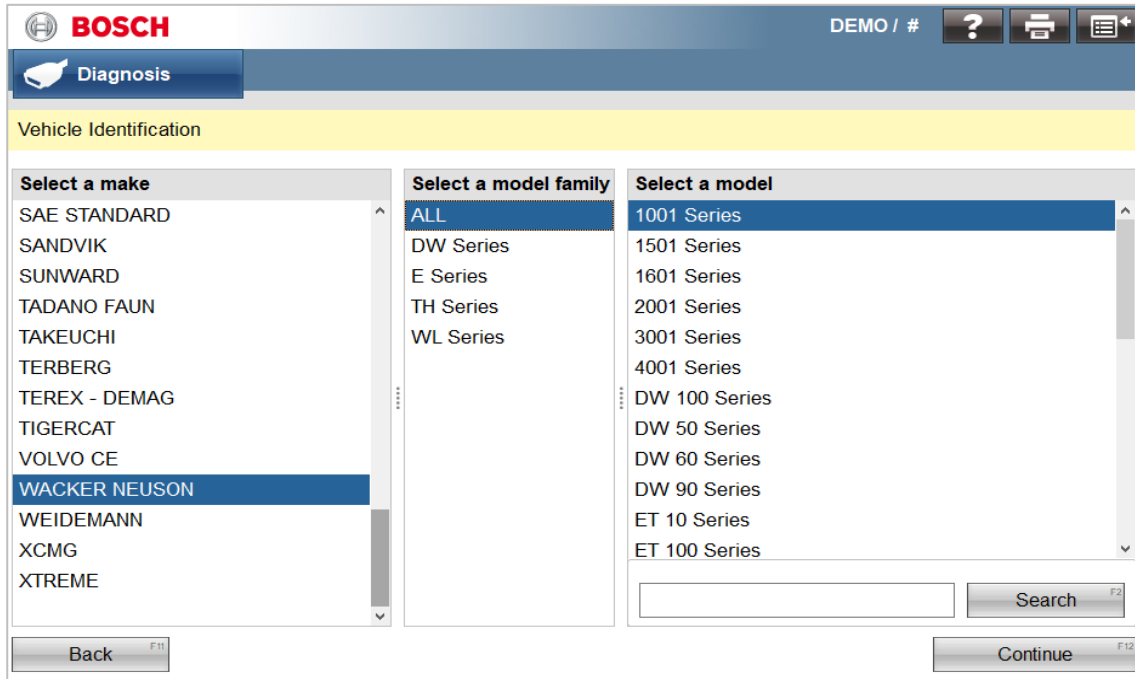


- New systems
 - CCM – Climate Control
 - GPMECU 1 – Body Computer
 - GPMECU 2 – Body Computer 2
 - GPMECU 3 – Body Computer 3

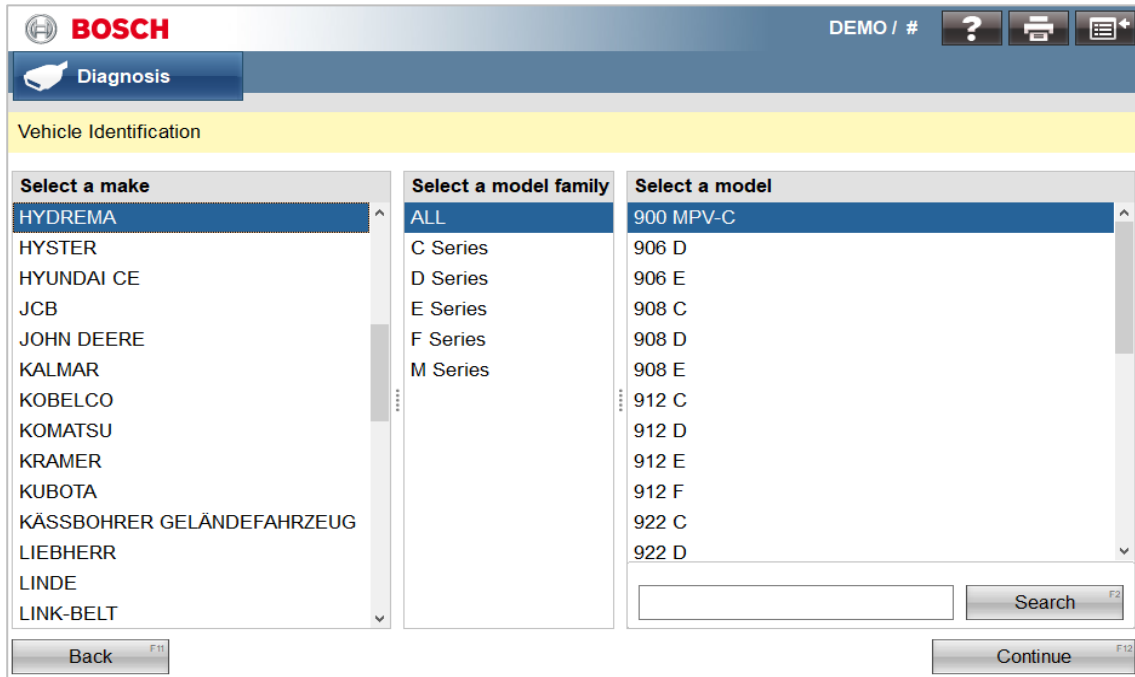


4.8 New brands and models

- **Wacker Neuson:** New 31 models



- **Hydrema:** New 28 models



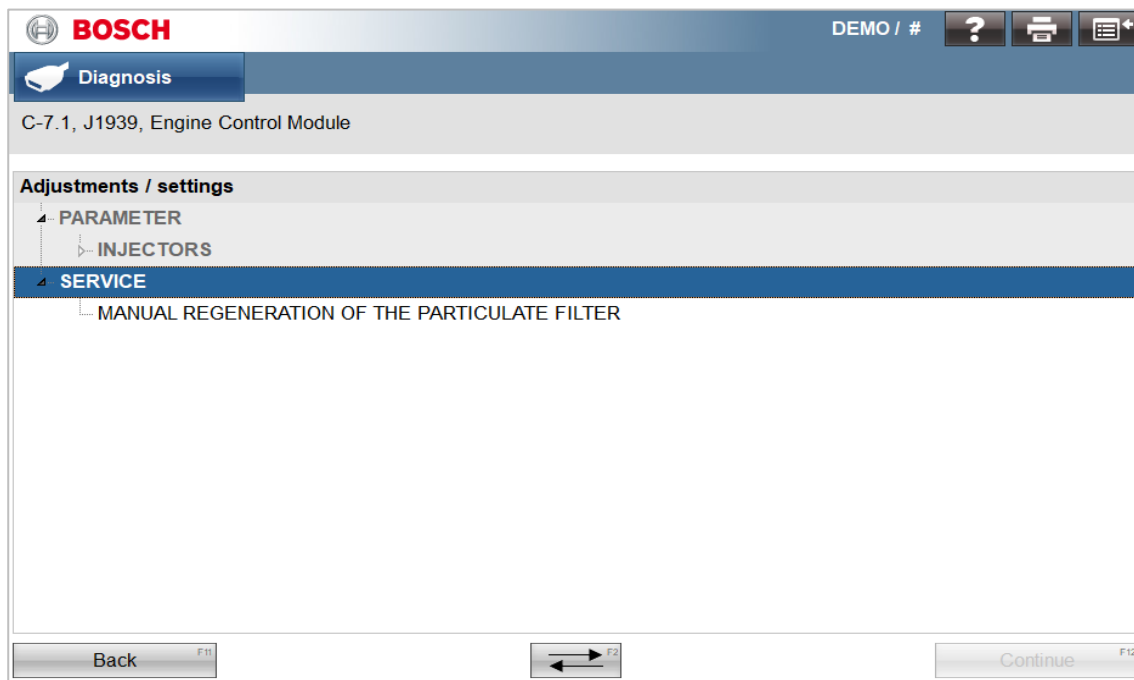
. 5 .

Main new functionalities by brand

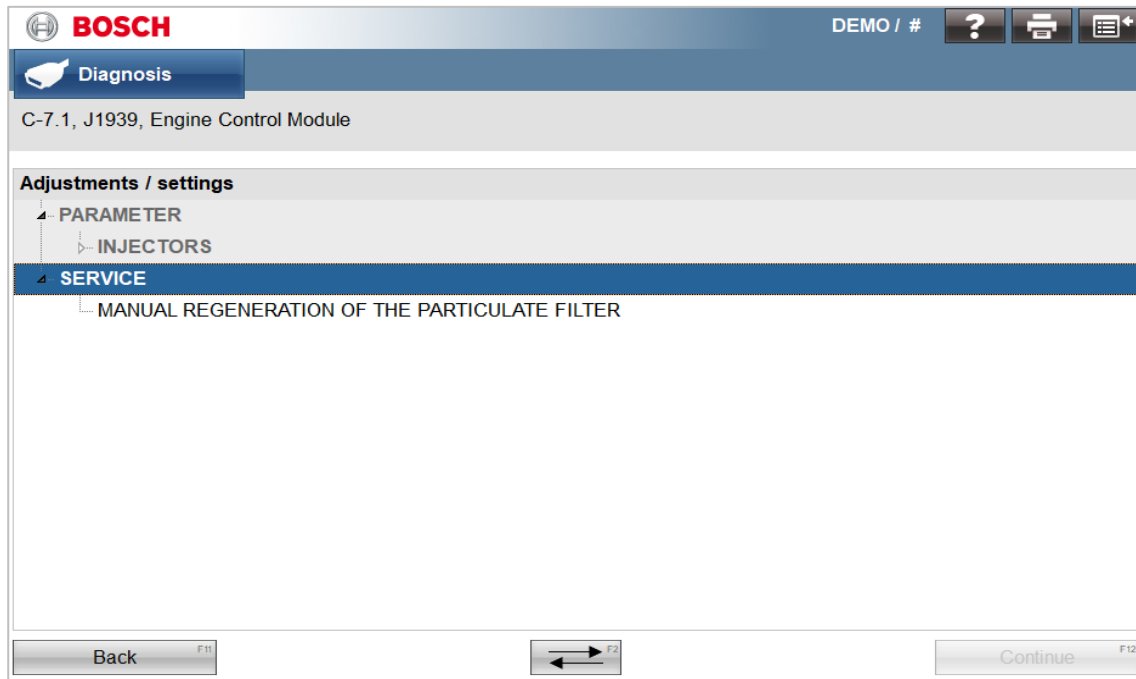
Stationary engines

5.1 CATERPILLAR

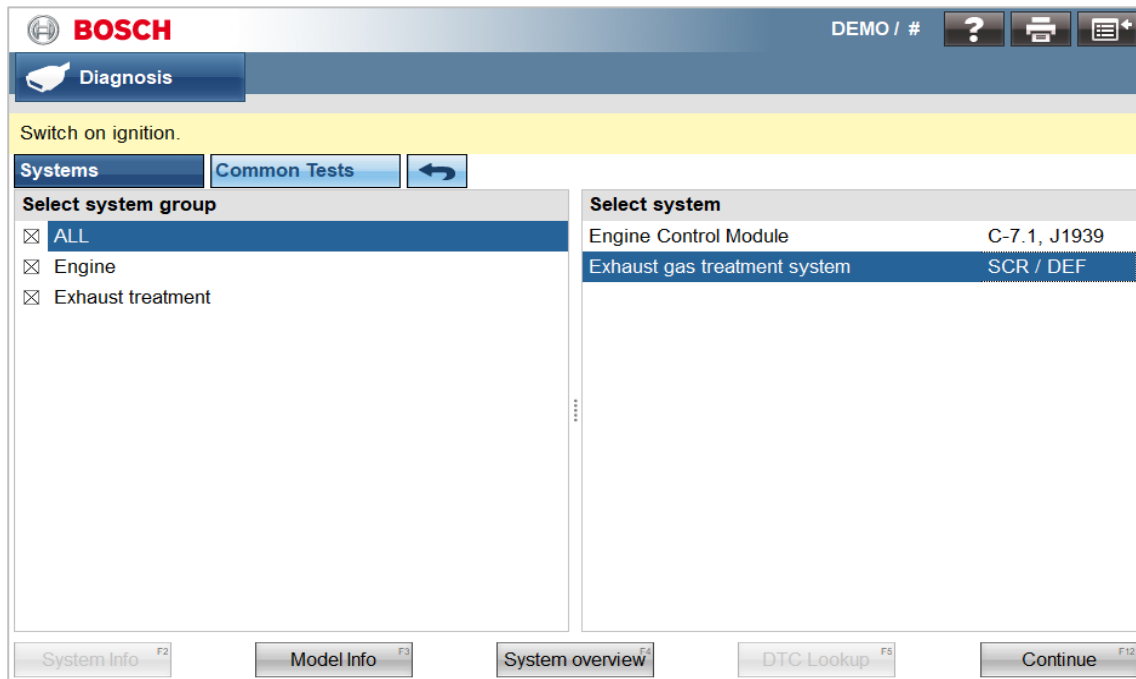
- New function, **injector coding** in J1939 to C-7.1 and C-4.4 / C-6.6 engines.



- New **diesel particulate filter regeneration** in J1939 to C-9.3, C-4.4 / C-6.6 and C-7.1



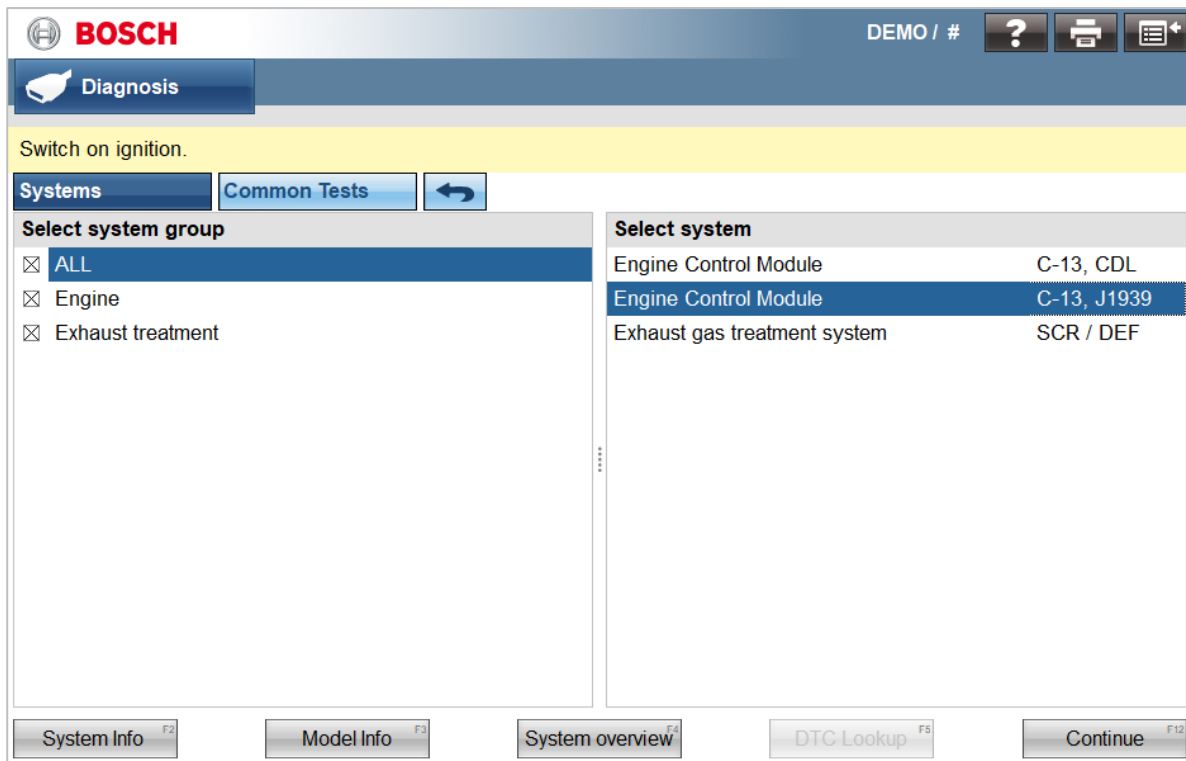
- New system, SCR / DEF – Exhaust gas treatment system



➤ Available in models:

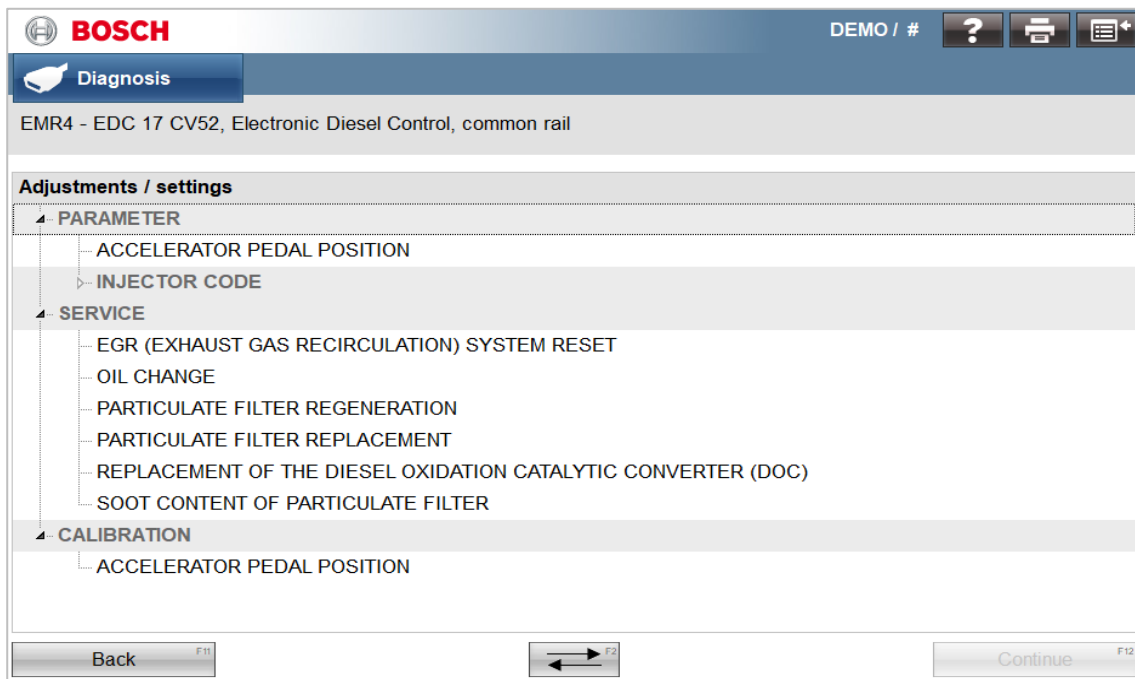
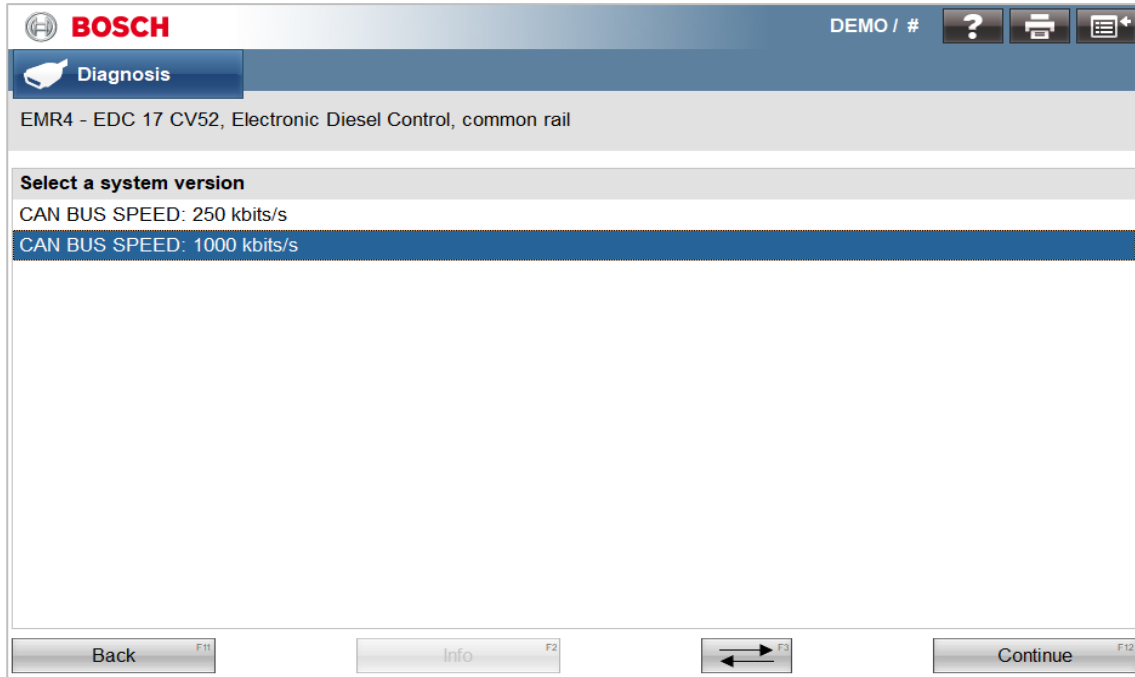
- C-13
- C-15
- C-18
- C-7.1
- C-9.3

– New system, C-13, C-18, J1939



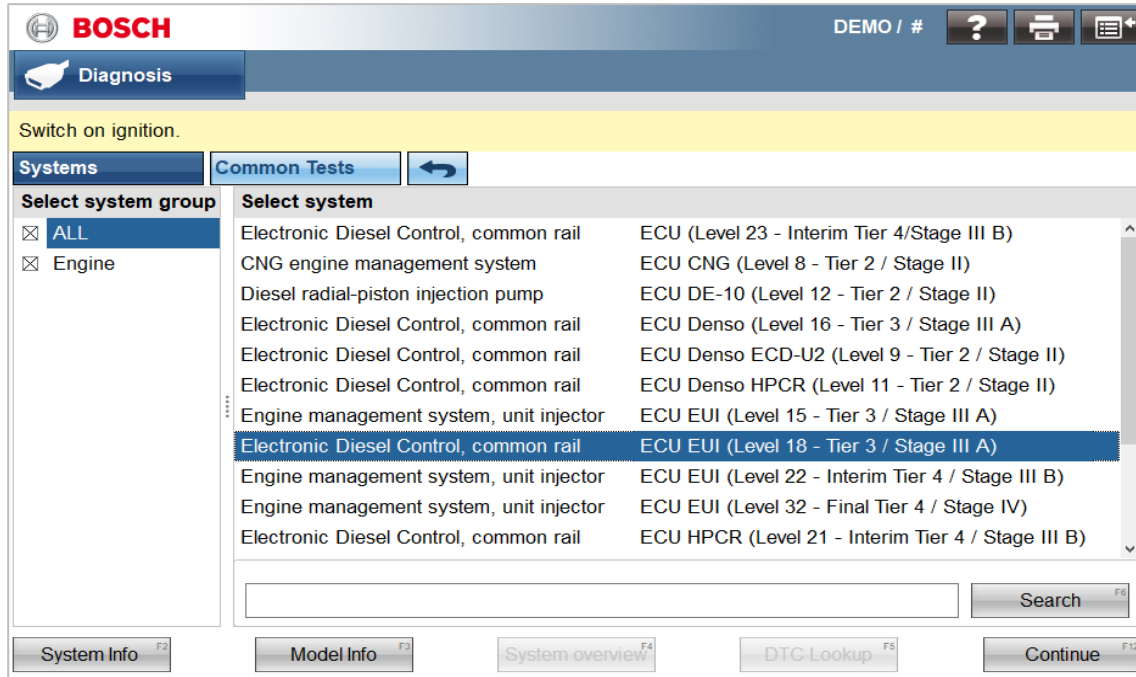
5.2 DEUTZ

- New functions, EMR4 EDC 17 CV52



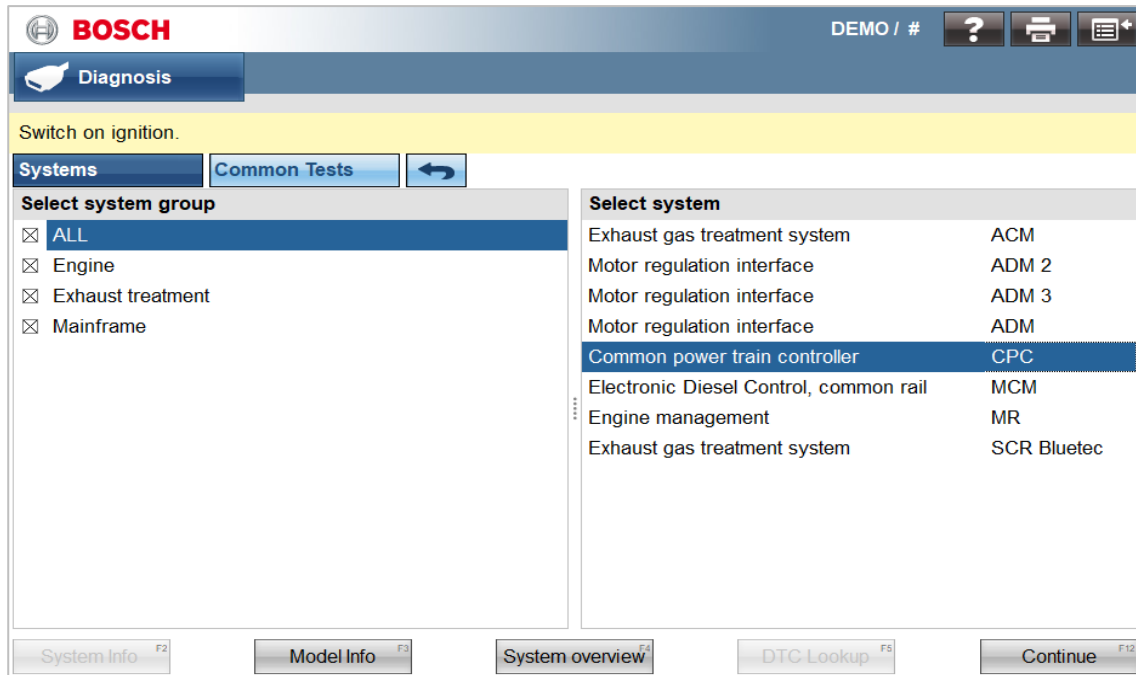
5.3 John Deere

- New system ECU EUI (Level 18 – Tier 3 / Stage III A)



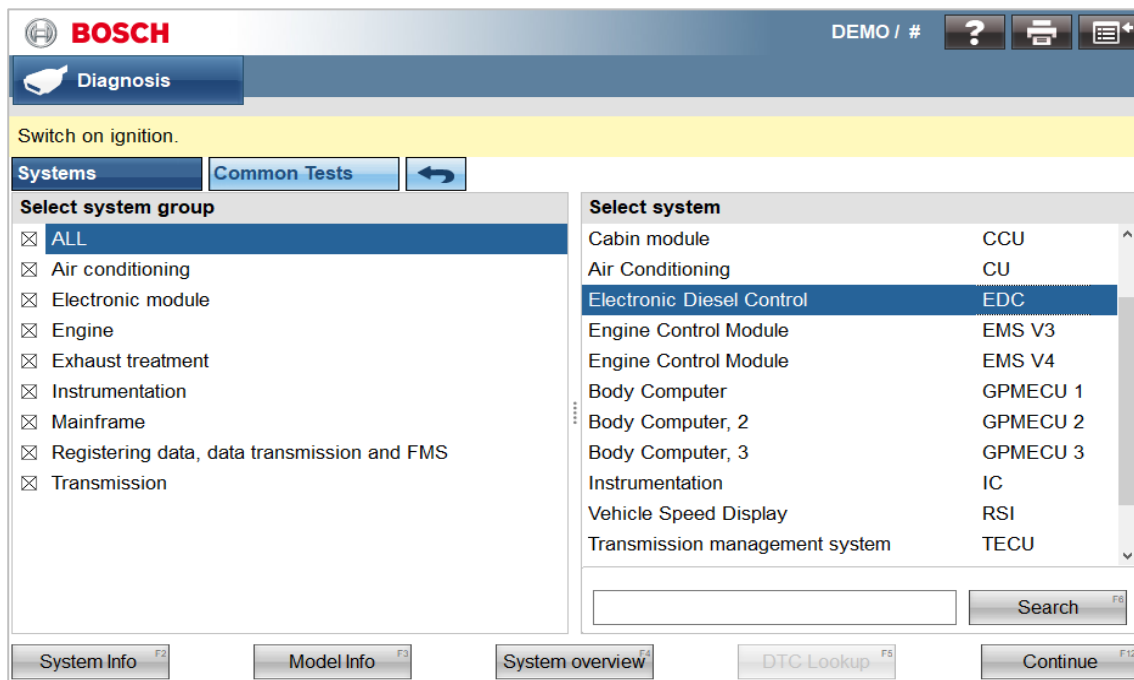
5.4 Mercedes Benz

- New system CPC – Common Powertrain Controller



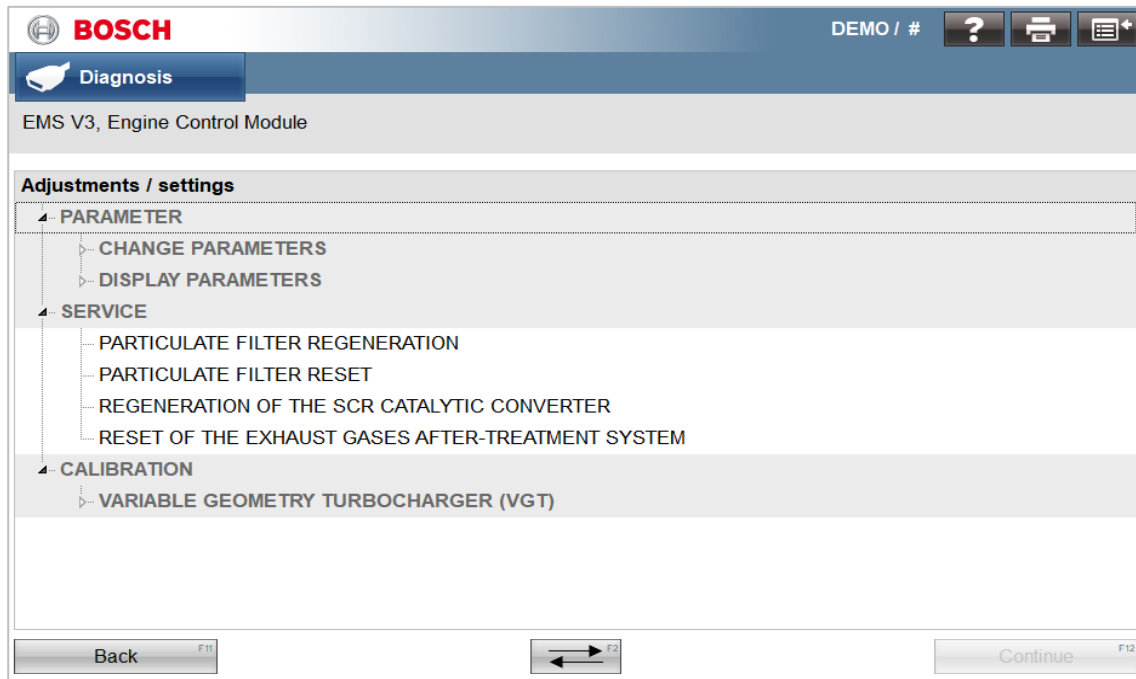
5.5 Perkins

- J1939 protocol developed in the following engines
 - 1204E
 - 1204F
 - 1206E
 - 1206F
 - 2206
 - 2806

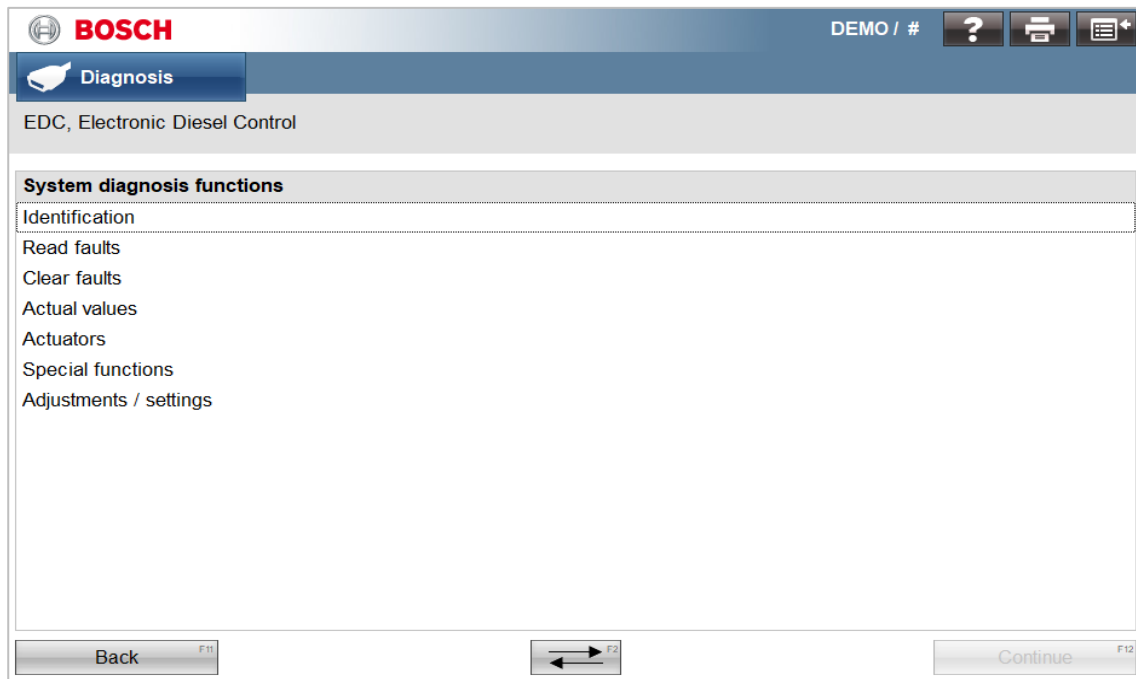


5.6 Volvo Penta

- New **particulate filter regeneration** in EMS V3



- New **particulate filter regeneration** and injector code in EDC



The screenshot displays the Bosch ESI software interface. At the top left is the Bosch logo. The top right corner shows 'DEMO / #' and three icons: a question mark, a printer, and a list icon. Below the header is a 'Diagnosis' button. The main content area is titled 'EDC, Electronic Diesel Control'. Underneath, there is a section 'Adjustments / settings' which is expanded to show a tree view. The tree view has two main categories: 'PARAMETER' and 'SERVICE'. Under 'PARAMETER', there are two sub-items: 'CHANGE PARAMETERS' and 'DISPLAY PARAMETERS'. Under 'SERVICE', there are three sub-items: 'ADAPTATION FACTOR OF THE FUEL INJECTOR OF THE EXHAUST AFTERTREATMENT SYSTEM', 'PARTICULATE FILTER RESET', and 'SYSTEM RESET'. At the bottom of the window, there are three buttons: 'Back' (F11), a double-headed arrow (F2), and 'Continue' (F12).

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