


# Electrical tests on Bosch unit injectors

## Valid for Bosch unit injectors with

- order numbers 0 414 700 ... / 0 414 701 ... / 0 414 702 ...
- Parts Kit Magnet\*:
  - F00H.N37.925
  - F00H.N37.933
  - F00H.N37.934

\* For allocation to the 10-place Bosch order number, see ES[tronic] Spare Part List

 The valve solenoid coil to be tested is a component of the listed parts kits.

## Required tools:

- Hybrid tester FSA 050, item number 0 684 010 050 →
- Resistance bridge or  
Four wire (4-wire Kelvin lead) measurement device (off-the-shelf)
- Universal test leads, e.g. from test cable case 1 687 011 208

## Important note:

The test (insulation resistance, continuity) is described in conjunction with the Bosch FSA 050.



# Electrical tests on Bosch unit injectors

## Use of testers

- When using testers, it is essential to heed the technical documentation of the manufacturer and in particular the safety instructions.
- All testers used must be appropriate to and approved for the intended application.
- The testers and the associated safety devices must be in a reliable safe condition.
- The equipment must exhibit the relevant safety and approval marks.
- Work with testers and in particular insulation testers is only to be performed by trained personnel.
- Take care when using insulation testers, as hazardous voltages can occur at the measurement outputs of the tester, at the test specimen and in the surrounding area.
- Special safety measures must be taken before starting work when using insulation testers.



# Electrical tests on Bosch unit injectors

## 1. Insulation test

- ❗ Comply with the adjustment and connection instructions for the high voltage test and insulation test in the operating manual of the test device!
- ❗ Ensure firm and secure contact of the test leads on the connections of the unit injector!
- i To localize possible leakage current, perform the isolation test on the un-cleaned unit injector!



(Illustration provided as an example)

# Electrical tests on Bosch unit injectors

## 1. Insulation test

❗ **Switch off test mode before connecting and changing the test leads!**

1. Connect one test lead of the test device to the metallic part of the unit injector (fig. 1, item 1).
2. Connect the second test lead to an electrical connection of the unit injector (fig. 1, item 2).
3. Switch on test device, set 100 V test voltage and activate the start button to start the test.
5. Then connect the second test lead of the test device on the second connection of the unit injector and perform the test a second time.

**Setpoint, in each case:           => 1 MΩ**

- If the setpoints are not reached replace the valve solenoid coil (Parts Kit Magnet).



Fig. 1 (Illustration provided as an example)

# Electrical tests on Bosch unit injectors

## 2. Test valve solenoid coil for continuity (resistance)

- ❗ Comply with the adjustment and connection instructions for the resistance test in the operating manual of the test device!
  - ❗ Ensure firm and secure contact of the test leads on the connections of the unit injector!
1. Connect the appropriate test leads on the electrical connections of the unit injector (fig. 2, item 2) and connect to the test device (fig. 2, pos. 1).
  2. Switch on the resistance measurement on the test device (Ω / range) and perform the test.

**Setpoint:**            => **0.0 Ω**



Fig. 2 (Illustration provided as an example)

# Electrical tests on Bosch unit injectors

## 3. Check resistance of the valve solenoid coil

- ! Comply with the adjustment and connection instructions for the resistance test in the operating manual of the test device!
- ! Ensure firm and secure contact of the test leads on the connections of the unit injector!
- i Due to the low winding resistance and the required measurement accuracy, a suitable resistance bridge or a 4-wire (4-wire Kelvin lead) measurement device must be used. Transition resistance and resistance of the test leads must be taken into account when determining the measured value.

Switch on the resistance measurement on the test device and perform the test.

**Setpoint:**

<b>F00H.N37.925 =</b>	<b>0.439 – 0.548 Ω</b>
<b>F00H.N37.933 =</b>	<b>1.007 – 1.224 Ω</b>
<b>F00H.N37.934 =</b>	<b>0.081 – 0.100 Ω</b>

- If the respective setpoint is not reached replace the valve solenoid coil (Parts Kit Magnet).

