



Sykes-Pickavant
E X P O R T L I M I T E D

31459500

REMOTE INJECTOR TEST ACTUATOR (RITA)

OPERATING INSTRUCTIONS

Background

- Modern diesel engines are now more sophisticated using injector technology controlled by the ECU. Without the correct electronic signal from the ECU the injector will not open.
- The injectors themselves are also more sophisticated having an electronic trigger built into each injector which reacts to the signal from the ECU.
- These developments in diesel technology means that a trigger device is required to simulate the signal from the ECU.
- Modern diesel injectors are much more expensive to replace than their earlier hydro-mechanical predecessors. It is important to correctly identify the faulty/blocked injector or eliminate this as a cause of the problem before an injector is replaced to correct poor engine performance.
- The Remote Injector Test Actuator (314595 RITA) is designed to operate in conjunction with the 314500 DITA to allow the spray pattern from the suspect injector to be observed.



The unit comes with 2 types of connecting cable:

- Universal connector – this has 2 push-on connectors.
- Delphi connector – this has a special connector where universal connectors cannot be used.

SYKES-PICKAVANT EXPORT LIMITED

Unit 9, Pillaton Hall Farm, Penkridge, Staffordshire ST19 5RZ, United Kingdom
Telephone No: +44 (0) 1785 714 320 E-MAIL sales@spexport.co.uk



Using the equipment to test electronic diesel Injectors

It is recommended that certain pre-test routines be carried out on the suspect injector to eliminate any unlikely electrical circuit faults within the injector

1. Check the dc resistance across the two injector terminals using a digital voltmeter or other similar electrical tester -
 - o a high value (100kohm) is typical for a piezo injector
 - o a low value (2.4 ohms) is typical for a non-piezo injector
 - o an extremely high value (greater than 200kohm) could indicate a faulty, open-circuit injector
 - o an extremely low value (less than 1 ohm) could indicate a faulty, short circuited injector
2. Check the insulation resistance between each terminal and the outer body of the injector using a Megger or similar insulation tester. Testing an injector with faulty insulation could damage the RITA.

Once these pre-test checks have been carried out then the tests can proceed.

1. Select the correct cable for the injector under test and connect to the front panel connector of the RITA.
2. Fit the injector to a suitable aspirator and pump such as the 314500 DITA.
3. Set the RATE and TIME controls to mid-point
4. Connect the unit to the mains supply and switch on the unit at the rear.
5. The POWER light should illuminate.
6. The unit defaults to NON-PIEZO
7. To test a NON-PIEZO injector press the START button
8. To test a PIEZO injector press STOP button first, then press PIEZO button.
9. Press the green START button.
10. A ticking sound should be heard from the injector
11. If the unit shows ERROR check the unit is correctly set for the injector type and re-check the connections to the injector. Press START.
12. On certain types of injector (e.g. Delphi) the unit may show ERROR on first pass. This is normal and second test will be OK.
13. Operate the pressure pump to supply the injector with test fluid & observe the spray pattern.
14. The RATE & TIME buttons can be adjusted to test under different conditions.
15. After the test is complete, press the red STOP button to turn off the pulses to the injector.

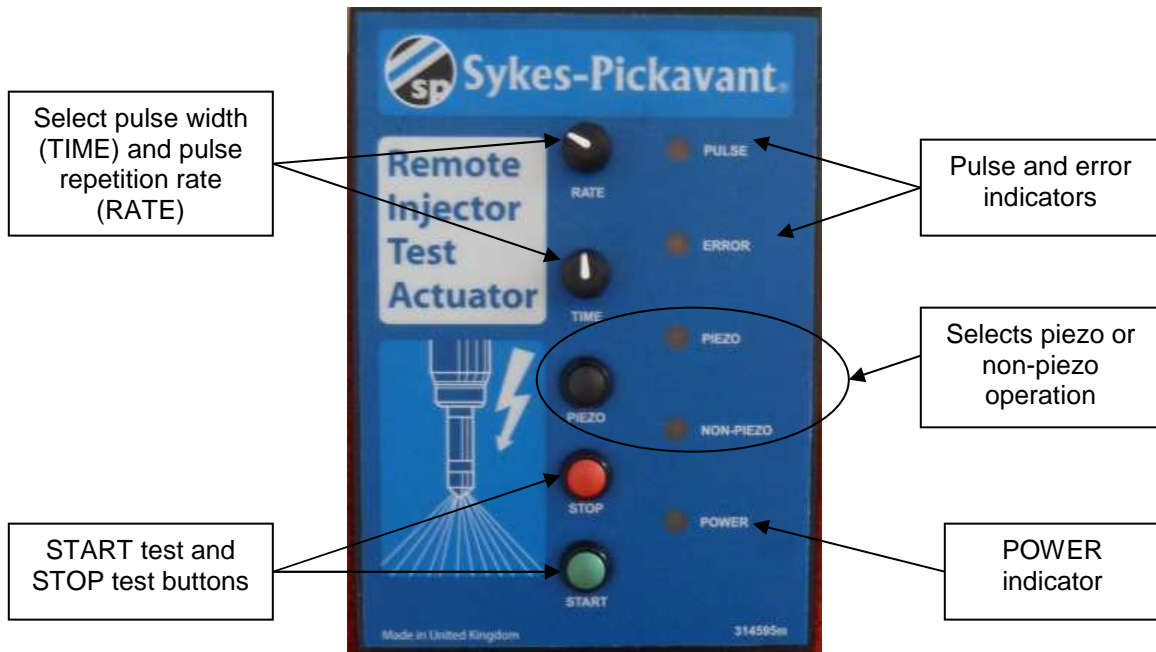
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Front Panel Controls



Front panel controls

Troubleshooting

- ERROR led flashes - indicates that the injector is taking too much or too little current.
 - Check the resistance of the injector,
 - Re-check the insulation resistance between the injector body and the
 - Check the test cable connections to the injector
 - Check the unit is set correctly for the type of injector under test i.e. PIEZO or NON-PIEZO

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314500 & 314595



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