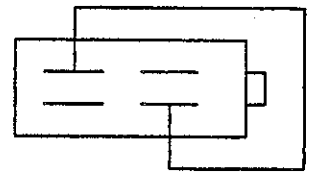
To carry out most function and diagnostic checks on the Retarder system, it is necessary to over-ride the Standstill Detector.

## SENSAMATIC STANDSTILL DETECTOR

### Without Test Switch facility

For the Sensamatic Standstill Detector without the fitted Test switch, disconnect the flying connector and bridge between the ignition feed and the cable to the foot control.



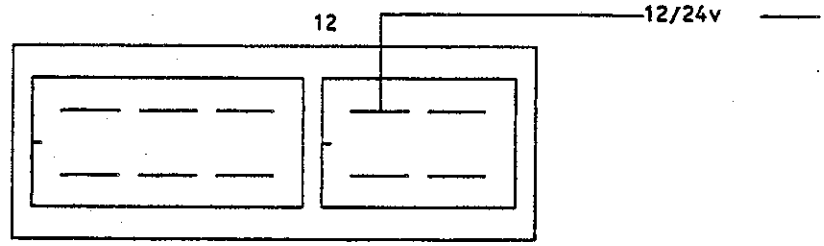
Rear view of socket connected to vehicle loom

### With Test Switch facility

For the Sensamatic Standstill Detector with the fitted Test facility, simply switch to the "Test" position. The unit is then over-ridden without the need to disconnect the flying connections.

## UNIVERSAL STANDSTILL DETECTOR

For the Universal Standstill Detector, provide a live ignition feed to connection 12 as illustrated. The unit is then energised, allowing the Telma Retarder to be operated whilst the vehicle is stationary.




**IMPORTANT: IT IS ESSENTIAL THAT THE CONNECTIONS MADE TO OVER-RIDE THE STANDSTILL DETECTOR SYSTEM ARE REMOVED AFTER TESTS HAVE BEEN COMPLETED. IF NOT, UNNECESSARY CURRENT DRAIN WILL OCCUR.**

## UNIVERSAL STANDSTILL DETECTOR

Part No JC251100 12 Volt
JC252100 24 Volt

The Universal Standstill Detector is triggered by an input signal of 3.3 volts AC. When the vehicle is at rest, the signal should be zero, otherwise the retarder will function with unnecessary current consumption.

If the checks carried out in Electrical Faults Diagnostics indicate a problem with the Standstill Detector system, carry out the following:

To undertake a check on the vehicle, either carry out a road test or use a rolling road. Ensure that the unit operates at approximately 3 km/hr by observing the dash warning light.

Also ensure that when the vehicle comes to rest, the warning light goes out within a maximum of one second.

Electronic Tachograph

For vehicles with electronic tachograph, measure the signal at connector 11 on the Universal Standstill Detector as shown in the illustration on the previous page.

Check that the signal on connection 11 is greater than 3.3 volts AC when the vehicle road speed exceeds 3 km/hr.

If the signal is below this figure, check the wiring and connections from the tachograph output. If this is satisfactory, check the output of the tacho itself.

If the signal is satisfactory, the Standstill Detector may be faulty.

Mechanical Tachograph or Speedometer

For vehicles with Mechanical Tachograph or Speedometer, a minigenerator is used to provide the speed information.

Measure the signal at connector 13 on the Universal Standstill Detector as shown in the illustration on the previous page.

Check that the signal on connection 13 is greater than 3.3 volts AC when the vehicle road speed exceeds 3 km/hr.

If the signal is below this figure, check the wiring and connections from the minigenerator. If this is satisfactory, check the output of the minigenerator itself.

If the signal is satisfactory, the Standstill Detector may be faulty.

Part Number VF890270

The minigenerator is designed to produce an output signal sufficient to trigger the Standstill Detector when the vehicle is in motion.

**SPECIFICATIONS**

| | |
|---|---|
| Operating Temperature Range | -40°C to +107°C |
| Output at 1750 rpm - no load | 25 Vrms minimum<br>55 Vrms maximum |
| Resistance | 280 ohms +/- 10% |
| Thread Torque | 20Nm (15ft.lbs.) |

Checking

The diagnostics procedure will identify whether the Standstill Detector System is functioning correctly.

If the signal on the input to the Standstill Detector is below that required to trigger the unit, check the wiring from the minigenerator to the Standstill Detector and to earth.

If the wiring and connections are satisfactory, check the minigenerator itself.

Remove the minigenerator from the vehicle gearbox leaving the wires connected.

Ensure the ignition is switched on. Whilst depressing the footbrake pedal, slowly revolve the input shaft of the minigenerator using a screwdriver bit in a hand-drill or similar device.

At approximately 20 rpm, which is the equivalent of about 3 km/hr, the output should be in excess of 3.3 volts AC.

This is sufficient to trigger the Standstill Detector and the Telma dash warning light should illuminate. The relays in the Telma Relay Box will also close depending on the pedal position.

When the minigenerator input shaft is stationery, the Telma dash warning light should go out, cutting out the Retarder.

## SENSAMATIC STANDSTILL DETECTOR

The early Sensamatic standstill detector comprised a single casing incorporating speed switch, on/off switch and an integral 5 amp fuse.

| | | |
|---|---|---|
| Part Nos | X690.02.1 | 12 Volt |
| | X690.02.2 | 24 Volt |

Later Sensamatic Standstill Detectors comprised a single casing incorporating speed switch, on/off and test switch and required a separate in-line fuse.

| | | |
|---|---|---|
| Part Nos | X690.03.1 | 12 Volt |
| | X690.03.2 | 24 Volt |

### Installation

The unit must only be installed inside the vehicle preferably within the fuse box or secured to a resilient panel.

### Functioning Principle

The unit is provided with road speed information (8 pulses per revolution) from the electronic tachograph. When the vehicle reaches 3 km/hr, the signal is sufficient to energise the unit allowing the retarder control switch to operate. There should be a zero signal when the vehicle is stationary.

This unit is not fitted to vehicles without electronic tachographs.

### Checking

To undertake a check on the vehicle, either carry out a road test or use a rolling road. Ensure that the unit operates at approximately 3 km/hr by observing the dash warning light.

Also ensure that when the vehicle comes to rest, the warning light goes out within a maximum of one second.

Test that the "on/off" switch is functioning. This is to allow the service brakes to be tested without the influence of the retarder.

## UNIVERSAL STANDSTILL DETECTOR

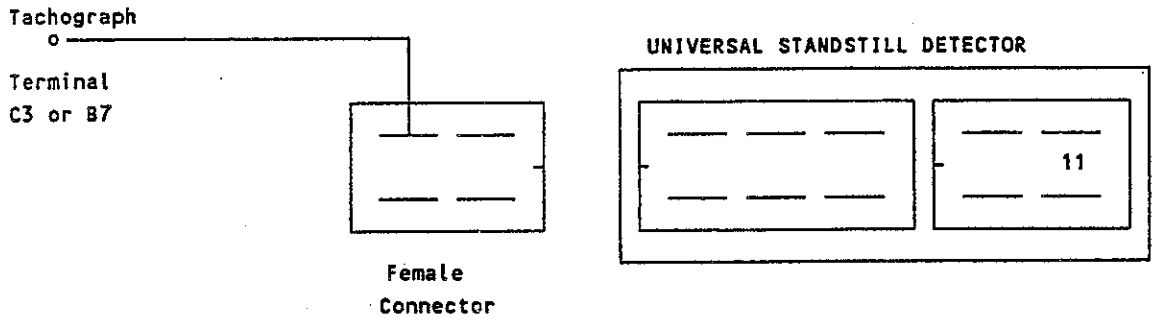
Part No JC251100 12 Volt
JC252100 24 Volt

The Universal Standstill Detector is the unit currently used and commenced being fitted on vehicles since availability at the start of 1989.

The vehicle speed information can be supplied from either an electronic tachograph or a minigenerator fitted to the gearbox speedometer output, usually via a Triplex box.

### ELECTRONIC TACHOGRAPH

For vehicles fitted with electronic Tachographs, the information is supplied directly to the Universal Standstill Detector at connector 11.




### MECHANICAL TACHOGRAPH

For vehicles fitted with a mechanical tachograph or speedo, a minigenerator is fitted on the speedometer output of the gearbox, usually via a Triplex box, and the output supplied to the Universal Standstill Detector at connector 13.