TRW MPS (TYPE 1) - System Overview
A far from bland coloured box, this Red & Yellow ECU is instantly recognizable. It is one of the earliest TRW Airbag systems and had no internal impact sensors relying instead on two external sensors mounted directly behind each headlamp on the inner wings. Whilst the ECU itself may be buried anywhere in the vehicle these sensors are easy to spot especially as they are always either bright Yellow or Orange. Indeed the wiring of the entire Airbag system is independent to the vehicle and covered in bright yellow flexible conduit or tape to specifically denote its usage from other wiring as a safety related matter. Looking for these sensors is the easiest way to determine if a vehicle built in 1996 when this system was replaced across the entire model range, has this ECU or the TRW SPS1 which replaced it. Although in all other countries this ECU was changed to the later SPS type 1, it seems that North American Range Rovers (P38), continued to have it fitted until 1999. The MPS designation is in respect of Multi Point Sensing.
RW MPS (TYPE 1) - System Help file
Version 1.26

TRW MPS (TYPE 1) - Known Fitments
Vehicle makes, models and variants known or believed to be using this vehicle system, required diagnostic lead and degree of known compatibility.

Vehicle Make	Vehicle Model	Vehicle Variant	Diagnostic Lead	Compatibility Level
Land Rover	Range Rover MK II (P38) (non NAS)	< 1996	Green OBDII Lead	Verified
Land Rover	Range Rover MK II (P38) NAS ONLY	<1999	Green OBDII Lead	Expected

TRW MPS (TYPE 1) - Physical Details

TRW MPS (TYPE 1) - Pin Outs
Details of the pin usage for the ECU connector(s).

1	Engine Compartment Fusebox
2, 3	Not Used
4, 5	Not Known
6	Not Used
7, 8	Not Known
9	Data Link Connector
10	Not Known
11	Data Link Connector **NAS**

12	BECM
13	Ground
14	Instrument Cluster
15	Not Known
16, 17	Drivers Airbag via Rotary Coupler
18	Not Known
19	Not Used
20	Data Link Connector **NAS**
21	Not Used
22	Instrument Cluster
23, 24	Not Known
25	Not Used
26, 27	Not Known
28, 29	Not Used

TRW MPS (TYPE 1) - Diagnostic Capabilities (Read Fault Codes)
The MPS airbag system can self detect up to 24 faults. Most of these are major or safety related faults causing full system shutdown with only a few being minor caused by, for instance, a flat battery. The systems perform a self-diagnostic test that takes about 15 seconds whenever the ignition is switched on, logging any faults that are found, then at regular intervals thereafter. Resistors are placed at strategic points in the airbag wiring harness / loom giving the systems the ability to self detect open or short circuits. Main loom loops are from the ECU up the column through the spiral cassette through the airbag and back through the spiral cassette to the ECU; from the ECU through the passenger airbag and back again; on MPS systems, one through each of the two crash sensors mounted behind the head lamps at the front and then returning to the ECU, then two loops each going to the instrument cluster, through a bulb each and back again. In accordance with the manuals, no repairs must be carried out on the loom at all; hence, no wiring diagram is supplied in the manufacturer's manuals. All problems involving the airbags, spiral cassette, crash sensors, or loom must be done in strict accordance with the relevant manufacturer's workshop manual instructions. There is a deep memory within the airbag ECU that keeps a long-term record of resets to detected faults. This means that if a particular connection was poor and went open circuit - even just once - the fault would be logged by the system as "a sensor is open circuit" and the airbag warning light would come on. If the fault was not found and the fault code memory was cleared it would be very likely to reappear. This would be logged as an intermittent fault within the system.

TRW MPS (TYPE 1) - Diagnostic Capabilities (Clear Fault Codes)
This function checks the fault code memory for resident faults and clears the fault code memory if the fault has been rectified. Having deleted the faults the system then rechecks the fault memory to ensure that it is clear. Failure to clear the fault memory successfully is usually due to the system re-logging the fault the moment the fault memory is clear, meaning that the fault has not been rectified properly and as far as the system is concerned, still exists. The system may also carry out a re-check for successful clearing of the fault code memory but then the system may re-log the fault shortly after.