



Elite 1500 Plug 'n' Play Adaptor Harness HT-140830

Supported Models

MITSUBISHI EVOLUTION 1, 2, 3
MITSUBISHI LANCER GSR
MITSUBISHI LANCER RVR

Package Contents

THIS MITSUBISHI EVOLUTION/GSR/RVR PACKAGE CONTAINS THE FOLLOWING:

- MITSUBISHI EVOLUTION 1 - 3, GSR / RVR ELITE 1500 PLUG 'N' PLAY ADAPTOR (HT-140830)
- ELITE SERIES PLUG 'N' PLAY ADAPTOR HARNESS (HT-130201)
- INTAKE AIR TEMPERATURE SENSOR (HT-010200)



Application Notes

THIS MITSUBISHI EVOLUTION 1 - 3 & GSR / RVR ELITE 1500 PLUG 'N' PLAY ADAPTOR HARNESS IS SUITABLE FOR USE WITH A HALTECH **ELITE 1500** ECU.

ENSURE THAT THE CORRECT BASEMAP IS LOADED BEFORE STARTING THE VEHICLE.

THE BASEMAP IS ONLY FOR USE AS A STARTING POINT AND THE ECU WILL REQUIRE APPROPRIATE TUNING.

HALTECH WILL NOT BE HELD RESPONSIBLE FOR ENGINE DAMAGE DUE TO THE IMPROPER USE OF BASEMAPS.

THE 16 PIN AUXILIARY CONNECTOR PROVIDES A NUMBER OF ADDITIONAL INPUT/OUTPUT LINKS TO THE HALTECH ELITE ECU.

THIS KIT IS SUPPLIED WITH SPARE PINS FOR USE WITH THE 16 PIN AUXILIARY CONNECTOR.

AN APPROPRIATE CRIMPING TOOL IS RECOMMENDED TO USE THE 16 PIN AUXILIARY CONNECTOR.

A CRIMPING TOOL KIT (PART # HT-070300) CAN BE PURCHASED AT WWW.HALTECH.COM

AFTER THE INSTALLATION OF THIS PLUG 'N' PLAY KIT, FACTORY PANELS MAY BE RE-INSTALLED.

Elite 1500 Basemap

| MAKE | MODEL | CODE | ENGINE | BASEMAP |
|------------|-----------|-------------------|--------------|--|
| MITSUBISHI | EVOLUTION | 1, 2, 3, GSR, RVR | 4G63T, 4G93T | HT-140830 - Mitsubishi Evolution 1 - 3 GSR RVR MAP.e1500 |

Basemap Notes

THE BASEMAPS SUPPLIED WITH THIS PRODUCT HAVE BEEN SETUP USING THE ELITE ECU INTERNAL 3 BAR MAP SENSOR.

PLEASE CONNECT THE ELITE ECU INTERNAL MAP SENSOR TO THE INTAKE MANIFOLD PRIOR TO STARTING THE VEHICLE.

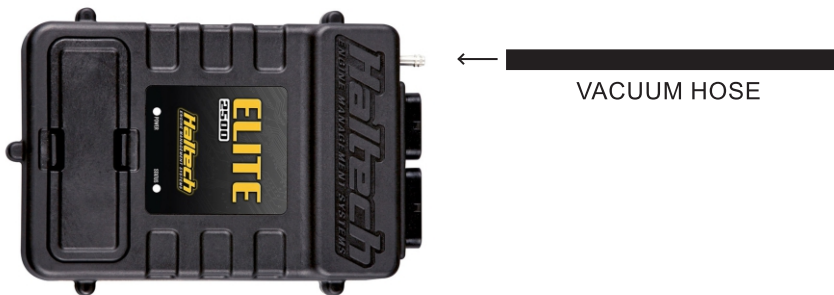


Figure 1 - Elite ECU internal MAP sensor

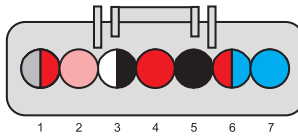
ECU Location

THE FACTORY MITSUBISHI EVOLUTION 1-3 & GSR / RVR ECU IS LOCATED BEHIND THE PASSENGER SIDE KICK PANEL. REMOVING THE KICK PANEL WILL ALLOW SPACE TO INSTALL THE ADAPTOR HARNESS. THE ELITE ECU CAN BE INSTALLED ON THE LEFT HAND SIDE OF THE GLOVEBOX IN THE AVAILABLE SPACE. ALL FACTORY PANELS MAY BE RE-USED AFTER INSTALLATION.



Figure 2 - Installation of Haltech Elite ECU

MAF/Air Temp Sensor



REAR VIEW (WIRE SIDE)
MITSUBISHI ELECTRIC E5T05371

| PIN | COLOUR | FUNCTION |
|-----|-------------|-------------------------------|
| 1 | GREY/RED | +5V Sensor Power |
| 2 | PINK | Barometer Signal |
| 3 | WHITE/BLACK | Mass Air Flow Signal |
| 4 | RED | +12V Switched Power |
| 5 | BLACK | Sensor Ground |
| 6 | RED/BLUE | Intake Air Temperature Signal |
| 7 | BLUE | Reset |

IF THE FACTORY **MAF** SENSOR IS REMOVED, AN **INTAKE AIR TEMPERATURE (IAT)** SENSOR CAN BE INSTALLED BY UTILISING PINS 5 (**SENSOR GROUND**) AND 6 (**AVI 7**) OF THE FACTORY MAF SENSOR CONNECTOR. PIN 5 (**SENSOR GROUND**), PIN 6 (**AVI 7**) AND PIN 3 (**SPI 2**) OF THE FACTORY **MAF** CONNECTOR MAY ALSO BE USED AS **SPARE INPUTS** IF REQUIRED.

Air Temperature Sensor

An air temperature sensor is a required sensor used in Volumetric Efficiency (VE) tuning to compensate for changes in air density due to air temperature. Cold air has a higher density than warm air and therefore requires a greater volume of fuel to maintain the same air/fuel ratio.

The Haltech ECU can automatically compensate the fuel delivery for changes in air density based on temperature using the signal received from the air temperature sensor.

On many vehicles the OEM air temperature sensor is located either within the mass airflow sensor or molded into the intake air manifold, however in performance applications the airflow sensor and air intake piping are often modified, removed or replaced. For this reason an air temperature sensor (HT-010200) is provided for use as a substitute to the factory air temperature sensor.

This sensor should be mounted to provide the best representation of the actual temperature of the air entering the combustion chamber, i.e. after any turbocharger, supercharger and intercooler.

The sensor needs to be in the moving air stream to give fast response times and reduce heat soak effects. Be aware in some situations, mounting the sensor into the inlet manifold (especially at the rear) may cause heat soak problems (where the sensor reads the temperature of the manifold itself rather than the air that is moving through the manifold into the engine).

Once a suitable position has been located for the air temperature sensor to be installed, a hole should be drilled and tapped to accept the sensor. The intake manifold or inlet piping should be removed from the engine before this is done to prevent any metal shavings or swarf entering the engine.

This package includes an air temperature sensor (HT-010200). This air temperature sensor should be installed by utilising an auxiliary Analogue Voltage Input (AVI) and signal ground located on the 16 pin auxiliary connector.

Please refer to the auxiliary connector pinout table and sensor wiring diagram below.

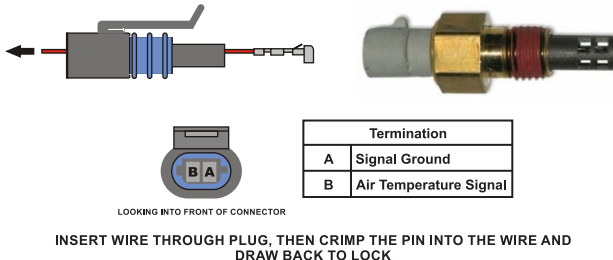
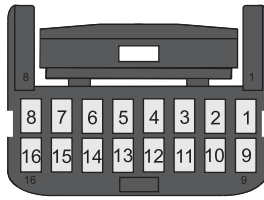


Figure 3 - Air Temperature Sensor wiring

Auxiliary Connector

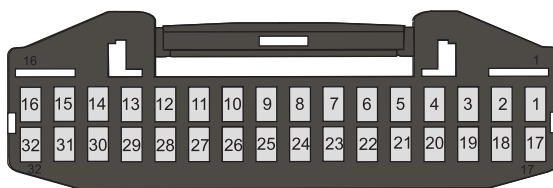


**AUXILIARY CONNECTOR (16 PIN)
REAR VIEW (WIRE SIDE)**

An auxiliary connector allows easy connection of additional ECU inputs and outputs.
Please see pinout information below for spare inputs and outputs available to this application.

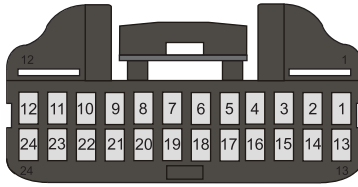
| Position (16 Pin Plug) | Connection | Function | Notes |
|------------------------|----------------------------------|---------------|---|
| 1 | From Haltech ECU (A9) | +5V | +5V DC Sensor Supply (50mA Max) |
| 2 | From Haltech ECU (B13) | AVI 1 | Spare Analogue Voltage Input |
| 3 | From Haltech ECU (A16) | AVI 2 | Spare Analogue Voltage Input |
| 4 | From Haltech ECU (B14, B15, B16) | SIGNAL GROUND | Signal Ground For Input Sensors |
| 5 | From Haltech ECU (B17) | IGN 7 | Spare Output (Available to Elite 2500 Only) |
| 6 | From Haltech ECU (B18) | IGN 8 | Spare Output (Available to Elite 2500 Only) |
| 7 | From Haltech ECU (B8) | SPI 1 | Spare SPI (Optional Flex Fuel Input) |
| 8 | From Haltech ECU (A26) | +12V (INI) | +12V DC Supply for Relays and Solenoids (500mA Max) |
| 9 | From Haltech ECU (A9) | +5V | +5V DC Sensor Supply (50mA Max) |
| 10 | From Haltech ECU (A17) | AVI 3 | Spare Analogue Voltage Input |
| 11 | From Haltech ECU (A2) | AVI 4 | Spare Analogue Voltage Input |
| 12 | From Haltech ECU (B14, B15, B16) | SIGNAL GROUND | Signal Ground For Input Sensors |
| 13 | From Haltech ECU (A29) | INJ 7 | Spare Output (Available to Elite 2500 Only) |
| 14 | From Haltech ECU (A30) | INJ 8 | Spare Output (Available to Elite 2500 Only) |
| 15 | - | Not Used | Not Used |
| 16 | From Haltech ECU (A26) | +12V (INI) | +12V Supply for Relays and Solenoids (500mA Max) |

Main Connectors



CONNECTOR (32 PIN)
REAR VIEW (WIRE SIDE)

| Position (32 Pin Plug) | ECU Connector (34 Pin Plug) | Function | Description |
|------------------------|-----------------------------|----------------|---|
| 1 | A1 | DPO 2 | A/C Control Relay |
| 2 | A2 | AVI 4 | Spare Analogue Voltage Input |
| 3 | A3 | IGN 1 | Ignition Coils 1 & 4 |
| 4 | A4 | IGN 2 | Ignition Coils 2 & 3 |
| 5 | A5 | IGN 3 | Radiator Fan Relay |
| 6 | A6 | IGN 4 | Condensor Fan (High) |
| 7 | A7 | IGN 5 | Spare Output (Available to Elite 2500 Only) |
| 8 | A8 | IGN 6 | Spare Output (Available to Elite 2500 Only) |
| 9 | A9 | +5V | +5V DC Sensor Supply |
| 10 | A10 | BATTERY GROUND | Battery Negative |
| 11 | A11 | BATTERY GROUND | Battery Negative |
| 12 | A12 | +8V | +8V DC Sensor Supply |
| 13 | A13 | IGNITION INPUT | Ignition Switch |
| 14 | A14 | AVI 10 | Throttle Position Sensor |
| 15 | A15 | AVI 9 | Baro Pressure Sensor |
| 16 | A16 | AVI 2 | Spare Analogue Voltage Input |
| 17 | A17 | AVI 3 | Spare Analogue Voltage Input |
| 18 | A18 | DPO 1 | Check Engine Light |
| 19 | A19 | INJ 1 | Injector #1 |
| 20 | A20 | INJ 2 | Injector #2 |
| 21 | A21 | INJ 3 | Injector #3 |
| 22 | A22 | INJ 4 | Injector #4 |
| 23 | A23 | DPO 3 | Wastegate Solenoid |
| 24 | A24 | DPO 5 | Fuel Pump Relay |
| 25 | A25 | DPO 6 | Engine Control Relay Output |
| 26 | A26 | +12V (INJ) | Fused Power |
| 27 | A27 | INJ 5 | Spare Output (Available to Elite 2500 Only) |
| 28 | A28 | INJ 6 | Spare Output (Available to Elite 2500 Only) |
| 29 | A31 | STEP1 P1 | Idle Control Valve (B1) |
| 30 | A32 | STEP1 P2 | Idle Control Valve (B2) |
| 31 | A33 | STEP1 P3 | Idle Control Valve (A1) |
| 32 | A34 | STEP1 P4 | Idle Control Valve (A2) |



CONNECTOR (24 PIN)
REAR VIEW (WIRE SIDE)

| Position (24 Pin Plug) | ECU Connector (26 Pin Plug) | Function | Description |
|------------------------|-----------------------------|---------------|--|
| 1 | B1 | TRIGGER | Crankshaft Position Sensor |
| 2 | B2 | HOME | Top Dead Centre Sensor |
| 3 | B3 | AVI 7 | Air Temperature Sensor |
| 4 | B4 | AVI 8 | Coolant Temperature Sensor |
| 5 | B5 | TRIGGER - | Not Used |
| 6 | B6 | HOME - | Not Used |
| 7 | B7 | SPI 4 | A/C Request |
| 8 | B8 | SPI 1 | Spare SPI (Optional Flex Fuel Input) |
| 9 | B9 | SPI 2 | Mass Air Flow Sensor |
| 10 | B10 | SPI 3 | Vehicle Speed Sensor |
| 11 | B11 | +12V (ECU) | Fused Power |
| 12 | B12 | AVI 6 | O2 Sensor |
| 13 | B13 | AVI 1 | Spare Analogue Voltage Input |
| 14 | B14 | SIGNAL GROUND | Signal Ground for Input Sensors |
| 15 | B15 | SIGNAL GROUND | Signal Ground for Input Sensors |
| 16 | B16 | SIGNAL GROUND | Signal Ground for Input Sensors |
| 17 | B23 | CAN HIGH | Not Used |
| 18 | B24 | CAN LOW | Not Used |
| 19 | B19 | DPO 4 | A/C Fan Relay |
| 20 | B20 | AVI 5 | Power Steering Switch |
| 21 | B21 | KNOCK 1 | Knock Sensor Signal |
| 22 | B22 | KNOCK 2 | Not Used |
| 23 | B25 | DBW 1 | Secondary Air Solenoid |
| 24 | B26 | DBW 2 | Turbo Warning Light (EVO 1, 2, GSR Only) |

WARNING - HALTECH OFF-ROAD USAGE POLICY

It is unlawful to tamper with your vehicle's emissions equipment.

Haltech products are designed and sold for sanctioned off-road/competition non-emissions controlled vehicles only. Using Haltech products for street/road use on public roads is prohibited by law. It is the responsibility of the installer and/or user of this product to ensure compliance with all applicable local and federal laws and regulations. Please check with your local vehicle authority before using any Haltech product

INSTALLATION OF HALTECH PRODUCTS

No responsibility whatsoever is accepted by Haltech for the fitment of Haltech Products. The onus is clearly on the installer to ensure that both their knowledge and the parts selected are correct for that particular application. Any damage to parts or consequential damage or costs resulting from the incorrect installation of Haltech products are totally the responsibility of the installer.

Always disconnect the battery when doing electrical work on your vehicle. Avoid sparks, open flames or use of electrical devices near flammable substances. Do not run the engine with a battery charger connected as this could damage the ECU and other electrical equipment. Do not overcharge the battery or reverse the polarity of the battery or any charging unit. Disconnect the Haltech ECU from the electrical system whenever doing any welding on the vehicle by unplugging the wiring harness connector from the ECU. After completing the ECU installation, make sure there is no wiring left uninsulated. Uninsulated wiring can cause sparks, short circuits and in some cases fire. Before attempting to run the engine ensure there are no leaks in the fuel system. All fuel system components and wiring should be mounted away from heat sources, shielded if necessary and well ventilated. Always ensure that you follow workshop safety procedures. If you're working underneath a jacked-up car, always use safety stands!

HALTECH LIMITED WARRANTY

Unless specified otherwise, Haltech warrants its products to be free from defects in material or workmanship for a period of 12 months from the date of purchase, valid in the original country of purchase only. Proof of purchase, in the form of a bill of sale or receipted invoice, which indicates that the product is within the warranty period, must be presented to obtain warranty service. Haltech suggests that the purchaser retain the dealer's dated bill of sale/receipt as evidence of the date of retail purchase. If the Haltech product is found to be defective as mentioned above, it will be replaced or repaired if returned prepaid along with proof of purchase. This shall constitute the sole liability of Haltech. To the extent permitted by law, the foregoing is exclusive and in lieu of all other warranties or representations, either expressed or implied, including any implied warranty of merchantability or fitness. In no event shall Haltech be liable for special or consequential damages.

PRODUCT RETURNS

Please include a copy of the original purchase invoice along with the unused, undamaged product and its original packaging. Any product returned with missing accessory items or packaging will incur extra charges to return the item to a re-saleable condition. All product returns must be sent via a freight method with adequate tracking, insurance and proof of delivery services. Haltech will not be held responsible for product returns lost during transit. The sale of any sensor or accessory that is supplied in sealed packaging is strictly non-refundable if the sealed packaging has been opened or tampered with. This will be clearly noted on the product packaging. If you do not accept these terms please return the sensor in its original unopened packaging within 30 days for a full refund.

Returning a sensor or accessory product within 30 days of purchase: Product may be returned for credit or full refund. (Any sealed packaging must not have been opened or tampered with)

Returning a sensor or accessory product after 30 days of purchase: Product may be returned for credit only (no refunds given) and is subject to a 10% Restocking fee. (Any sealed packaging must not have been opened or tampered with)

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