710 ECU Race Specification Bespoke Harness Design Form

Design Considerations

▪Although the wiring harness materials and manufacture methods are selected to give as much mechanical and electrical resilience as possible, design and routing to minimise what the harness needs to endure is best.

▪Keep the ECU away from direct water spray and away from hot components such as exhaust, water pipes etc.

▪Make the harness as short as possible. A long harness is an aerial for electrical interference so shorter is better. Advertised pricing assumes that the longest part of the harness is no more than 2metres; longer harnesses may have additional charges.

▪Route the harness away from the exhaust side of the engine to minimise heat stress.

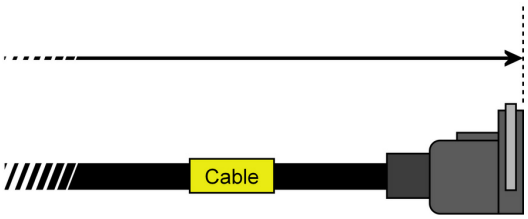
▪Route the harness (particularly the 'sensors' section of the harness) away from the alternator, starter motor and HT leads to reduce electrical interference.

▪Remember that the engine will move slightly on the engine mounts and leave enough 'slack' cable to allow for this.

▪Mounting the harness to the chassis and engine regularly stops the harness moving and so reduces stresses on and fatigue of the cable and joints. Design the routing so that there are plenty of mounting opportunities. Rubber lined 'P' clips are better mounts than cable ties as cable ties compress the cables and can cause vibration wear.

Dimensions

All dimensions should be recorded in cm. Measurements are to the face of the connector as shown in the diagram below. The wiring harness will be built to an accuracy of -0cm+5cm.



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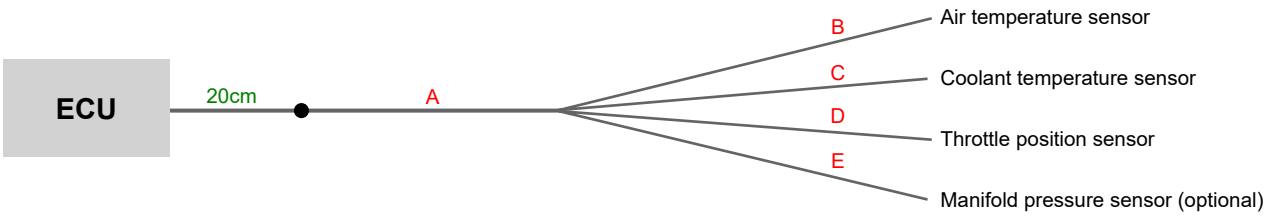
Sensor Group

The following diagram shows the arrangement of a group of sensors. Mark below the required information;



A _____ B _____ C _____ D _____ E _____

Air temperature sensor	Type _____
Coolant temperature tensor	Type _____
Throttle position sensor	Type _____
Manifold pressure sensor (optional)	Type _____

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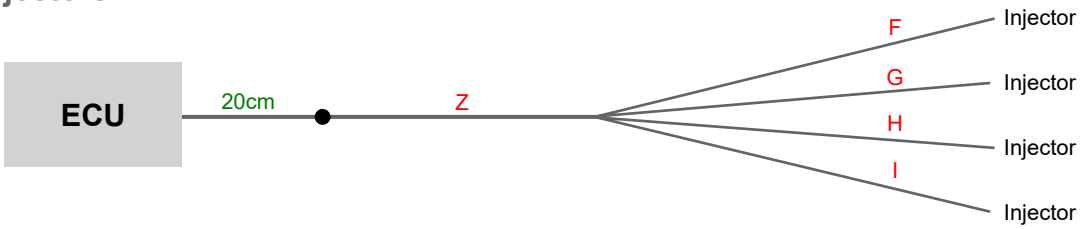
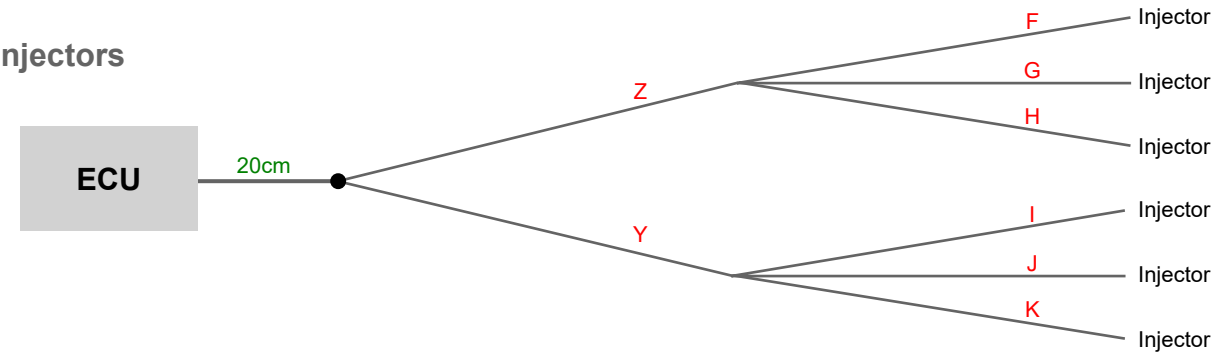
Injector Group

Select the correct diagram for the number of injectors on your engine then complete the marked details;

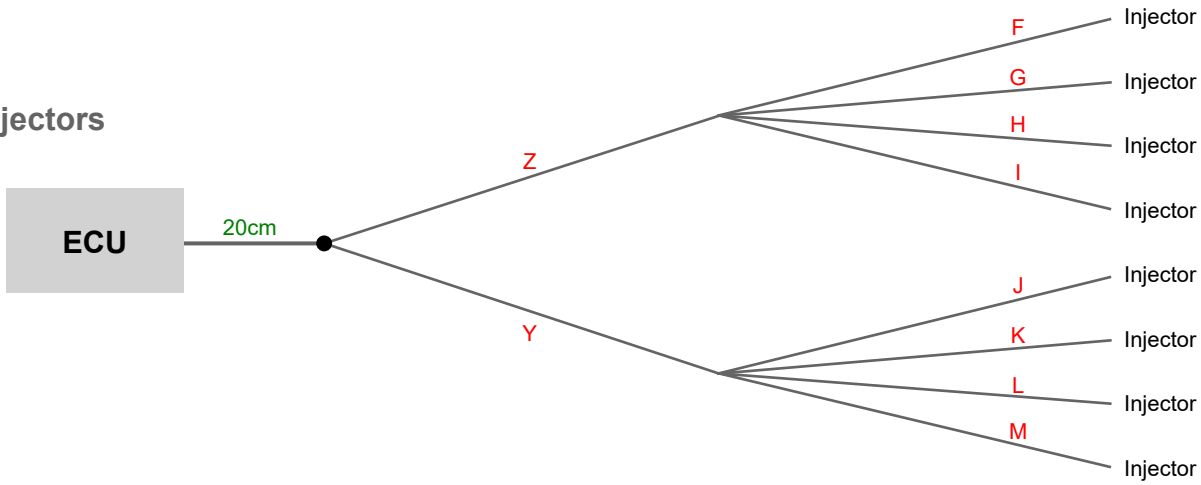
4 Injectors



6 Injectors



8 Injectors



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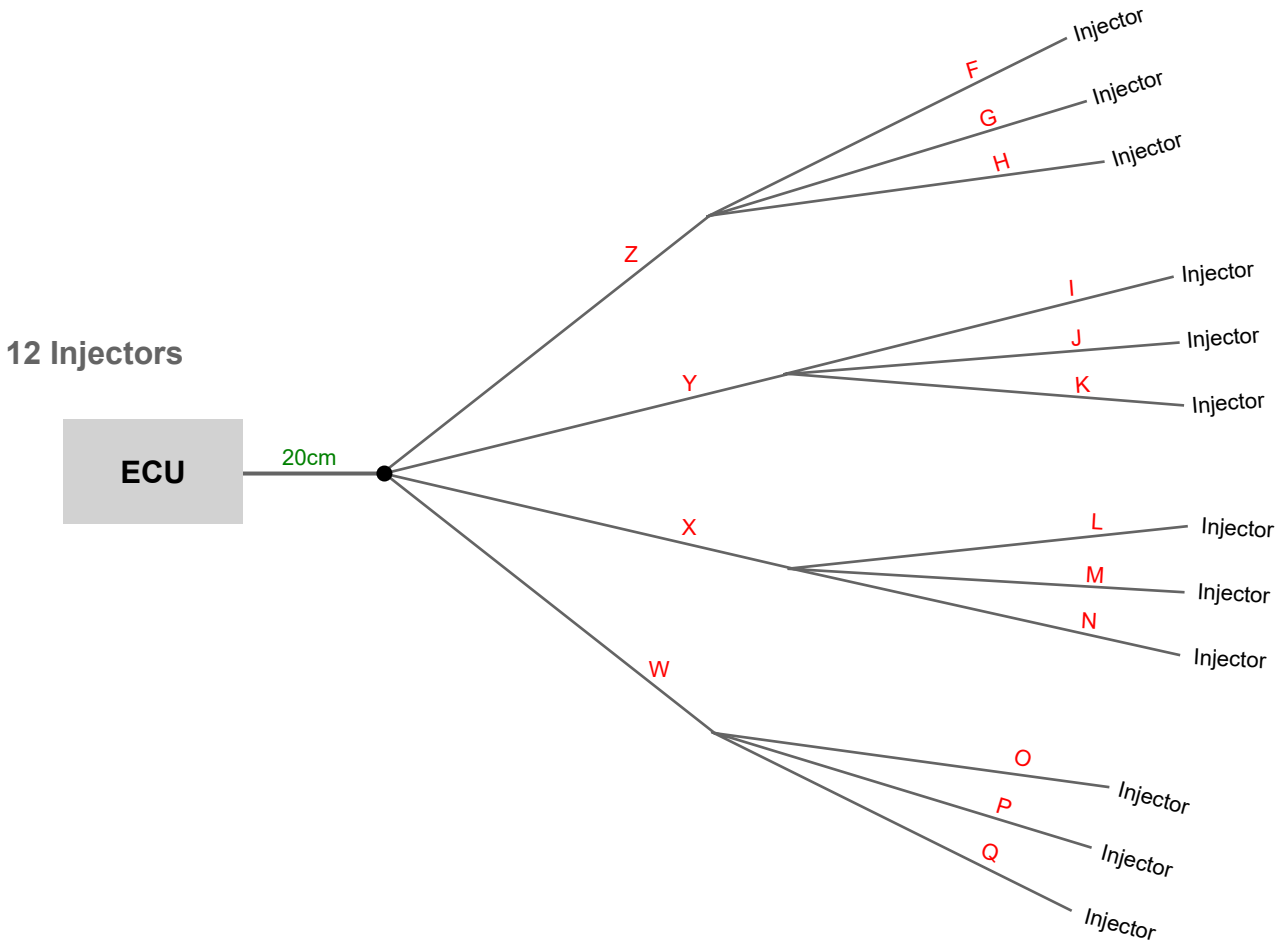

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Injector Dimensions

Length W (cm)_____ Length X (cm) _____

Length Y (cm) _____ Length Z (cm) _____

Length F (cm) _____ - Cylinder number _____

Length G (cm) _____ - Cylinder number _____

Length H (cm) _____ - Cylinder number _____

Length I (cm) _____ - Cylinder number _____

Length J (cm) _____ - Cylinder number _____

Length K (cm) _____ - Cylinder number _____

Length L (cm) _____ - Cylinder number _____

Length M (cm) _____ - Cylinder number _____

Length N (cm) _____ - Cylinder number _____

Length O (cm) _____ - Cylinder number _____

Length P (cm) _____ - Cylinder number _____

Length Q (cm) _____ - Cylinder number _____

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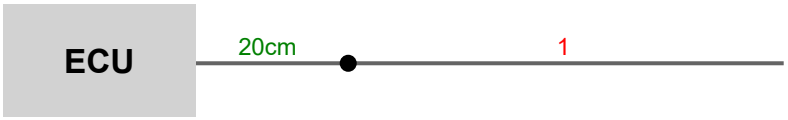
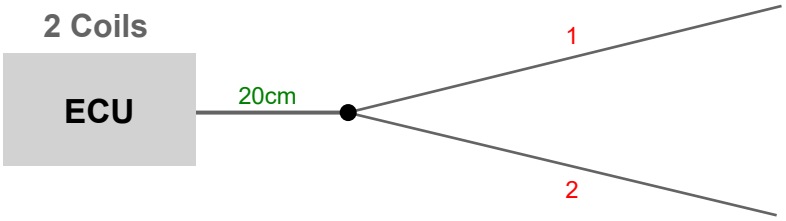
Ignition Coil Group

Select the correct diagram for the number of injectors on your engine then complete the marked details;

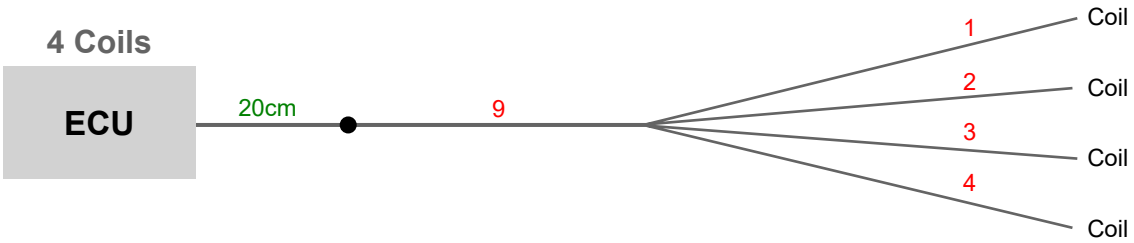
1 Coil



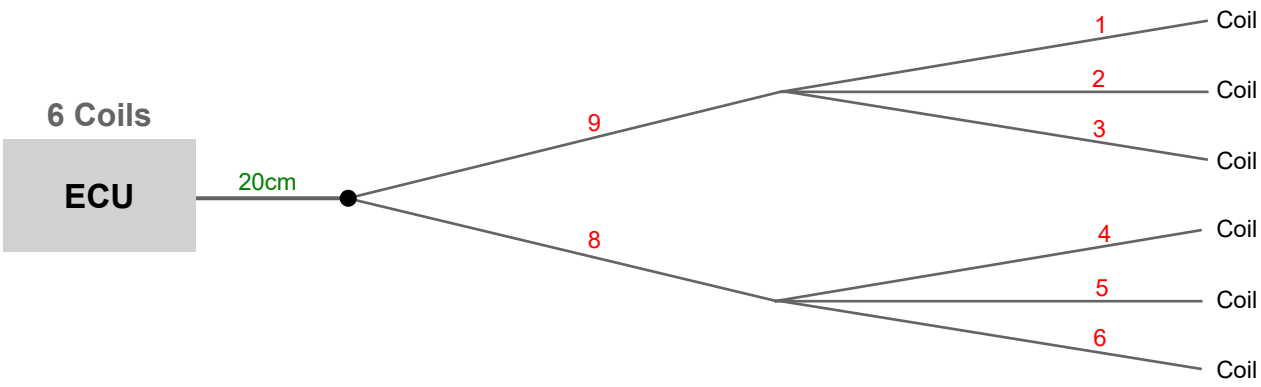
2 Coils



4 Coils



6 Coils



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Ignition Coil Dimensions

Length 9 (cm) _____

Length 8 (cm) _____

Length 1 (cm) _____ - Coil type _____ - Cylinder controlled _____

Length 2 (cm) _____ - Coil type _____ - Cylinder controlled _____

Length 3 (cm) _____ - Coil type _____ - Cylinder controlled _____

Length 4 (cm) _____ - Coil type _____ - Cylinder controlled _____

Length 5 (cm) _____ - Coil type _____ - Cylinder controlled _____

Length 6 (cm) _____ - Coil type _____ - Cylinder controlled _____

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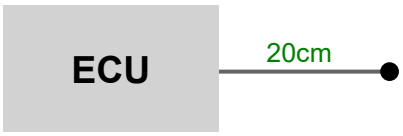
Other Dimensions

All dimensions in the following tables are from a point on the harness 20cm from the ECU connector as shown in the below diagram;



Dashboard Output (Shift light and tacho controls)
Length of cable (cm) _____

Crank sensor
Length to connector (cm) _____ Connector type _____

Cam sensor (optional)
Length to connector (cm) _____ Connector type _____

Knock sensor (optional)
Length to connector (cm) _____ Connector type _____

Road Speed sensor (optional)
Length to connector (cm) _____ Connector type _____

Oxygen Sensors

Oxygen sensor 1 (optional)
Length to connector (cm) _____ Number of wires on sensor _____

Oxygen sensor 2 (optional)
Length to connector (cm) _____ Number of wires on sensor _____

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Extra Relays (optional)

Fuel Pump Relay
Option 1 ☐ None
Option 2 ☐ Relay fitted next to the power relay
Option 3 ☐ Cable fitted to control a relay on the chassis harness Length (cm) _____

Radiator Fan Relay
Option 1 ☐ None
Option 2 ☐ Relay fitted next to the power relay
Option 3 ☐ Cable fitted to control a relay on the chassis harness Length (cm) _____

Radiator Fan 2 / Second Speed Relay
Option 1 ☐ None
Option 2 ☐ Relay fitted next to the power relay
Option 3 ☐ Cable fitted to control a relay on the chassis harness Length (cm) _____