



INSTALLATION INSTRUCTIONS FOR LPG FLYING INJECTION SYSTEM ON THE FORD TRANSIT 2.3i 16V



- kW: 100 • Engine Code: F432D
- Injection: electronic multipoint EEC-V
- Petrol injection ECU version: see figures 1 and 2 page 2
- Ignition: electronic
- › Flying Injection double Smart basic Kit code 08FJ00000002
- › Specific kit for Ford Transit 2.3i 16V code 08FJ00080018

BEFORE INSTALLATION, PLEASE REFER TO THE FLYING OPERATING INSTRUCTIONS



CAPTION

- 1 - LPG SOLENOID VALVE
- 2 - GENIUS REDUCER
- 3 - FJ1 FILTER
- 4 - Fly Gas ECU (behind the left headlight)
- 5 - DISTRIBUTOR PRESSURE SENSOR MAP SENSOR
- 6 - MODULAR HI MM

DOUBLE SMART DISTRIBUTOR (on the right lower side of the vehicle)

SPARE PARTS

description	code	length (mm)	q.ty
from SMART to manifolds	22TB01040360	360	4
from SMART to P1	22TB01040460E	460	1
from SMART to P2	22TB01040500E	480	1
from GENIUS to FJ1	22TB02040320E	320	1
from FJ1 to SMART	22TB02040500E	500	1
from GENIUS to press. point	22TB04040900	900	1
from MAP to press. point	E22010001	460	1

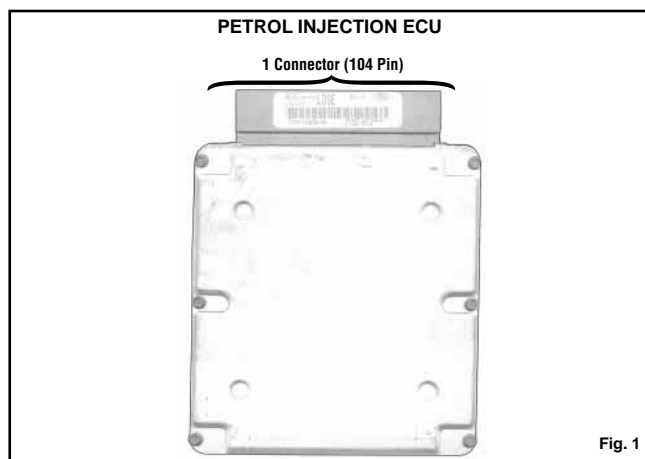


Fig. 1

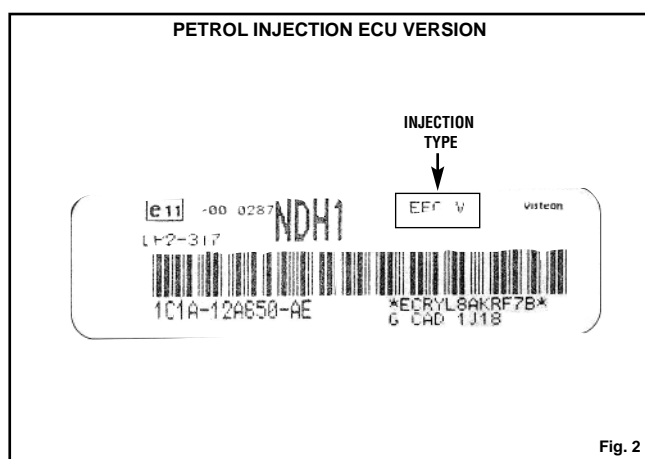


Fig. 2



Fig. 3

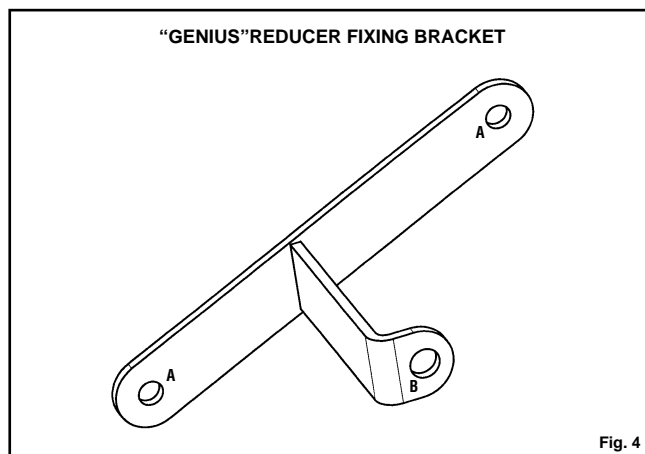


Fig. 4

PETROL INJECTION ECU VERSION

The petrol injection ECU (see picture 1) is located on the left side of the engine compartment more or less behind the windscreen. The identification code of the injection type that can be converted is indicated in figure 2. Other possible codes that can be converted with this kit are indicated on our web site <http://www.brc.it>

If there is no correspondence between this code and their one indicated, **do not convert** the vehicle and refer to our after sales service.

MECHANICAL INSTALLATION

INSTALLATION OF LPG SOLENOID VALVE

Using a brackets, anchor the LPG solenoid valve on the right fixing screw of the servo brake (see picture 3).

INSTALLATION OF GENIUS REDUCER

Dismount the pipe coupling and the air-intake manifold having care to remove the various vacuums and the connectors.

By using the holes "A" and the M6 nuts supplied , fix the supporting bracket of the Genius reducer to the original stud bolts located in the right side of the engine bulkhead (see figure 5 page 3).

Joint, in the back side of the reducer , the copper pipe coming from the LPG solenoid.

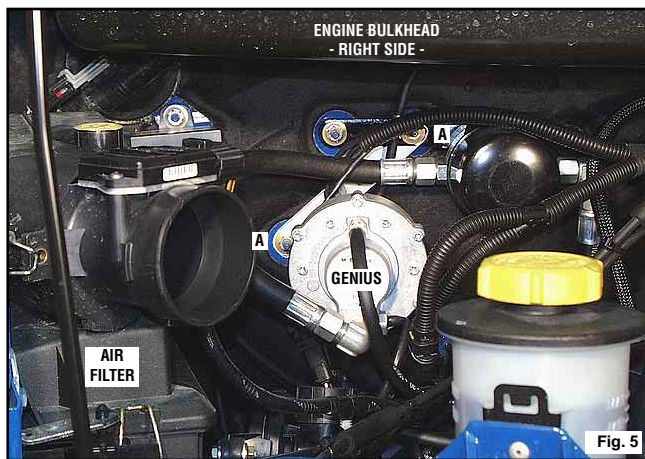


Fig. 5

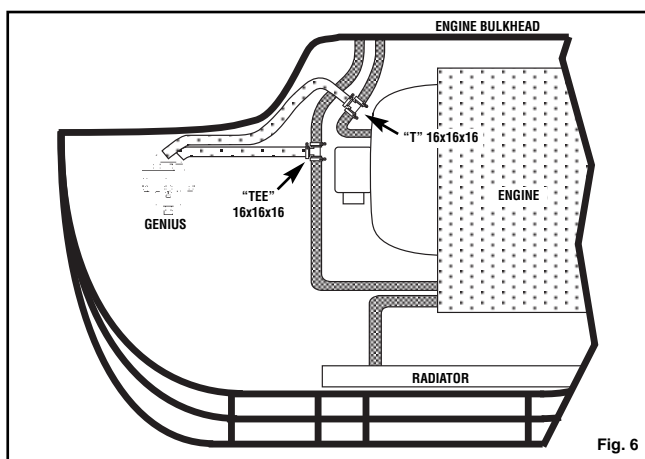


Fig. 6

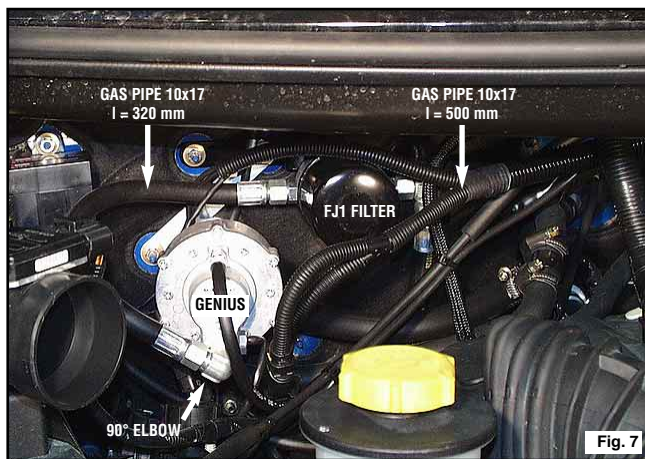


Fig. 7

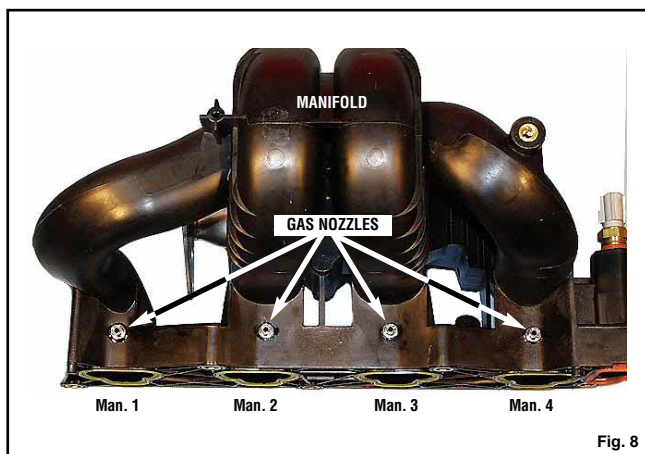


Fig. 8

Fix the reducer to the hole “B” of the bracket through the M8x14 hexagonal head screw supplied with the kit (see figure 5).

Paying attention to prevent an excessive loss of water, (by using the specific BRC pliers code 90AV99004020), make the reducer heating circuit.

Interrupt the pipes of the passenger compartment heating circuit, then by using the two 16x16x16 “TEE”, realise the reducer heating circuit as indicated in figure 6.

Secure the pipes with the clamps supplied.

Top up the engine coolant liquid level and carry out a drain of the concerning equipment.

INSTALLATION OF THE FJ1 FILTER

The FJ1 filter must be **obligatory** fixed against the engine bulkhead, as shown in figure 7. Screw on the gas outlet of the Genius reducer the little 90° elbow supplied, afterwards joint here the 10x17 l = 320 mm gas pipe that shall be screwed on the gas inlet of the FJ1 filter. Screw, on the outlet of the FJ1 filter, the 10x17 l = 500 mm gas pipe that shall be screwed on the gas inlet of the Smart Distributor.

INSTALLATION OF THE NOZZLES

By following the general instructions of paragraph 4.F in the Flying Injection system operating manual, proceed with a bit of $\varnothing 5$ mm to realize the holes.

The four holes must be drilled perpendicularly to the manifold as indicated in figures 8 and 9 at following page. Make the thread with a M6 male. Screw to such holes the gas flow nozzles.

It is recommended to screw the nozzles by using

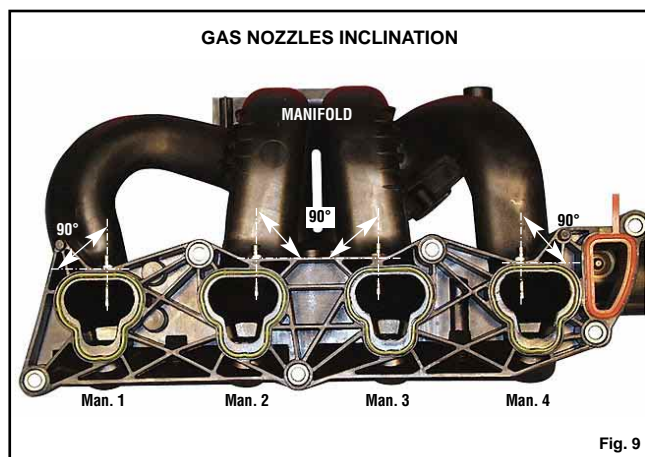


Fig. 9

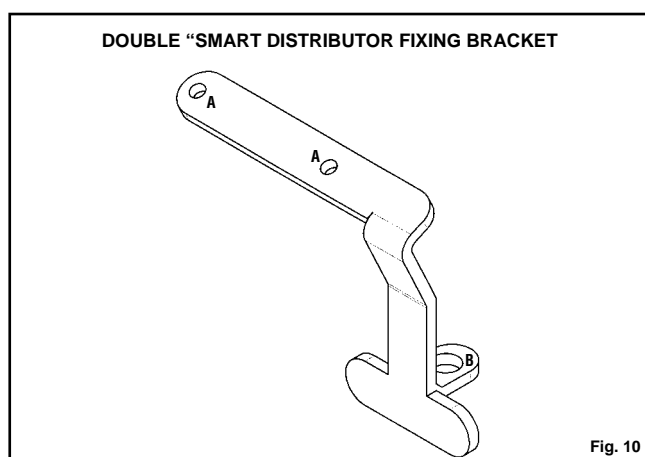


Fig. 10

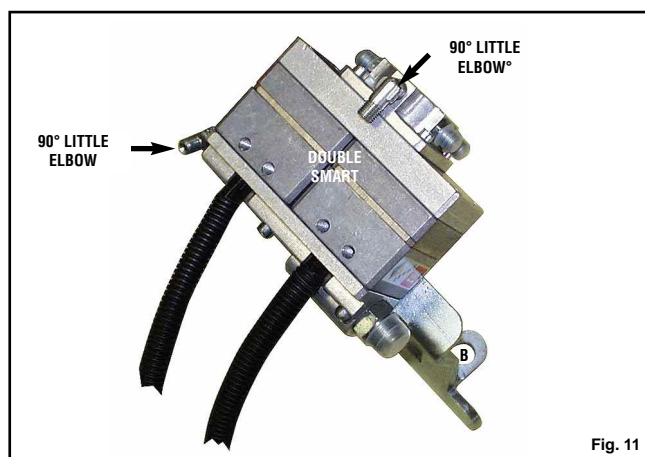


Fig. 11

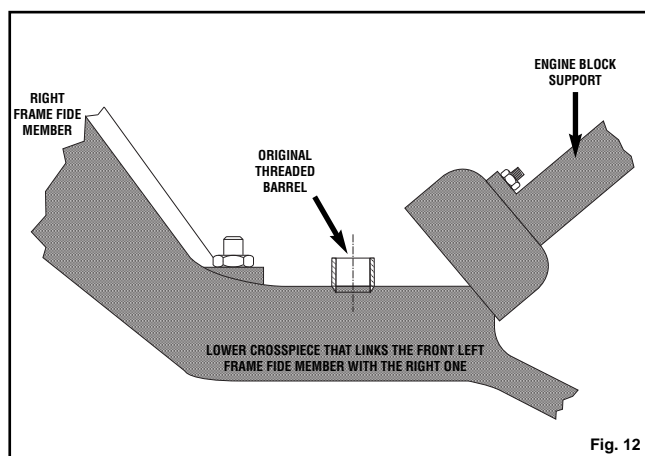


Fig. 12

the suggested dope on the threads (Loctite n° 83-21).

Paying attention to not disturb the nozzles previously fixed, (by using two wrenches and/or the one supplied), joint here the pipes that shall be successively connected to the Smart Distributor.

INSTALLATION OF SMART DISTRIBUTOR

It is necessary to substitute the flow distributor with four pipe-holders with the Boxer one given inside the specific kit, paying attention to re-position correctly the holding O-ring. Screw, on the P1 and P2 fittings of the Smart distributor, the two 90° little elbows supplied, by using the suggested dope on the threads (Loctite n° 83-21).

Fixing:

Fix the Smart distributor to the holes "A" of the respective bracket through the M6x16 hexagonal head screws supplied (see figure 11).

Screw on the P1 and P2 fittings of the Smart distributor, the pipes that shall be successively screwed to the respective P1 and P2 fittings in the lower side of the Pressure Distributor Sensor.

Secure the Smart distributor supporting bracket through the hole "B" and the M12x20 hexagonal head screw to the original threaded barrel placed on the inferior crosspiece that links the right front frame fide member to the left one (see figure 12 and figure 13 and 14 at following page).

Connection of the pipes:

Remount the air-intake manifold in the proper seat having care to replace correctly the various vacuums and various connectors.

Screw, to the four lower fittings of the distributor, the pipes coming from the nozzles previously screwed on the manifolds. Screw, on the gas inlet of the Smart distributor, the 90° elbow supplied and joint the 10x17 gas pipe that was previ-

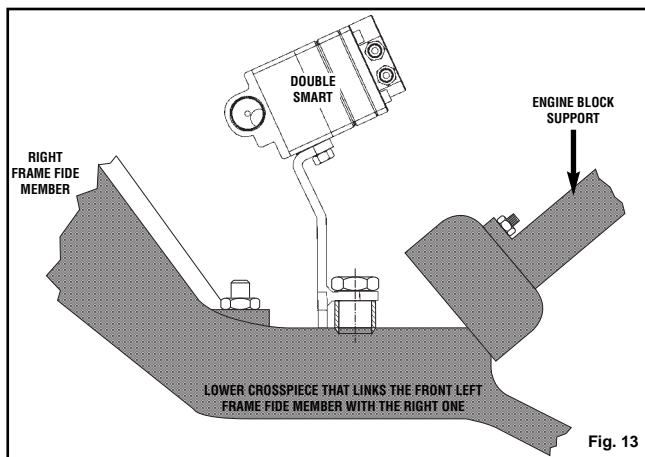


Fig. 13



Fig. 14

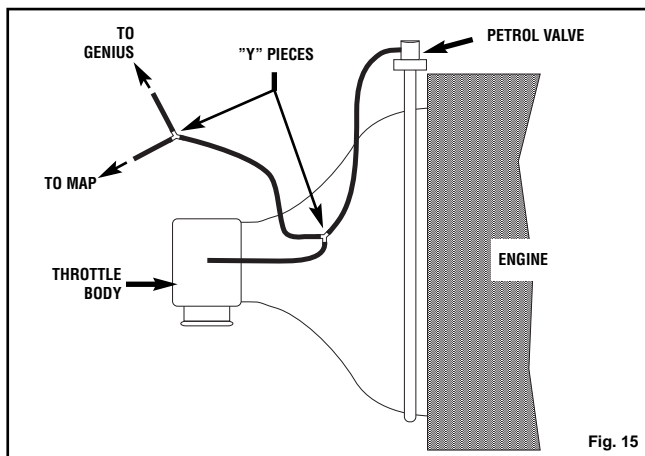


Fig. 15

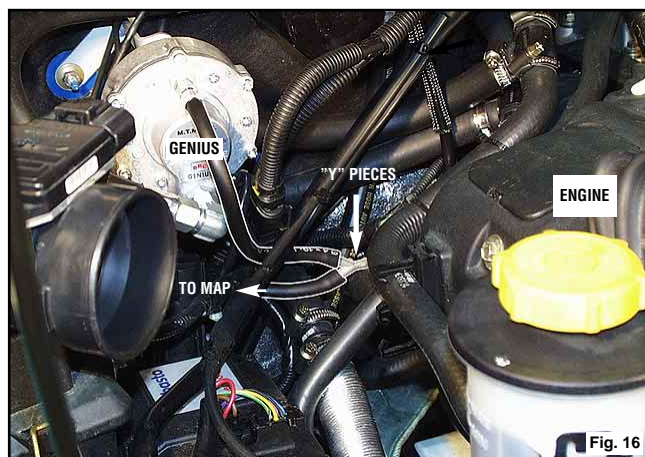


Fig. 16

ously placed on the FJ1 filter.

VACUUM CONNECTIONS

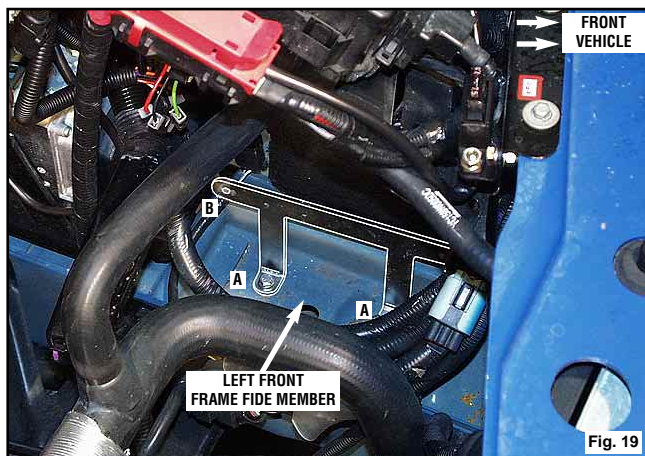
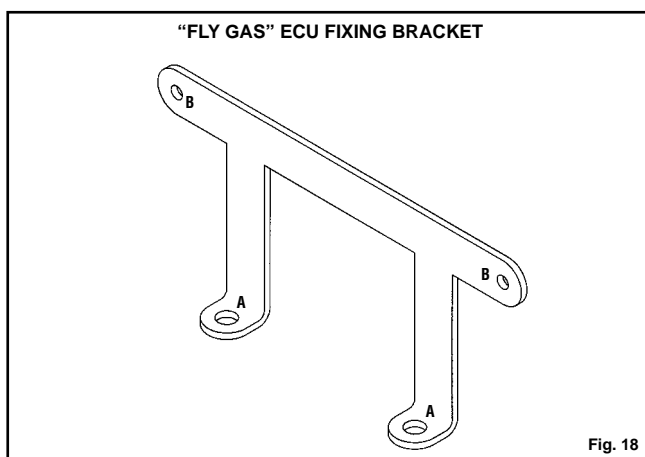
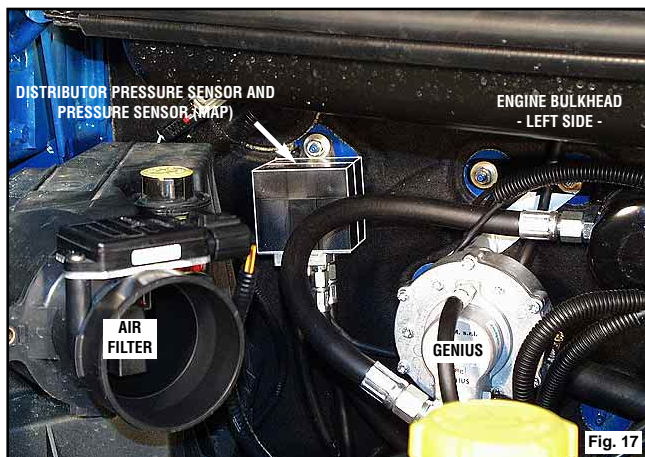
It is necessary to make two vacuum connections, one to be connected to the GENIUS reducer and the other to be connected to the MAP sensor.

The vacuum connection must be made using the "Y" junctions on the original vacuum pipe going from the petrol valve to the manifold (see fig. 15 and 16)

DISTRIBUTOR PRESSURE SENSOR AND MAP SENSOR

Fix in between them the two Sensors and the special fixing plastic tongue. By the dado M6, secure the Sensors to the original stud bolt on the engine bulkhead, at the left of the filter box (fig. 17).

Put back the induction hose as in origin.



ELECTRICAL INSTALLATION

INSTALLATION OF FLY ECU

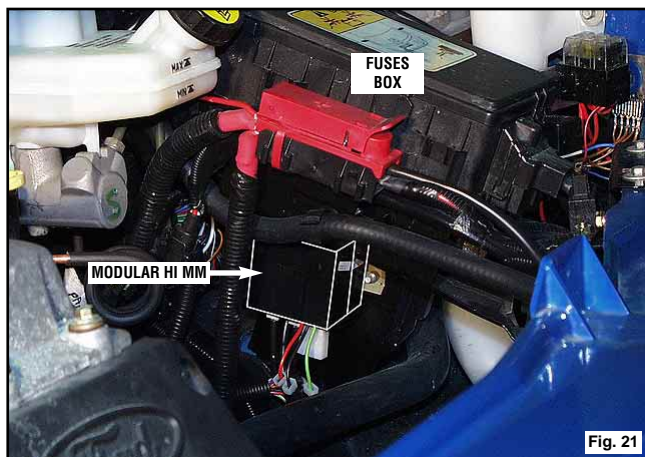
The Fly Gas ECU must be placed on the left front side member, behind the respective headlight. Place the bracket on the side member. Verify that the following ECU installation doesn't affect any part of the car (fig. 19).

By the help of a pen mark the points where holes "A" correspond on the side member.

Remove the bracket and drill two holes by a Ø9 mm bit where marked.

Insert inside the holes the two included threaded rivets. By the holes "A" and screws TE M6x16 fix the bracket to the two rivets previously placed (fig. 19).

Fix the Fly Gas ECU to holes "B" of the bracket using the M5x16 nuts included in the kit (fig. 20).



INSTALLATION MODULAR HI

Fix in the two Modular HI MM and secure them, by the Parker 4,8x16, to the bracket of fuse box.



INSTALLATION OF C/O SWITCH

The changeover switch assembly can be positioned at the installer's discretion, if you choose the position shown in fig. 22, it is necessary to use the switch cut-out tool (code 90AV99000043).

ELECTRICAL CONNECTIONS

At this point, with reference to the specific wiring diagram, carry out the connections both in the engine and passenger compartment, by following the assembly details contained in the operating instructions of the Flying Injection system.

After the installation and the wiring connections, carefully follow the setting and starting procedures described in the operating instructions for the Flying Injection system.



WIRING DIAGRAM LPG FLYING INJECTION
FORD TRANSIT 2.3i 16V
(Engine code: F432D - Euro4)
MULTIPOINT ELECTRONIC INJECTION EEC-V

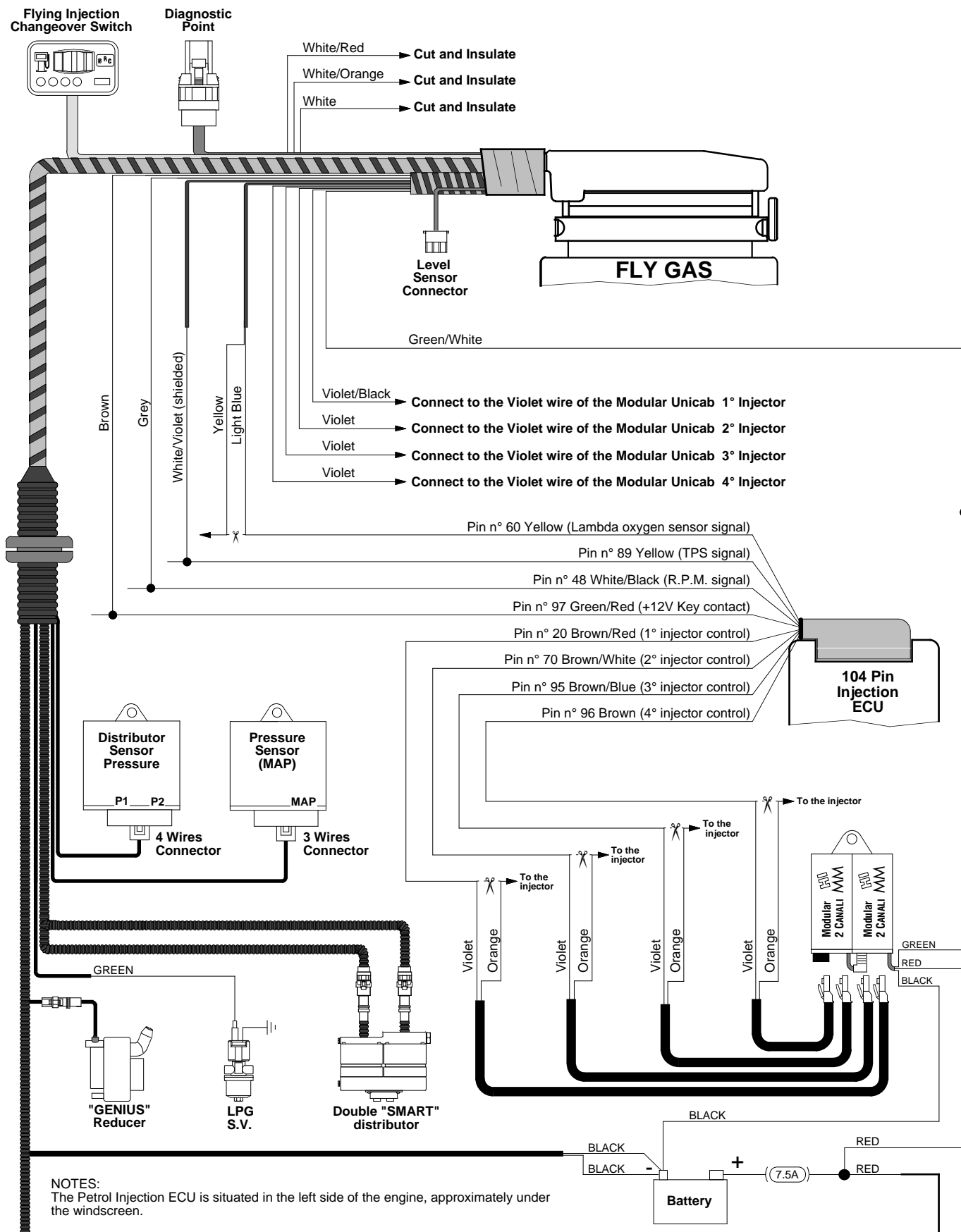
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CAUTION:

Be careful with the cars for which the manufacturer prohibits or advises against disconnecting the battery, not to alter the antitheft devices or automatic adaptivity - Never use welders connected to the battery of the same car - Connect with suitably insulated soft solderings - Position the BRC electrical devices in a well ventilated area, protected from water seepages and heat sources - We recommend to insulate the BRC electronic control unit wires which are not connected - BRC reserves the right to modify this diagram without notice - We also recommend you to be sure to have the last revision of the diagram drawn up by BRC.