Ufficio Progettazione

General Mounting Instructions "BIS" System

1. REDUCER

The reducer has to be installed in vertical position (with the oil-drain plug down) and at least 15cm distance from the exhaust pipe, using the fixing bracket supplied with the kit. Use the two M6 bolts and fix the bracket with the two screws to the chassis. Put the two O-rings on the beginning of the thread of the water pipes, and fix them tight in the reducer. Connect the supplied water tubes with the reducer, using the clamps, and connect them parallel with the car's interior heating circuit. Use the two 16mm T-water connections who have to be fixed with clamps.
Fix the NTC temperature sensor on the reducer, in the M5 hole.

THE PRESSURE OF THE BIS REDUCER IS ALREADY ADJUSTED AT THE FACTORY (0.95-1.0 bar) !!

2. LPG SOLENOID VALVE

It is recommended to install the LPG solenoid valve on the car's body, using the two screws supplied with the kit. Don't mount near to heat sources. Mount in vertical position.

3. INJECTORS

Fix the injectors to the inlet manifold, drilling a hole of 4.8mm (to make the thread M6), as close as possible to the original injectors. Use Loctite to fix them, but we recommend that you first screw the injectors for some threads in the collector, before applying the glue.

4. DISTRIBUTOR

Fix the distributor using the brackets and the M6 bolts, keeping the distance to the injectors as short as possible. Cut the marked (CE R67-01) tube Ø 6.3mm on the needed length, and fix the injectors to the distributor, using the clamps supplied with the kit.

***IMPORTANT**: the tubes have to be as short as possible, without bends!!*

Connect the distributor with the reducer, using the marked (CE R67-01) tubes Ø16mm and clamps supplied with the kit.

5. MAP SENSOR

Mount the MAP sensor with the mounting bracket and the screws on the cars body or on the engine, taking care that the length of the tube does NOT exceed 50cm. Drill a hole of 4.8mm (for the thread M6) in the inlet manifold, as far as possible from the throttle body, in a central place, and use also here Loctite to fix the adapter to the manifold.

6. ECU (Electronic Control Unit)

The ECU can be installed in the engine compartment, not close to heat sources or very wet places. Fix the ECU with the two fixing brackets and the screws and nuts supplied with the kit.

7. EXTRA AIR INLET

The extra air has to be taken *after* the air filter and air-mass metering device, but *before* the throttle body. Use the supplied tube and tie-ribs to connect the extra air inlet of the distributor with the pipe.

8. SWITCH

Install the TULIP switch in the dashboard, drilling a hole of Ø 7.8mm.

***IMPORTANT:** insert the switch in the hole before putting the pins in the connector, taking good care of correspondence of the colors of the wires.*

ELECTRICAL CONNECTIONS "BIS" WIRING HARNESS

The BIS ECU will function with NORMAL (0-1V OR 0-5V) LAMBDA SENSORS !

All connections will have to soldered, assuring always a good isolation and protection of the connections and the wires. All soldered connections have to be isolated with the appropriate tape.

COLOUR		CONNECTION
• RED	(fuse 10A)	+ 12V IGNITION (NOT TEMORIZED)
• RED/BLACK	(fuse 10A)	+ 12V BATTERY
• BROWN		NEGATIVE BATTERY POLE
• BLUE		LPG SOLENOID VALVE AND ALIMENTATION OF MULTIVALVE SOLENOID
• YELLOW / BLUE		THROTTLE POSITION SENSOR (TPS)
• GREY		TEMPERATURE SENSOR ON REDUCER
• BLACK / WHITE		RPM SIGNAL (TACH. OR GNITION COIL)
• WHITE		OXYGEN SENSOR SIGNAL (TO PROBE)
• YELLOW		LAMBDA EMULATION SIGNAL 1 TO CONNECT TO THE ORIGINAL ECU
• BROWN / WHITE		REFERENCE GROUND LAMBDA PROBE (GRAY)
• GREEN / WHITE		LEVEL INDICATOR SIGNAL (0-90 0-95 Ω)
• BLACK		LEVEL INDICATOR EARTH
• BLACK		TEMPERATURE SENSOR EARTH
• BLUE /GREEN		ADDITIONAL INJECTOR EMULATOR COMMAND FOR 6 AND 8 CILINDER VEHICLES
• YELLOW / BLACK		EMULATION SIGNAL 2ND OXYGEN SENSOR (WHEN NEEDED) CALL TULIP-GAS TECHNICIANS FOR ASSISTANCE
• RED / WHITE		SENSITIVE RPM SIGNAL COMMAND (MAX. 3 VOLTS!!!!) CALL TULIP-GAS TECHNICIANS FOR ASSISTANCE!!!!!!
• WHITE / YELLOW		EXTRA OUTPUT COMAND (EGR, VIS ETC..) CALL TULIP-GAS TECHNICIANS FOR ASSISTANCE

INSTALL THE FUSES ONLY AFTER COMPLETING THE INSTALLATION !!

TULIP- GAS DECLINES ALL RESPONSIBILITY FOR ALL DAMAGES TO PERSONS OR GOODS CAUSES BY BAD INSTALLATION OR IMPROPER USE OF IT'S PRODUCTS OR IN CASE OF REPARATIONS BY NOT AUTHORIZED PERSONS. TULIP-GAS CANNOT BE HELD RESPONSIBLE FOR EXCESSIVE WEAR OF VALVES AND VALVE-SEATS; IT RECOMMANDS TO HAVE THE VALVE CLEARANCE ADJUSTED EVERY 10.000 km's