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installation handbook - 1/3 installation typologies - 2/3 software handbook - 3/3



USEFUL REFERENCES

For further information on "SEQUENT" system, it is recommended to refer to the other handbooks and informative documents published by BRC.

Installer's handbook.

It is the easiest way to obtain fundamental, general information regarding the installation of the SEQUENT equipment.

Inside that, it is moreover possible to find:

- knowledge about the working principle and the structure of the system,

- a detailed description of the components which the system is made up,

- indications about the assembly of the mechanical part and electrical connections.

Software handbook.

It is the indispensable guide for who wants to learn managing the system by means of a personal computer, realizing mappings, programming the ECUs, making diagnosys, modifying the working parameters. It describes the working of the "SEQUENT" software, which runs on Personal Computers, by driving the user in the various steps of each function.



Modular Common Rail system for gas





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PRESENTATION

The present handbook results particularly useful to the installer when he decides to convert a vehicle for which BRC has not marketed the specific kits yet.

In this case it is therefore very important that the installer knows how to choose a basic kit and a standard kit suitable to the vehicle that is being converted, depending on the number of its cylinders and their location, the type of engine (aspirated and supercharged) and the power.

As already referred to in Chapter 1 of the Installer's Handbook, we are herebelow reporting for your convenience the GENERAL composition of the basic and the standard kits.

The LPG basic kit contains:

• 1 FLY SF ECU without cartography,

- 1 harness,
- 1 roll of ø 6 or ø 8 copper pipe,
- 16x23 Water pipe

• 1 GENIUS SEQUENT LPG pressure reducer with thermistor gas temperature sensor,

• 1 cartridge filter for gas "FJ1"

• 1 P1 - MAP or P1 - MAP Turbo pressure sensor,

• 1 LPG "ET98 FLY – INJ WP" solenoid valve,

• 1 bag containing screws, nuts and various fittings.

The CNG basic kit contains:

• 1 FLY SF ECU without cartography,

- 1 harness,
- 1 auxiliary harness,
- 1 roll of copper or steel pipe,
- 8x15 Water pipe

- 1 GENIUS SEQUENT CNG pressure reducer with thermistor gas temperature sensor,
- 1 cartridge filter for gas "FJ1",

• 1P1 - MAP CNG 2,5-4 bar pressure sensor,

• 1 VM A3 /E "WP" Classic CNG electro-assisted valve

• 1 gauge with CNG resistive pressure sensor

• 1 bag containing screws, nuts and various fittings.

The standard kit contains:

• 4 (or 3, or 6, depending on the number of cylinders) gas injectors with respective calibrated nozzles,

• 1 injectors connection rail, with fittings attached,

• 10x17 Gas pipe,

• 4x10 Gas pipe to be used on the injectors,

• 4x10 Gas pipe to be used on the pressure points,

• A bag containing: idling nozzle, nylon Y piece, nuts, junctions and "click" clamps for 4x10 and 10x17 gas pipes, "click" clamps for the pressure points, M8x1 cap for any RAIL closure.

It is obvious that both the basic and the standard kits are available in various configurations. In the first case we have devised in fact basic kits, that can have a 800 or 1200 or 1500 mbar Genius reducer, the P1-MAP or P1 Map Turbo sensor, the Normal or Super solenoid valve etc.

In the case of the standard kits we have conceived packagings in which the number of injectors and the shape of the Rail varies depending on the number and the typology of the cylinders of the vehicle, etc.

Listing the complete description of all basic and standard kits devised by BRC will be superfluous and prolix. But, in the following mechanical diagrams, referring to the type of vehicle to be converted, we indicate the necessary basic and standard kits, inside which the installer will find the suitable and essential products for the conversion.

For the general electrical connections it will be sufficient to follow the wiring diagrams indicated on each mechanical diagram.

Please remark that the representation of the products on the mechanical diagrams is purely indicative. The main products present inside the standard kits are distinguishable by GREY colour, while the main products present inside the basic kits are distinguishable with WHITE colour.



LPG SEQUENT MECHANICAL DIAGRAM LPG ON VEHICLES WITH 3-CYLINDER

Vehicle Type	Standard Kit	Basic Kit	Electrical Diagram
3 Cylinders Aspirated	09SQ00001003	09SQ00000001 Genius 800 mbar Normal Solenoid Valve P1-MAP Sensor	T.I. 01 LPG
3 Cylinders Supercharged	09SQ00001003	09SQ00000014 Genius 800 mbar Normal Solenoid Valve P1-MAP Turbo Sensor	T.I. 01 LPG







LPG SEQUENT MECHANICAL DIAGRAM LPG ON VEHICLES WITH 4-CYLINDER

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Vehicle Type	Standard Kit	Basic Kit	Electrical Diagram	
4 Cylinders Aspirated power lower or equal to 60 kW	09SQ00001007	09SQ00000003 Genius 1200 mbar Normal Solenoid Valve P1-MAP Sensor	T.I. 02 LPG	
4 Cylinders Aspirated power included between 60 kW and 100 kW	09SQ00001008	09SQ0000003 Genius 1200 mbar Normal Solenoid Valve P1-MAP Sensor	T.I. 02 LPG	
4 Cylinders Aspirated power included between 100 kW and 140 kW	09SQ00001008	09SQ00000006 Genius 1500 mbar Super Solenoid Valve P1-MAP Sensor	T.I. 02 LPG	
4 Cylinders Supercharged power lower than 140 kW	09SQ00001008	09SQ00000005 Genius 1500 mbar Super Solenoid Valve P1-MAP Turbo Sensor	T.I. 02 LPG	





LPG SEQUENT MECHANICAL DIAGRAM LPG ON VEHICLES WITH 4-CYLINDER BOXER

Vehicle Type	Standard Kit	Basic Kit	Electrical Diagram
4 Cylinders Boxer Aspirated power lower than 100 kW	09SQ00001002	09SQ00000003 Genius 1200 mbar Normal Solenoid Valve P1-MAP Sensor	T.I. 04 LPG
4 Cylinders Boxer Aspirated power included between 100 kW and 140 kW	09SQ00001002	09SQ00000006 Genius 1500 mbar Super Solenoid Valve P1-MAP Sensor	T.I. 04 LPG
4 Cylinders Supercharged	09SQ00001002	09SQ00000005 Genius 1500 mbar Super Solenoid Valve P1-MAP Turbo Sensor	T.I. 04 LPG







LPG SEQUENT MECHANICAL DIAGRAM ON VEHICLES WITH 5-CYLINDER WITH POWER HIGHER OR EQUAL TO 140 kW

Vehicle Type	Standard Kit	Basic Kit	Electrical Diagram
5 Cylinders Aspirated power higher or equal to 140 kW	09SQ00001012	09SQ00000011 n° 2 Genius 1500 mbar n° 2 Normal Solenoid Valve n° 2 P1-MAP Sensor	T.I. 06 LPG
5 Cylinders Supercharged power higher or equal to 140 kW	09SQ00001012	09SQ0000013 n° 2 Genius 1500 mbar n° 2 Super Solenoid Valve n° 2 P1-MAP Turbo Sensor	T.I. 06 LPG



Notes:

- With this typology of mechanical diagram, it is not necessary to use one of the P1-MAP sensors present inside the basic kit code 09SQ00000011 or one of the P1-MAP Turbo sensors present inside the basic kit code 09SQ00000013.







LPG SEQUENT MECHANICAL DIAGRAM ON VEHICLES WITH 6-CYLINDER WITH POWER HIGHER OR EQUAL TO 140 kW

Vehicle Type	Standard Kit	Basic Kit	Electrical Diagram
6 Cylinders Aspirated power higher or equal to 140 kW	09SQ00001013	09SQ00000011 n° 2 Genius 1500 mbar n° 2 Normal Solenoid Valve n° 2 P1-MAP Sensor	T.I. 08 LPG
6 Cylinders Supercharged power higher or equal to 140 kW	09SQ00001013	09SQ00000013 n° 2 Genius 1500 mbar n° 2 Super Solenoid Valve n° 2 P1-MAP Turbo Sensor	T.I. 08 LPG



Notes:

- With this typology of mechanical diagram, it is not necessary to use one of the P1-MAP sensors present inside the basic kit code 09SQ00000011 or one of the P1-MAP Turbo sensors present inside the basic kit code 09SQ00000013.





LPG SEQUENT MECHANICAL DIAGRAM ON VEHICLES WITH 6-CYLINDER "V-shaped" WITH POWER LOWER THAN 140 kW

Vehicle Type	Standard Kit	Basic Kit	Electrical Diagram
6 Cylinders "V-shaped" Aspirated power lower than 140 kW	09SQ00001006	09SQ00000008 Genius 1500 mbar Super Solenoid Valve P1-MAP Sensor	T.I. 09 LPG
6 Cilinders "V-shaped" Supercharged power lower than 140 kW	09SQ00001006	09SQ00000010 Genius 1500 mbar Super Solenoid Valve P1-MAP Turbo Sensor	T.I. 09 LPG







LPG SEQUENT MECHANICAL DIAGRAM M.D. 10 ON VEHICLES WITH 6-CYLINDER "V-shaped" LPG WITH POWER HIGHER OR EQUAL TO 140 kW

Vehicle Type	Standard Kit	Basic Kit	Electrical Diagram
6 Cylinders "V-shaped" Aspirated power higher or equal to 140 kW	09SQ00001006	09SQ00000011 n° 2 Genius 1500 mbar n° 2 Normal Solenoid Valve n° 2 P1-MAP Sensor	T.I. 10 LPG
6 Cylinders "V-shaped" Supercharged power higher or equal to 140 kW	09SQ00001006	09SQ0000013 n° 2 Genius 1500 mbar n° 2 Super Solenoid Valve n° 2 P1-MAP Turbo Sensor	T.I. 10 LPG





FLY SF



LPG SEQUENT MECHANICAL DIAGRAM M.D. 11 ON VEHICLES WITH 8-CYLINDER "V-shaped" LPG WITH POWER LOWER THAN 140 kW

Vehicle Type	Standard Kit	Basic Kit	Electrical Diagram
8 Cylinders "V-shaped" Aspirated power lower than 140 kW	09SQ00001010	09SQ000000016 Genius 1500 mbar Super Solenoid Valve P1-MAP Sensor	T.I. 11 LPG
8 Cylinders "V-shaped" Supercharged power lower than 140 kW	09SQ00001010	09SQ00000017 Genius 1500 mbar Super Solenoid Valve P1-MAP Turbo Sensor	T.I. 11 LPG







LPG SEQUENT WIRING DIAGRAM M.D. 12 ON VEHICLES WITH 8-CYLINDER "V-shaped" LPG WITH POWER HIGHER OR EQUAL TO 140 kW

Vehicle Type	Standard Kit	Basic Kit	Electrical Diagram
8 Cylinders "V-shaped" Aspirated power higher or equal to 140 kW	09SQ00001010	09SQ00000018 n° 2 Genius 1500 mbar n° 2 Normal Solenoid Valve n° 2 P1-MAP Sensor	T.I. 12 LPG
8 Cylinders "V-shaped" Supercharged power higher or equal to 140 kW	09SQ00001010	09SQ0000019 n° 2 Genius 1500 mbar n° 2 Super Solenoid Valve n° 2 P1-MAP Turbo Sensor	T.I. 12 LPG











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.







LPG SEQUENT WIRING DIAGRAM FOR VEHICLES WITH ASPIRATED OR SUPERCHARGED ENGINE

5-CYLINDER WITH POWER HIGHER OR EQUAL TO 140 kW





LPG SEQUENT WIRING DIAGRAM FOR VEHICLES WITH ASPIRATED OR SUPERCHARGED ENGINE

6 STRAIGHT CYLINDER BANK WITH POWER LOWER THAN 140 kW





LPG SEQUENT WIRING DIAGRAM

FOR VEHICLES WITH ASPIRATED OR SUPERCHARGED ENGINE 6 STRAI-

GHT CYLINDER BANK WITH POWER HIGHER OR EQUAL TO 140 kW





LPG SEQUENT WIRING DIAGRAM FOR VEHICLES WITH ASPIRATED OR SUPERCHARGED ENGINE 6-CYLINDER "V-SHAPED" WITH POWER LOWER THAN 140 kW





LPG SEQUENT WIRING DIAGRAM FOR VEHICLES WITH ASPIRATED OR SUPERCHARGED ENGINE 6-CYLINDER "V-SHAPED" WITH POWER HIGHER OR EQUAL TO 140 kW





LPG SEQUENT WIRING DIAGRAM FOR VEHICLES WITH ASPIRATED OR SUPERCHARGED ENGINE 8-CYLINDER "V-SHAPED" WITH POWER LOWER THAN 140 kW





LPG SEQUENT WIRING DIAGRAM FOR VEHICLES WITH ASPIRATED OR SUPERCHARGED ENGINE 8-CYLINDER "V-SHAPED" WITH POWER HIGHER OR EQUAL TO 140 kW







CNG SEQUENT MECHANICAL DIAGRAM CNG ON VEHICLES WITH 4-CYLINDER

Vehicle Type	Standard Kit	Basic Kit	Electrical Diagram
4 Cylinders Aspirated power lower or equal to 60 kW	09SQ00001007	09SM0000004 or 09SM0000054 or Genius.M 2500 mbar "VM A3-E" CNG Valve P1-MAP 2,5-4 bar Sensor	T.I. 02 CNG
4 Cylinders Aspirated or Supercharged power included between 60 kW and 90 kW	09SQ00001008	09SM0000004 or 09SM0000054 or Genius.M 2500 mbar "VM A3-E" CNG Valve P1-MAP 2,5-4 bar Sensor	T.I. 02 CNG
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Notes:

- The kit **09SM0000004** contains the ø 6x4 covered copper pipe.

- The kit 09SM0000054 contains the ø 6x4 covered steel pipe.

- The CNG refuelling point or the shutter (code PR904803) indicated in the figure by a dashed line are sold separately.

FLY SF







CNG SEQUENT WIRING DIAGRAM FOR VEHICLES WITH ASPIRATED OR SUPERCHARGED ENGINE 4-CYLINDER WITH POWER HIGHER OR EQUAL TO 90 kW



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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.



CNG SEQUENT WIRING DIAGRAM FOR VEHICLES WITH ASPIRATED OR SUPERCHARGED BOXER ENGINE 4-CYLINDER WITH POWER HIGHER OR EQUAL TO 90 kW



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.



OTHER POSSIBLE TYPOLOGIES OF CONNECTION REFERRED TO THE LPG SEQUENT WIRING DIAGRAMS





OTHER POSSIBLE TYPOLOGIES OF CONNECTION REFERRED TO THE LPG SEQUENT WIRING DIAGRAMS



