HDi®

HDi SUPER BOOST CONTROLLER - TYPE D

Please read these instructions carefully before installing or using the device. Thank you very much.

HYBRID DEVELOPMENT INTERNATIONAL is proud to introduce
HDi SBC - D
HDi SUPER BOOST CONTROLLER - TYPE D

Features of our all new, dual function, **HDi SBC - D** electronic turbo boost controller:

◤High precision temperature compensated pressure sensor provides the precision pressure reference for your turbo boost control function.
◤Unique closed loop boost regulating program, the boost fluctuation is minimised once the desired boost level is reached.
◤Anti lag program minimises turbo spooling time so that fast, sharp acceleration is achieved while maintaining your ideal regulated boost level.
◤Optional **HDi i-DRIVER for** activating the built-in intelligent turbo timer that automatically calculates the time needed to cool down your engine.

These functions are monitored and controlled by a high-speed micro-processor that can perform 4,000,000 instructions per second. At the push of a button, you can instantly select either normal boost or high boost. An optional switch also may be added which allows the device to operate in a high octane mode (race mode) that increases the overall boost by 10% if racing fuel is used!

Our rigid aluminium casing ensures that the **HDi SBC - D** is strong enough for the toughest racing condition. All of our cases are designed to match each other for the addition of our other tuning devices, which allows you to design your own personal in car tuning station or combinations of controllers.

With its high quality black chrome front panel and cold blue light, our **HDi SBC - D** is cool enough to fit right in with your sound and other in-dash systems.

At **HYBRID DEVELOPMENT INTERNATIONAL**, we pursue the utmost engine efficiency by spending enormous time on research and development. Our global partners, resources, technical and purchase teams ensure our entire line of products will be the most efficient, effective and cost competitive products on the market. We believe this intensive research and development will be your best guarantee for reliability and top performance.

FEATURING

◤In-cabin boost adjustment
◤Full time closed loop boost regulation
◤Fast target boost locking
◤Minimise turbo spooling time
◤Dual boost adjustment
◤Over boost function
◤120psi pressure balanced solenoid
◤Detailed installation instructions
◤Microprocessor controlled
◤Rigid aluminium casing
◤High quality front panel
◤Three setting can be selected
◤Optional full automatic turbo timer
◤Optional CO2 spray controller
◤Optional boost waning system
◤Optional water spray controller
◤Optional boost gauge controller

⚠ WARNING

⚠ Although Installation of this product is designed to be simple we do recommend the installation be carried out by our dealer with a qualified automotive technician.

⚠ Disconnect the vehicle negative battery cable before and during this installation. Observe all routine safety precautions when working on or near the vehicle battery.

⚠ Do not install the controller that interfere the driver in any way.

⚠ Avoid contacts between all metal objects and the wires. Short circuit will cause severe damage to the vehicle and to the unit it self.

⚠ Do not over adjust the boost lever over the vehicle's safety limit, doing so will harm or damage to the vehicle.

⚠ **HYBRID DEVELOPMENT INTERNATIONAL (HDi)** is not responsible for any engine damage caused by over boost or improper installation or operation.

⚠ Never set the **HDi SBC - D** when driving nor adjusting it in the highway or public road doing so is dangerous to yourself and to others be sure adjust it or set it on a Dynamometer.

⚠ Make sure adequate air ventilation is equipped during the indoor installation.

⚠ Remove any of the tools used after the installation.

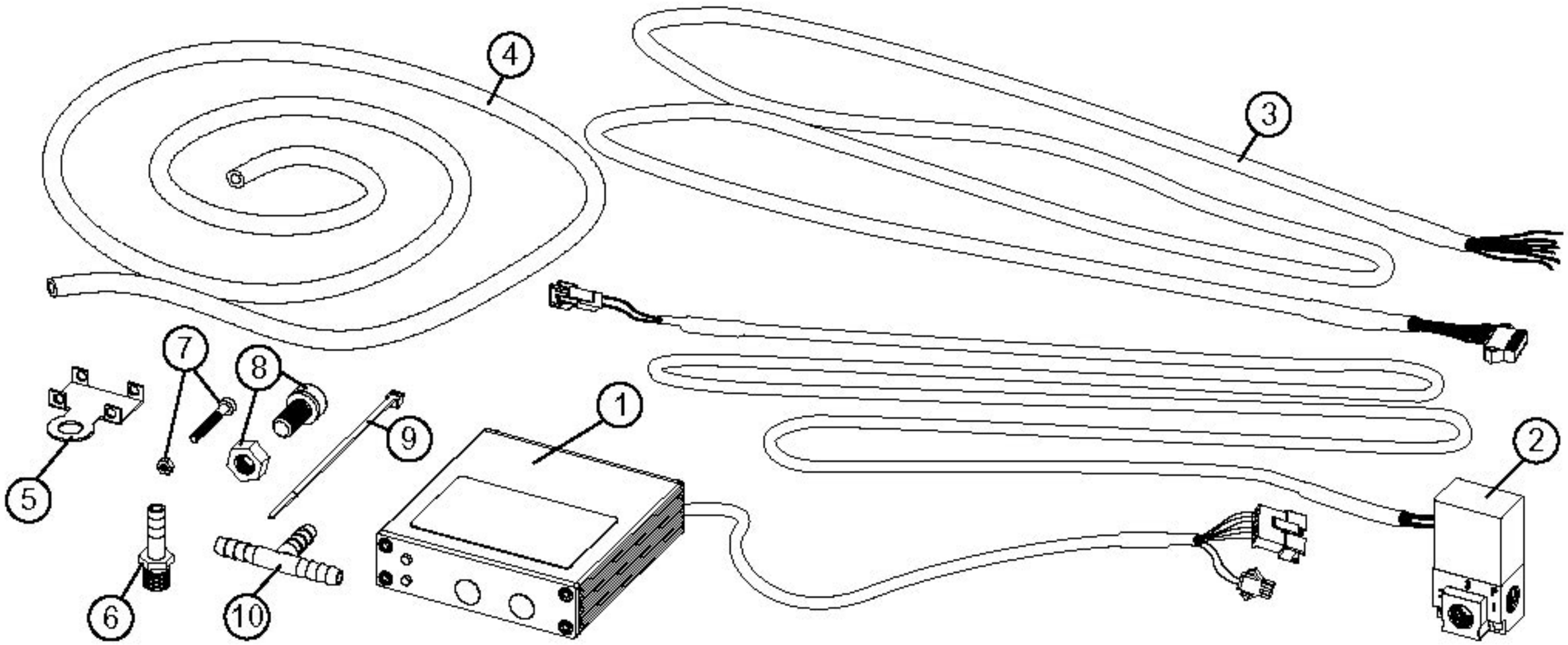
⚠ All electronic controller units are to be used in cabin do not install it in the engine bay.

IMPORTANT

HDi's product is design for racing and off-road vehicle only not for public road.
Please read through all the instruction and practice all precaution in all aspect of safety and every step prior and during the installation. This installation menu is purely for **HDi SBC - D** and is used as guide only. As different vehicles in different countries may have different specifications and engine arrangement. Therefore, it is important to make sure the connection is properly done by authorised person and dealer.

During the installation of this product, wear eye goggles and other safety apparel as needed to protect yourselves from the dirt and other sharp objects.
Make sure the vehicle is supported by jack stands on a hard, level surface. Set the vehicle parking brake If the vehicle must be risen to obtain the undercarriage access and use wheel chocks as necessary.

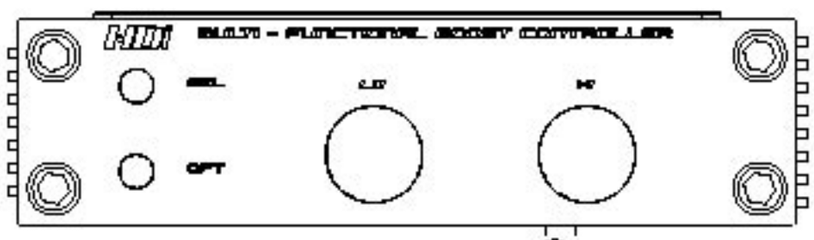
PARTS LIST



NO.	DESCRIPTION	QUANTITY
1.	**HDi** SUPER BOOST CONTROLLER TYPE - D MAIN UNIT	1
2.	**HDi** SOLENOID	1
3.	MAIN HARNESS	1
4.	VACUUM HOSE ID 4MM OD 7MM	1
5.	**HDi** ORIGINAL SOLENOID BRACKET	1
6.	VACUUM HOSE FITTING	2
7.	M3 NUT AND BOLT	2
8.	M8 NUT AND BOLT	1
9.	ZIP TIGHT	5
10.	T - PIECE	1

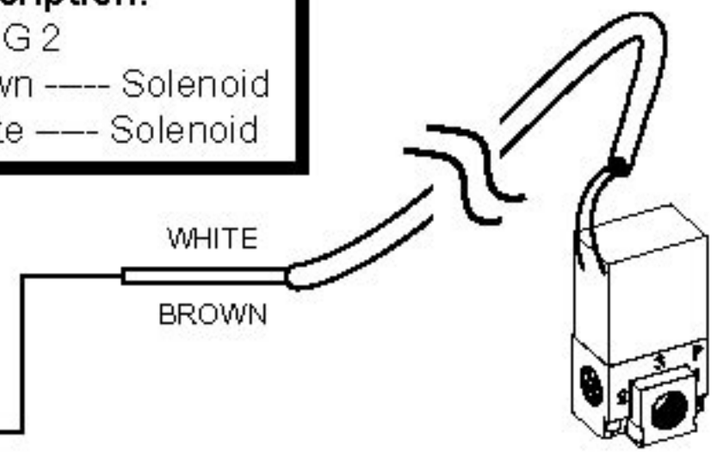
HDi SBC - D WIRING PROCEDURE

Connect the red wire to the battery +
Connect the orange wire to **HDi BOOST GAUGE** (optional! for CO2 spray, water spray or other pressure controlled function)
Connect the blue wire to the ignition +
Connect the green wire to earth
Connect the purple wire with to **HDi i - DRIVER** (optional! for full automatic turbo timer)
Connect the grey wire to a mode selection switch (An optional switch can be purchased from our authorised dealer for the switch over to high octane mode, in this mode all overall preset boost level will be increased by about 10 %)



PLUG 1

PLUG 2



Description:
PLUG 2
Brown ---- Solenoid
White ---- Solenoid

WHITE
BROWN

ORANGE | GREEN | RED | BLUE | GREY | PURPLE

B+ IGNITION +

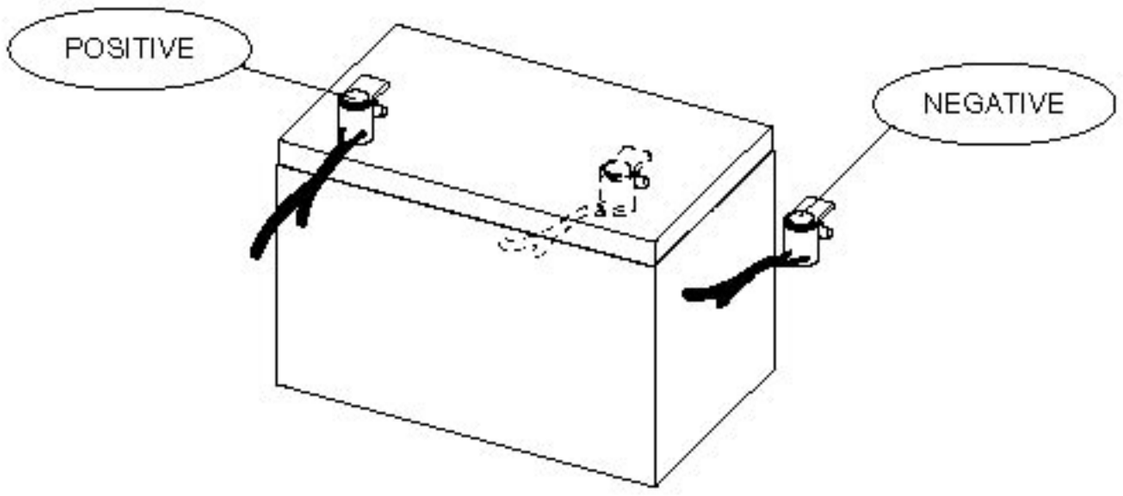
Optional
HDi BOOST GAUGE
CO2 spray, water spray or other pressure controlled function

Description:
PLUG 1
Red ---- Battery
Orange ---- Pressure signal out
Blue ---- Ignition +
Green ---- Earth
Purple ---- Turbo timer trigger
Grey ---- Optional (High octane mode switch)

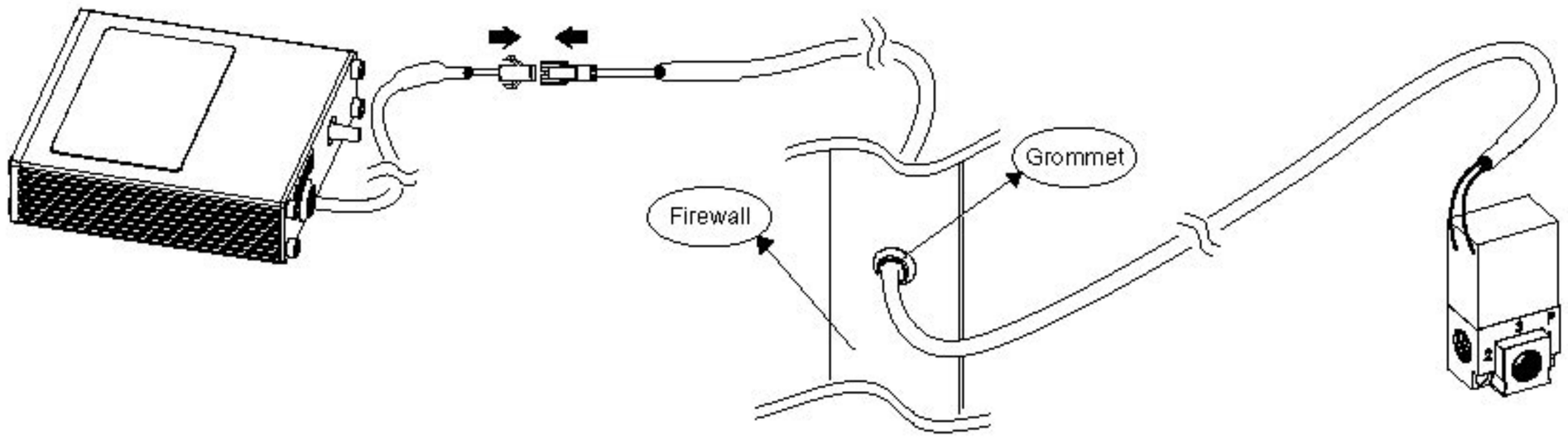
Optional
High octane mode switch

Optional
Full automatic turbo timer

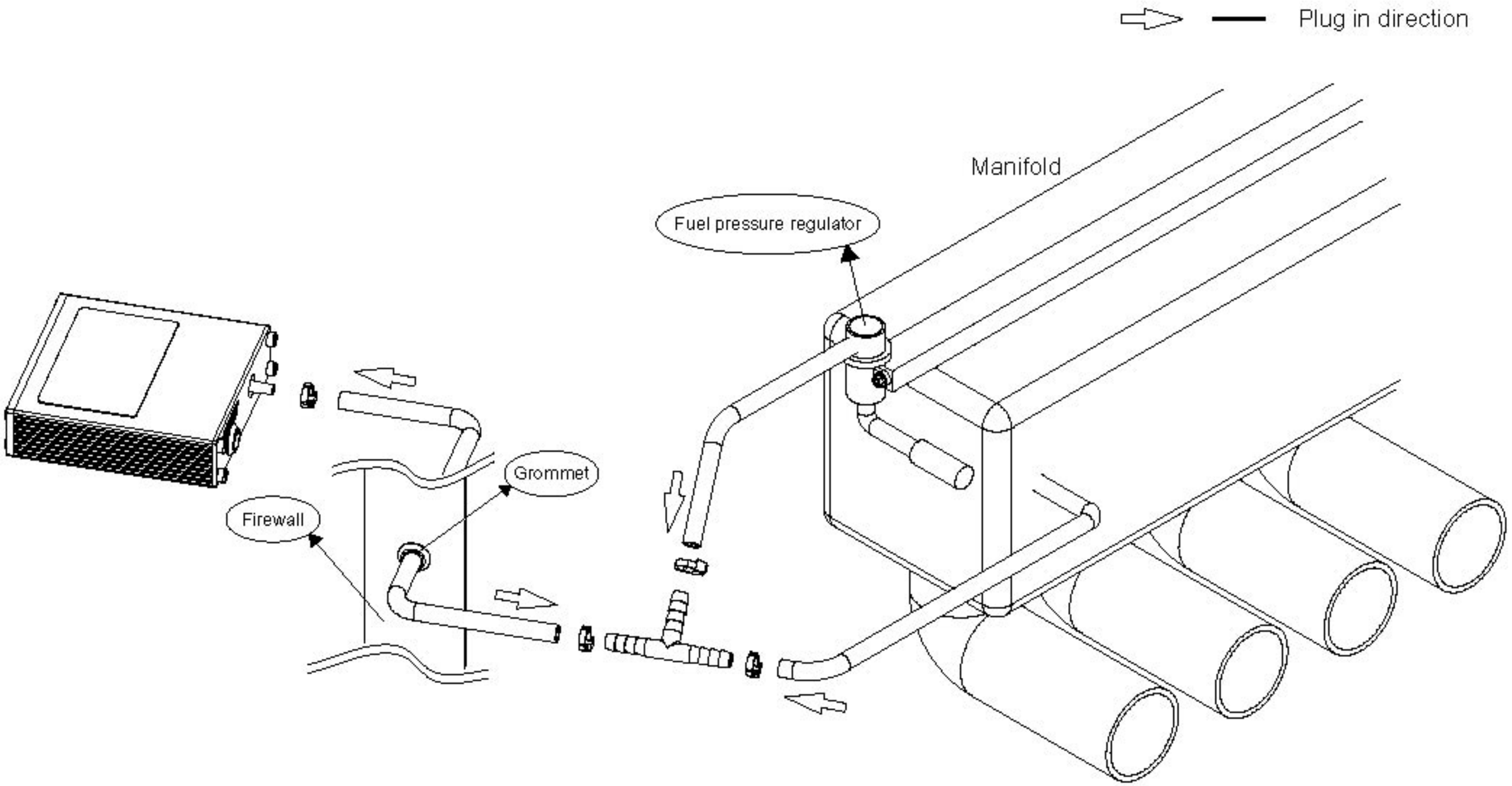
DISCONNECT THE BATTERY NEGATIVE TERMINAL



CONNECT THE SOLENOID VALVE harness

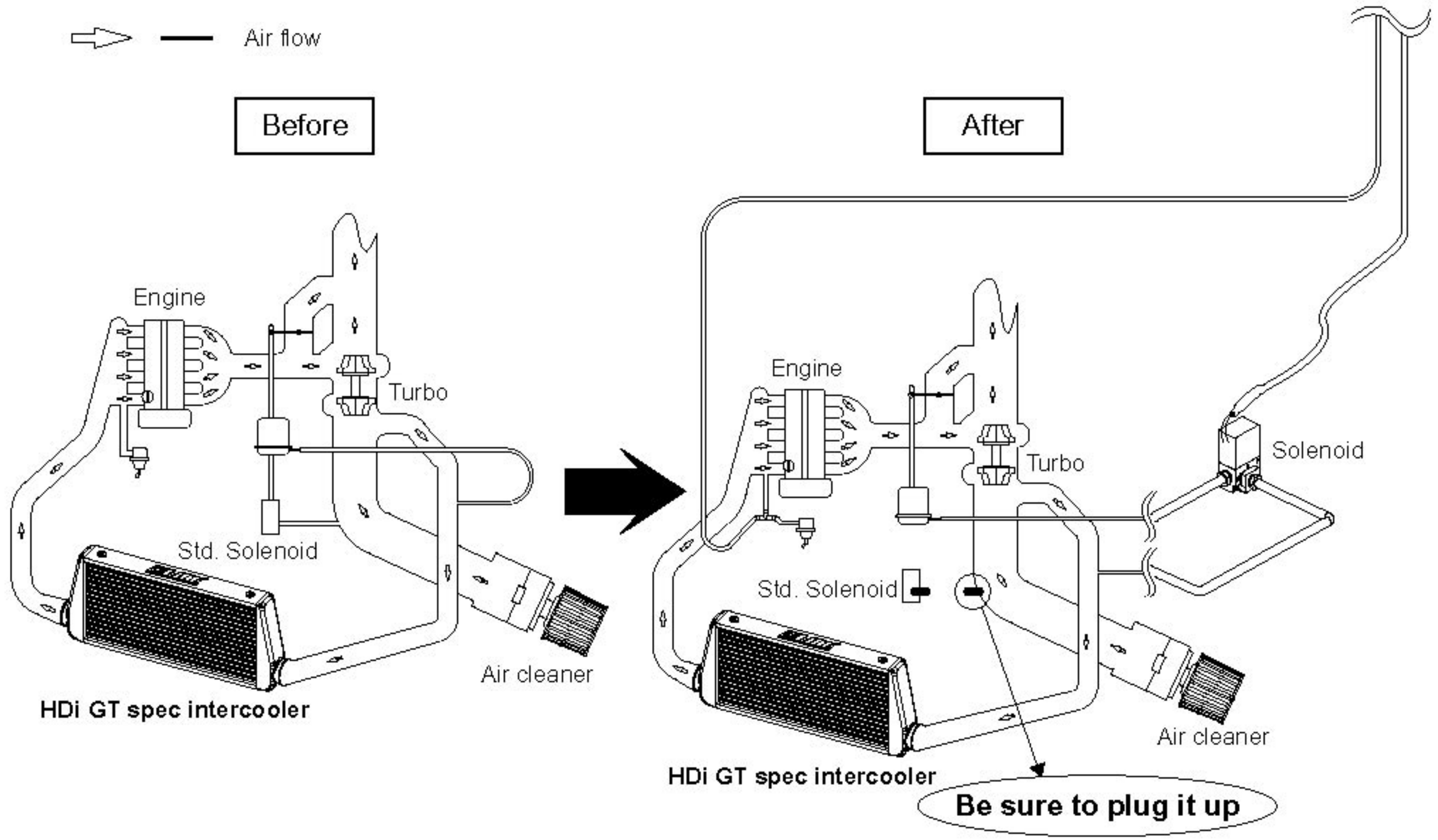


CONNECTING VACUUM SOURCE



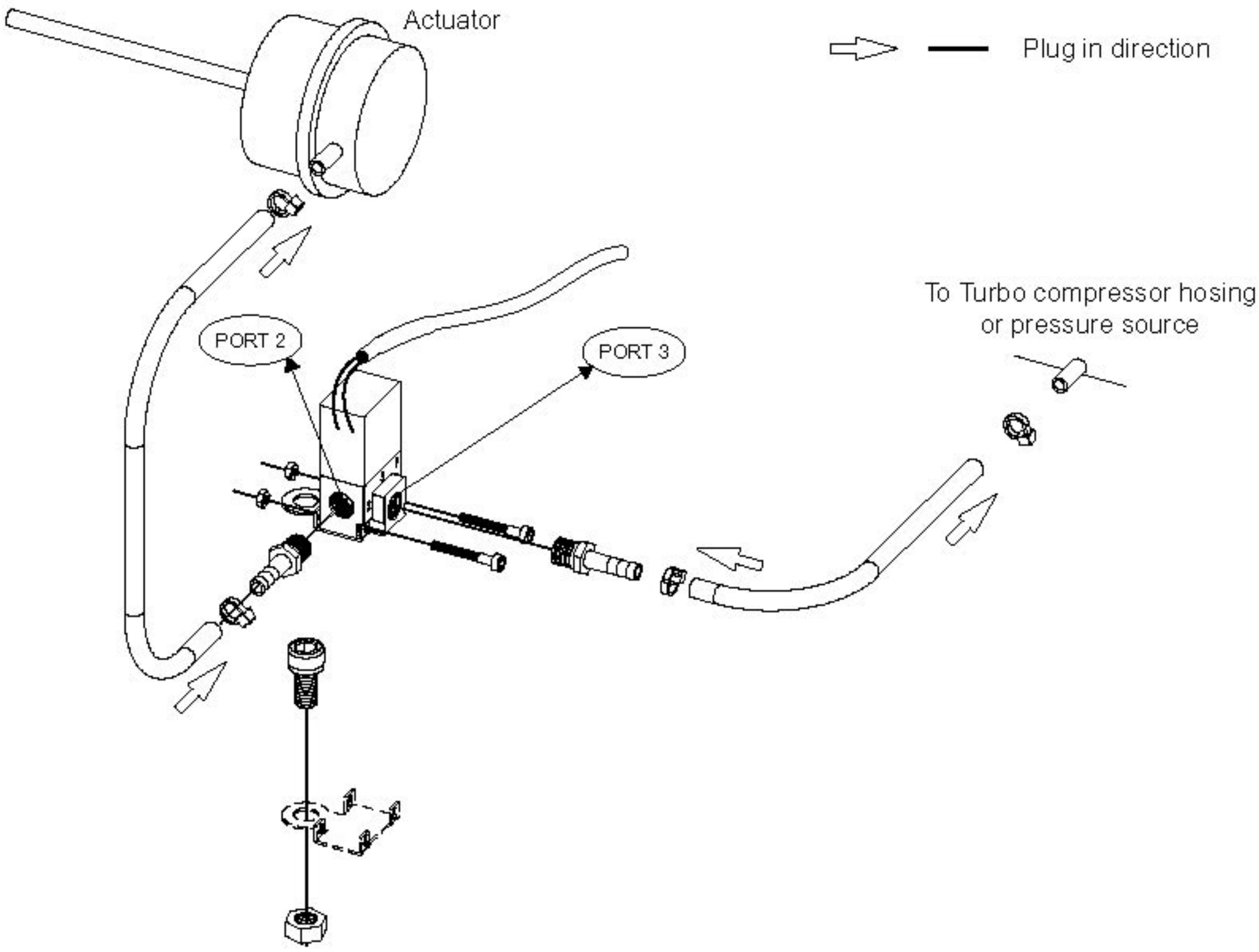
1. Locate a suitable pressure signal or source (best from the intake manifold chamber) cut the standard vehicle vacuum line and connect the supplied T-piece.
2. Install the supplied vacuum hose to the T - piece and find a proper location to run the vacuum hose and the solenoid valve's harness through the fire wall. Make sure a grommet is used if you have to drill a hole through the firewall.
3. Connect it to the **HDi SBC - D** pressure port and zip tight it so it won't slip out easily.

CONNECTING SOLENOID



4. Discontinue the standard factories boost controlling solenoid. Plug them up and follow the diagram and install it accordingly.

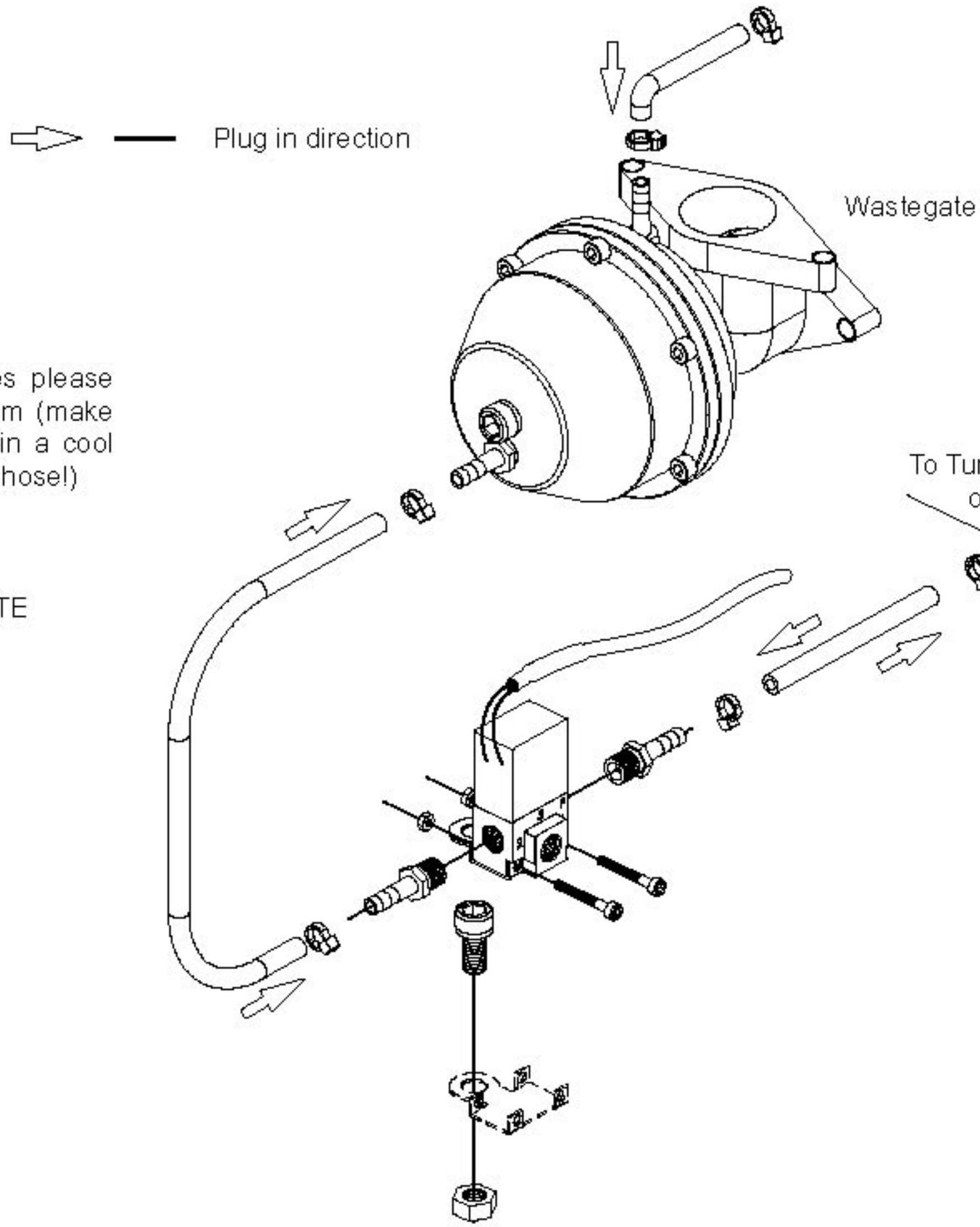
ACTUATOR WASTEGATE SOLENOID CONNECTION



5. For an actuator type wastegate please see the detailed instruction (DO NOT BLOCK THE UNUSED PORT ON THE SOLENOID!)

SOLENOID INSTALLATION
PORT 1: UNUSED
PORT 2: WASTEGATE ACTUATOR
PORT 3: INTAKE MANIFOLD

EXTERNAL WASTEGATE SOLENOID CONNECTION

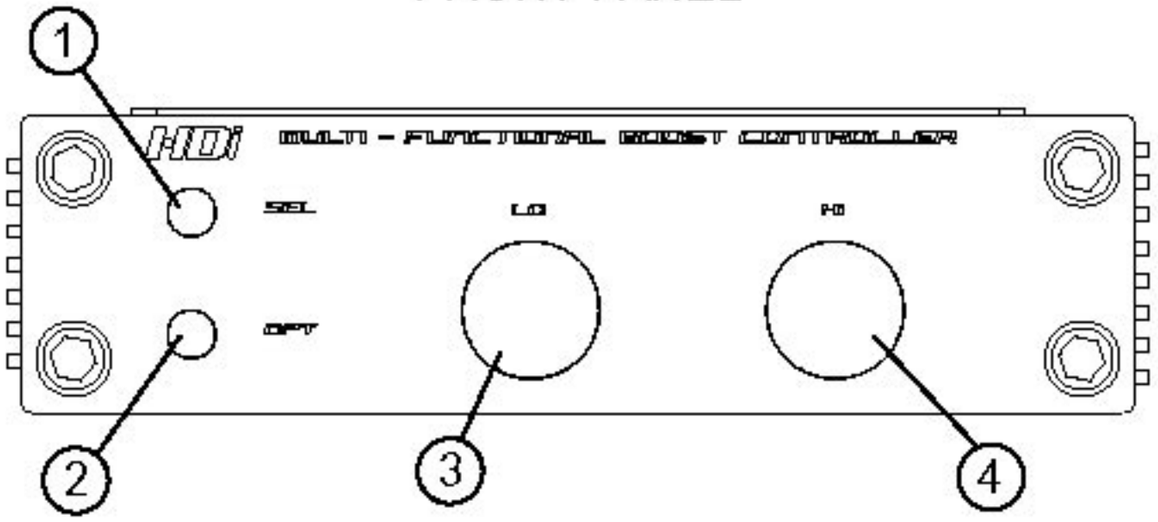


6. For an external wastegate types please use the arrangement as the diagram (make sure to locate the boost solenoid in a cool area that CAN run shortest vacuum hose!)

SOLENOID INSTALLATION
PORT 1: INTAKE MANIFOLD
PORT 2: EXTERNAL WASTEGATE
PORT 3: UNUSED

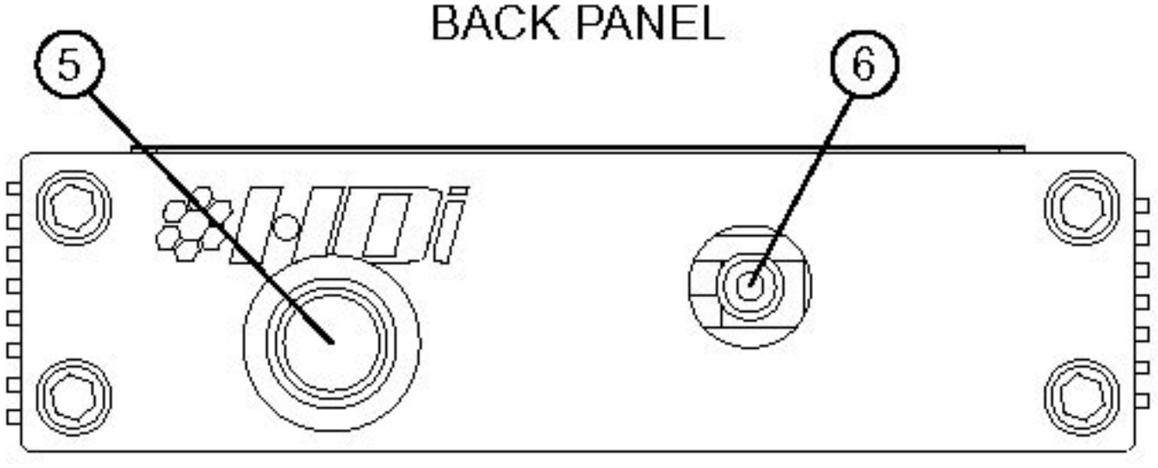
DESCRIPTION

FRONT PANEL



FRONT PANEL FUNCTIONS:
1. SEL ----- SELECT FROM HIGH BOOST/LOW BOOST
2. OPT ----- OPTIONAL FUNCTION ON/OFF
3. LO ----- LOW BOOST ADJUSTMENT
4. HI ----- HIGH BOOST ADJUSTMENT

BACK PANEL

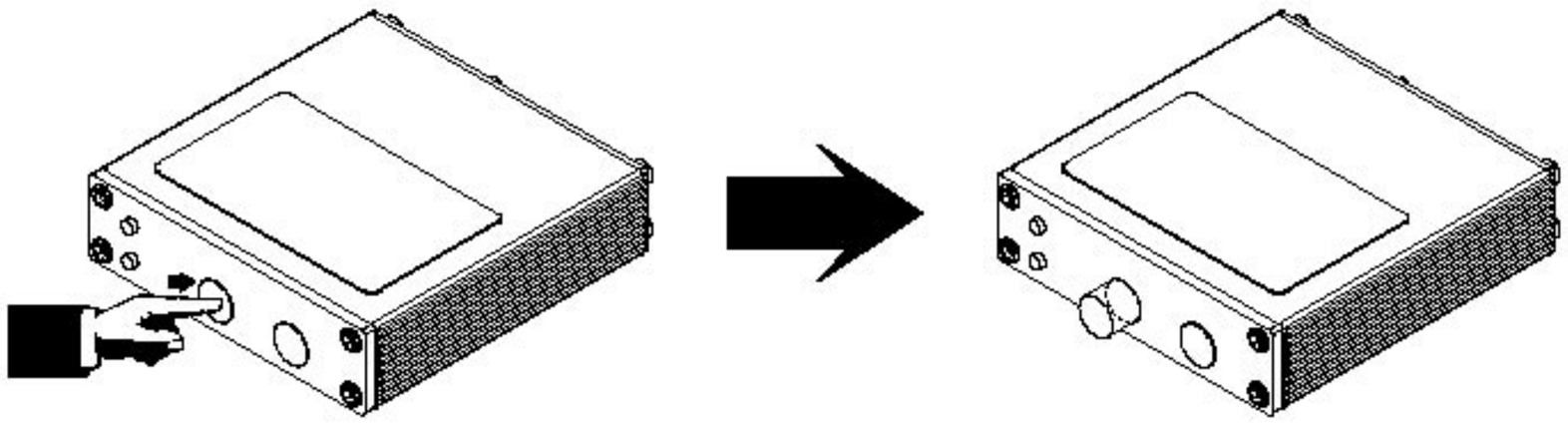


BACK PANEL FUNCTIONS:
5. BOOST CONTROLLER HARNESS
6. VACUUM / PRESSURE IN

SETTING UP THE BOOST CONTROLLER

The best way to set up the **HDi SBC-D** is in the dynamometer machine.

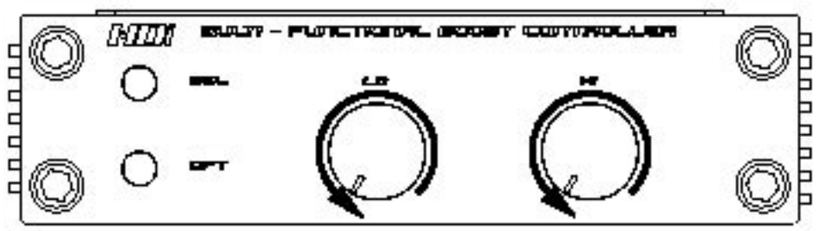
1. Push the adjustment knob so it is extended for adjustment.



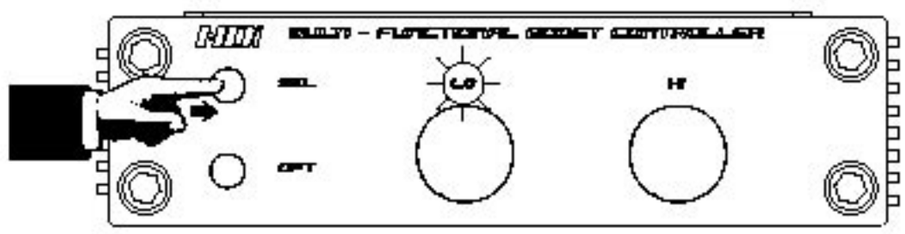
Before

After

2. Turn all adjustment knobs counter clockwise fully.

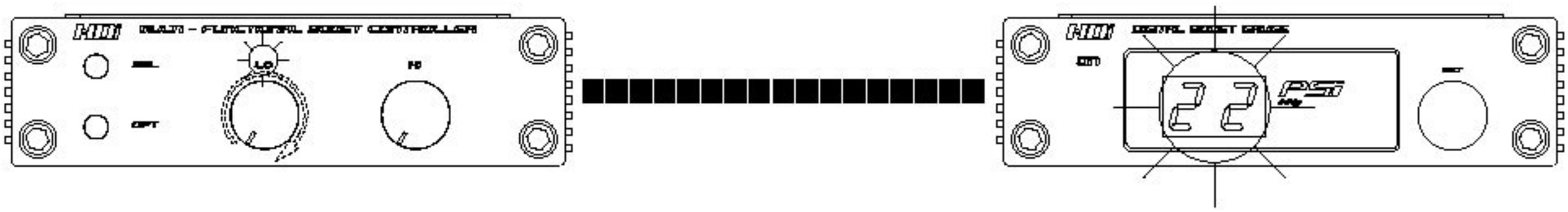


3. Press the select (SEL) button to select the mode that need to be set up The HI, LO indicator will tell you which adjustment knob that correspondent to the mode that you are operating.

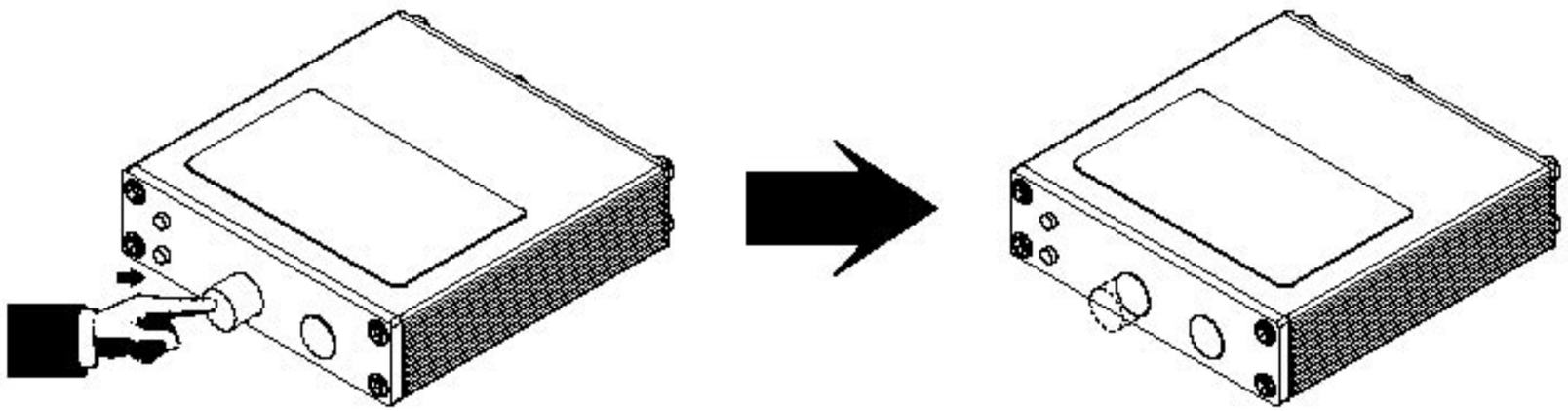


SETTING UP THE BOOST CONTROLLER

4. On the dynamometer, drive the car and load the car up until the boost is built up steady.
5. Turn the adjustment knob clockwise slowly. You will see the boost is slowly increasing (An optional **HDi BOOST GAUGE** can be purchased from your dealers) stop when you reached the desire boost level.



6. Push the knob again to retract it.



Before

After

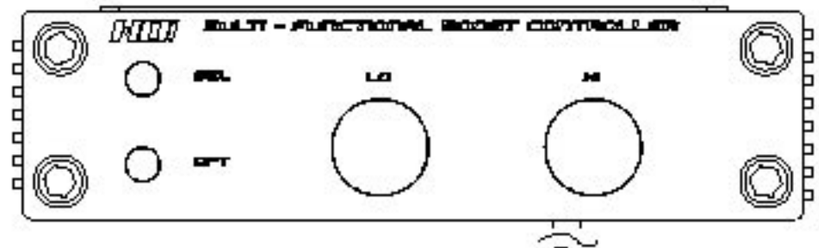
7. Repeat the above steps for the second setting.

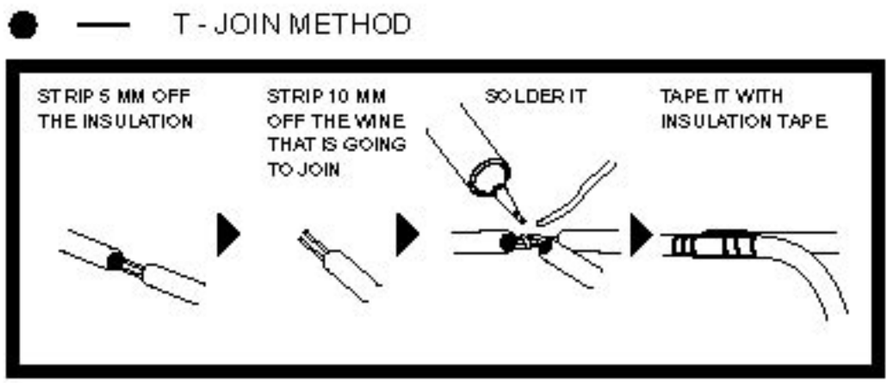
AUTOMATIC TURBO TIME FUNCTION (OPTIONAL)

The **HDi SBC - D** built in an intelligent turbo timer function, to activate the turbo timer function an optional **HDi i - DRIVER** is needed. Please contact your local dealer for the optional parts

The below is the configuring the **HDi i - DRIVER** as the turbo timer

Red -------- Battery +
Black ------ Earth
Purple ----- Turbo timer trigger (from **HDi SBC - D**)
Blue -------- Ignition
Green ------ Ignition 2 (optional)

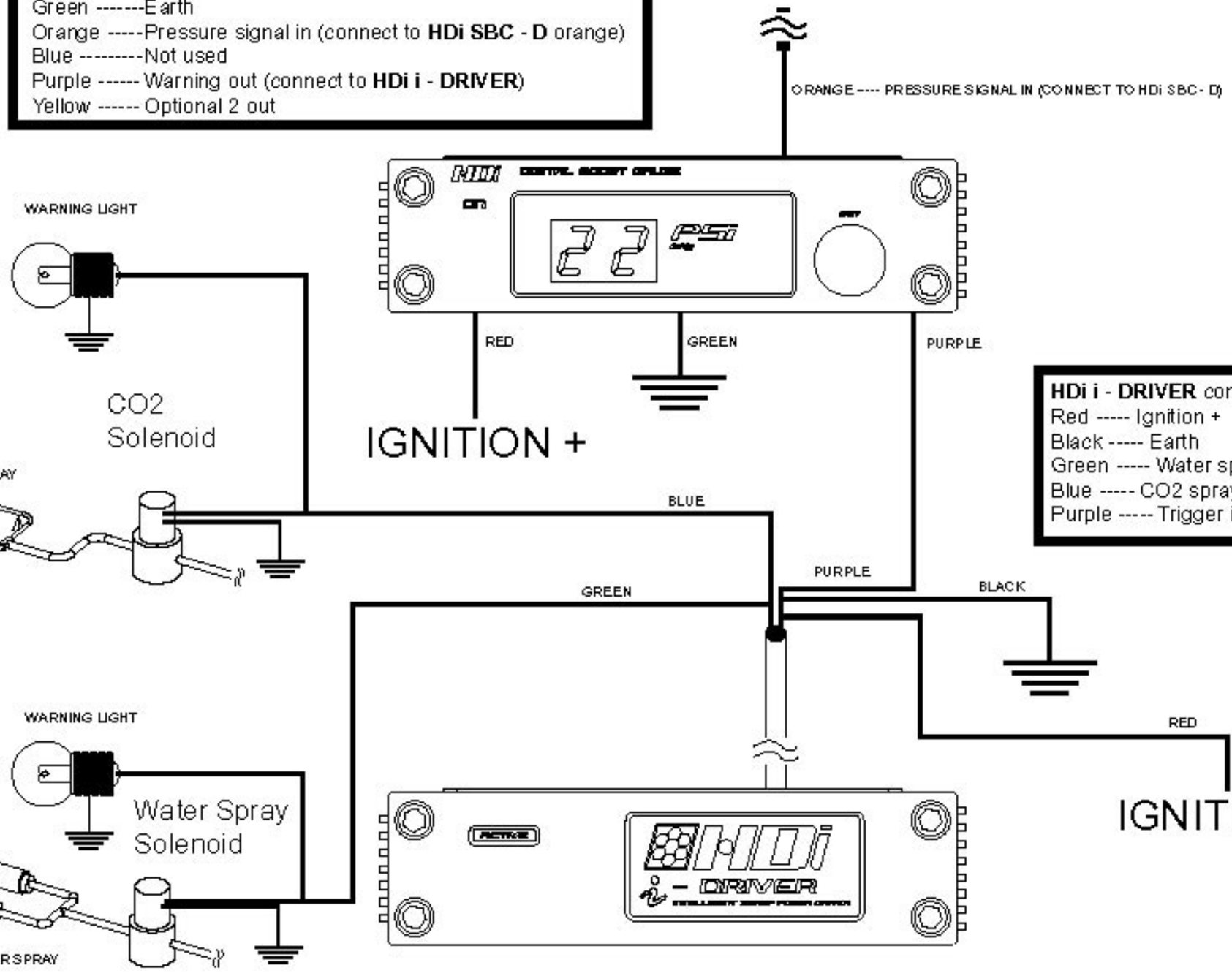




AUXILIARY OUTPUT FUNCTION (OPTIONAL)

The boost controller has built in pressure signal output for pressure sensitive controller, such as CO2 spray, water injection, water spray and warning light . An optional HDi boost gauge and **HDi i - DRIVER** is needed. Connection as below:

HDi BOOST GAUGE connection
Red ----------Ignition +
Green -------Earth
Orange -----Pressure signal in (connect to **HDi SBC - D** orange)
Blue ---------Not used
Purple ------ Warning out (connect to **HDi i - DRIVER**)
Yellow ------ Optional 2 out



HDi i - DRIVER connection
Red ----- Ignition +
Black ----- Earth
Green ----- Water spray +
Blue ----- CO2 spray +
Purple ----- Trigger in from **HDi BOOST GAUGE**

LIMITED WARRANTY

HYBRID DEVELOPMENT INTERNATIONAL will warranty for the period of 1 year from original purchase against all defects in workmanship and materials. **HYBRID DEVELOPMENT INTERNATIONAL** is not responsible for expenses incurred for labour, personal injury or inconvenience. **HYBRID DEVELOPMENT INTERNATIONAL** sole responsibility is to offer a replacement product or to repair the damaged product. **HYBRID DEVELOPMENT INTERNATIONAL** cannot warranty products damaged by improper installation. All other products sold by **HYBRID DEVELOPMENT INTERNATIONAL** are warranted by the original manufactures and is not the responsibility of **HYBRID DEVELOPMENT INTERNATIONAL**. All products are for racing use only.

Customer service
If there is any suggestion or question about the installation on **HDi**'s products please contact your local dealer or email us at tech@hybrid-power.com or check out our FAQ www.hybrid-power.com