



SPEED INNOVATIONS
Making The World A Faster Place
(928)854-1320

SNP Speed Innovations

22RE Complete Harness Kit Installation Instructions

#SNP-2218-753-1/2

[#SNP-22-750-C]

Do Not Call LCE for Tech Support!
Do Not Call Haltech for Tech Support!

Tech support is available for installation questions and for online support in regards to no start or calibration issues. Online remote tech support will need to be scheduled. Please call (928) 854-1320 Mon-Fri 8 A.M. to 5 P.M. Arizona time.

Remote Tuning is available for an added fee and will need to be scheduled in advance. A Windows based laptop and an active wireless internet connection will be required. To use remote access support you will need to download "ANYDESK". This is a free service and can be found at WWW.ANYDESK.COM

Online remote tuning available by appointment only, contact us for more information.

We also have an installation video of our adapter harness on YouTube
<https://youtu.be/tTHOei9ZxNM>

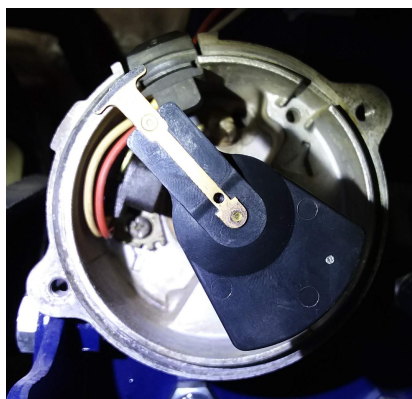
For tech support or tuning questions please contact Gabe Salazar at
SNP Speed Innovations
Phone: (928) 854-1320
Email: tunedbygabe@gmail.com

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Product Installation

Ensure the vehicle is in park/neutral, set the emergency brake, and disconnect the negative cable from the battery

1. **Distributor setup:** Locate the number 1 spark plug tower on your distributor cap, then mark the center of the cap and distributor housing. Remove the distributor cap, but NOT the rotor. Using a 19mm, or a ¾ SAE socket, on a 1/2" drive ratchet, rotate the engine clockwise until the TDC mark on the balancer is aligned with the 0 on the timing tag above the balancer. Finally check the rotors alignment to the distributor housing and verify that it is pointing in the area of the mark you made previously. Loosen the distributor lock down bolt and turn the distributor until the rotor lines up exactly like the picture supplied below. If not, you may have to take the distributor out and move it one tooth.



2. **Harness Removal:** Remove the factory engine harness by unplugging each connector and taking note of the connectors/wire colors that plug into the starter, oil pressure, coolant temp, and transmission. Once the engine harness is removed from the vehicle you will have to open the harness and remove these wires with the connectors as you will need these (cont) to build your own dash/gauge sub harness. We offer a new Dash/Gauge harness upgrade (#SNP-22347218) if your original wiring will not be used for any reason.

3. **Distributor wiring:**

On vehicles Early 1988 and older: Our harness has the factory connector.

On vehicles made Late 1988 and newer: Cut the 2 wire distributor plug off as close as you can to the plug end. Strip the ends of the wires by ¼" and crimp on the supplied pins. Take the Black or Red wire and install it into slot 1, or A. Then you will need to install the White wire into slot 2, or B. When they have been correctly installed, insert the connector lock.

NOTE: Do not use the original distributor wiring, no matter the year, that goes to the factory ignitor as this is not needed any more. This can be looped and zip tied securely to the power steering bracket.

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4. **ATS Installation:** Remove the cold start injector, along with its feed line, from the intake manifold and fuel rail. Install the supplied Air Temp Sensor(ATS) to the supplied mounting plate. The threads are tapered, so you will have to thread the ATS into the plate to confirm which side gets mounted. After the ATS has been threaded in, spread a very thin layer of silicone along the bottom of the plate, then proceed to install the plate to the plenum and tighten the sensor.

Cold Start Injector feed block off. Take the supplied M8x12x1.00 bolt with your stock crush washer, and install the bolt and washer into the fuel rail where the cold start injector feed line originally was

5. **ENGINE HARNESS ROUTING:** Take the supplied engine harness and run it through the firewall using the factory wiring grommet (usually will have to cut the bottom of the grommet), feed into the cab area, then proceed to connect the ECU. Now run the harness along the back of the intake manifold and bolt down the ground wire to the intake manifold. Plug in the injectors as labeled, then plug in the ATS, CTS, and DIST.

6. **Mounting the ECU:** You can now go inside the vehicle to remove the right kick panel, and remove the factory ECU. Mount the new ECU to the supplied mounting plate and mount the plate in place of the old factory ECU.

7. **MAP Sensor Hose:** Once the ECU is plugged in, connect the supplied plastic hose into the plenum side of the intake manifold, NOT in the throttle body (for supercharger applications, attach below the super charger), then connect the other end onto the ECU. With the hose connected, the ECU will read the manifold pressure, so there will no longer be any need for the stock MAF.

8. **Fuel pump relay wiring:** Remove the RIGHT speaker grill just above the right kick panel along with the speaker. Locate and remove the fuel pump (Open Circuit) relay. Locate the green/yellow wire and at about 3" from the plug strip a 1/2" section of insulation and splice/solder the Black/yellow wire supplied from the sub-harness making sure to tape or heat shrink the splice. Imagine on the next page.

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9. **KEY SWITCH POWER:** Red/White wire labeled “12V SW” and connect it to the same wire/circuit as the ECU fuse.

10. **BATTERY SUPPLY:** Route the 12 gauge Red wire and the black 14 gauge wire into the engine bay. Then connect the RED wire to the Positive battery terminal, and the BLACK wire to the Negative battery terminal.

11. **COIL WIRING:** Route the BRN/BLK “Ignition Signal” wire and the Red “Power Supply” wire behind the cylinder head, and to the igniter plug, or CDI box.

On vehicles made Early 1988 and older: our harness has a connector that plugs directly into the coil.

On vehicles made Late 1988 and newer: the BRN/BLK ignition wire from our harness goes to the BLK/BLU wire on the Ignitor Pin #1, and the Red power supply wire from our harness goes to the BLK/R wire on the ignitor connector. The BRN/BLK wire is the signal wire that excites your ignitor/CDI box, and the Red wire is the coil power supply for the stock igniter/coil application.

If you are using a CDI box, Do Not use or connect the red wire to the coil

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Wideband Control Module

12. Weld the supplied O2 sensor bung into the exhaust, ensuring the sensor is mounted in the 9-3 o'clock range just past the collector flange. If a turbo has been installed on your vehicle, mount the bung on the downpipe just before the bottom bend. The sensor may also be threaded into a factory O2 sensor bung if one is available.

13. Using the supplied cables and hardware in the box, locate a suitable mounting spot for the module itself with clear access to the connectors. Velcro strips are suitable for mounting. Using the cable labeled as #HT-130025, attach the ECU to the wideband module. Find a suitable location to route your O2 sensor wiring from the inside of the cab to the exhaust mounting location. Keep wiring clear of any heat, moving parts from pinching and/or chaffing points to prevent premature failure.

Wiring connector label abbreviations

ATS- Air Temp Sensor
BATT- Battery
CAN- CAN Bus Communications
CTS- Coolant Temp Sensor
DIST- Distributor
GND- Ground
IGN- Ignition
INJ- Injectors
I/O- inputs/outputs
KEY- Ignition Key Switch On
TPS- Throttle Position Sensor

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Finish work

Reconnect the battery. Download the latest Haltech ESP software and install it on a Windows based laptop. Google, MAC, and Android operating systems will NOT work. You can find the current software at WWW.HALTECH.COM/DOWNLOADS. Open the Haltech software. Once the ESP software is open, use the communication cable supplied in the kit, connect the ECU to your laptop. Turn the key on and you should see the ECU "Power" LED indicator is on. Press F5 and your computer will connect to the ECU. This ECU is preloaded with a base start up tune that is tailored to your harness and system set up based on the information provided to us when the order was placed, but check that your injector size is correct in the software. You can do this after you have connected to the ECU by looking to the far left of your screen at the ECU Navigator menu and scrolling down to "Injection system". Once you locate it, doubleclick on it (cont.) then proceed to doubleclick the "Stage 1" tab, and then click on "Flow". The size of the injector is crucial to the tune, make sure this is accurate!

Next, in main set up-Engine-Ignition you will see at the bottom "Lock Mode" make sure it's always on and the firing angle is set to 8 degrees.

Start your engine and with your timing light set your timing to 8 degrees by moving the distributor. When timing is confirmed go back to "Lock mode" and set to "disable"

Now you can begin tuning or call SNP Speed Innovations for online tuning (fees apply)