

Wiring Specialties

SR20DET - RB25DET - CA18DET- KA24DE
You install the engine, we wire it up.



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RB25DET to S13 240sx Engine/Trans Harness Installation instructions

Thank you for purchasing the Wiring Specialties pre-made wiring harness set. Please read these instructions carefully before attempting the installation.

This Engine/Trans harness set is designed to work with an RB25DET S1/S2 installations into all S13 240sx chassis from 1989 through 1994, including the convertible models. You will find a number of duplicate connectors located on the harness to accommodate for different manufacturing years of the chassis and engine configuration. In most cases, unused connectors should be removed.

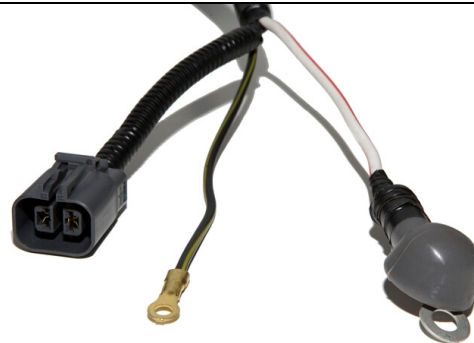
We begin the installation with the TRANSMISSION HARNESS and then we'll proceed to install the ENGINE HARNESS

DO NOT CONNECT THE BATTERY CONNECTOR UNTIL BOTH HARNESSES HAVE BEEN FULLY INSTALLED AND UNNECESSARY CONNECTORS REMOVED

NOTE! We will begin by connecting all the engine and transmission components first then proceed to the connectors that interface with the fuse box and the chassis.

Step1 (Alternator)

Connect the Alternator (GREY) Ring Terminal connector and the 2-wire grey signal connector to the Alternator. Secure the ground to the casing.



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Step 2 (Starter, Oil Pressure and Air Regulator)

Starter – Connect the 90 degree metal terminal to the Starter and the small 1 – wire black spade connector to the Starter Solenoid.

Oil Pressure – Connect the 2-pin black connector to the OEM RB oil pressure sending unit.

Air Regulator – Connect the 2 – pin blue sealed connector to the Air regulator located on the block of the engine, near the oil filter.



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Step 3 (Knock Sensors)

The Wiring Specialties Transmission harness contains 2 OEM knock sensor connectors and the main harness interface connector, in addition to the Alternator, Starter and Transmission wiring. Connect the two CLEAR color plastic connectors to the two green-top **knock sensors** located on the block (between Cyl 2-3 and 4-5).

MAKE SURE to connect the 6-pin GREY connector, shown, to its respective mating plug on the main engine harness, near the front of the engine and by the Injector Sub-Harness connector.



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Step 3 (Speed Sensor and Transmission switches)

The Wiring Specialties Transmission harness is designed to work with OEM RB25 gear switches and speed sensors. Connect as described below

Speed Sensor – Small 2-pin grey connector

Reverse light – Larger Grey 2-pin connector

Neutral Gear Signal – Rectangular Black 2-pin connector



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Step 5 (Fuse Box Connection)

The three plugs seen in the picture need to be connected to the bottom side of the fuse box of the S13 240sx chassis (across from the alternator). Each connector will only mate to its designated spot, so no mistake can be made. Please ensure that each connector is secured in its location and covered by the dust shield.



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Step 6 (Auto to manual conversion)

The Wiring Specialties Transmission harness is designed to work with an Auto-Manual conversion. The extension harness seen in the picture is designed to address the auto-manual conversion.

For Auto to manual conversions, connect the two Grey extension plugs to the firewall-side of the fuse box, where 4 chassis plugs are located.

For 5-speed swaps, disconnect the auto extension wiring from the harness, remove the 3-wire connector and tape up the remaining wires.



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Step 7 (Battery terminal)

Connect the Battery terminal to the positive side of the battery and connect the two fuse box power feed wires into the red terminal connector.

NOTE!!! The RED 2-Pin connector on the Battery Terminal might be different on some S13 240sx. This is the only unit we have available and if the fuse box wires do not plug in, please re-install your stock S13 RED Connector for an easy hook up.

TRANSMISSION HARNESS INSTALL IS DONE !



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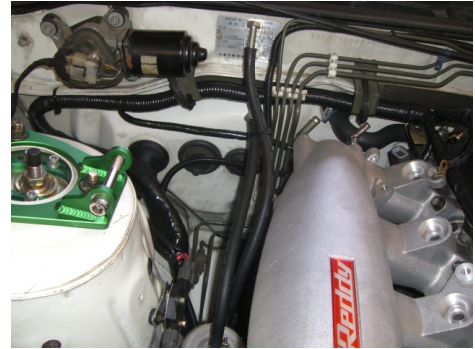
Proceeding to engine harness installation

DO NOT CONNECT THE ECU OR THE INTERIOR INTERFACE CONNECTORS UNTIL ALL ENGINE CONNECTORS HAVE BEEN INSTALLED AND UNNECESSARY CONNECTORS REMOVED

NOTE! We will begin by connecting all the engine components first then proceed to the interior of the car to connect the ECU and the interface connectors.

Step1 (Feeding the harness in)

Feed the harness through the firewall with the ECU and the interior interface plugs leading the way.



Step 2 (Harness Alignment)

Once through the firewall, align the main engine branch to point towards the engine and running back towards the firewall. This will ensure the needed connectors reach the engine.



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Step 3 (ABS Wiring Installation)

PROCEED TO INSTALL THE BRANCH OF THE HARNESS THAT GOES TO THE FRONT OF THE CAR, INCLUDING ABS.

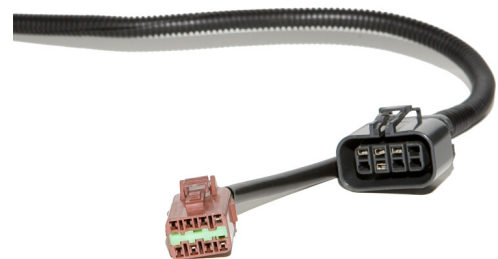
S13 240sx ABS wiring is part of the Wiring Specialties pre-made RB25DET to S13 harnesses. If your car is equipped with ABS, please connect the passenger side wheel speed sensor (seen in the image) to the harness. The ABS control module wiring is connected through the interior dash connector (Step #11), behind the glove box, which will complete the ABS wiring installation.



Step 4**(Main Power Interface Routing)

IMPORTANT! DO NOT connect these Power interface plugs until STEP #13. Simply route this harness section towards the passenger side headlight/battery area. Leave the connectors unhooked.

You can install the mounting body clips that secure the harness to the chassis at this time.



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Step 5 (Idle Control Valve and Fast Idle Switch)

Connect the two connectors in the image to their respective sensors on the Idle Control Valve assembly. NOTE –connector wire length has been extended to accommodate aftermarket intake manifold conversions such as the Greddy front-facing manifold or an equivalent.



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Step 6 (Ignitor Chip and Coilpacks)

Series 1 – S1 RB25 engines utilize an Ignitor Chip. There are 2 connectors to be used – 6-wire connector on the Coilpack sub-harness and a 7-wire connector on the engine harness.

PLEASE MAKE SURE THAT THE CHIP YOU ARE USING HAS THE GROUND (LETTER G OR E) IN THE MIDDLE OF THE DEVICE.

Once the harness is in place install the ignitor chip along with the Coilpack harness (supplied with this kit) and make sure to ground the Coilpack harness by bolting down the grounding wire to the metal mounting bracket. Bolt down the ignitor chip to the valve cover OEM location.

Series 2 - RB engines DO NOT utilize an Ignitor Chip. Proceed straight to installing the Coilpack harness by connecting to the BLACK 8-pin harness connector shown in the picture.



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Step 7 (Oxygen Sensor)

Connect the oxygen sensor by routing the extended O2 wiring along the firewall, past the engine and to the sensor. Even though the shielding used in this harness is high-temp, please secure the O2 wiring to the brake lines by zip-ties to avoid burning the wires.



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Step 8 (Coilpacks)

Now proceed to connect the Coilpack connectors into the coilpacks and to the ignitor chip.



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Step 9 (VVT, Injectors and Knock sensors)

VVT – Black 2 – pin connector. Should be connected to the variable valve timing solenoid in the front of the head.

Injectors – Connect the injector sub-harness to the 8-pin grey connector (injector harness is not supplied with this package)

Knock sensors – Connect the 6-pin grey connector to the mating 6-pin connector on the transmission harness.



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Step 10 (Throttle Body and TPS)

Now proceed to connect the Throttle Position Sensor (TPS) connector.

You will notice 2 connectors for the Throttle Position Sensor. The 3-pin Brown (taped) is for the S2 TPS and the 3-pin GREY connector is for the S1 (NOTE: The GREY connector also works for the Q45 Throttle body TPS used with aftermarket intake manifolds).

REMOVE the unused connector by cutting the clip off and taping up the exposed wires or Simply tape it up.



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Step 11 (CAS, Coolant Temp and Engine Ground)

On the front end of the harness you will find a few connectors. The Cam Angle Sensor (CAS) connector (Grey 4-pin), the coolant temperature (2-pin Grey) wire and black connector (1-pin spade) and 2 copper engine grounds. Route the wiring harness along the side of the engine, wrapping to the front and connect it to the respective sensors. Make sure the grounds are firmly secured.



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Step 12 (MAFS)

Proceed to install the Mass Airflow Sensor (MAFS) connector to the sensor just past the front of the engine.

NOTE: There are 2 connectors supplied with the harness; The S1 model (5-wire) and the S2 model (3-wire). Choose the one to be used with your swap and cut or tape up the remaining connector not in use.

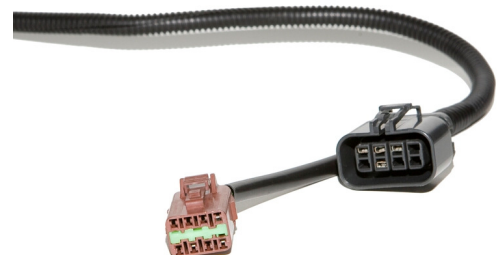
NOTE: There is one more connector past the MAFS unit – it is for the Power Steering pressure sensor, located on the High Pressure Power Steering Line. Connect it to the sensor or cut it off and tape up the wires.



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Step 13 (Main Power Interface)

IMPORTANT! Make sure that all the unused connectors have been removed from the harness or taped up before connecting the two power interface connectors.



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Step 14 (back in the car)

At this point, we should be done with all the wiring in the engine bay. Back in the passenger foot-well we find the dash connectors (white and brown). The White connector is used for the SOHC 240sx (1989 and 1990) and the Brown connector is used for the DOHC 240sx (1991-1994).

Connect the correct interface plug to the dash connector behind the glove box (remove the glove box for easier install). Connect the ECU and tighten the mounting bolt lightly.



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WE ARE DONE!