

GReddy Turbo Kit

96-98 Nissan 240SX S14 (KA24DE) TD06-20G 8cm²

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Installation Manual

Please read the entire manual before installing this kit.

Application:

Make	Model	Chassis	Year
Nissan	240SX	S14	96-98

- This **GReddy Turbo Kit** is designed only for the vehicles specified above.
- GReddy Front mount intercooler kit is recommended with this kit
- Premium grade gasoline (92 octane or higher) is required with this Kit.
- Make sure that the vehicle is not equipped with any ECU upgrade chips.
- Use of **GReddy Racing Spark Plugs ISO #7** or NGK plugs (colder than factory) is recommended with this kit.

Important

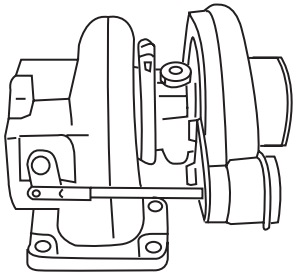
1. This installation should only be performed by a trained specialist who is very familiar with the automobile's mechanical, electrical and fuel management system.
2. If installed by an untrained person, it may cause damage to the kit as well as the vehicle.
3. GReddy Performance Products Inc. is not responsible for any damage to the vehicle's electrical system caused by improper installation.

1. Parts list

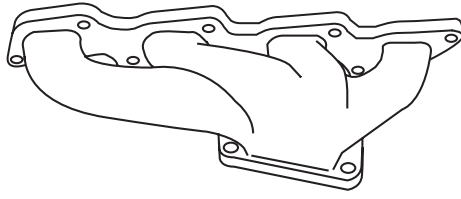
1.	Turbocharger	TD06-20G 8cm2 P380	1
2.	Exhaust manifold	(Cast Ductile Iron)	1
3.	Downpipe	(60Ø steel)	1
4.	Compression Pipe	C-1 (50Ø Aluminum)	1
5.	"	C-2 (50Ø Aluminum)	1
6.	"	C-3 (60Ø Aluminum)	1
7.	Suction Pipe	(80Ø Aluminum)	1
8.	Airinx AY-M	Blue Filter	1
9.	Airinx Adapter		1
10.	Oil Pressure Line	1200mm	1
11.	Oil Pressure Fitting	3-way 1/8PT	1
12.	"	1/8PT – 1/8PT	1
13.	"	1/8PT – 1/8PF	1
14.	Oil Pressure Banjo Fitting	Small (Male & Female)	1set
15.	Copper Washer	10Ø (t=1.0)	2
16.	Oil Return Flange Pipe	19Ø	1
17.	Oil Return Pipe	19Ø (Weld-on Type)	1
18.	Oil Return Spacer	15Ø-7Ø 10mm	1
19.	Hose	5Ø 1500mm	1
20.	"	16Ø 1120mm (Breather 240mm, Blow-by 480mm. Power steering 400mm)	1
21.	"	19Ø 320mm	1
22.	Silicone Hose	50Ø Straight	2
23.	"	80Ø Straight (60mm)	1
24.	"	50Ø-60Ø Reducer	1
25.	"	60Ø-70Ø Reducer	1
26.	"	70Ø-80Ø Reducer	1
27.	Hose band	16Ø #10	4
28.	Hose band	19Ø #12	2
29.	Hose band	50Ø #32	5
30.	Hose band	60Ø #36	2
31.	Hose band	70Ø #44	2
32.	Hose band	80Ø #48	3

1. Parts list

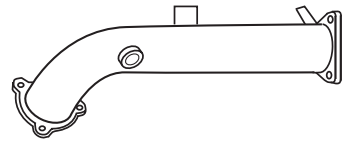
33.	Compression Pipe C-3 Bracket								1
34.	Heatshield Bracket A								1
35.	Heatshield Bracket B								1
36.	Heatshield								1
37.	Restrictor	80 \varnothing -42 \varnothing							1
38.	Gasket	Exhaust Manifold							1set
39.	"	Turbo Inlet							1
40.	"	Turbo Outlet							1
41.	"	Oil Return							1
42.	Thermo Cloth	1000mm							3
43.	Vacuum fitting	5 \varnothing - 1/8PT							2
44.	3-Way vacuum fitting								1
45.	Zip Ties	150mm							10
46.	e-Manage								1
47.	e-Manage Harness								1
48.	Injectors	370cc (Top Feed Type)							4
49.	Injector Harness	harness, wire connector, insulator							4set
50.	Fuel Rail Assembly								1set
51.	Fuel Rail Spacer	38.5mm							2
52.	Fuel Regulator Adapter Fitting								1
53.	Fuel Rail Fitting								1
54.	M5x10mm	Stainless Cap P=0.8	B	-	-	-			2
55.	M6x15mm	Stainless P=1.0	B	-	-	N			7
56.	M6x25mm	Stainless P=1.0	B	-	-	N			1
57.	M6	Stainless		S/W	F/W				10
58.	M8x55mm	Stainless Cap P=1.25	B	-	F/W	-			2
59.	M10x20mm	Stainless P=1.5	B	S/W	-	-			3
60.	M10x35mm	Stainless Stud P=1.25 – 1.25	B	-	-	-			1
61.	M10x45mm	Stainless Stud P=1.25 – 1.50	B	-	-	-			5
62.	M10	Stainless P=1.25		S/W	-	N			15



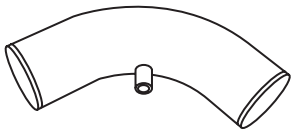
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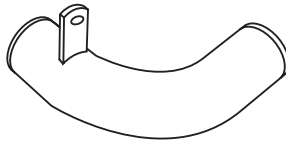
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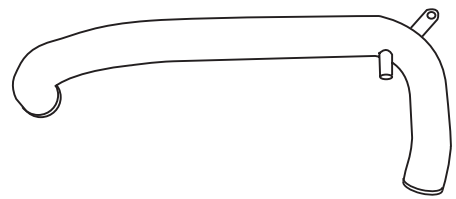
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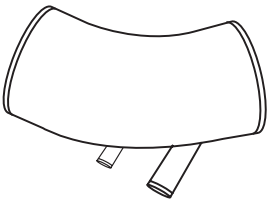
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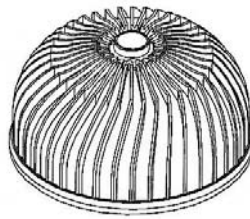
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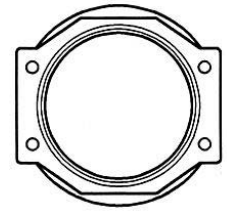
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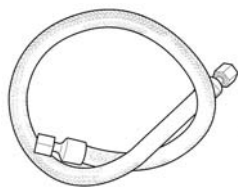
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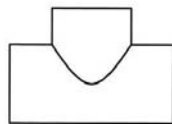
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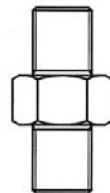
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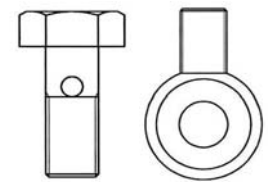
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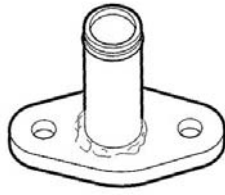
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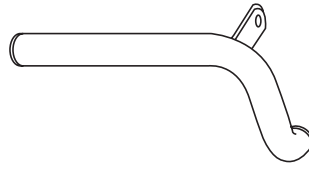
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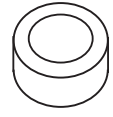
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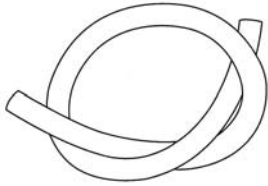
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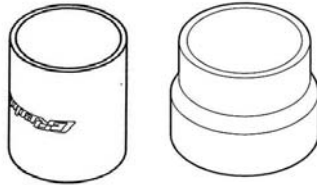
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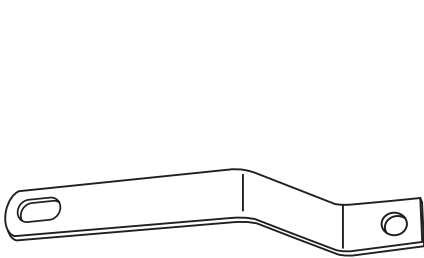
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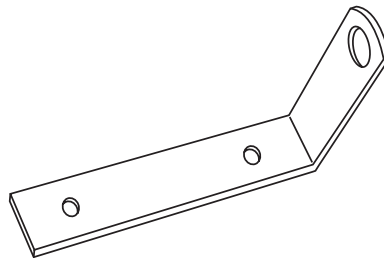
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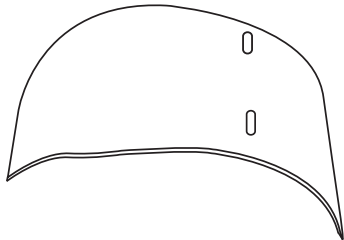
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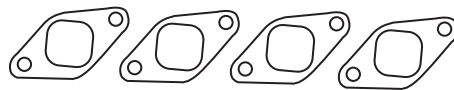
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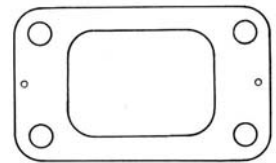
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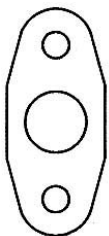
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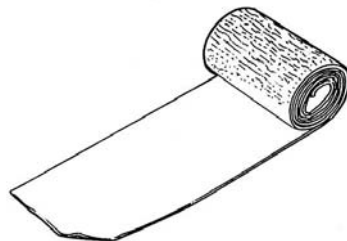
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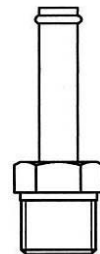
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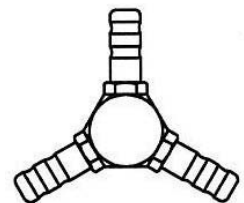
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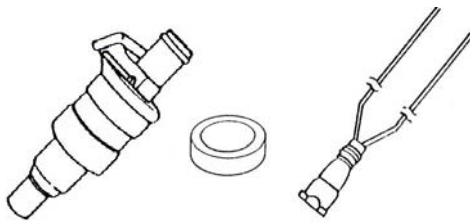
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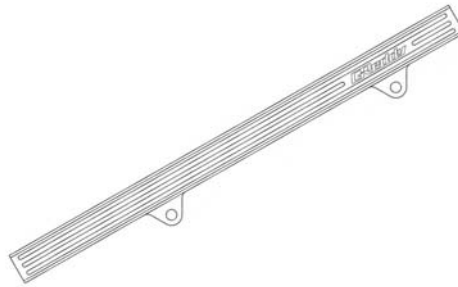
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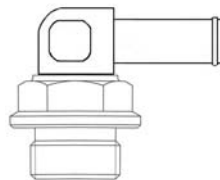
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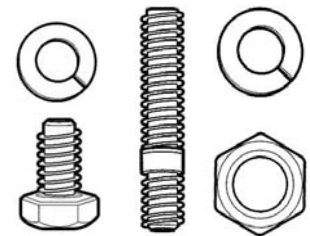
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54 – 62

2. Removal of Stock Parts

When removing the stock parts, make sure you read over the factory repair manual for proper procedures.

2-1 Disconnect the negative terminal of the battery.

2-2 Drain the engine oil and power steering fluid.

2-2 Disconnect the air flow meter.

2-4 Remove the Air cleaner assembly with airflow meter, intake tube, breather hose and Intake temperature sensor.

2-5 Disconnect the primary and secondary O2 sensor and remove the catalytic converter.

2-6 Remove the exhaust manifold.

2-7 Remove oil pan (Please refer to the factory service manual for detail instructions for removing the oil pan.)

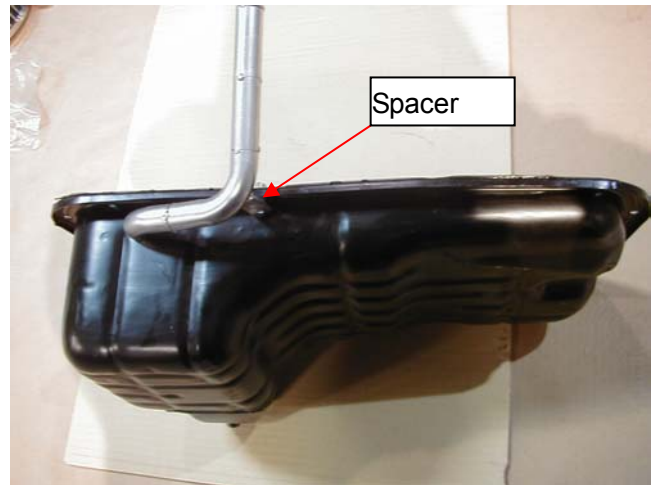
2-8 Remove the fuel rail assembly with injectors and regulator.

3. Kit Installation

3-1 Oil pan modification

1. Clean the oil pan.
2. Install the oil return pipe using the provided spacer as shown.
3. Mark the oil pan to drill out for the 19mm hole.
4. Remove the oil return pipe and drill out the marked hole.
5. Reinstall the oil return pipe and weld the pipe to the oil pan.
6. Clean the welded area and paint to prevent rusting.
7. Reinstall the oil pan on to the engine.

(Parts used #17, 18, 51, 52)



3-2 Thermo Cloth Installation

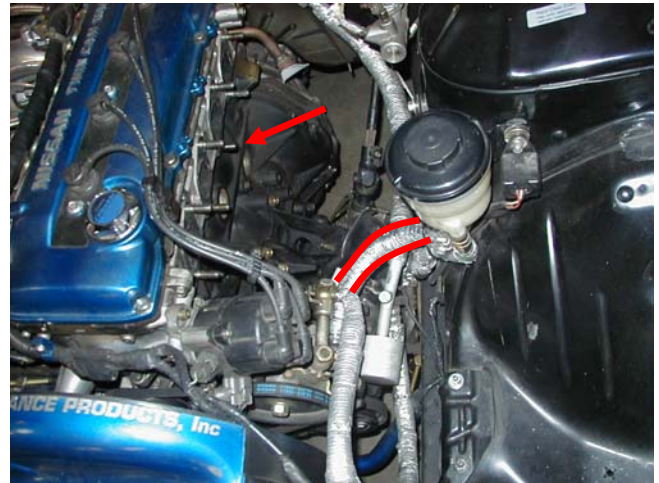
1. Wrap the AC line, O2 sensor wire with the provided thermo cloth.

(Parts used #42)

3-3 Replace Power Steering Hose

1. Cut the provided 16Ø hose to 400mm and wrap it with thermo cloth.
2. Replace the power steering hose with this hose.

(Parts used #20, 27, 42)



3-4 Replace Stud Bolt

1. Remove the bottom stud bolt on the #3 port on the cylinder head and replace it with the provided stud bolt.

(Parts used #54)

3-5 Exhaust Manifold Installation

1. Install the exhaust manifold with the provided gaskets and hardware.
(Parts used #2, 38, 56)



3-6 Turbo Installation

1. Install the oil return pipe to the turbo using provided gasket and hardware.
(Parts used #1, 16, 41, 50, 52)



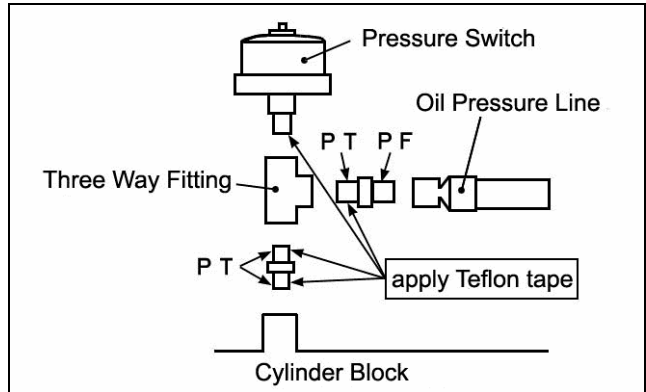
2. Install the turbo assembly to the manifold
(Parts used #39, 55, 56)



3-6 Oil Pressure Line Installation

1. Install the oil pressure fitting to the block. Install the three way fitting between the block and the factory oil pressure sensor.

(Parts used #10, 11, 12, 13)



2. Install the Oil Pressure line to the three way fitting and route the line under the engine by the sub-frame as shown.



3. Install the banjo fitting to the pressure line and connect the line to the turbocharger as shown.

(Parts used #14, 15)



3-7 Oil Return Line Installation

1. Wrap the oil return hose with the provided thermo cloth and install the hose from the turbocharger to the oil pan.

(Parts used #21, 28, 42)



3-8 Down Pipe Installation

1. Install the downpipe to the turbocharger as show using provided gasket and hardware.

(Parts used #3, 40, 53)



2. Install provided stud bolt and secure the down pipe to the transmission housing as shown.

(Parts used #55)



3-9 Catalytic Converter Installation

1. Install the factory catalytic converter to the down pipe.



3-10 Heatshield Installation

1. Install the heat shield to the turbocharger as shown.
(Parts used #34, 45, 36, 50, 50)



3-11 Compression Pipe Installation

1. Install C-1, C-2 to turbo out let.
(Parts used #4, 5, 22, 29, 51, 52)
2. Install C-3 from C-2 to throttle body in let. Secure the pipe to the radiator fan shroud as shown.
(Parts used #6, 20, 24, 25, 27, 29, 30, 31)
3. Install the vacuum line for the actuator with a 3way tee from the fuel pressure regulator to the actuator.
(Parts used #19, 43)



3-12 Suction Pipe Installation

1. Install the Airinx adapter on to the Airinx filter housing.

(Parts used #8, 9)

2. Install the S-1 to the turbo inlet and install the Airinx assembly to the S-1 as shown.

(Parts used #7, 23, 26, 31, 32, 37)

3. Install the blow-by, and idle control valve hose to the C-3 and S-1 as shown.

(Parts used #19, 20, 28, 44, 45)



3-13 Injector and Fuel rail Installation

1. Cut the factory injector harness and install the provided injector harness.

(Parts used # 49)

2. Install the Fuel Regulator fitting and fuel rail fitting on to the rail using the provided o –rings.

(Parts used #50, 52, 53)

3. Install the factory fuel regulator to the fitting on the new rail with provided hardware.

(Parts used #54)

4. Install the factory fuel regulator to the fitting on the new rail with provided hardware.

(Parts used #54)

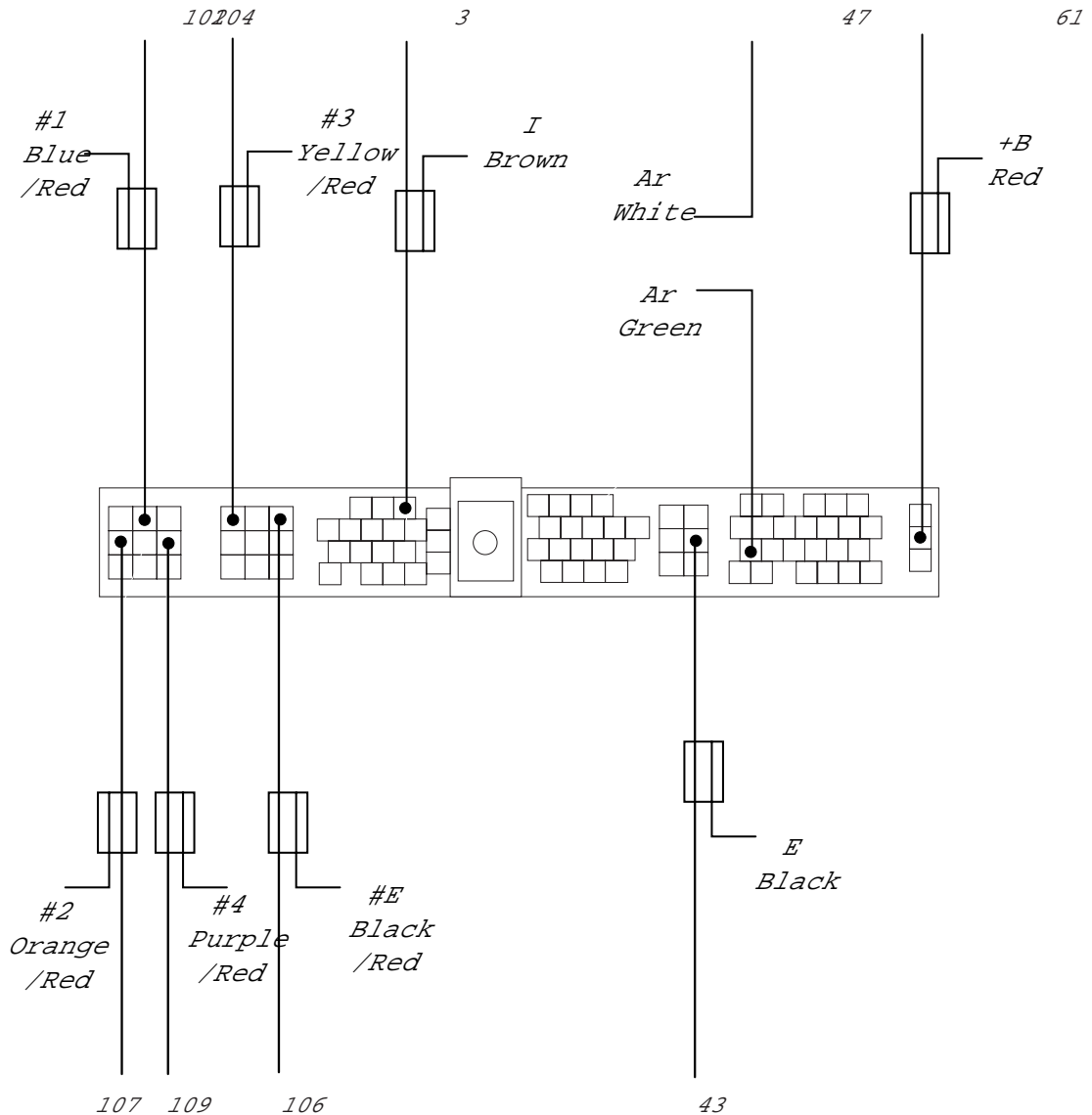
5. Install the provided injectors with the new fuel rail assembly.

(Parts used #48)

3-14 E-manage Installation

1. Wire in the E-manage to the factory ECU.

Important! Make sure to solder all the wires in except for the wires that has male and female connectors. (Parts used # 46, 47)



<u>Code</u>	<u>Description</u>	<u>E-manage Color</u>	<u>ECU pin #</u>
+B	+12V ignition power	Red	61
E	ECU ground	Black	43
Ar	Air Flow Meter Signal	Green & White	47
I	RPM Signal	Brown	3
#1	Injector #1 Signal	Blue/Red	102
#2	Injector #2 Signal	Orange/Red	107
#3	Injector #3 Signal	Yellow/Red	104
#4	Injector #4 Signal	Purple/Red	109
#E	Injector Ground	Black/Red	106

3-15 Starting the Engine

- (1) Refill the engine oil to factory spec.
- (2) Check all the hoses and wires connection, then reconnect the negative side of the battery.
- (3) Turn the ignition to “ON” position 2-3 times to get fuel pressure. Then, check the injectors and the fuel rail for any fuel leaks.
***Repair any fuel leaks before starting the engine. Starting the engine with a fuel leak can cause fire in the engine compartment and can be very dangerous.**
- (4) Remove the ECM fuse and crank the engine to get oil pressure to the turbo. (Until the oil light on the dash turns off) Check for any oil leaks, then reinstall the fuse and start the engine.
- (5) While idling, check for any oil, coolant, or air leaks.
- (6) After inspection, reinstall the under cover and other stock parts that was removed.
- (7) On the initial run, be sure to have a boost gauge to check the turbo-actuator setting. This turbo kit is preset to boost between 0.6kg/cm² to 0.6kg/cm² .
It is very important that you monitor the boost pressure, and make sure not to over boost. Over boosting can cause engine damage.
This completes the Turbo Kit installation.

Important!

- **It is very important that you monitor the boost pressure, and make sure not to over boost. Over boosting can cause engine damage.**
- **GReddy Performance Products, Inc. is not responsible for any engine damage caused by over boosting (increased boost), modification to the kit, and/or misuse of the product. NO WARRANTY is offered.**
- **Due to lack of control over proper installation and use of this product,**
NO WARRANTY is offered for this kit.

e-manage Information

Important!

- The e-manage included in this kit is preprogrammed for the this turbo kit.
- Do not attempt to adjust any of the setting in the e-manage.
- Any adjustments made can cause damage to the e-manage, engine and the factory ECU.



Important!

As of 5/25/03 this kit is not a street legal kit. Please ignore the label on the e-manage.

① ACTIVE L.E.D.

- 3 When the ignition is turned on, it will illuminate and flash GREEN.
- 4 When it reaches to the A.A.V. setting RPM range, it will illuminate and flash ORANGE.
- 5 When an error is detected it will flash RED.

② INTERACTION L.E.D.

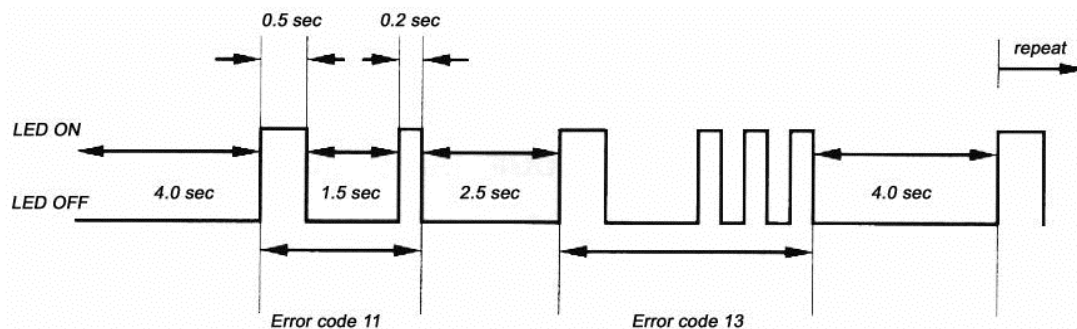
- 3 This will illuminate when there is a connection with PC.

Checking Error Codes

When the unit is powered up and if there are any errors, the ACTIVE L.E.D will turn "RED" from "GREEN", and begin to flash.

If this happens shut the engine off and turn the ignition switch to "ON" position to go to Self Troubleshooting Mode. While in the Self Troubleshooting Mode, the L.E.D. will show the error code. Turn off the ignition. Check the error code in the chart below and fix the problem. The error code will show until the error is corrected.

Checking Error Code Chart



CODE	Error	Error description
11	Airflow Signal 1 input error	Incorrect wiring or disconnected Airflow Signal 1
15	Airflow voltage output error	Incorrect Airflow signal output wiring.
20	No Injector pulse from all	Not receiving an injector signal for Additional Injection Map
21	No Injector 1 pulse	Not receiving injector signal I/J CH-1 for Additional Injection Map
22	No Injector 2 pulse	Not receiving injector signal I/J CH-2 for Additional Injection Map
23	No Injector 3 pulse	Not receiving injector signal I/J CH-3 for Additional Injection Map
24	No Injector 4 pulse	Not receiving injector signal I/J CH-4 for Additional Injection Map
31	Incorrect Injector 1 pulse	Incorrect I/J CH-1 wire to e-Manage unit
32	Incorrect Injector 2 pulse	Incorrect I/J CH-2 wire to e-Manage unit
33	Incorrect Injector 3 pulse	Incorrect I/J CH-3 wire to e-Manage unit
34	Incorrect Injector 4 pulse	Incorrect I/J CH-4 wire to e-Manage unit
40	Improper order of Ignition input signal	Incorrect wiring order of the ignition signal wires.
41	No Ignition Signal 1 pulse	Not receiving the ignition signal to IG CH-1
42	No Ignition Signal 2 pulse	Not receiving the ignition signal to IG CH-2
43	No Ignition Signal 3 pulse	Not receiving the ignition signal to IG CH-3
44	No Ignition Signal 4 pulse	Not receiving the ignition signal to IG CH-4
49	No Ignition pulse	Not receiving the ignition signal to any of the channels
51	Incorrect Ignition 1 pulse	Incorrect IG CH-1 wire to e-Manage unit
52	Incorrect Ignition 2 pulse	Incorrect IG CH-2 wire to e-Manage unit
53	Incorrect Ignition 3 pulse	Incorrect IG CH-3 wire to e-Manage unit
54	Incorrect Ignition 4 pulse	Incorrect IG CH-4 wire to e-Manage unit
57	JP2 + 12V error	Incorrect Jumper setting (JP2)