



Honda Civic Si Coupe (B16A) TD-05H 18G

*Greddy Turbo Kit*

**GREDDY**<sup>®</sup>

Honda Civic Si Coupe (B16A) TD-05H 18G

## Installation Manual

Please read the entire manual before installing this kit.

Application:

Make	Model	Chassis	Year
Honda	Civic Si	EM1	99~00

- This *Greddy TD05H 18G 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!

Greddy Performance Products, Inc. is not responsible for any engine damage caused by over boosting (increased boost), modified kit, or misuse of the product.

Due to lack of control over proper installation and use of this product, no warranty is offered concerning the turbocharger.

# 1. Parts List

1	Turbocharger	TD-05SH18G 8cm <sup>2</sup> P 380 Actuator	1
2	Exhaust Manifold	(Cast Iron)	1
3	Muffler Adapter	(Cast Iron)	1
4	Down Pipe	(Steel 50φ)	1
5	Suction Pipe S_1	(aluminum elbow No.1 0.80φ 30R 90°)	1
6	Suction Pipe S_2	(aluminum 80φ)	1
7	Compression Pipe C_1	(aluminum 50φ)	1
8	Compression Pipe C_2	(aluminum 50φ)	1
9	Compression Pipe C_3	(aluminum 60φ)	1
10	Airinx	A Y MB	1
11	Airinx Hose Adapter	M80	1
12	Injector		4
13	Injector Insulator		4
14	Injector Harness		4
15	Fuel Controlling Unit (FCU)		1
16	Oil Pressure Hose	1200mm	1
17	Oil Pressure Banjo Union	Small	1 set
18	Oil Pressure Copper Washers	10φ (t=1.0mm)	2
19	Oil Pressure Three-way union		1
20	Oil Pressure Union	1/8 P T, 1/8 P T	1
21	Oil Pressure Union	1/8 P T, 1/8 P F	1
22	Oil return flange tube	(turbo side) 16φ	1
23	Oil return flange tube	(engine side) 16φ	1
24	Oil return flange tube	Flange T D small	1
25	Vacuum Hose (Blue)	5φ×1000mm (for actuator)	1
26	Rubber Hose	8φ×220mm (for water line)	1
27	Rubber Hose	10φ×550mm (for blow by)	1
28	Rubber Hose	16φ×300mm (for oil return)	1
29	Rubber Hose	19φ×30mm (for intake temp sensor)	1

3 0	Hose	5 0 $\phi$ X 7 0 mm	2
3 1	Hose	8 0 $\phi$ X 6 0 mm	1
3 2	Hose	8 0 $\phi$ X 8 0 mm	1
3 3	Reducer Hose	5 0 $\phi$ - 6 0 $\phi$	1
3 4	Reducer Hose	6 0 $\phi$ - 6 5 $\phi$	1
3 5	Hose band	8 $\phi$ # 4	2
3 6	Hose band	1 0 $\phi$ # 5	2
3 7	Hose band	1 6 $\phi$ # 1 0	2
3 8	Hose band	1 9 $\phi$ # 1 2	2
3 9	Hose band	5 0 $\phi$ # 3 2	5
4 0	Hose band	6 0 $\phi$ # 3 6	2
4 1	Hose band	6 5 $\phi$ # 4 0	1
4 2	Hose band	8 0 $\phi$ # 4 8	5
4 3	Gasket	Turbine IN	1
4 4	Gasket	Turbine OUT	1
4 5	Gasket	Muffler Adapter 6 0 $\phi$ Triangle	1
4 6	Gasket	Down pipe 5 0 $\phi$ Ring	1
4 7	Gasket	Oil return flange tube TID small	2
4 8	Heat Shield	Exhaust manifold	1
4 9	Thermo cloth	1 0 0 X 1 0 0 0 mm	1
5 0	Zip ties	1 5 0 mm	1 0
5 1	Three way tee	5 $\phi$	1
5 2	Intake Temp Sensor Harness Kit	(Wire 300mm x 2, Tubing 350mm, Connectors 4 sets)	1 set
5 3	M6 X 15mm	P=1.0 Stainless B S/W	4
5 4	M6 X 15mm	P=1.0 Stainless B S/W F/W	4
5 5	M8 X 30mm	P=1.25 Stainless Stud B S/W N	6
5 6	M8 X 38mm	P=1.25 Stainless Stud B S/W N	5
5 7	M10 X 25mm	P=1.5 Stainless Stud B S/W F/W	3

(for oil return)









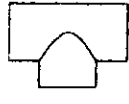

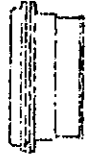


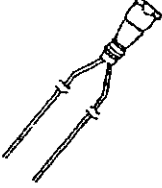
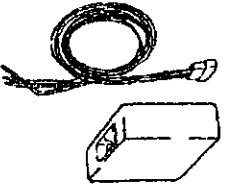
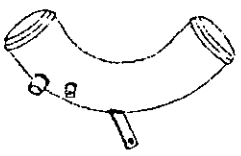
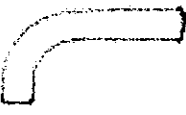
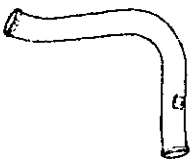
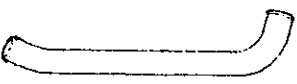

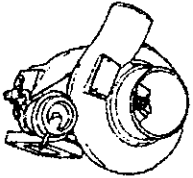


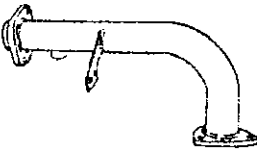

(heat shield / compression Pipe)

(for exhaust manifold / turbine in)

(for turbine out)

(for down pipe)

Parts List

- |        |   |
|--------|---|
| 22     |    |
| 23     |     |
| 24     |      |
| 25     |      |
| 29     |      |
| 16     |    |
| 17     |     |
| 18     |      |
| 19     |      |
| 20, 21 |      |
| 11     |   |
| 12     |    |
| 13     |     |
| 14     |     |
| 15     |     |
| 6      |  |
| 7      |   |
| 8      |    |
| 9      |    |
| 10     |    |
| 1      |  |
| 2      |   |
| 3      |    |
| 4      |    |
| 5      |    |

Parts List

					43	42	-	35	33, 34	30-32
					48	47	46	45	44	
					53-57	52	51	50	49	

## 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 side of the battery, and remove the engine undercover.
- 2-2 Drain the engine oil and coolant.
- 2-3 Remove the air cleaner box with all the brackets, air intake tube, and breather/water pipe.
- 2-4 Remove the O<sub>2</sub> Sensor and the exhaust manifold.
- 2-5 Remove the lower transmission cover and the oil pan.
- 2-6 Remove the A/C condenser fan and the radiator fan.
- 2-7 Disconnect the upper radiator hose.

### 3. Kit Installation

#### 3-1 Oil Pan Modification

- (1) Drill three holes to the oil pan that was removed, and install the oil return flange tube. Install the oil return flange so that the pipe points to the transmission side of the pan. (See the illustrations)

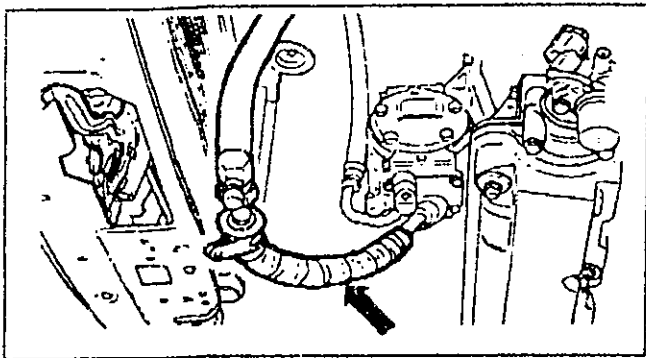
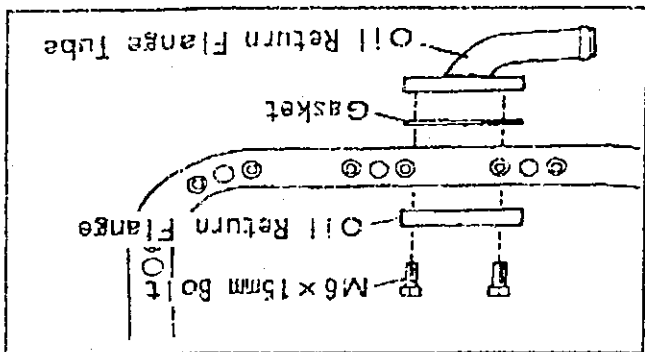
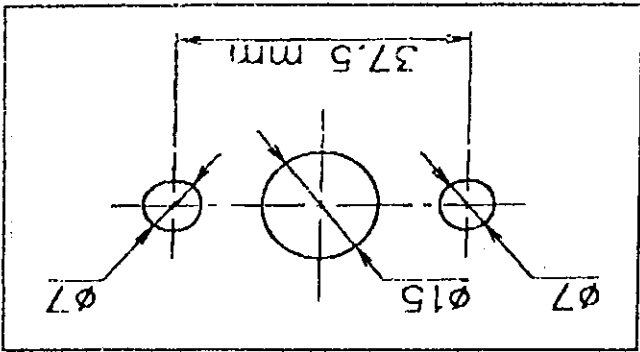
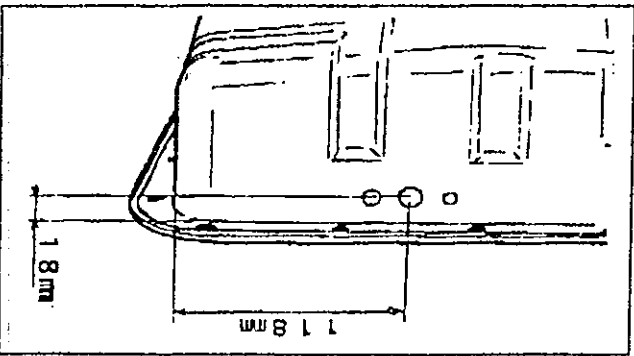
- \* Apply some sealant to the oil return flange tube mounting bolts.

**CAUTION**  
When cutting, grinding, or drilling, make sure you wear a safety glasses, or a facemask for protection.

(Parts used #23, 24, 47, 53)

- (2) Reinstall the modified oil pan back on to the engine block.

- \* Use a new oil pan gasket.
- \* Be sure to clean the oil pan thoroughly before reinstallation.



#### 3-2

#### Thermo-cloth Installation

Wrap the A/C line with the provided Thermo-cloth as shown.

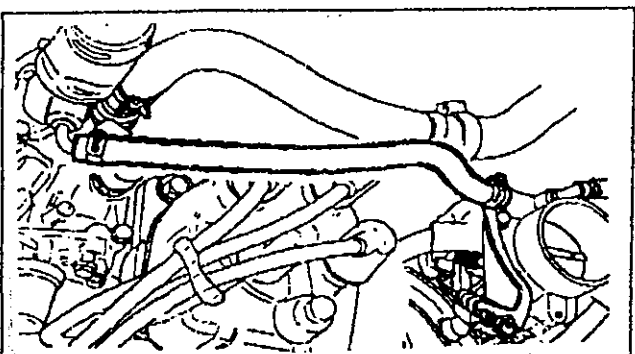
**CAUTION**

Make sure to use the thermo-cloth properly to prevent damage and fire.

(Parts used #49)

3-3

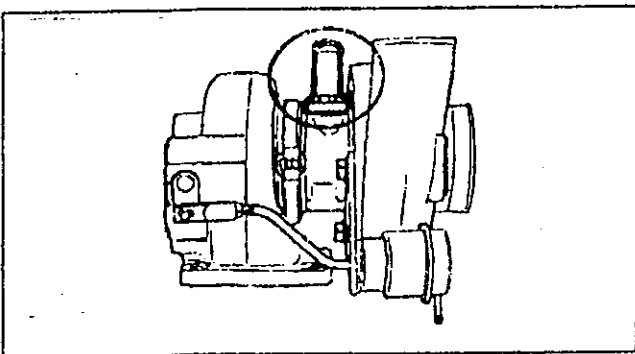
Throttle Body Water Line Installation  
Install the water by-pass hose from the water by-pass tube to the throttle body.  
(Parts used #26,35)



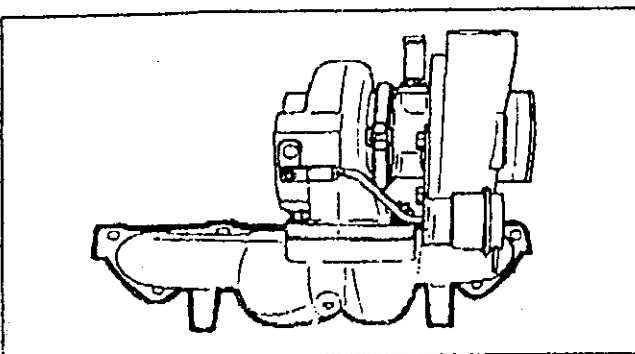
3-4

Turbocharger Assembly

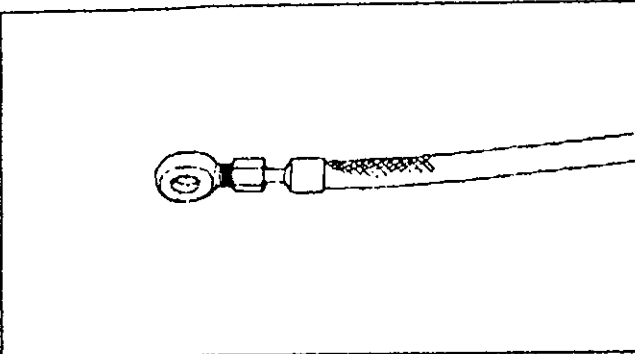
(1) Install the oil return flange tube to the turbocharger using the provided gasket.  
(Parts used #1, 22, 47, 55)



(2) Install the provided stud bolts on to the turbo manifold and mount the turbocharger to the manifold using the provided gasket.  
(Parts used #2, 43, 53)

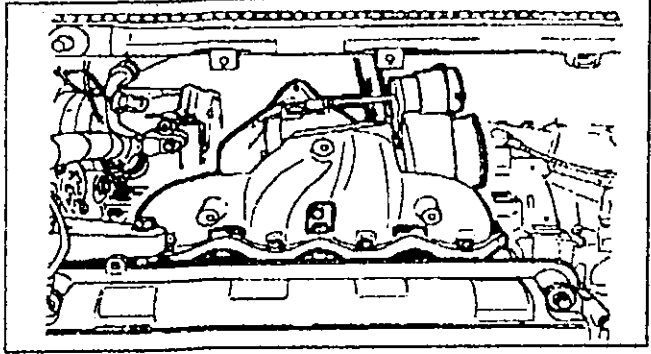


(3) Install the provided oil pressure line to the turbocharger.  
① Install the female banjo union to one end of the oil pressure line.  
(Parts used #16,17)

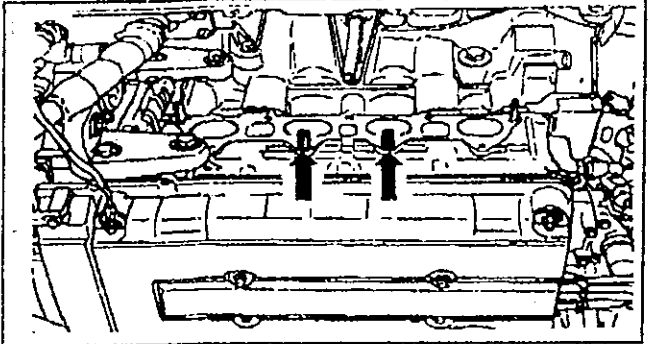


\* It is impossible to tighten the banjo union after it is installed on to the turbo, so make sure it is installed tight.

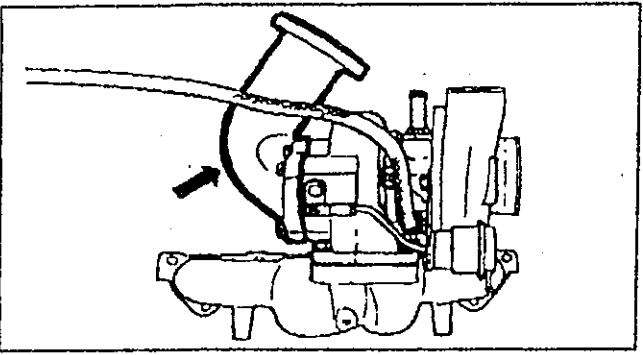
(2) Push the oil level gauge tube back slightly to avoid contact with the turbocharger assembly, then install the turbocharger assembly. \* Use 5 stock bolt for the manifold, and factory exhaust gasket.



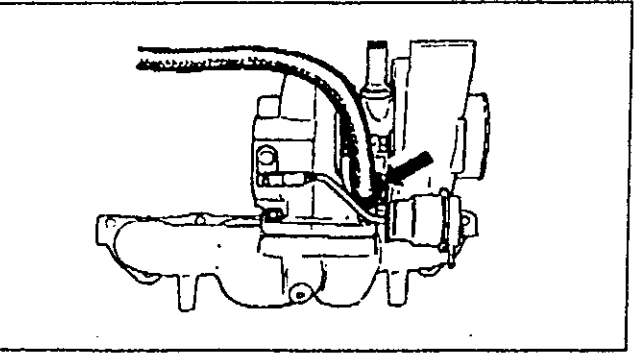
3-5 Turbocharger Assembly Installation  
 (1) Install 2 stud bolts to the two center holes above the exhaust ports as shown. \* (Parts used #55)



(4) Install stud bolts to the turbine housing and install the down pipe adapter with provided gasket. (Parts used #3,44,56)

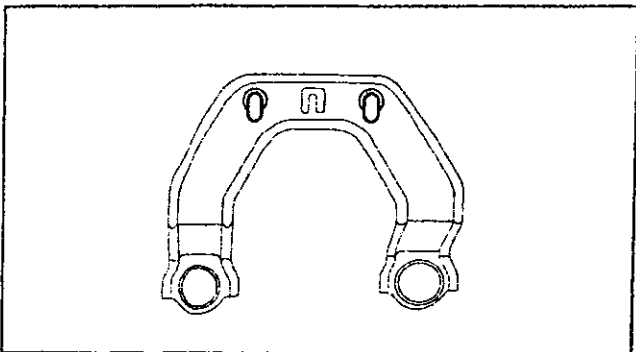


@Install the oil pressure line to the turbocharger using banjo union fitting, and copper washers. (Parts used #18)

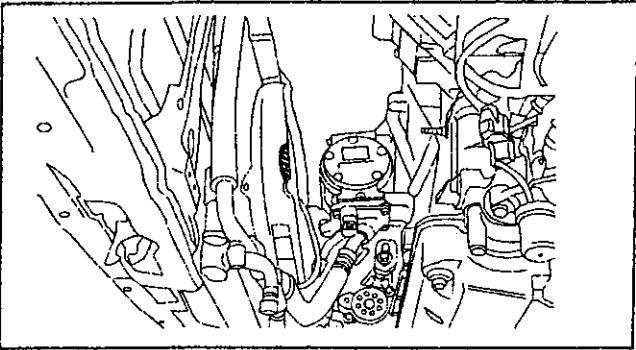


**3-6 Radiator Installation**

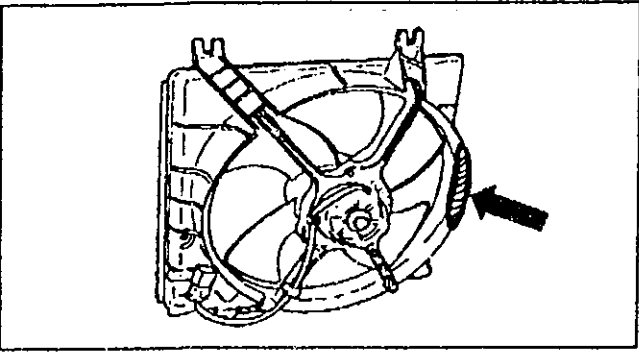
(1) Slot out the hole on the upper A/C condenser bracket, then position the A/C condenser as far forward as possible.



(2) Trim small part off the A/C fan to avoid it from contacting the actuator on the turbocharger, then reinstall the A/C condenser fan.



(3) Trim small part off the radiator fan to avoid it from contacting the turbocharger, then install the fan and connect the radiator hoses.

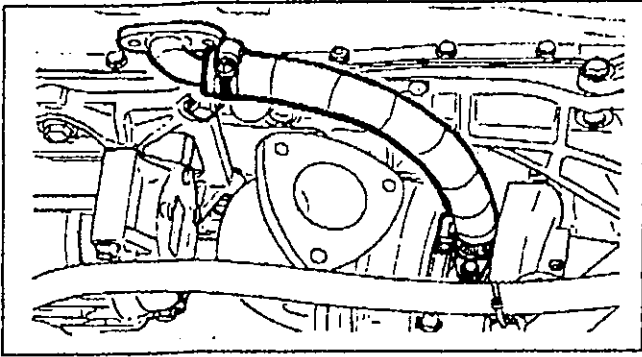


**CAUTION**

When cutting, grinding, or drilling, make sure you wear a safety glasses, or a facemask for protection.

**3-7 Oil Return Connection**

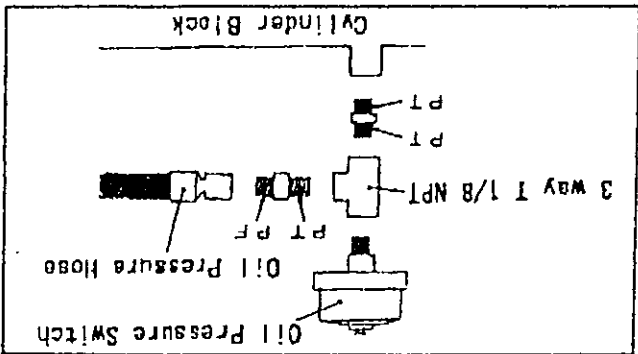
Cut the provided 16Ø hose to a length of 280mm, then connect the turbo oil return to the oil pan.



\* Wrap the oil return hose with the provided thermo-cloth.  
(Parts used #28, 37, 49)

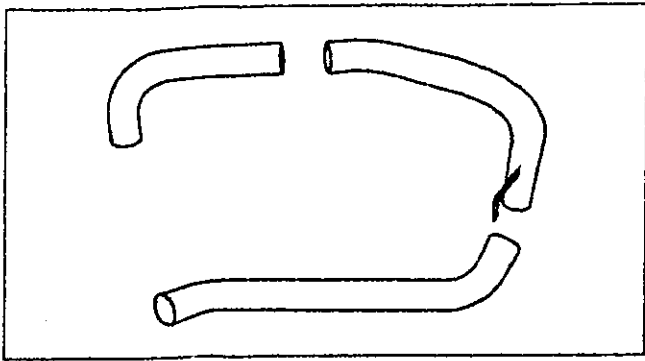
**Oil Pressure Line Connection**

- (1) Remove the factory oil pressure switch located on the left side of the oil filter, then install the oil pressure union and the three way fitting as shown. (Parts used #19, 20, 21)



**Compression Pipe Installation**

- (1) Install the Compression pipe C-1, C-2 and C-3 between the turbo and the throttle body. (Parts used #7,8,9,30,33,34,39,40,41)

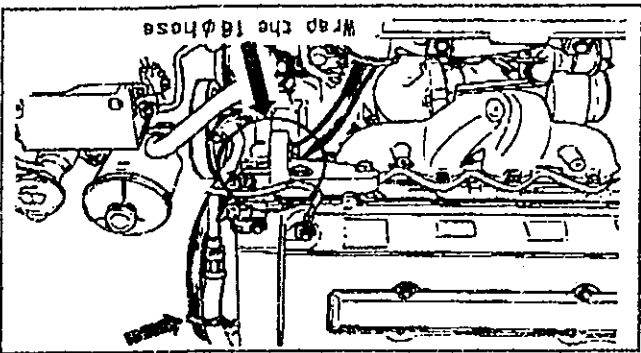


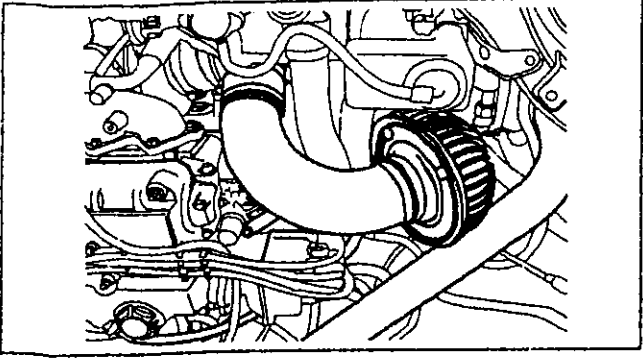
- (2) Connect the oil pressure line from the turbo to the three way fitting.

- \* Route the oil pressure line to the back of the engine along with the power steering line. (Pulley side of the engine) Make sure that the line will not rub up on the actuator rod, by securing it on to the A/C condenser fan frame as shown. (Wrap the line with 16Ø hose before securing it to the fan.)
- \* Apply some Teflon tape to the PT side of the union fitting. (Parts used #28, 50)

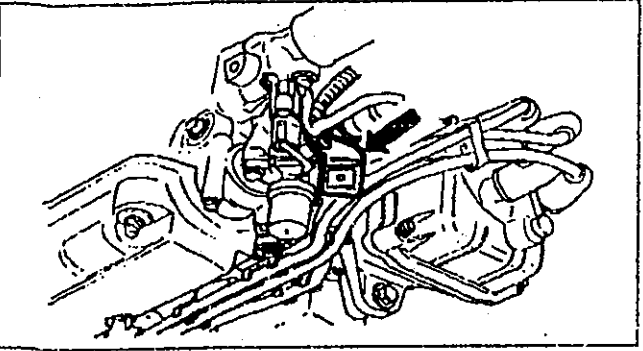
**CAUTION**  
Improper connection of the oil pressure line can damage the turbocharger. When applying Teflon tape, make sure not to get it in side the line. Only on the threads.

**CAUTION**  
If the oil pressure line rubs up on the actuator rod, it will interfere with actuator operation and can damage the engine.

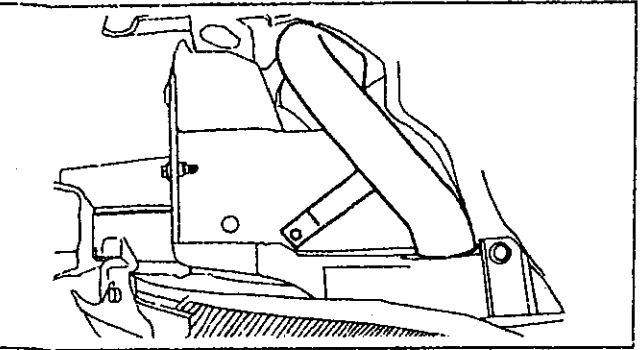




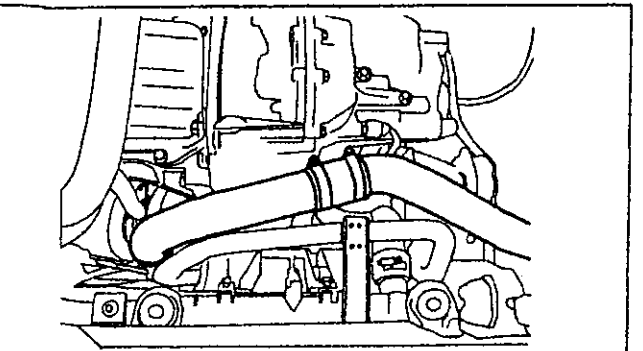
- (3) Install the Airinx, Suction pipe S-1, and S-2 to the inlet of the turbo. Secure the S-2 bracket to the VTEC Spool Valve base.
- \* Push down and back the clutch line tube to avoid contact with the suction pipe.
  - \* Use the 80Ø X 60mm hose ( Part # 31)
- between S-1 and turbo.  
 (Parts used #5, 6, 31, 32, 42)



- (2) Install the Airinx adapter to the Airinx air filter using the provided 6mm cap bolt.  
 (Parts used #10, 11)

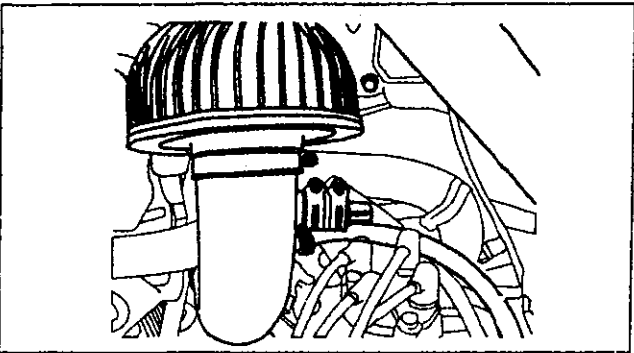


- (2) Secure the compression pipe C-2 to the chassis as shown .

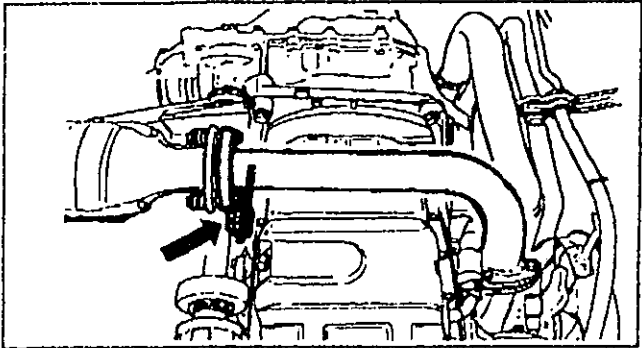


- 3-10 Suction Pipe Installation**
- (1) Remove the VTEC Solenoid Valve connector harness bracket. Secure the harness down with a zip tie.  
 (Parts used #50)

(4) Connect the 10Ø blow-by hose from the valve cover and install the intake temp. sensor to the suction pipe S-2. Use the supplied harness extension for the sensor, and Route the blow-by hose under the distributor.  
 (Parts used #27, 36, 52)



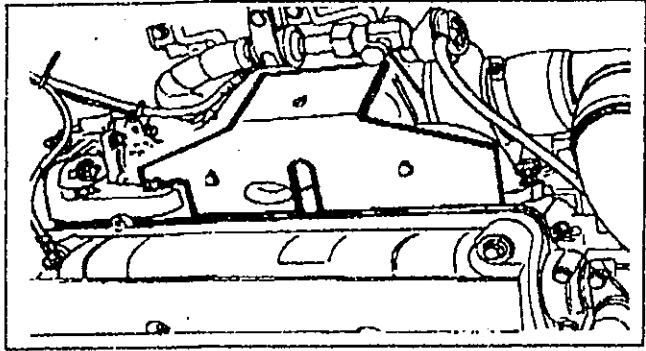
**3-11 Down Pipe Installation**  
 \* Install the down pipe with the provided gaskets.  
 \* Reuse the factory hardware at the catalytic converter and the down pipe bracket.  
 (Parts used #4, 45, 46, 57)



**3-12 Heat Shield Installation**  
 Reinstall the oil level gauge, then install the heat shield.

**CAUTION**  
 The exhaust manifold gets extremely hot! With out the heat shield, it can damage the vehicle or even cause fire in the engine room. Make sure you use the provided heat shield.

(Parts used #48, 54)

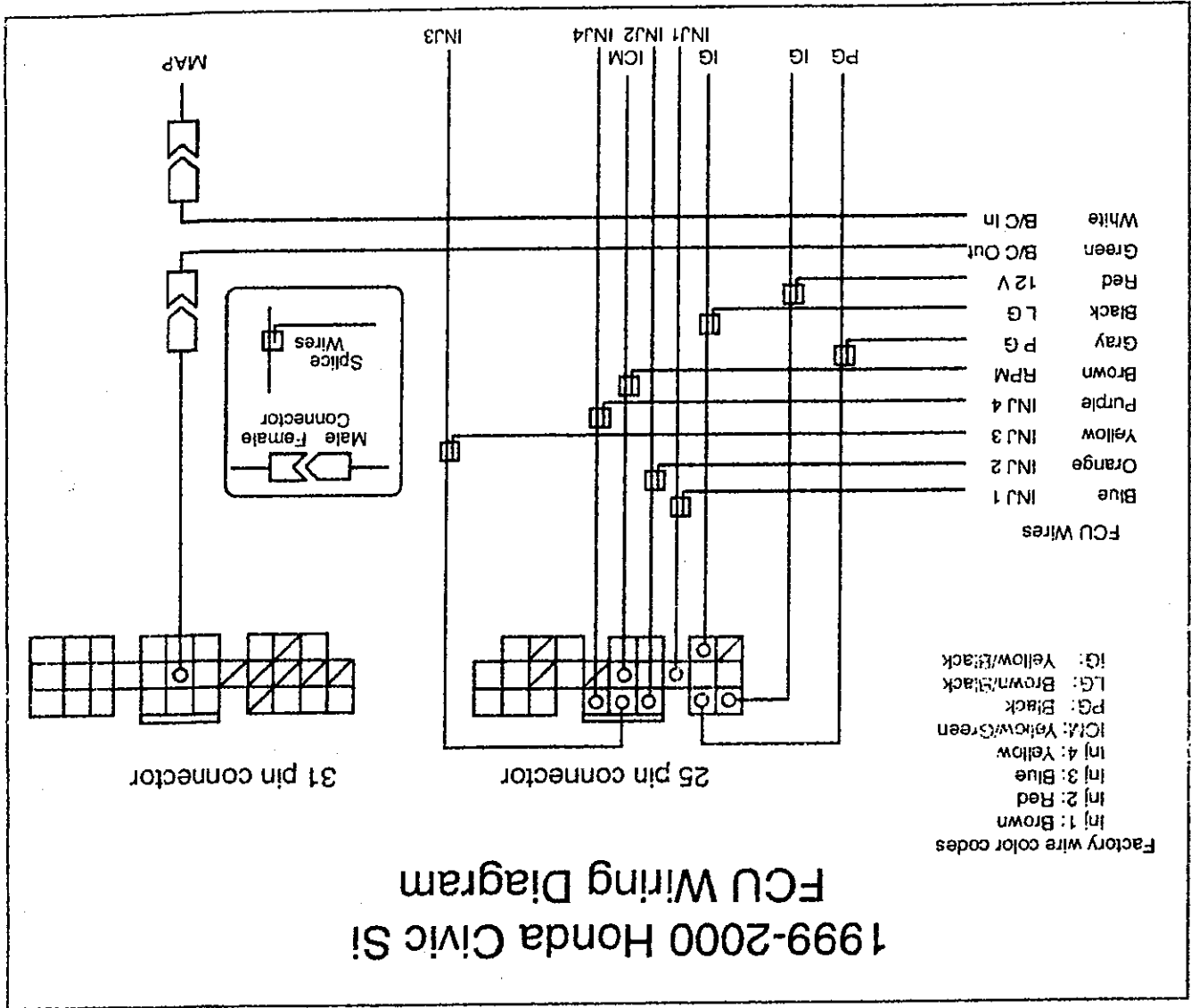


**3-13 Actuator Vacuum Line Installation**  
 Share the vacuum port on the back of the intake manifold using the three way vacuum tee, and connect the provided vacuum hose between the three way tee and the actuator.  
 \* Secure the vacuum hose so that it will not rub up on the radiator fan.  
 (Parts used #25, 50, 51)

**3-14 Upgrade Injector Installation**  
 Replace the Factory Injectors, Injector seal rings, and the connectors with the provided upgrade Injectors, Injector seal rings, and connectors. The + (positive) and - (negative) terminals of the upgrade injectors are on the same sides as the factory injectors.  
 (Parts used #12, 13, 14)

**Important**  
 Make sure to solder all injector wires carefully and use electrical tape or shrink wrap to insulate the wire connections.

**3-15 Fuel control unit Installation**  
 (1) Remove the factory ECU located by the passenger side floor. Wire the Fuel Control Unit to the ECU as shown in the diagram below.  
 (Parts used #15)



- (2) Reinstall the ECU back in its place, and secure the Fuel Control Unit next to the ECU.

### 3-16 Starting the Engine

- (1) Refill the coolant to factory spec.
- (2) Refill the engine oil to factory spec.
- (3) Check all the hoses and wires connection, then reconnect the negative side of the battery.

- (4) Disconnect the distributor harness to crank the engine to get oil pressure to the turbo. Check for any oil leaks, then reconnect the distributor 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  $0.6\text{kg/cm}^2$  to  $0.5\text{kg/cm}^2$ . 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!**  
GReddy Performance Products, Inc. is not responsible for any engine damage caused by over boosting (increased boost), modified kit, or misuse of the product.

Due to lack of control over proper installation and use of this product, no warranty is offered concerning the turbocharger.