

GReddy Turbo Kit

05-on SCION TC

TD05-18G 8cm²

Installation Manual

Please read the entire manual before installing this kit.

Application:

Make	Model	Chassis	Year
SCION	TC		05-on

- This **GReddy Turbo Kit** is designed only for the vehicles specified above.
- Premium grade gasoline (92 octane or higher) is required with this Kit.
- Use of **GReddy Racing Spark Plugs ISO #7** or NGK plugs (colder than factory) is recommended with this kit.
- This Turbo Kit **DOES NOT include a fuel control system**. It is mandatory to purchase a fuel control system as installing the turbo kit alone will cause engine damage due to extreme lean conditions.
- It is recommended to purchase either the *tC Turbo e-Manage Kit* or the *tC Turbo e-Manage Ultimate Kit*. These kits include 440cc injectors and the control unit is loaded with a program, made specifically for this application. Please contact an Authorized GReddy Dealer for purchasing information.
 - Scion tC turbo kit e-Manage Kit part number: TC440EMK
 - Scion tC turbo kit e-Manage Ultimate Kit part number: TC440EUK

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	TD05-18G 8cm2 P560mmHg	1
2.	Exhaust manifold	(Stainless)	1
3.	Down pipe 1	(Cast Ductile Iron)	1
4.	Down pipe 2	(60 ϕ steel)	1
5.	Intercooler	(TYPE 31)	1
6.	Suction Pipe	S-1 (80 ϕ Aluminum)	1
7.	Compression Pipe	C-1 (50 ϕ Aluminum)	1
8.	"	C-2 (50 ϕ Aluminum)	1
9.	"	C-3 (60 ϕ Aluminum)	1
10.	"	C-4 (60 ϕ Aluminum)	1
11.	"	C-5 (60 ϕ Aluminum)	1
12.	Airinx AY-M	(Blue Filter)	1
13.	Airinx Adapter Hose	(M70)	1
14.	Airinx Adapter	(INX-1020)	1
15.	Oil Pressure Line	400mm	1
16.	Oil Pressure Fitting	1/8PT-M10 P1.25	1
17.	"	Copper Washer 10 ϕ (t=1.0)	1
18.	"	3-way 1/8PT	1
19.	"	1/8PT – 1/8PT	1
20.	"	1/8PT – 1/8PF	1
21.	Oil Return Flange Pipe	16 ϕ (turbo)	1
22.	Oil Return Pipe	16 ϕ (engine) (Weld-on Type)	1
23.	Hose	5 ϕ 1000mm	1
24.	"	16 ϕ 300mm (Blow-by .)	1
25.	"	16 ϕ 350mm (Oil Return .)	1
26.	Silicone Hose	50 ϕ Straight (70mm)	2
27.	"	60 ϕ Straight (70mm)	3
28.	"	80 ϕ Straight (80mm)	1
29.	"	50 ϕ -60 ϕ Reducer	1
30.	"	60 ϕ -65 ϕ Reducer	1
31.	"	70 ϕ -80 ϕ Reducer	1
32.	Hose band	10 ϕ #5	4
33.	Hose band	16 ϕ #10	4
34.	Hose band	50 ϕ #32	5
35.	Hose band	60 ϕ #36	8
36.	Hose band	65 ϕ #40	2
37.	Hose band	70 ϕ #44	2
38.	Hose band	80 ϕ #48	3
39.	Gasket	Turbo Inlet (TD05)	1

40.	"	Turbo Outlet	(TD05)							1
41.	"	Down pipe	(60 ϕ Triangle)							1
42.	"	Oil Return	(TD05)							1
43.	Heat shield									1
44.	Thermo Cloth	1000mm								1
45.	Zip Ties	150mm								10
46.	3-Way vacuum fitting	10 ϕ -5 ϕ -10 ϕ								1
47.	One way Valve									1
48.	Intercooler	Bracket								1
49.	Airinx	Bracket								1
50.	Heat shield	Bracket								1
51.	M4x10mm	Stainless	Cap	P=0.7	B	-	-	-		2
52.	M6x15mm	Stainless		P=1.0	B	S/W	-	-		2
53.	M6x15mm	Stainless		P=1.0	B	S/W	F/W	-		3
54.	M6x20mm	Stainless		P=1.0	B	S/W	F/W	N		1
55.	M8x35mm	Stainless		P=1.25	B	-	F/W	N		3
56.	M8x30mm	Stainless	Stud	P=1.25	B	S/W	-	N		5
57.	M8x38mm	Stainless	Stud	P=1.25	B	S/W	F/W	-		1
58.	M8	Stainless		P=1.25	-	-	-	N		2
59.	M10 x25mm	Stainless		P=1.5	B	S/W	-	N		3



1



2



3



4



5



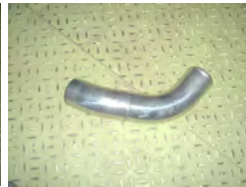
6



7



8



9



10



11



12



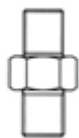
13



14



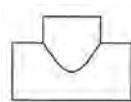
15



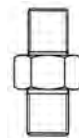
16



17



18



19



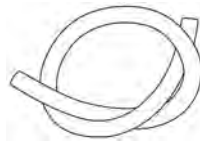
20



21



22



23~25



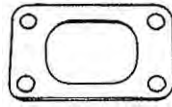
26~28



29~31



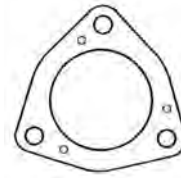
32~38



39



40



41



42



43



44



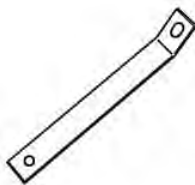
45



46



47



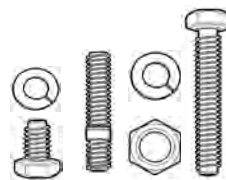
48



49



50



51~59

2. Removal of Stock Parts

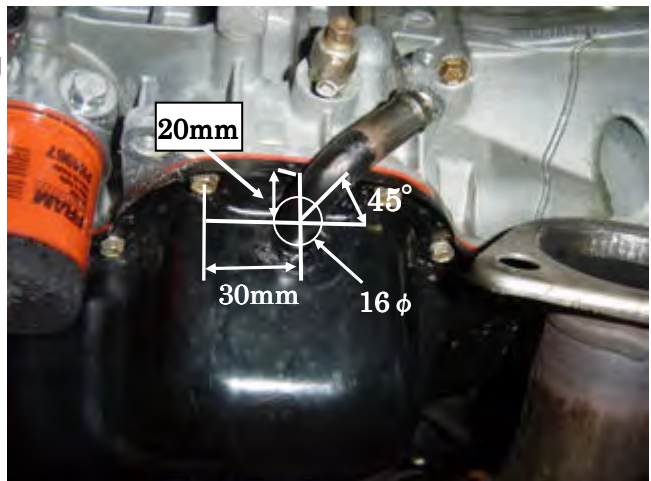
Please refer to the OE repair manual for removing stock parts.

- 2-1 Disconnect the negative terminal of the battery.
- 2-2 Drain the engine oil.
- 2-3 Disconnect the air flow meter.
- 2-4 Remove the Air cleaner assembly with airflow meter, intake tube.
- 2-5 Disconnect the primary O2 sensor and remove the exhaust manifold
- 2-6 Remove oil pan (Please refer to the factory service manual for detail instructions for removing the oil pan.)

3. Kit Installation

3-1 Oil pan modification

1. Clean the oil pan.
2. Use the diagram to the right for welding the oil return pipe to the oil pan.
3. Mark the oil pan to drill out for the 16mm hole.
4. Install the oil return pipe and weld the pipe to the oil pan as the diagram shows.
5. Clean the welded area and paint to prevent rusting.
6. Reinstall the oil pan on to the engine.



(Parts used #22.)

3-2 Thermo Cloth Installation

Wrap the AC line and surrounding wire harnesses with the provided thermo wrap.

(Parts used #44)



3-3 Turbocharger Assembly

1. Install the oil return flange tube to the turbocharger using the provided gasket.

(Parts used #1, 21, 39, 52)

2. Install stud bolts to the exhaust housing and install the down pipe adapter with provided gasket.

(Parts used #3,40,56)



3. Mount the turbocharger to the manifold using the provided gasket and bolts.

(Parts used #2, 3,39, 55,57)

4. Install the down pipe adapter1 to the down pipe adapter2 with provided gasket and hardware.

(Parts used #4,41,59)



3-4 Turbocharger Assembly Installation

Install the turbocharger assembly with the provided gaskets.

- ※ Use stock bolts and exhaust manifold gasket.



3-5 Front exhaust pipe Installation

Install the factory front exhaust pipe to the down pipe.

※ Use stock bolts and exhaust gasket.



3-6 Oil Return Connection

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

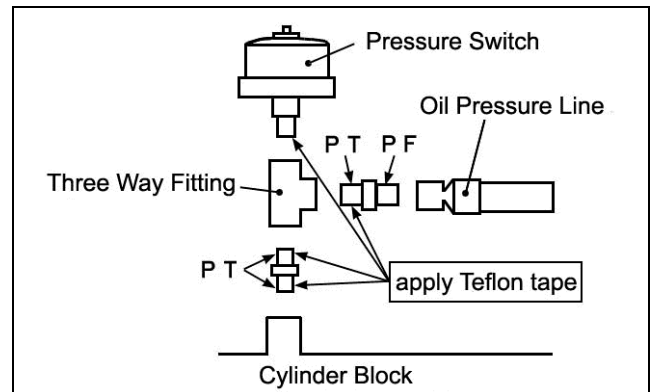
(Parts used #25, 33, 44)

3-7 Oil Pressure Line Connection

1. Remove the factory oil pressure switch then install the oil pressure union and the three way fitting as shown.

(Parts used #18, 19, 20)

※Apply Teflon tape to the PT side of the union fitting.



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

(Parts used #15,16,17.)

※Install the oil pressure line to the turbocharger using oil pressure fitting, 1/8pt-M10 P1.25and copper washers.



CAUTION

Improper connection of the oil pressure line can damage the turbocharger. Take caution to prevent teflon tape from entering the oil lines.

3-8 Intercooler Core Installation

Mount the intercooler core as shown. Secure the top bracket to the hood latch assembly and the bottom bracket to the sub-frame.

(Parts Used #5, 48, 54)



3-9 Suction Pipe Installation

1. Remove the Airflow Sensor from the stock air box and install onto provided Airinx adapter. Take caution to install in the proper direction. Use stock bolts.
(Parts used #12)

2. Install the Airinx adapter on to the Airinx Air filter.
(Parts used #12,13,14)



3. Install the S-1 pipe to the turbo inlet and the Airinx assembly to the S-1 pipe as shown.

(Parts used #6,28,31,37,38)

4. .Connect the blow by tube from the valve cover to the S-1 pipe with the provided 16 ϕ hose and clamps

(Parts used #24, 33)



3-10 Compression Pipe Installation

1. Install the Compression pipes C-1, C-2 from the turbo outlet to the Intercooler.
(Parts used #7,8,26,30,34,35)



2. Install the Compression pipes C-3, C-4, C-5 from the Intercooler to the throttle body.
(Parts used #9,10,11,27,30,35,36)



3-10 Heat shield Installation

- Install the heat shield to the alternator as shown.
(Parts used #43, 50, 36, 50, 53)

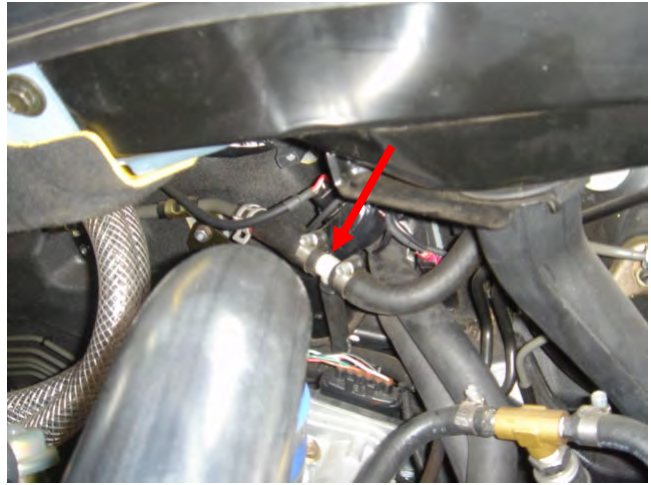


3-12 Vacuum line Installation

Cut the brake booster vacuum hose by the intake manifold and install the 3-way fitting. Connect the 5 ϕ side to the actuator with the provided 5 ϕ hose.

*Secure all the vacuum hoses with zip ties to prevent the hose from disconnecting.

(Parts used #23,45,46)



3-13 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.

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.