AnroT安若特®




# Anrot Supercharger

## 2015–2019 TOYOTA FJ 1GR 4.0 V6

# WARNING!

This kit is only used on original unmodified vehicles

# 安装手册

FJ 4.0 1GR 2010-2020

Eaton supercharger: The FJ will soon be working

First check the goods if you find damage or shortage, please inform us, installation needs to have technical, experienced personnel.

Use only premium gasoline fuel, 95 octane or better. Use premium fuel prior to installation to prevent engine detonation or any damage that may occur due to running a turbocharged engine with a lower octane value fuel.

When installing the turbocharger, be sure to check any suspended or actual OBD codes and check whether any system or component is faulty. (If there is a problem, fix it before installing the turbocharger.)

Note: This installation manual is only applicable to the original state of the vehicle

# 1. Remove some components of the original car



1 Remove the negative battery cable from the battery with a 10 mm wrench.
The battery is located in the left front area of the engine compartment. Ensure that cables and leads are wrapped in insulating material to avoid accidental connections.



2 Pull up from the front of the hood to remove the hood.



3. Unplug the air flow meter plug.



4 Loosen the electrical harness clamps at the arrow position.



5 Remove the air filter cover and disconnect it from the intake hose.



6 Remove the air filter element



7 Use a crowbar to remove the electrical clamp from the position indicated by the arrow. The connection can also be loosened by squeezing the outer edge of the back of the clamp.



8 Use special tools to remove the clamp and remove the exhaust PCV hose.



9 Disconnect the vacuum line shown.



10 Remove the hose clamp on both sides of the intake pipe.



11. Remove the intake manifold.



12Loosen the spring clamp and remove the pipe shown in the figure.



13. Pull out the throttle control plug.



14 Disconnect the two cooling lines located in the throttle body (remove the spring clip, unscrew or pry open the hose).



15 Use a 10 mm sleeve to remove the four screws on the throttle.



16Disconnect the solenoid valve line and remove the plug at the arrow position.



17. Disconnect the clamp of the fixed wire.
(Push down from the top and pry open)



18 Remove the two hose clamps at the position indicated by the yellow arrow.
(This is done by holding and pulling these clamps)



19 Remove the hose from the bottom of the intake pipe as shown by the arrow.



20 Use a 12 mm socket to remove the bolts that hold the front bracket of the intake manifold in place.



21 . Remove the bolts that hold the intake manifold to the left front side.



22. Remove the bracket and fix the bolts to the side of the intake manifold.



23Note: Before proceeding, ensure there is no dirt or debris on or around the intake manifold base. If present, it must be cleaned to prevent it from entering the engine when removing the intake manifold. Use an 8 mm hex socket to remove the six bolts
(At the yellow arrow). The magnet helps to remove the nut from its position.



24 Carefully remove the intake pipe and make sure all connections are removed.



25 The engine and manifold are shown to be removed. Clean the intake area with a clean dry cloth, then use an appropriate degreaser to clean the intake surface. Suction out all debris from the intake. Ensure there is nothing in the combustion chamber.



26. Remove the wire bracket indicated by the arrow.



27 Remove the fixed support of the large line here





28. Remove the two cable harness clamps

29. Remove two M6 narrow wires





30. The demolition is complete, as shown in the figure

31. Remove the two fixed clamps and the two narrow wires





32. The main driver's side exhaust pipe is not required to be removed and can be used

33. Remove the ignition coil fixing screw





34. Pull out the ignition coil plug

35. Check and recommend replacing the original spark plug with a genuine 7 degree calorific

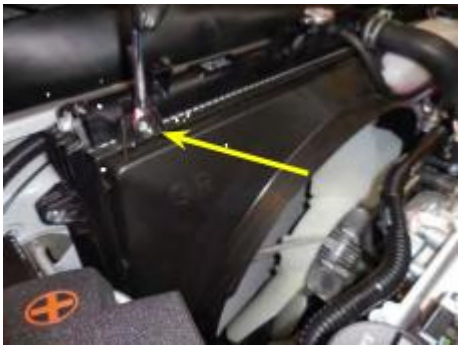
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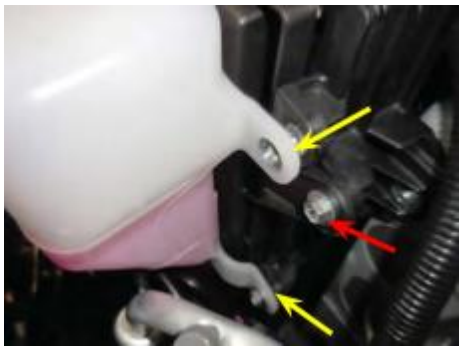
36. Release the antifreeze from the tank
。



37 Remove the dec–orative panel with 7 clips.



38Remove the screws shown in the arrow position of the radiator fan cover.



39 Remove the radiator side water pot, where two screws are shown in yellow arrows and another is located on the other side of the rad–iator side water pot, and remove the fan cover screw that is shown in red arro–ws.



40 Disconnect the overflow hose.



41 Remove the hose clamp at the position indicated by the arrow.



42 Remove the four nuts that hold the cooling fan to the pump.



43Remove the fan cover



44. The radiator is well protected.



45 Remove the central net clip



46 Remove the fixed screws of the net

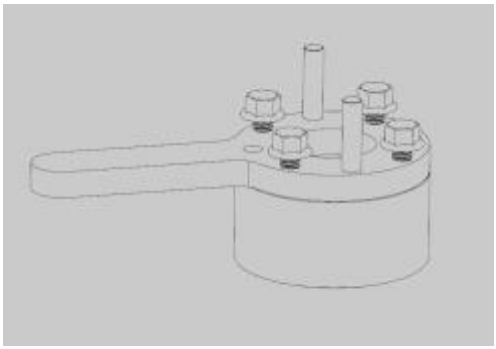



47 Remove the middle net

# 2. Install the crankshaft wheel



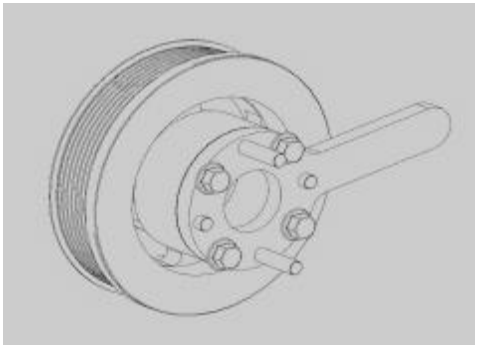
48Remove the special tool assembly for removing the crankshaft wheel from the box.



49 Assembly tools.



50. Install the sleeve to prepare for removal of the crankshaft wheel.



51 Install special tools, remove crankshaft wheel screws.

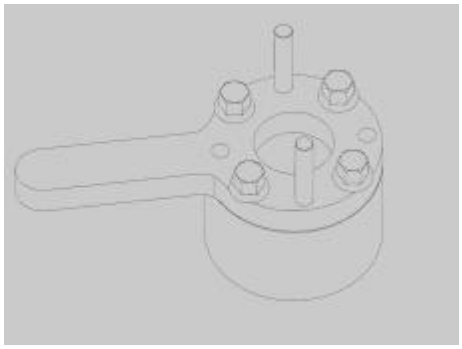


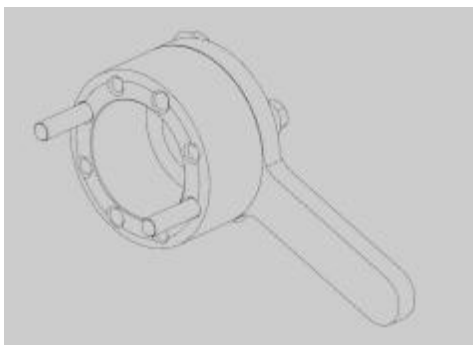
52 Remove the belt pulley with the box. The pulley has a locating pin as shown by an arrow.



53The belt pulley is positioned in the box and aligned with the arrow keyway.

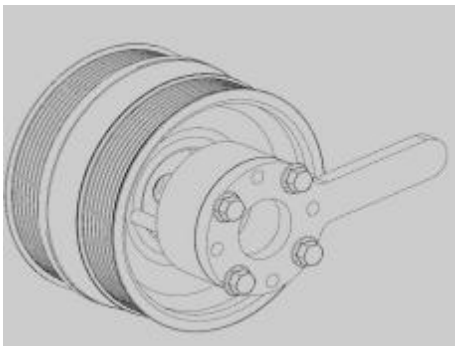


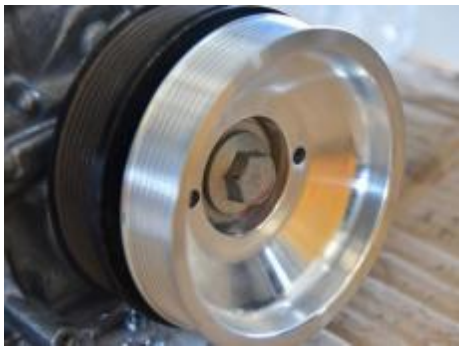




54 Install the crankshaft wheel extension screw. 55. Remove the screws indicated by the arrow. 56. As shown in the figure.

Anti-backlash installation.





57 As shown in the figure, install the pulley with the box and install the diagram of 58 Tighten the screw to 277 nm. (The positioning pin must be aligned.)



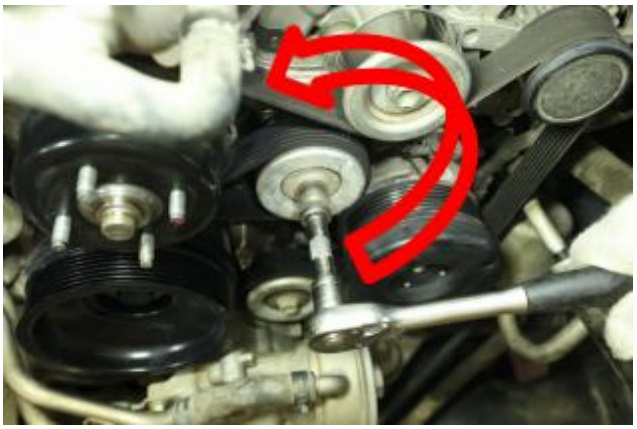
59. Remove the engine side drain pipe



60. Remove three fixed screws from the thermostat base



61. Remove the thermostat



62. Pull the tensioner in the direction of the arrow and remove the belt



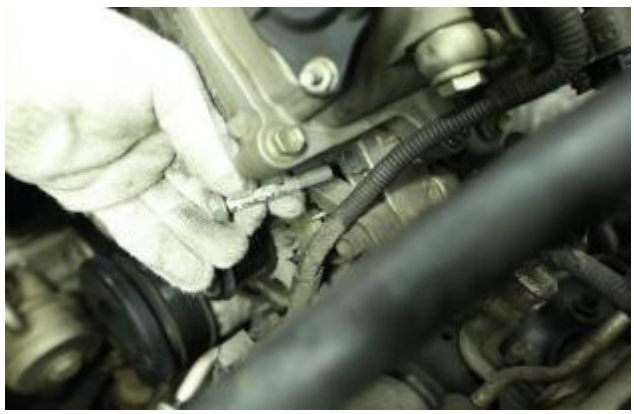
63 Loosen the motor idler wheel sc.rew



64. Remove the generator idler wheel



65. Remove the motor fixing screws



66. Remove the generator fixing screws



67. Schematic diagram of thermostat base and disassembly tools



68. Use the tool to remove the thermostat



69. Remove the thermostat and seal (check that the seal is worn out and needs to be replaced)



70. Use the tool to install the thermostat on the repl-acement base



71. The two tongues of the thermostat accurately enter the slot



72. Install thermostat base



73. Tensioner, flywheel and



74. Apply anaerobic glue on one side of the double-headed screw

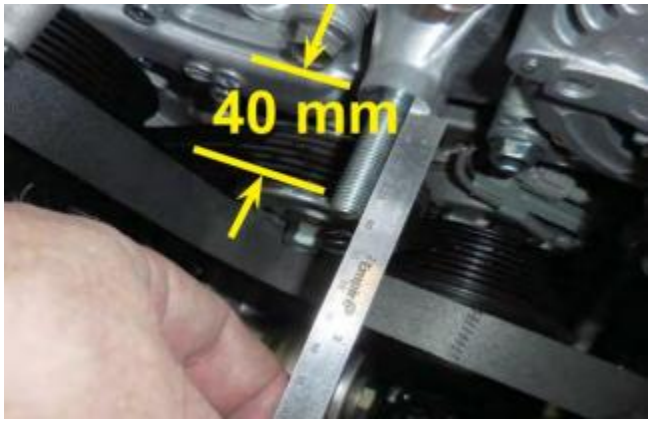
fixed bracket diagram



75. Install the double head screw at the idler wheel position



76. Tighten the double-ended screw with two nuts




77.The screw protrudes 40MM



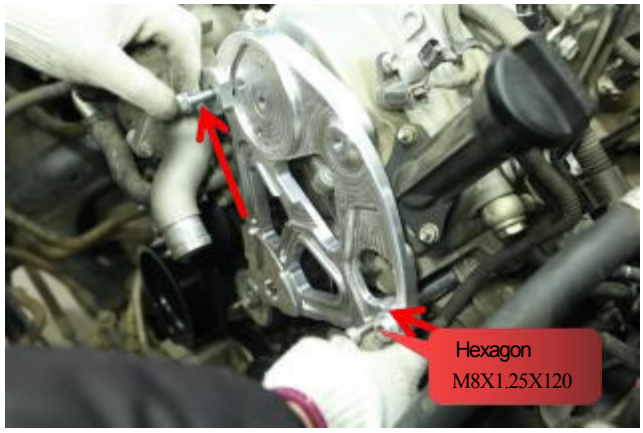
78. Install the original generator idler wheel



79. Install the original belt



80. Install the idler bracket and raise the bushing




81. Install the idler bracket sc.rew s

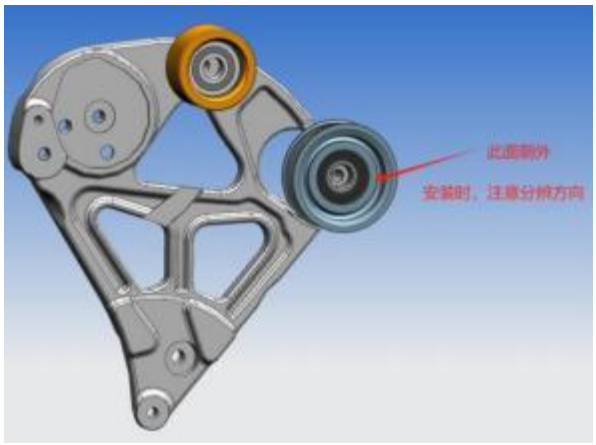


82. Anoxygen glue is applied to the M 10 nut





83. Tighten the M10 nut 84. Install two light iron idlers





85. Install the grooved idler wheel (note the positioning at the screw
86. Install the tensioner (the belt must first pass through the wheel)





87.The original water pipe needs to be cut off 4CM
88. Install the sewer pipe





89. Remove one screw of the turbocharger. Note: 90. Remove the water-cooled upper cover of the turbocharger 13 Do not move the paint-marked screws





91. Install the original sealing ring. If it is seriously aged, 92. First, screw on an external hexagon M8x30 screw at the six-cylinder inlet to replace it





93. The two men worked together to lift the turbocharger to the engine 94. Tighten all six turbocharger mounting screws evenly





95. Install the supercharger water cooling upper cover

96. Tighten the cap fixing screws evenly





97. Attach the screw to the bent rod with tape 98. Tighten the screw from






99. Lock the cap screw

100. Install two fixed brackets on the side of the turbocharger





101. Install the oil rail regulating valve vacuum tube

102. Install the throttle and plug in the front of the car





103. Install the throttle water pipe

104. Install the air box to the throttle intake pipe





105. Install exhaust pipe

106. Install the exhaust pipe and the carbon can solenoid valve hose

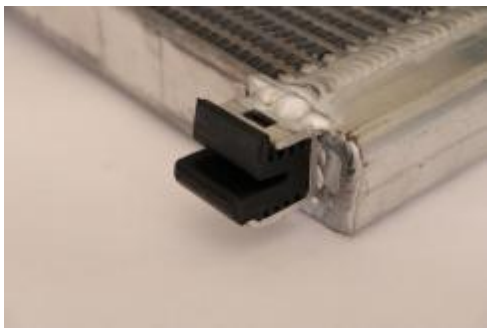
# Install the radiator tank, pump, kettle and pipe



107 Schematic diagram of water cooling and bracket



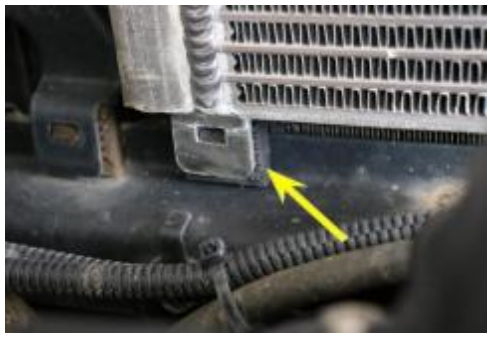
108 Schematic diagram of water tank frame



109 Shockproof rubber for the lower bracket of the water tank



110 Install the radiator tank



111 The shockproof rubber sleeve should be clamped on the side beam



112 Schematic diagram of the bracket on the water tank







113. The mounting position of the bracket on the water tank support 115. Install the hood lock

114. Install the tank frame



116 Pump support installation position
(Below the side of the original battery)



117. The pump is installed as shown in the figure




118A diagram of a kettle



119. Position of the kettle



120. Air cooling water pipe A



121 . Air cooling water pipe B



122. Air cooling water pipe C



123. Air cooling water pipe D



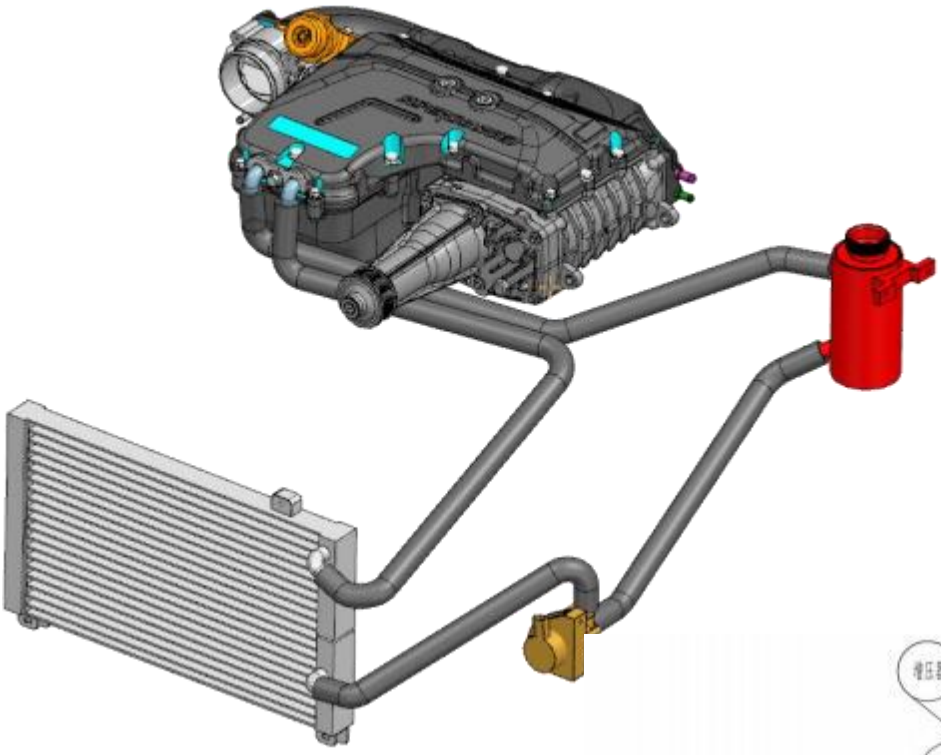


124. Install wear-resistant rubber ring here

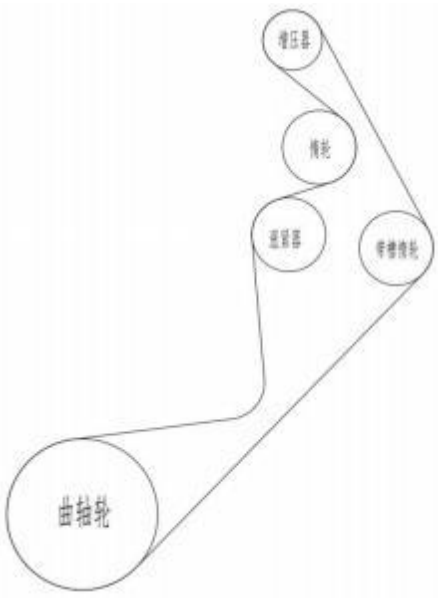
125. The installation is shown in the figure below (two

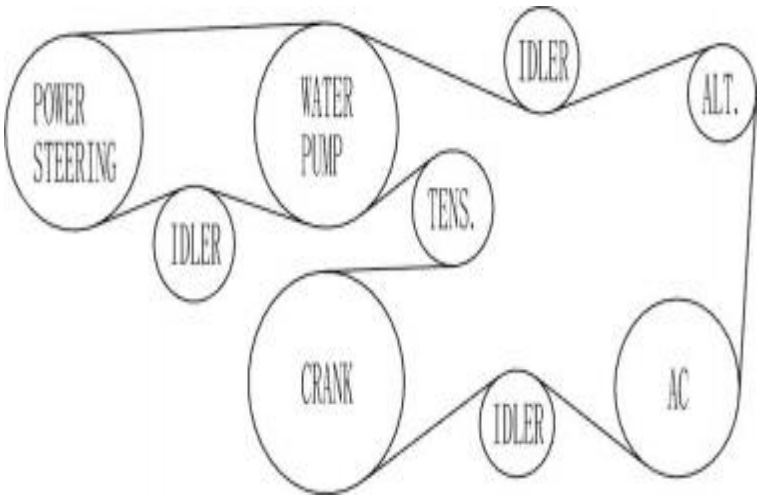
The root heating pipe passes through it.

This wear-resistant rubber must be insta-lled)



126. Schematic diagram of water pipe direction






127 Original belt layout diagram 128. Mechanical supercharger belt layou

# 注意事项

Check whether the original spark plug needs to be replaced. It is recommended to use the original spark plug or a genuine spark plug one degree higher than the original car

After the installation, check all pipes for friction and collision

Check that the radiator antifreeze, turbo oil, and turbo belt are properly installed

Start the engine and immediately shut it off after 3-5 seconds. Check if the belt is properly installed and if there is insufficient boost oil. If it's low, add more oil and start the engine again after about 20 seconds. During this time, closely monitor the oil level in the dipper to ensure it is adequate. After refilling, start the engine again and check for any leaks of oil, water, or air

Before the test drive, do not perform any wide-open throttle operation for the first few kilometers. Check for unusual noises, vibrations, or engine misfires. It is normal for the turbocharger to have a slight intake sound under boost conditions. After an initial test, let the engine cool down and check if there is any shortage of coolant or turbocharger oil, and look for any leaks

After the initial test drive, gradually accelerate the vehicle to full speed and listen for engine knock (pounding sound). If you detect engine knock, immediately release the throttle. Most knock is caused by low-octane gasoline in the tank; you need 95-octane fuel. If the inspection is correct, enjoy your new turbocharger to the fullest.

It is recommended to use full synthetic oil 5w-40

Add the appropriate antifreeze according to local weather conditions.

Check the antifreeze for loss, turbocharger lubricating oil, and whether it reaches the limit when maintaining the vehicle. Turbocharger maintenance: replace the lub-

ricating oil and filter element every two years or 60,000 km.