

# Ferrari Testarossa 1987

OS Giken Clutch Replacement

Document Version 1.0

# Required Parts

- Standard socket sets and tools including 10mm and 12mm Allen keys
- Clutch housing O-ring 104747
- Bell housing O-ring set 24612080
- Agip Brake Fluid DOT4 AGIP4310
- Agip Rotra M 80w-90 Transmission Oil AGIP0500
- OS Giken Clutch kit FR201-CH5 or FR201-CO5
- Clutch Alignment Tool

- Undo the four 10mm nuts holding the air cleaner air intake to the heat shield. Withdraw with washers.
- Undo the large jubilee clips holding the rubber hoses around the back of the air cleaner assembly. If present, undo the jubilee clip holding the cloth/rubber hose for blow-by gas recirculation. Pull off the cloth/rubber tube.
- Remove the four 10mm nuts holding the air cleaner assembly to the intake manifolds.

- The air cleaner assembly can slide forward now. It's a tight fit so pull firmly. When removed you can remove the shield underneath.



- Engine with air cleaner removed.



- In order to remove the exhaust it is necessary to remove the rear valance. This is held by ten 10mm bolts.
- First, from the inside, remove the two per side holding the valance to the side panels. These are the farthest away.
- Remove two per side that hold the valance to the inner wheel arch.
- Finally, with care, remove the top ones, one per side. At this point the valance can be dropped.



- The exhaust on this Testarossa has no catalyst. At the manifold end it is held on by three 13mm nut and bolt per exhaust pipe.
- Use standard open ended spanners to loosen the connections. At the top it is held by one 13mm nut and bolt per side. Pull out the exhaust once all nuts and bolts are removed.





- Remove the three 10mm nuts holding on the heat shield and slide it downwards.



- Transmission housing with heat shield removed.



- Unclip the two electrical connectors, one of which is the crankshaft position sensor and put them to the side.



- Use a 10mm Allen key to undo the drain plug on the bell housing. About 300mm of fluid will come out. There should be a copper washer with the plug.



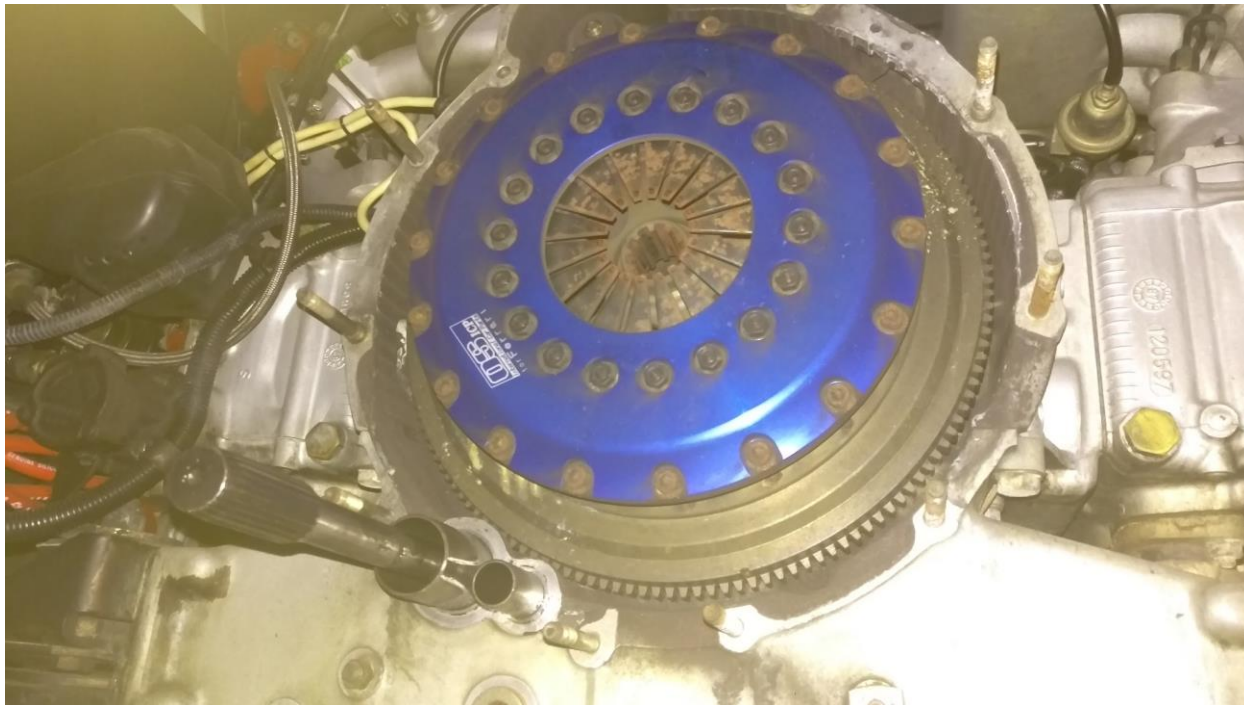
- Use a 13mm flare spanner to undo the line supplying brake fluid. Plug both the plug and hose.



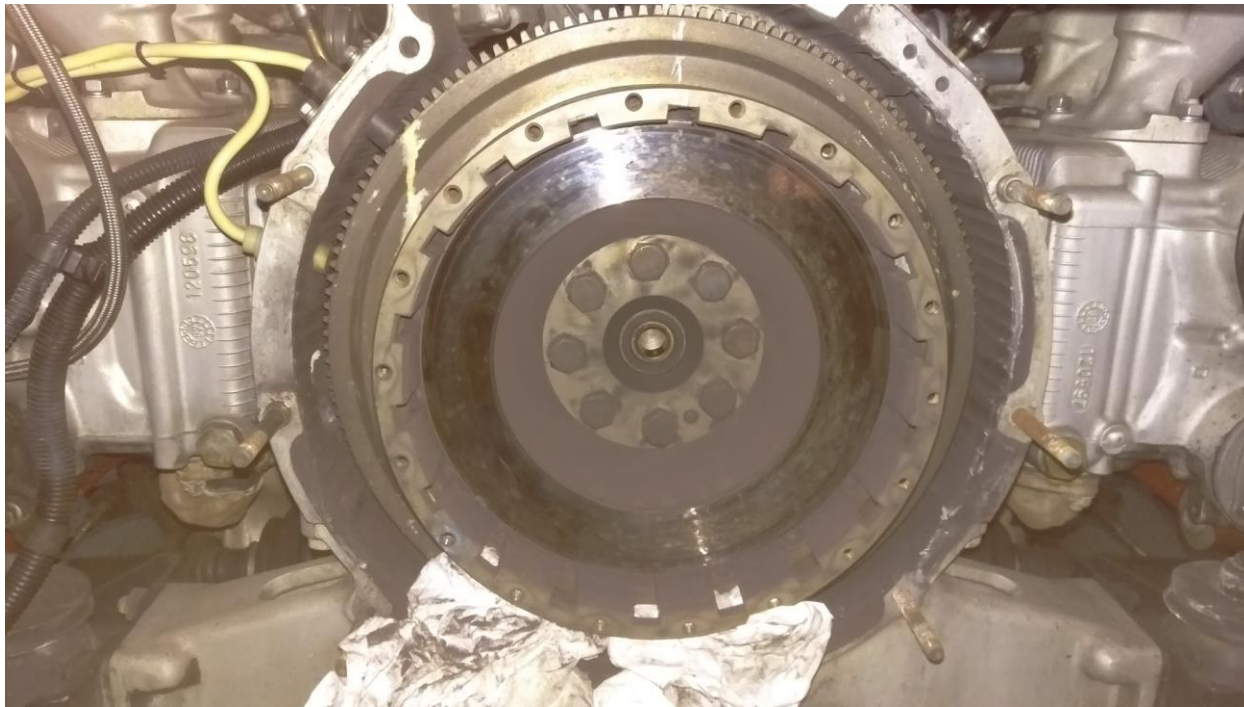
- There are nine 13mm nuts holding the housing and three 13mm bolts that hold the housing and the starter. Undo these and use a rubber mallet to dislodge the housing. One bolt is right underneath.



- Pull the clutch and transmission housing and the turn to the right. You may pull out the gearbox shaft, so push it back by hand. The bell housing can be removed downwards.



- To remove the clutch undo the eighteen 5mm Allen bolts around the periphery. The cover will drop exposing the elements inside, which can be just pulled out.





- Before refitting clean the inside of the bell housing. The shaft in the middle holds the thrust bearing. Check its condition.
- Note the driveshaft and oil ports. Remove the old O-rings.



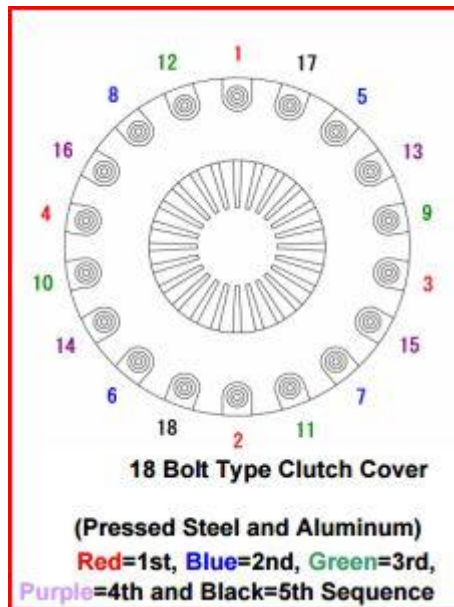
- In UK new clutch plates are supplied from Japan courtesy of RB Motorsport, Lancashire. Plates are fitted in the order supplied in the pack. A new cover plate and bolts are supplied but reuse the floating hub. Tighten 5mm Allen bolts to 1.8 kg-m or 13 lb-ft of torque as per instructions.



- Tightening instructions copied from the manual.

#### How to Tighten Clutch Cover Bolts

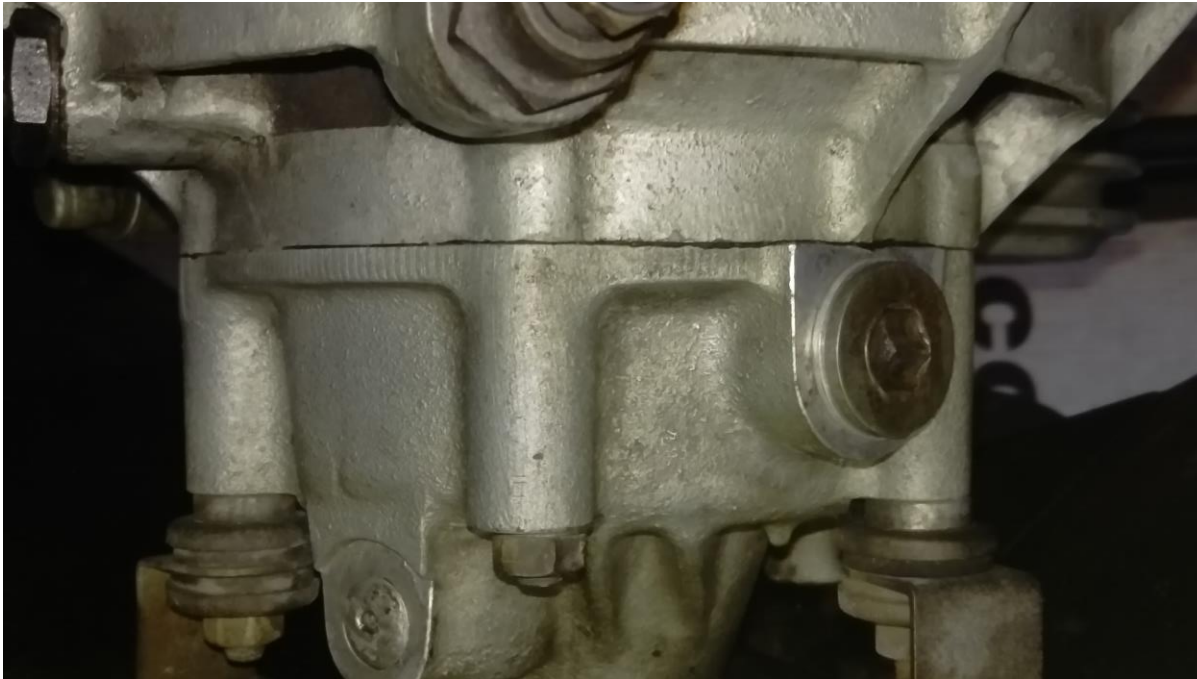
- Step 1. Temporarily tighten the clutch cover bolts by hand. At this time, tighten the bolts in order following the order shown on Chart 3. After temporarily tightening by hand, insert center alignment tool and make sure friction discs are aligned. If you can not move the alignment tool smoothly, you need to loosen all the cover bolts and repeat from the beginning.
- Step 2. Temporarily tighten the clutch cover bolts using a tool in the same order as Step 1. At this time, do not fully tighten to the torque spec shown on Revised Chart 1. After temporarily tightening with the tool, insert center alignment tool and make sure friction discs are aligned. If you can not move the alignment tool smoothly, you need to loosen all the cover bolts and repeat from Step 1.
- Step 3. Tighten the clutch cover bolts with a torque-wrench at the torque spec shown on Revised Chart 1 in the same order as Step 1. Afterwards, insert center alignment tool and make sure friction discs are aligned. If you can not move the alignment tool smoothly, you need to loosen all the cover bolts and repeat from Step 1.



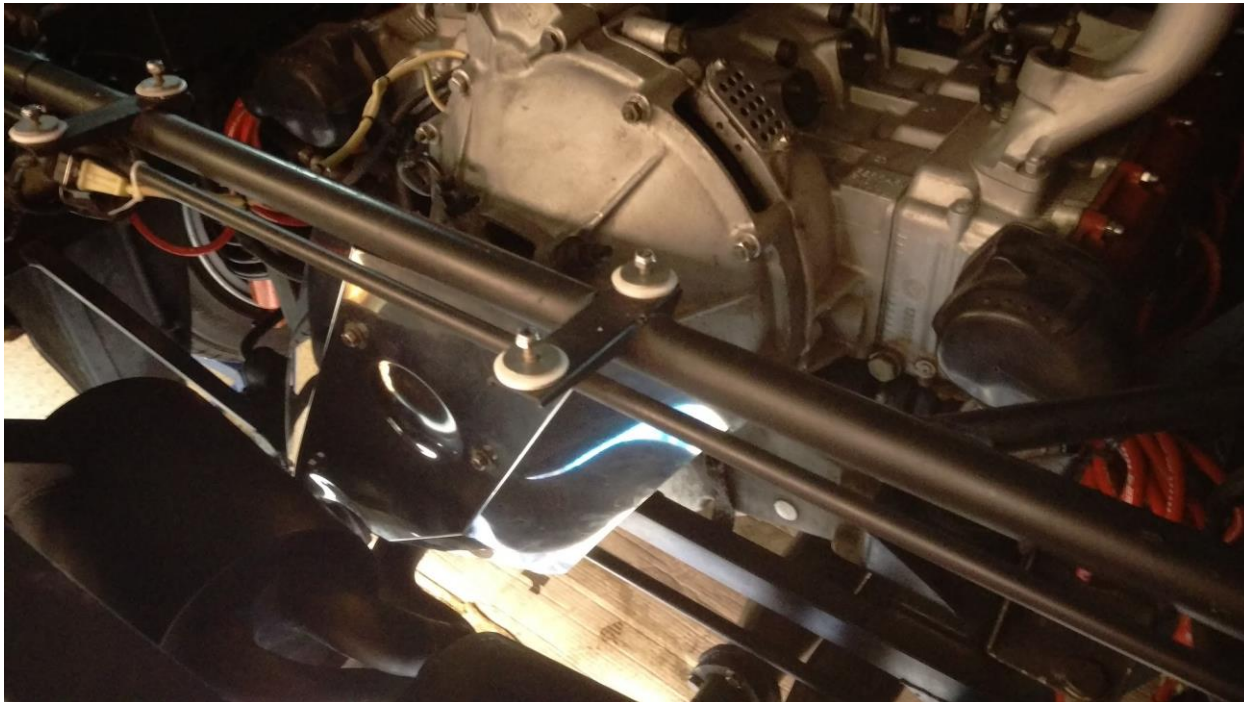
# Reinstallation

- Replace the two rubber O-rings on the gearbox casing.
- Refit the clutch housing, rotating the shaft holding the thrust bearing until the shaft is able to enter into the floating hub. Push the hub flush.
- Fit and tighten the set of 9 washers and nuts holding housing in place. Also fit and tighten the 3 bolts and nuts holding the starter motor.

- Remove the 12mm allen bolt and fill with about 250ml of 80w-90 transmission oil.



- Reattach the clutch hydraulic line. Bleed the clutch using a vacuum pump or get a friend to help. Ensure to top-up at the reservoir which is shared with the brakes.
- Refit the stainless steel heat shield.



- Reconnect the electric connections for TDC, etc. Use cable ties to secure.
- Fit the silencers. Secure the top bolts/nuts last.

Now you can start the engine and confirm that the clutch engages/disengages with pedal movement. Check for leaks around the bottom where new O-rings were fitted.

- Finally, fit the upper bulkhead and the air cleaner assembly.
- Tighten the front bolts on the inlet manifold first, then the bolts underneath.
- Now tighten the jubilee clips securing the rubber tubes and refit the breather hose.
- Finally tighten the 4 nuts holding the air cleaner assembly to the bulkhead.
- Test drive. Job done.