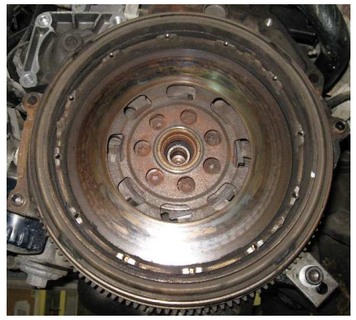
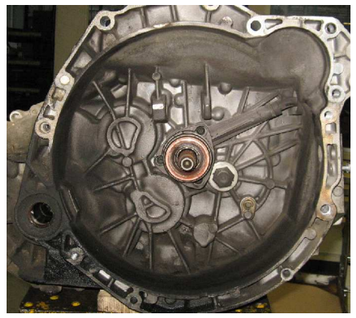
CLUTCH FITTING TECHNICAL NOTE

Valeo Transmissions

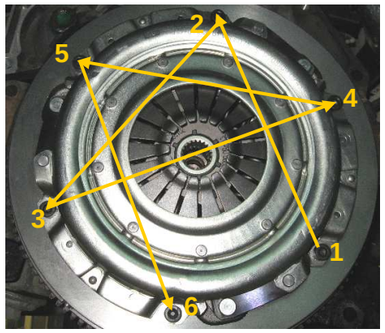


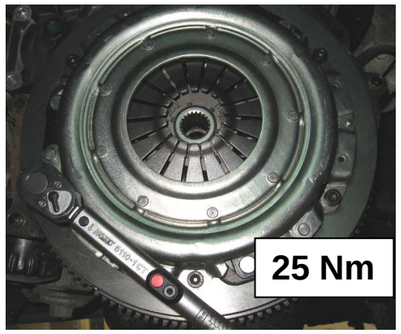


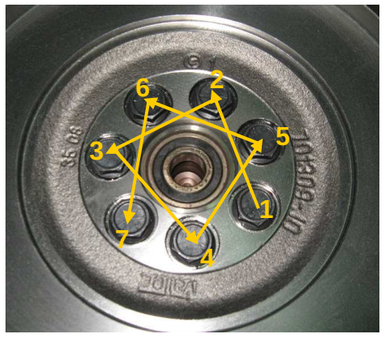
1

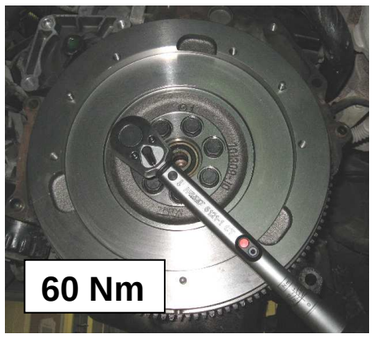
After disassembling the gearbox from the engine :

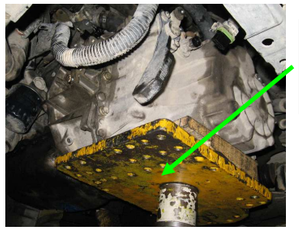
1. Check engine crank shaft seal : Verify that there is not oil contaminating the flywheel . In case of presence of oil leack , remove the flywheel and change the crankshaft seal and reassemble the flywheel.
2. Check gearbox imput shaft splines checking that there is not damaged or show excessive wear along the spline length.
3. Check Flywheel Fixing Bolts.
4. Check Flywheel Friction surface .If there are cracks and/or excessive wear of the friction surface, or blue color due to heating, change the flywheel.
5. Check the gear box input shaft seal : Verify that there is not oil comming from the gear box.In case of presence of oil repair the gear box changing the input shaft seal.
6. Check the hydraulic bearing:
   a. Check that the bearing is well rotating under axial hand load: smooth rotation without hard points
   b. check the wear on the bearing contact ring with the diaphragm . the marks of contact have to be not excessive (less than 0,5mm)
   c. check that there is not oil comming from the interior of the hydraulic bearing
7. Check that the push road at receiver cylinder can move sliding smooth when is pushed and it don't leak oil.











Use the appropriate device to assembly and disassembly the gearbox. The operator never must support the weight of gearbox.

3

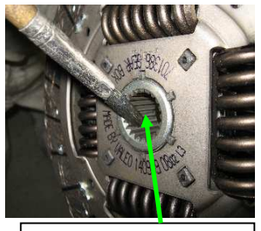
Fasten the flywheel:

1. Position carfully the new flywheel Valeo on the crankshaft center and tightenning the bolts **M10x1x19.85 mm** with a progessive torque following a star sequence. Avoiding to apply excessive torque on this one. Tigtenning torque**: 60Nm**

4

Fasten the clutch and release bearing :

1. Position the driven plate in the flywheel thanks to the centering tool (to see photo)
2. Fasten the cover assy centering it with the pins and hand thightening 3 screws at 120º and checking that the driven plate remains stable and well centered with the centering tool.
3. Tighten smoothly each screw respecting a star-like sequence as for the thightening of the flywheel. The diaphragm fingers have to move as uniform as possible. Repeat the complete sequence approximately 3 times. Use screws **M8x1.25x15.5 mm.**
4. Complete the fastening applying a torque of **25Nm** thanks to a torque wrench respecting the previous sequence.



Apply a small quantity of grease

Centering tool

2

Prepare the clutch for assembly :

1. Apply a small quantity of grease in the hub splines at approximatly 5 mm of the hub extremity
2. Position the driven plate in the flywheel thanks to the centering tool.
3. Fasten the cover assy centering it with the pins and hand thightening 3 screws at 120º and checking that the driven plate remains stable and well centered with the centering tool.
4. Use Valeo bolts (**M8x1.25x15.5**)

6

After the assembly

Verify that the clutch is well working:

- Disengage and reengage the clutch shifting each gear ratio (including reverse)
- Check that there is not abnormal noise when engaging and disengaging operation
- In neutral speed up to **4.000 rpm** and check that there's not abnormal vibration or noises.
- Check there is not abnormal clutch sliding in driving conditions.

5

Re-assemble the gearbox

1. Check that the block pins are existing and that they are not damaged.
2. Position the gearbox coaxially with the engine crankshaft, supporting the gearbox weight with the appropriate tools.
3. Introduce the gearbox input shaft into the driven plate hub spline.
4. Take care that the input shaft be introduced without shock. If necessary rotate the crankshaft to make easier the input shaft fitting.

Avoid that the weight of the gearbox be supported by the driven plate of the clutch during the assembly.

5. Check that the gearbox is in full contact with the engine block and that the centering pins are well fitted
6. Finally fasten the gearbox to the engine block tightening the screws with the appropriate torque.

NT-V09020
20/10/2009