



Bob Carter, Schaeffler

LuK clutch Academy

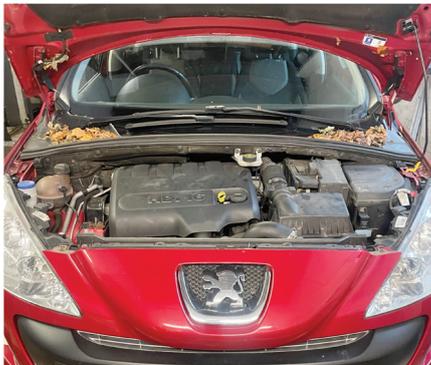
Peugeot 308 2.0 HDi

In this month's Schaeffler LuK Clutch Academy, REPERT Bob Carter is replacing the clutch and dual mass flywheel (DMF) in a 2011 Peugeot 308 with a 2.0 HDi engine. The car has covered 115,306 miles and the driver has reported that selecting first or reverse gear is difficult. A DMF change was also recommended, subject to its testing. The replacement time for this job is 6.9 hours, so it's not an easy job.

The following workshop equipment is required for this repair:

- Vehicle lift (two post is preferred)
- Engine support
- Transmission jack
- Oil drainer
- Gearbox oil dispenser
- SAC Tool kit
- DMF Testing tool
- Clutch vacuum bleed too

Gearbox removal



With the vehicle positioned on the ramp, slacken the front hub nuts, raise the lift and then remove the front wheels, open the bonnet and disconnect the battery. Remove the engine cover, intercooler hose (between intercooler and inlet manifold), air filter housing, battery and tray (Fig 1), then both wheel arch liners and underbody tray.

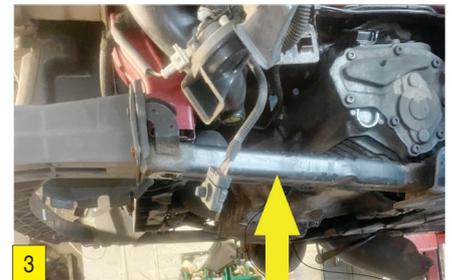


Remove the front bumper cover by undoing the 4 screws at the bonnet slam panel and 5 under the car. Disconnect the electrical plugs and lift the cover clear (Fig 2). Then disconnect all the electrical connections to the gearbox.

Unclip the slave cylinder hose from the support bracket, remove the slave cylinder bolts and store the slave cylinder to one side. Disconnect the reverse light switch and remove the earth strap from the gearbox. Disconnect the gear selector cables from the gearbox, remove the reverse gear Bowden cable. Remove the starter motor, support and store it to one side.

Loosen front exhaust pipe clamps, remove the lower gearbox pendulum mount, unscrew the intercooler bolts – which are a little awkward to access – and the air tube between the intercooler and exhaust turbocharger. Remove the gearbox cradle by removing the retaining bolts.

Drain the gearbox oil and whilst the oil is draining, release both front driveshafts by removing the hub nuts, disconnecting the hub from the front strut. This will allow the CV joint to be eased out of the hub, and then remove



the driveshafts from the gearbox. When removing the right-hand driveshaft, the intermediate bearing carrier also has to be released.

Remove the front bumper aluminium bar and then the left-hand front sub frame tube (Fig 3), followed by the lower bellhousing bolts and then support the engine. With the engine and gearbox supported, remove the gearbox mounting and retaining plate (Figs 4&5). Using a transmission jack, support the gearbox, remove the final bell housing bolts and then ease the gearbox away from the engine. Once clear, lower the gearbox and remove it from the vehicle.



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Clutch and dual mass flywheel (DMF) removal and replacement

At this point, it was evident that the clutch had reached the end of its service life as the three small yellow springs on the self-adjusting clutch mechanism had extended, indicating it was near the end of its adjustment. Remove the clutch assembly from the flywheel by removing the six bolts and ease the clutch assembly off the DMF. During all clutch replacements, the DMF should be measured for rotational free play and rock, and compared against its specification to establish the extent of its wear. All DMFs have different measurements depending on part number and comparison with specification will reassure the customer that the flywheel does need changing. Helpfully, the measurements can be found using the REPERT app.

Any scoring, heat damage or excessive grease loss requires the DMF to be replaced.

Remove the six flywheel bolts and then remove the DMF. Check for any leaks from the engine (oil or coolant) that could contaminate the new flywheel and clutch assembly, and rectify if required. Remove any clutch dust or debris from the bell housing using brake and clutch dust cleaner before mounting the new flywheel, as this could contaminate the new components.

Mount the new DMF ensuring any alignment dowels are correctly positioned and secure into place using new flywheel bolts. Tighten them in an even and sequential process and torque to the manufacturer's specification, (flywheel bolt torques can easily be obtained from Schaeffler's DMF Checkpoint app).

After ensuring the clutch plate is the correct way round, with "Gearbox Side" or "Getriebe Seite" stamped on the centre of the clutch plate facing the gearbox, fit the new clutch to the DMF.



Use the Special Tool (SAC tool) to install the clutch (Fig 6), which does three things: gives perfect alignment, avoids the risk of de-adjustment and operates the clutch before the gearbox is installed.

One final recommended process to carry out before installing the gearbox is to flush out the old clutch fluid, which may be contaminated, by simply draining it into a waste container and replenishing it with new clean clutch fluid. Whilst it is draining, pour clean new fluid into the reservoir and when the new fluid is flowing through the system, clamp the hose. Check that the gearbox alignment dowels are installed correctly in the engine block and that the spacer plate is aligned correctly, after which the gearbox is ready for installation. Reinstallation of the gearbox is the reverse of the removal procedure.

Bleeding the clutch is best done using a vacuum bleeding tool, as was done with this vehicle. This is recommended by vehicle manufacturers and has the benefits of providing a right first-time job, is a one-man operation and eliminates the risk of over pressurisation.

When assembly is complete, reset all electrical consumers as the battery has been disconnected and carry out a full road test to ensure a complete and successful repair.

Information on Schaeffler products, fitting instructions, labour times and much more can be found on the REPERT workshop portal - www.repxpert.co.uk - the REPERT app, or by calling the Schaeffler REPERT hotline on (+44) 1432 265 265.