

LuK Clutch Academy

Grand Vitara 1.6P G16B engine

The LuK technical team takes a closer look at the Suzuki Grand Vitara, this one had covered close to 130,000 miles of harsh use through its service life. Because of this type of useage, it's important that particular attention is taken to examine the whole transmission system for possible wear.

This Suzuki had a 1.6 16v petrol G16B engine, with a lot of mileage on it. The vehicle is the original 4x4, with mechanical four-wheel engagement. The engine and transmission are installed longitudinal, with the transfer box installed directly onto the gearbox. The clutch change is quite straight-forward, with the only intervention under the bonnet needed is to disconnect the battery terminal.

A two post ramp, a couple of transmission jacks and a special alignment tool are required for the repair and a good attitude to Health & Safety, due to the weight of the transmission is a must.

Once the battery terminal has been disconnected, disconnect the gear shift levers from the gearbox from inside the vehicle. This is done before the vehicle is lifted. Remove the handbrake console by removing the two bolts on the rear side, then remove the front section of the console held in place by two further bolts on the side and remove the clips on the side of the console between the seats (fig 1).

Access the 12mm bolts that retain the metal frame onto the main gear lever (fig 2), this metal frame is to be removed to expose the gear selector, then remove the two side bolts (fig 3) and disconnect the selector completely. The same procedure is followed for the four-wheel drive lever.

The vehicle can now safely be lifted to move to the next stage of disconnecting the reverse gear plug, four-wheel drive selector sensor, the wiring harness that passes over the gearbox and finally the earth cable. Stow all safely and securely out of the way. Remove the external slave cylinder, held in place by two 12mm bolts, and stow securely. Finally, remove two bolts from the starter motor.

Mark the position of the propshaft before removing it, as you do not want a balance issue afterwards. When disconnecting it from the gearbox splines, take extra care not to damage the oil seal. The front section of the propshaft should remain fixed to the gearbox to avoid transmission oil leaks. Support the gearbox with the transmission jacks and remove the cross member support for the gearbox. Loosen the anti roll bar and allow it to hang, leaving a clear space when removing the gearbox.

Now for the Health & Safety. With the gearbox supported by the transmission jacks and three sets of hands, remove the four bell housing bolts and very carefully lower the gearbox to the ground.

Remove the old clutch cover and clutch plate. Check the bell housing for any debris and oil contamination and rectify before refitting the gearbox. The release bearing should always be

changed during a clutch replacement, the release arm should be checked for smooth operation and for wear on the ball pivot. Apply a small amount of HMPG to the release fork (figs 4 & 5) and install with the new release bearing (fig 6).

Check the flywheel for signs of heat stress, such as hair line fractures or cracks. The surface of the flywheel should be checked to make sure it is within manufactures wear tolerance. If the surface of the flywheel is to be skimmed, make sure that the same amount is taken from the clutch bolting surface. Failure to check and rectify these areas may cause the clutch to operate incorrectly. Before fitting the new clutch disc, make sure the input shaft is clean and free from any wear. In this case the spigot bearing was completely worn and noisy, so it was replaced. Smear a little high melting point grease on the input shaft splines, then slide the new clutch plate up and down a couple of times, remove the plate and wipe any excess grease off.

Refitting the gearbox is the reversal of removal, remembering to refill the gearbox oil to the correct level when the gearbox is refitted.

Check out the latest in online support at www.RepXpert.co.uk or contact the LuK technical hotline at +44 (0)1432 264 264.

