

Morris Minor Ford 5-Speed Gearbox Conversion with short remote

1098cc - 1275cc

Fitting Instructions

This Frontline 5-speed conversion is designed to be a straight bolt-in conversion and should require no modification to your car. Please take a moment to read through the instructions before starting the conversion. It will save you time!

1. Remove the gearbox in accordance with the workshop manual instructions.
2. Remove the speedo cable.
3. Remove the seats and carpets from the floor and transmission tunnel.
4. Remove the sound insulating material from the transmission tunnel.
5. Remove the clutch and flywheel from the engine.
6. Remove the old spigot bush from the deeper recess of the crankshaft and discard. If this is tight in the crank you can either use the hydraulic method (Pack the spigot bush with grease then insert a tight fitting shaft & hit the shaft. This should force the bush out under the hydraulic pressure.) or cut a slot in the old spigot bush using a thin hacksaw blade or a small drill bit by drilling along the bush and when the slot is complete you will be able to remove the bush with a screwdriver and pointed pliers.
7. Check that the small diameter of the new spigot fits easily inside the crank. If it does not, file or turn it down so it fits easily. Fit it to the back, i.e. the engine side, of the flywheel. When fitted, check that the bronze bush has not moved forward in its housing. Refit the flywheel and tighten to 40ft/lbs. Re-set the lock tabs. Finally tap the spigot bush firmly into place with a drift or similar to make sure it is seated correctly against the crank flange.



8. Fit the clutch assembly using a clutch aligning tool and tighten down in accordance with workshop manual instructions. **Note:** Make sure that the clutch plate is fitted the correct way round with the raised centre boss of the clutch plate facing towards the gearbox.
9. Use the starter motor Bendix cover from the old gearbox as a template to drill three holes, with a 3.5mm drill, in the new bellhousing. Secure the cover with self tapping screws. Note the bellhousing drain hole position on the old gearbox and, with a 5mm drill, make a similar hole in the new bellhousing.
10. Add a smear of instant gasket around the gasket and the 'blind' hole at the top of the bell housing (**Important note. Make sure you do NOT get any sealant inside the blind hole as this can prevent the selection of some gears**) then fit the bellhousing & gasket to the gearbox using Loctite or similar on the bolt threads.

- 11.If your car has the original clutch push rod mechanism fit the new side-relay bracket to the gearbox. One end of the bracket fits inside the bellhousing using one of the four bellhousing bolts. The other end of the bracket fits to one of the existing gearbox bolts towards the rear of the gearbox.



Note: When the gearbox is bolted in situ you can then fit the retaining bush to the side-relay bracket and attach the original clutch lever mechanism to the new side-relay bracket as you would on the original gearbox. See point 17

- 12.Our clutch release bearing is designed to slide on the Ford centre guide tube as the original Ford bearing would have done. (**Note: For 948cc cars** the end of this tube will need to be shortened by approximately 15-20mm to clear the clutch cover, when finished & assembled there should be a minimum of 4mm & a maximum of 10mm clearance between the end of the tube & the bearing face on the clutch cover. Please contact us if you require assistance.) Fit the clutch release bearing to the original arm as normal but using the new retaining clips supplied. Fit the new clutch pivot to the bell housing, Now put a small amount of copper grease or similar onto the centre guide tube & slide the bearing over the tube. Locate the clutch fork in the pivot bracket and use the old lever arm pivot bolt to secure the arm.

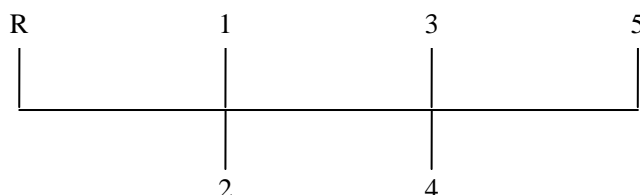


(**Note:** check the pivot bolt & the bearing in the clutch fork for wear as this may impair the clutch travel and operation.) Tighten to remove side play but do not impair lever action. (**See notes on clutch release bearing**).

- 13.If your car is fitted with reversing lights solder and insulate a 2" wire to each reverse light switch terminal and tape together to make a small sub-loom or use suitable push-fitting connectors.
- 14.Now refit the gearbox to the engine. This should be done without using excessive force. Support the rear of the gearbox until the new crossmember is fitted. When the bellhousing is fitted to the gearbox check the release bearing to ensure a good position just off the pressure face of the clutch cover (there should be a gap of about 4 to 5mm).
- 15.Centre the gearbox in the transmission tunnel from below, checking that it does not touch the tunnel or the chassis at any point. Bolt the gearbox rubber mount and the new crossmember onto the gearbox then jack it firmly up to the underside of the car. Bolt the new crossmember to the chassis (if your original mounting bolts are showing signs of wear replace them with new captive or riv nuts before proceeding)

- 16.If your clutch mechanism is hydraulic fit the slave cylinder & bleed the hydraulics if required.
- 17.If your clutch mechanism is the original push rod operated system then fit the original mechanism to the new side relay bracket
- 18.Fit the new propshaft & securely tighten the propshaft mounting bolts.
- 19.Fit the new speedo cable first to the speedometer head and then route it to the gearbox taking care not to install it with any tight bends as this will cause the cable to break when used. When you insert the cable inner into the drive gear in the gearbox make sure it is engaging with the drive gear before fitting the circlip retainer.
- 20.Fill the gearbox with approximately 1.5 litres of semi synthetic 75/90 gear oil. Allow the oil to settle for 5 minutes then re-check.
- 21.Fit the new transmission tunnel cover using the original fixing screws or new self tappers if preferred. If your car is LHD then you will have to cut away a small rectangle on the side of the tunnel cover to allow access to the brake master cylinder.
- 22.Fit the gearlever and gaiter. Make sure the rubber does not restrict the gearlever movement.
- 23.Fit your chosen gear knob.
- 24.Check the adjustment of the clutch mechanism or bleed the clutch if hydraulic and carefully test. Now you should be ready to test the conversion. Make sure you are happy that everything is where it should be and all fixings are tightened securely. Now all that remains is to try it!!!

Have Fun



Trouble shooting

- If you get excessive noise or vibration, the probable cause is the gearbox or engine touching the body somewhere.
- If the clutch is not operating correctly, check that the clevis pins used on the clutch slave & master cylinders are not worn. Also check that the clutch system is correctly bled and is not leaking fluid. Both of these things would give less travel on the clutch arm & cause clutch drag which also makes gear engagement difficult.

Clutch release bearing (Special notes)

This clutch release bearing will improve the lift and feel quality of either a coil spring or diaphragm clutch. It will make the lift lighter and smoother to operate.

The clutch pivot is slotted to allow the clutch arm to slide in and out and therefore letting the clutch bearing slide back and forth on the centre tube. It is very important to check that this operation is smooth before completing the installation. If you have any resistance it could be due to one of the following:

- The pivot bolt / bracket is binding on the clutch arm. This is usually overcome by slackening the pivot bolt.
- The clutch arm is not exactly central on the bearing. This may be due to a twist or bend on the arm and can usually be overcome by filing the inside faces of the arm to match the bearing.

If you are in doubt please call us. It is better to take a little more time now than to have problems later.

The clutch plate supplied is slightly thicker than standard and can take higher loadings than the original plate so a greater travel of the clutch mechanism will be required to disengage the clutch. Any play in the mechanisms may result in clutch drag so please check all pivots in the clutch system.

Please do call us with any questions. We are here to help.



FRONTLINE DEVELOPMENTS
9 STATION YARD, STEVENTON, ABINGDON-ON-THAMES, OX13 6RX
PHONE 01235 832632 ♦ FAX 01235 833122
EMAIL info@frontlinedevelopments.com
WEBSITE <http://www.frontlinedevelopments.com>
Frontline Developments is a trading name of Frontline Spridget Ltd
REGISTERED NO 3043576

