

Reconditioning Front Hubs/Replacing Wheel Bearings:

Introduction:

Approached methodically replacing wheel bearings is a straightforward procedure. It should be noted that a manufacturer is perfectly capable of limiting bearing life by the materials used and the precision of the machining; in general expensive bearings with a well known name last longer. Forget all the crap about using a DTI dial test indicator to set the end float at 0.004" (four thou) it's unnecessary and most of the so called U-Tube experts do it wrong anyway. Some people put the bearing races in the freezer overnight to shrink them and make them easier to fit; I cannot recall this ever being necessary with a steel hub. Aluminium hubs I have worked on have been a different matter and I wouldn't even attempt the bearing in the freezer method, instead I would take them to a specialist engineering firm who can immerse them in liquid nitrogen.

Notes.

In aviation it is common practice to shrink bearings in liquid nitrogen but its use can be a bit dodgy.

Before starting this job it's worth buying a pack of spare shims, available from the MGB Hive for around £5 with free postage. You will also require a 1-1/4" socket.

Starting from scratch:

1. Remove the grease cap and split pin and loosen the hub nut.
 2. Jack up the car and remove the road wheel.
- Note.** If your car has wire wheels you will have to remove the wheel to access the split pin.
3. Remove the brake caliper and support it.
 4. Remove the hub nut and tab washer and pull the hub assembly off.
 5. Pull the grease seal collar off the stub axle if it didn't come off with the hub.
 6. If the brake backplate is in poor condition refurbish it or replace it with a stainless steel one.
 7. Grease the kingpins

With the hubs removed from the car follow the procedure below.

1. Remove the brake disc.
2. Prize out the oil seal.
3. Remove the inner bearing.
4. Remove the spacer/collar sleeve (bearing spacer).
5. Knock out the outer bearing outer race evenly with a drift (there are two slots in the hub casting to locate the drift).
6. Knock out the inner bearing outer race evenly.
7. Remove any excess grease with kitchen roll etc.
8. Clean the hub assemblies in a paraffin etc. bath.
9. De-rust the hubs ready for painting, I use wire brushes in an angle grinder and electric hand drill.
10. De-rust the brake disc if not renewing it.
11. Degrease the internal components; i.e. spacer/collar sleeve (bearing spacer), grease seal collar, tab washer, hub nut shims and one large and one small bearing outer race.



The cleaned and de-rusted parts.

12. Paint the hubs. I apply two coats of 'ZG-90 Black with built in primer' which comes as a 400g aerosol.

Assembly:

1. Ensuring all paint etc. is removed from the hub and brake disc contact surfaces smear the contact areas with Lanoguard, WaxOil or light oil etc.
2. Bolt the disc to the hub.
3. Put the small new outer bearing race in position and lay the old race on top.



Using the old bearing race as a drift or pressing spacer.

4. Press the bearing in; or
5. Using a smallish hammer tap the old outer bearing race evenly and drive the new outer race into the hub.

Note.

On wire wheeled cars you cannot access the old bearing race with a hammer (as it is inset in the hub) you will need to use a drift for the whole operation.

6. Once the old outer race is level with the end of the hub use a brass drift and continue tapping the old race until the new race is fully seated.
7. Fit the new inner bearing outer race in similar fashion.
8. Remove any brass chips etc. by blowing the hubs though with an airline.
9. Fit the spacer/collar sleeve (bearing spacer).

10. Grease and fit the inner bearing. (I used to use Castrol LM grease which is no longer available; I now use Amsoil synthetic grease.
11. Tap in a new grease seal till it is flush with the surface..
12. Pack some grease in the hub.
13. Pack some grease in the outer bearing.



Ready for fitting.

14. Ensuring that the brake backplate is fitted fit the grease seal collar over the stub axle (concave side inwards) and apply a light smear of grease on the seal contact surface..
15. Fit the hub.
16. Place the outer bearing in position.

Front wheel bearing adjustment:

The front wheel bearings on MGB's are a little unusual insofar as they are taper roller bearings with a spacer/collar sleeve (bearing spacer) and the hub nut is torqued up. The simple explanation for this unusual assembly method is that metal bar/rod is stronger when in tension. Using a spacer between the bearings enables the hub nuts to be torqued up which puts the stub axle under tension and hence makes it stronger. Proceed as follows.

1. With the outer bearing in position fit a couple of shims.
2. Fit the tab washer and hub nut and tighten (reasonably tight but not torqued up).
3. Fit the wheel.
4. Check for bearing free play (see notes below).
5. Add or remove shims until there is just barely discernible free play.
6. Remove the wheel, fit the brake caliper and refit the wheel.
7. Lower the car off the jack.
8. Tighten the hub nut to 40-70 lbs ft.
9. Fit a split pin.
10. **Note.** If your car has wire wheels you will have to remove the wheel to fit the split pin.
11. Pack the hub cap with a small amount of grease and fit it.

Notes.

The stub axles are quite meaty and I've certainly seen and adjusted many front wheel bearings that are not as robust, yet they do not have a spacer/collar sleeve. Remember that the MGB is a sports car and is designed to be driven with gusto! This tensioning of the stub axle increases the safety factor. Don't be tempted to disregard the shims and adjust like a normal hub as the inner grease seal collar and bearings are not an interference fit and are often loose on the stub axle; if the hub nut is not tight the bearings and collar can rotate and wear the stub axle.

Of course if you just tightened the nut it could result in locking the wheel bearing so various sized shims are used between the outer face of the collar/sleeve and the inner race of the outer bearing so that when the hub nut is tight the bearings still have free play.

If you are not used to adjusting front wheel bearings then assemble the hub with extra shims and nip up the hub nut. Now refit the wheel and put your hands on the wheel 180 degrees apart at 12 o'clock and 6 o'clock and rock the wheel; you should feel some movement/free play. The amount of free play should be barely discernible; you should just be able to feel it. If the free play is excessive then reduce the size of the shim(s). If you cannot feel any free play then add shim(s).

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