WHEEL HUBS AND BEARINGS

Check Hub Bearings End Float

Chock the vehicle's front wheels.

Jack up the rear of the vehicle until the road wheels are clear of the ground and support the axle casing on stands.

Note: On a laden vehicle jack each wheel individually. Do not lift at the centre of the axle.

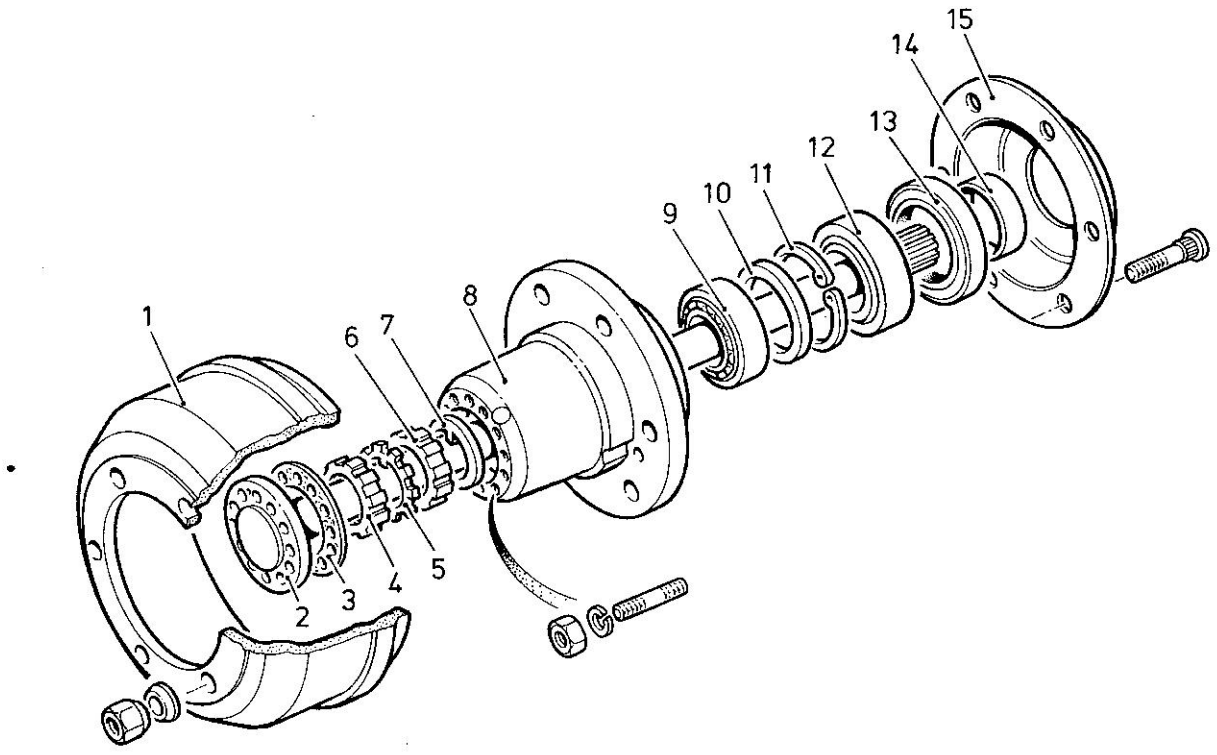
Remove the road wheels.

Fit spacers over the wheel studs and refit wheel nuts to secure the brake drum.

Withdraw the axle shafts (refer to sub-section 100).

Fit a dial gauge to the axle shaft flange studs of the hub using Gauge Post, Churchill Tool RG 335 Code 1, or dial gauge and magnetic stand, so the dial gauge pointer contacts the end of the axle casing.

Using a lever (approximately 1¼ m long) applied between the ground and outer face of the hub, exert leverage to move the hub and drum assembly to its innermost position. Zero the dial gauge whilst maintaining this leverage and hub position. Remove the lever.



1	BRAKE DRUM	9	OUTER BEARING
2	AXLE SHAFT	10	OUTER BEARING WASHER (AX8 & AX9 ONLY)
3	AXLE SHAFT FLANGE JOINT	11	OUTER BEARING RETAINING CIRCLIP
4	HUB BEARING ADJUSTER LOCKNUT	12	INNER BEARING
5	HUB BEARING ADJUSTER LOCKING WASHER	13	HUB OIL SEAL
6	HUB BEARING ADJUSTING NUT	14	OIL SEAL WEAR RING
7	HUB BEARING SAFETY WASHER	15	HUB BEARING INNER COVER PLATE
8	WHEEL HUB		

Fig. 3 *Hub Assembly General Arrangement*

Using two levers (approximately ½ m long) positioned at diagonally opposite points between the brake backing plate and brake drum lip, exert pressure to displace the hub and drum assembly to its outermost position.

Note the dial gauge reading with the hub in its outermost position. Correct adjustment is indicated by a dial reading of between 0.10 to 0.18 mm (0.004 to 0.007 in). Readings outside these limits will require hub bearing adjustment as detailed under 'To Adjust the Hub Bearing'.

With correct hub bearing adjustment achieved, remove levers, dial gauge, gauge post and adaptor pad. Refit axle shafts and road wheels (refer to sub-section H100).

To Adjust the Hub Bearings

Where an incorrect hub bearing adjustment is found proceed as follows:

Remove the two levers and dial gauge.

Straighten the tabs of the lockwasher and remove the outer locking nut using Churchill Tool RG 71D.

Withdraw the lockwasher.

Using Churchill Tool RG 71D screw in the adjusting nut to decrease, or screw out the adjusting nut to increase, the hub end float until a reading within the correct limits is obtained.

Refit the lockwasher and locknut. Ensure the adjusting nut is not moved when tightening the locknut.

Check the hub bearing end float reading.

Remove the gauge post (if used).

Secure the locknut and adjusting nut by turning one pair of the lock-washer tabs into adjacent slots.

Refit axle shafts and roadwheels (refer to sub-section H100).

To remove the Hub Bearings

Jack up the rear of the vehicle until the road wheels are clear of the ground and support the axle casing on stands.

Remove the road wheels.

Withdraw the axle shafts (refer to sub-section H100).

Straighten lockwasher tabs and remove locknut, lockwasher and adjusting nut using Churchill Tool RG 71D. Withdraw the bearing safety washer.

Ensure the handbrake is in the 'off' position and withdraw the hub and drum assembly complete.

To Dismantle the Hub Bearing

During removal of the hub bearing, the inner bearing and oil seal may remain on the axle casing when the use of suitable levers applied behind the inner bearing cone will be necessary for their removal. Ensure the rollers and cage of the bearing cone are not damaged during this operation.

Where the inner bearing cone and oil seal are withdrawn with the hub assembly separation should be effected by lightly tapping a drift applied to the bearing cone until both oil seal and bearing cone fall free.

When the hub and brake drum are to be separated, identify, by centre dot marks, both the hub and brake drum to ensure identical mating on reassembly. A hide-faced hammer should be used to drive the hub through the drum where difficulty is experienced, taking care not to disturb the wheel studs during this operation.

When bearing removal is carried out with hub and drum assembled, ensure support is given to the inner hub flange whilst driving out the bearing. Under no circumstances must the load be placed on the drum rim.

Drive the cup of the outer bearing outwards slightly, to relieve the pressure on the retaining ring, by applying a drift from the inside of the hub to the inner (thick) face of the cone. Remove the retaining ring using suitable pliers.

The outer bearing can now be driven out of the hub using a suitable drift.

Inspection and Overhaul

Before inspection, clean all components in paraffin and the bearings in white spirit. The bearings should be blown out using clean dry air ensuring the rollers and cage are not allowed to spin but are rotated slowly by hand. Bearings that are to be reassembled must be lubricated with thin oil to prevent corrosion.

DESCRIPTION AND MODIFICATIONS

This may seem a little out of place but I have heard about problems with people stealing work and selling it - for example on eBay.

If you're reading this and you bought this manual anywhere then you have been ripped off.

Please contact me via my email mikejamson@hotmail.com Otherwise I can be found on the dodge50 facebook page, if not then get in contact with Greg and he can pass the message on to me.

I have note done this pdf manual for my own personal gain and wish to see the community of 50 series owners benefit from the information here, and I do not want to see the community get taken advantage of and somebody else gain from it unfairly.

The information in pdf format will hopefully allow more of these wonderful trucks to stay on the road by providing information to everybody.

This has been quite a long and involved process to scan the manual and to convert it into a pdf format. I do aplogise as I have used several different scanners and several different computers to do it, so there are no doubt some errors hidden throughout, as well as some editing errors.

I have aimed to balance quality and file size and hope that this balance meets to everybody's approval.

If you see an error please let me know and I will fix it as soon as I can.

Examine the bearing rollers and cone track for wear and pitting and roller cage for damage. Examine the bearing cups for wear and pitting. Wear, damage or pitting of any component will necessitate renewal of the complete bearing assembly.

Bearing cups are an interference fit in the hub and any movement of the cup will require hub renewal.

Examine the oil seal which must be replaced if damaged in any way, complete with its wear ring.

Lightly tapping the surface of the wear ring, which will remain on the axle casing, will distort the ring sufficiently for it to be lifted off without causing damage to the axle casing.

To refit the wear ring, place the wear ring (rounded edge facing outwards) on the axle casing, and use a locally manufactured hollow drift to push the wear ring into position on the axle casing, ensuring the wear ring is not damaged or distorted in any way.

Check wheel studs for damage to threads and correct location in the hub flange. Repair or renew as necessary.

To remove a wheel stud(s), first support the hub flange then press out the stud(s) as necessary.

To fit a new wheel stud enter the threaded end into the hole until the serrated collar abuts the face of the hub flange. Whilst supporting the hub flange press the wheel stud into position, ensuring the stud is square to the flange face.

Inspect the groove in the hub which locates the outer bearing retaining ring ensuring it is clean and free from burrs.

Examine the outer bearing retaining ring. Renew if weak or damaged.

To Reassemble

Ensure the bearing positions in the hub are clean, free from burrs and lightly smeared with recommended grease.

Repack the two bearing cones with recommended grease forcing the grease between the rollers and under the roller cages working from the larger diameter of the bearing. Liberally smear the outer surfaces of the rollers, cages and faces of the bearing cups with grease.

Use a suitable metal pad to press the outer bearing into the hub until it is clear of the retaining circlip groove.

Fit the retaining circlip and press the bearing back until it rests firmly against the retaining ring.

Using the metal pad press the inner bearing cup, thick end first, into position in the hub until flush against its shoulder.

Repack the hub with recommended grease ensuring an adequate supply of grease is placed in the immediate vicinity of both bearing races and apply grease in the hub so as to leave a space around the axle casing when assembled.

Complete reassembly by placing the cone into the inner bearing and refit the oil seal squarely in position ensuring the sealing lip faces the bearings.

To Refit the Hub Bearing

To refit the hubs reverse the removal procedure ensuring the space between the safety washer and outer bearing and cavity around the adjusting and locknuts are packed with grease.