HUBS AND STUB AXLE

FRONT HUBS AND BEARINGS

To Check and Adjust End Float

To Check

Jack up the front of the vehicle until the road wheels are clear of the ground.

The bearing end float can be checked by grasping the road wheel at the top and attempting to rock it back and forward. A very slight end float should be felt. If excessive rock is present (this must not be confused with wear in the king pin and bushes) adjustment must be carried out. This also applies if the hub does not spin freely due to the bearings binding.

To Adjust

Remove the wheel nuts cover (if fitted).

Remove the road wheel (L.H. wheel nuts have L.H. threads).

Remove four setscrews and washers securing hub cap and remove cap.

Remove split pin, castellated nut, bearing retaining washer and inner track assembly of the outer taper roller assembly. Remove brake drum and hub.

Remove the hub from the brake drum.

Refit the hub to the stub axle.

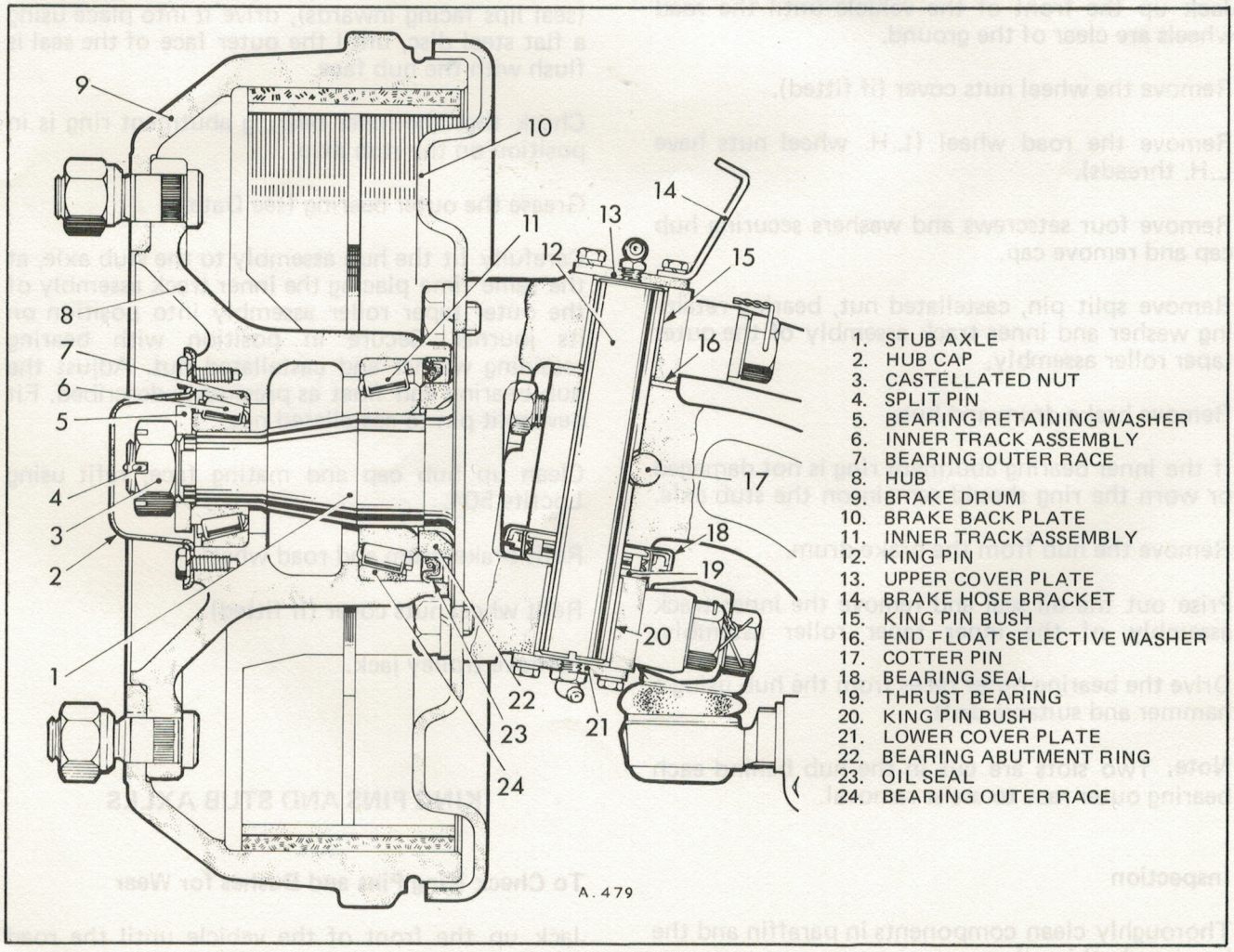

Fig. 1 *Hub and axle assembly*

Fit the inner track assembly of the outer taper roller assembly and secure with bearing retaining washer and castellated nut.

Whilst rotating hub, torque castellated nut to 27 Nm (20 lbf/ft) checking free rotation. Slack off castellated nut two flats.

Using a dial gauge set end float to Data figure. Fit new split pin to castellated nut.

Clean up hub cap and mating face, refit using Loctite 504.

Refit brake drum and road wheel.

Refit wheel nuts cover (if fitted).

Remove trolley jack.

To Remove and Dismantle

Jack up the front of the vehicle until the road wheels are clear of the ground.

Remove the wheel nuts cover (if fitted).

Remove the road wheel (L.H. wheel nuts have L.H. threads).

Remove four setscrews and washers securing hub cap and remove cap.

Remove split pin, castellated nut, bearing retaining washer and inner track assembly of the outer taper roller assembly.

Remove brake drum and hub,

If the inner bearing abutment ring is not damaged or worn the ring should remain on the stub axle.

Remove the hub from the brake drum.

Prise out the oil seal and remove the inner track assembly of the inner taper roller assembly.

Drive the bearing outer races from the hub using a hammer and suitable drift.

Note: Two slots are cut in the hub behind each bearing outer race to assist removal.

Inspection

Thoroughly clean components in paraffin and the bearings in thin oil.

Examine the bearings for broken or distorted cages, and damaged or pitted rollers. Check the races for wear or pitting. If any of these parts are faulty, the complete bearing must be renewed.

Check the fit of the bearing outer races in the hub. The hub must be renewed if the races slip easily into their registers.

To Re-assemble and Refit

Fit the bearing outer races into the hub using suitable mandrels (scrap bearing races are ideal for this purpose). It is important that the races are pressed fully home against the shoulders in the hub.

Grease the inner bearing (see Data) and place it in the hub.

Grease a new seal and position it in the hub bore (seal lips facing inwards), drive it into place using a flat steel disc, until the outer face of the seal is flush with the hub face.

Check that the inner bearing abutment ring is in position on the stub axle.

Grease the outer bearing (see Data).

Carefully fit the hub assembly to the stub axle, at the same time placing the inner track assembly of the outer taper roller assembly into position on its journal. Secure in position with bearing retaining washer and castellated nut. Adjust the hub bearing end float as previously described. Fit new split pin to castellated nut.

Clean up hub cap and mating face, refit using Loctite 504.

Refit brake drum and road wheel.

Refit wheel nuts cover (if fitted).

Remove trolley jack.

KING PINS AND STUB AXLES

To Check King Pins and Bushes for Wear

Jack up the front of the vehicle until the road wheels are clear of the ground.

With the wheel in the straight ahead position, grasp the tyre at top and bottom, and rock the wheel/tyre assembly. If excessive movement is evident, the king pin and bushes must be renewed. When carrying out this check, do not confuse slackness in the hub bearings with movement in the king pin and bushes.

To Check Thrust Bearing/Washer for Wear

With the vehicle standing on a level surface, check the clearance between the boss of the stub axle and thrust washer. Check the clearance around the full circumference of the mating faces. Excessive clearance (see Data figure) indicates a worn thrust bearing/washer. Renew the thrust bearing/washer as detailed in – Stub axle remove and refit.

To Remove

Remove wheel nuts cover (if fitted).

Loosen wheel nuts.

Remove front undertray.

Raise front axle and fit stands under chassis frame.

Remove road wheel (L.H. wheel nuts have L.H. threads).

Remove the hub cap.

Remove split pin, castellated nut, bearing retaining washer and inner track assembly of the outer taper roller assembly.

Remove brake drum and hub, remove hub from drum.

Remove the two bolts securing the bracket for the brake flexible hose to the upper cover plate of the stub axle.

Remove four setscrews retaining brake back plate to stub axle.

Without disconnecting brake hydraulics, slide back plate assembly off stub axle and support it, without straining flexible hose on road spring.

Disconnect the steering tie-rod and, where applicable the drag link, from the arm(s) on the swivel assembly.

Remove the cotter pin retaining nut and washer, and drive out cotter pin.

Remove the stub axle upper and lower cover plates.

Drive out king pin.

Remove stub axle and collect thrust race and end float adjusting selective washer.

If required, drive out old king pin bushes.

Inspection

Check the stub axle for cracks and for elongation of the brake backplate mounting bolt holes.

Check for excessive wear where the oil seal rotates on the axle.

Check the bearing journals for signs of race rotation.

If the stub axle is defective in any of the above items, it must be renewed.

Examine the king pin and stub axle bushes for wear or damage. If a new king pin is fitted, the stub axle bushes should also be renewed.

Examine the thrust bearing and bearing seal for wear or damage, renew if necessary. Examine the inner bearing abutment ring for wear.

To Refit

Taking care not to damage them in any way, press in the new bushes equidistant in the stub axle bores, using a suitable spigotted mandrel. The bushes must be lined bored to the Data figure.

Clean and grease thrust bearing and bearing seal with Retinax A.

Place the stub axle in position on the axle beam.

Carefully slide the thrust bearing and bearing seal into position (seal on top of bearing).

Slide the thrust washer into position.

Push the king pin (slot at bottom) into position from the bottom of the stub axle, ensuring that the cotter groove is in line with the cotter hole in the stub axle.

Fit a bottle jack under the stub axle to simulate normal loading.

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.

Using feeler gauges check the gap between the thrust washer and axle beam.

If the end float is not within permitted limits (see Data) the thrust washer must be replaced by one of the range of eight selective washers (see Data) to bring the end float within limits.

Remove the bottle jack.

Loosely fit the cotter pin, if necessary use the slot in the base of the king pin to align the cotter pin groove.

Tap the top of the king pin to provide a minimum clearance of 0,64 mm (0.025 in) below top of stub axle flange to allow grease to flow to bush groove.

Secure the cotter pin with washer and nut, torque tightened to Data figure.

Refit the top and bottom cover plates with a coating of Loctite 504 around the outer mating face of each cover. Care must be taken to prevent Loctite 504 fouling the stub axle bores and blocking the bush grease grooves. Torque tighten to Data figure.

Pressure grease the king pins. Check for freedom of rotation.

Refit the remaining items in reverse removal order noting the following:

Loctite brake back plate setscrews.

Adjust hub end float as described previously.

On vacuum/hydraulic brake models adjust brake/drum clearance, see Section MIII.

Check and if necessary adjust toe-in.