SECTION 10

WHEELS, BRAKE DRUMS, HUBS AND TYRES

CONTENTS

SERVICE BULLETIN

RECORD SHEET

No.	Subject	Date	Signature

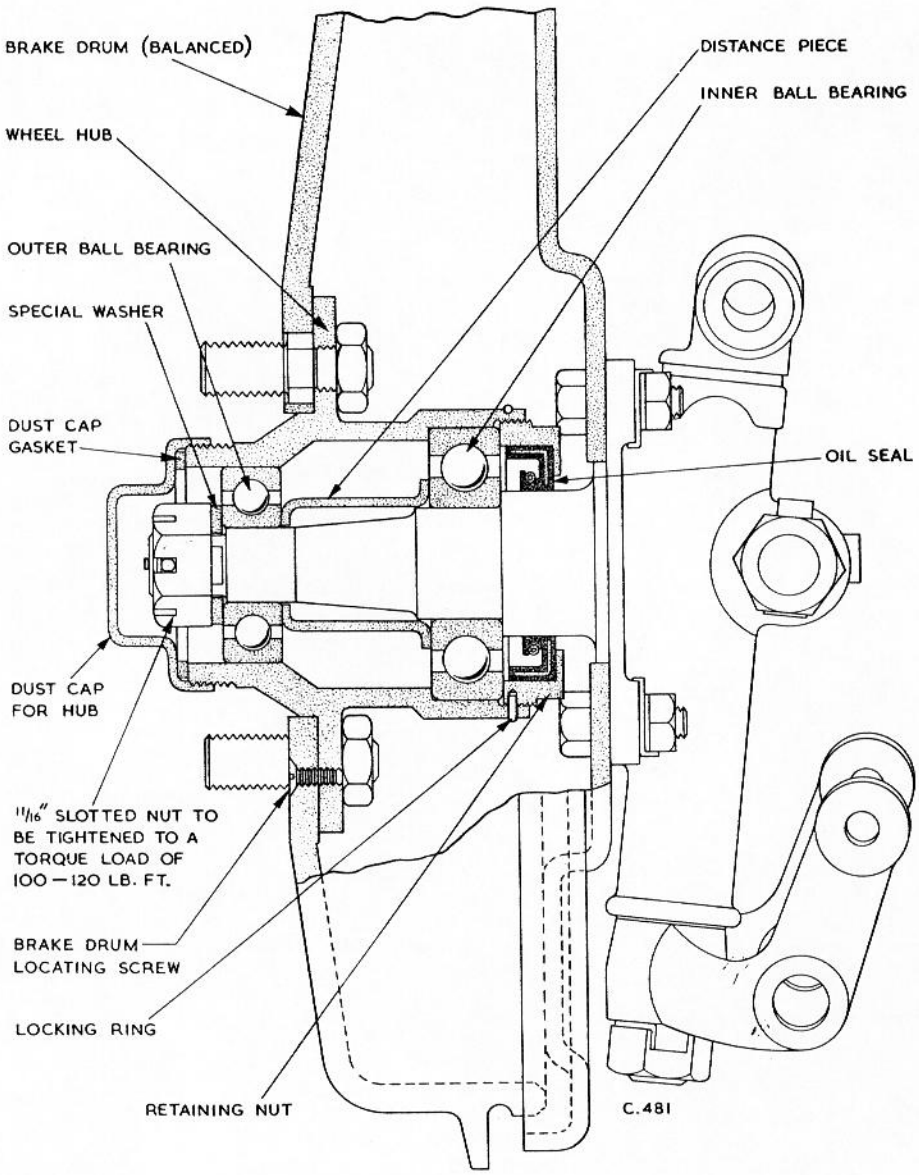


Fig. 1 Front hub assembly.

WHEELS, BRAKE DRUMS, HUBS, AND TYRES

DESCRIPTION

Wheels

The steel wheels are of the easy-clean, bolt-on type and have riveted-in studs to locate the chromium-plated "snap-on" caps.

Hubs

The front wheel hub assembly is shown in Fig. 1 and comprises the hub, the inner and outer bearings which are separated by a distance piece, and an inner bearing retaining nut which carries an oil seal. The retaining nut (left-hand or right-hand thread) is screwed into the bore of the bearing housing and is retained by a locking ring. The wheel securing studs are screwed into the hub flange and are secured by peened nuts on the inside of the flange. A dust cap screwed on the outer end of the hub, together with a gasket, completes a sealed chamber for the two bearings. The hub assembly is secured to the stub axle by a 11/16in. B.S.F. slotted nut which is locked with a $\frac{1}{8}$in. split pin.

The rear wheel hub assemblies are described in Section 7 of this Manual.

Brake drums

The front and rear brake drums are carefully balanced and are located primarily on a register machined face on the hub and half shaft respectively. The shoulder portion of the wheel securing studs provides a secondary location against rotation of the drum relative to the hub or half shaft, the drum being located by two $\frac{1}{4}$in. B.S.F. countersunk set-screws. Holes drilled at intervals

round the outer periphery of the drum provide drainage for any water which may collect, and a spring cap on the drum provides access to the brake shoe adjustment.

Tyres

For the purpose of balancing, various markings are painted on the tyres and tubes, the method used for "Michelin" tyres being described under "Maintenance" in this Section.

GENERAL DATA

Rims	4½J x 16 well base.
Brake drum diameter..	11ins. (27·94 cm.).
Tyre size	5·50 x 16.
Tyre pressures	
Normal use..	Front 18 p.s.i. (1·265 kg/sq.cm.) Rear 22 p.s.i. (1·546 kg/sq.cm.)
High speed use	Front 20 p.s.i. (1·406 kg/sq.cm.) Rear 24 p.s.i. (1·687 kg/sq.cm.)
Ultra speed use in competition	Front 22 p.s.i. (1·546 kg/sq.cm.) Rear 26 p.s.i. (1·83 kg/sq.cm.)
Torque applied when fitting wheel retaining studs	45 lb.ft. (66·97 kg/m.)
Torque loading of locknuts on wheel retaining studs	40 lb.ft. (59·53 kg/m.)

MAINTENANCE

Tyres

Tyre maintenance is an extremely important factor in the efficient operation of the car, and the tyre manufacturer's recommendations should be followed strictly. Incorrect pressures will seriously affect tyre life, steering, riding, comfort and safe driving.

On refitting or replacing a tyre or tube, it is necessary to balance the wheel and tyre assembly correctly to ensure smooth running and to reduce tyre wear. The following procedure should be adopted when fitting "Michelin" tyres. Align the white spot on the tyre wall with the valve; there is no spot on the tube. Do not disturb the balance weights unless the wheel assembly is shown to be out of balance. In all cases, balancing should be carried out on an approved wheel balancing machine.

Hubs

At every 12,000 miles (20,000 km.), remove the front wheel hubs and pack them with the recommended grease. Each hub has a capacity of 4 ozs.

REPLACING WHEEL ATTACHMENT STUDS

Relieve the peening which secures the locknut at the inner end of the stud and remove the nut. Remove any ragged ends from the stud to make sure that the threads in the hub or half shaft are not damaged when removing the stud. Do not use undue force to unscrew the stud.

After removal, check that the thread in the hub is satisfactory, then fit the new stud and tighten it to the torque quoted in the General Data. Fit the

locknut and tighten to the torque quoted in the General Data, then support the stud and peen to secure the locknut.

REMOVING AND REFITTING WHEELS

Detach the "snap-on" cap and loosen the five wheel retaining nuts. Jack up the car until both wheels on that side of the car are clear of the ground, then remove the wheel retaining nuts and the wheel. Should a garage type jack be used, avoid damage to the pipelines of the brake and lubrication systems.

REMOVING AND REFITTING BRAKE DRUMS

Mount the car on chassis stands when removing all four brake drums. If either of the rear brake drums have to be removed, release the handbrake. Remove the wheel, then unscrew the two $\frac{1}{4}$in. B.S.F. countersunk drum locating setscrews and remove the drum. It is recommended that when brake drums are removed, they are refitted in their original positions although they are carefully balanced individually and are interchangeable.

Should a brake drum be scored or grooved to such an extent that it is considered unserviceable, fit a new drum.

To refit the drum and wheel, reverse the sequence for removal.

REMOVING AND REFITTING FRONT HUBS

Remove the wheel and brake drum as described previously, also the dust cap and gasket from the outer end of the hub. The dust caps have a right-hand thread. Withdraw the split pin and remove the 11/16in. B.S.F. slotted nut and special washer. Fit the hub extractor TFN.5009 to the five wheel securing studs

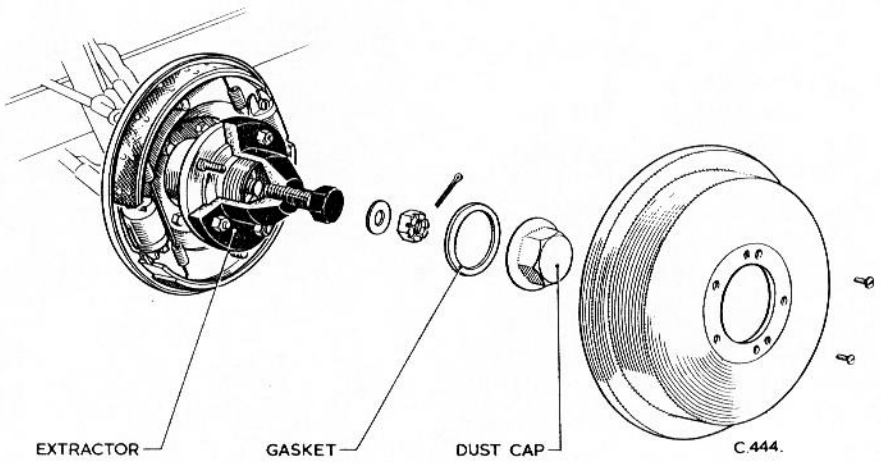


Fig. 2 Extractor for front wheel hubs.

and secure with the five wheel nuts, see Fig. 2. Screw up the extractor bolt to withdraw the hub together with the two bearings, the distance piece, the retaining nut and the oil seal.

Before refitting the hub, inspect the oil seal shoulder on the stub axle for burrs or sharp edges, and if necessary, stone such defects.

To refit, tap the hub assembly over the stub axle, using a tubular mandrel ground square on the end, and positioned so the pressure is applied equally to the inner and outer races of the outer bearing. Fit the special washer and slotted nut to the stub axle and tighten the nut until the new split pin can be fitted; the torque loading of the nut should not exceed the figure given in Fig. 1. Fit the dust cap and its gasket and tighten.

Note:- Do not pack the cap with grease before fitting as tightening the cap may force the grease past the oil seal.

Refit the brake drum and wheel, lower the car and tighten the wheel nuts.

REMOVING AND REPLACING FRONT HUB BEARINGS

Remove the wheel, brake drum and hub. Hold the hub assembly in a soft-jawed vice, remove the locking ring from the hub and, using the spanner TFN.9162, remove the inner bearing retaining nut together with the oil seal.

Note:- The left-hand retaining nut has a left-hand thread.

Place the hub on a suitable hand press and apply pressure to the smaller bearing to push out the two bearings and the distance piece. When fitting bearings, it is most important to avoid damage to the tracks and the balls or rollers. Therefore, the following method is recommended. Before fitting new or the original bearings, wash them thoroughly, pack them with the approved grease, then press the larger bearing into position, applying the pressure to the outer race until it abuts the shoulder in the hub. Screw in and tighten the bearing retaining nut and fit the locking ring. Should it be found necessary to re-drill the nut to receive the leg of the locking ring, take care that the depth of the hole, measured from the outer diameter of the hub, does not exceed $\frac{1}{4}$in. (6·35m.m.). Position the larger end of the distance piece on the larger bearing, pack $\frac{1}{4}$lb. (0·113kg.) of grease around the distance piece and press the smaller bearing into position by means of a tubular mandrel, ground square on the end, and positioned so that the pressure is applied to both the inner and outer race outer faces. The distance piece should be kept central during the operation.

Refit the hub assembly to the stub axle followed by the brake drum and wheel in the manner described on page 8.

REPLACING FRONT HUB OIL SEAL

Remove the wheel, brake drum and hub assembly, remove the locking ring and, with the spanner TFN.9162, unscrew the bearing retaining nut together with the oil seal. Using a hand press, push out the oil seal. Smear the outer diameter of the new seal with grease and press it into position in the bore of the nut so that the feathered edge of the seal is at the threaded end of the nut. Screw the nut into the hub and tighten; fit the locking ring in position. If the nut has to be re-drilled before locking can be effected, the precaution described previously should be observed.

Refit the hub assembly to the stub axle, and the brake drum and the wheel as already described.

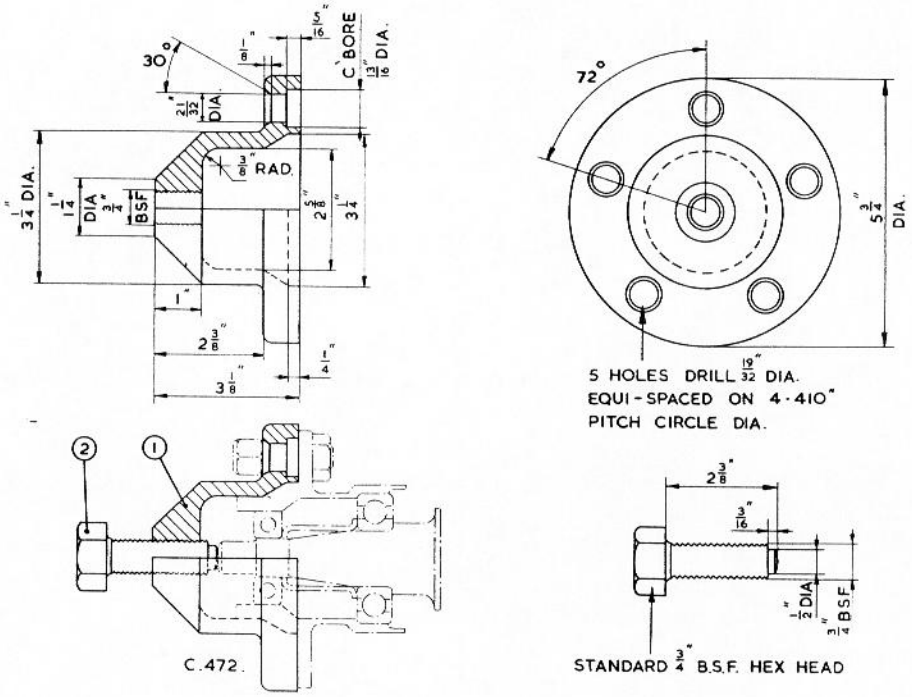
REMOVING AND REFITTING REAR HUBS

The hubs of the rear wheels are secured to the half-shafts, and therefore, reference should be made to Section 6 for the methods of removal and refitting.

SPARE WHEEL

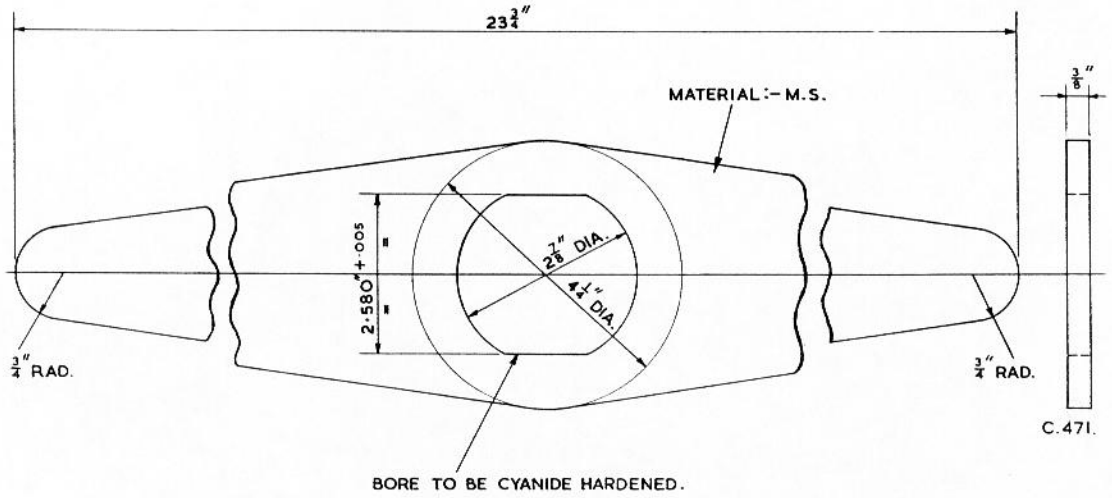
The spare wheel is strapped to the floor of the boot.

SPECIAL TOOLS



ITEM No.	DESCRIPTION	No. OFF	MATERIAL
1	BODY	1	M.S.
2	EXTRACTING SCREW	1	M.S.

EXTRACTOR T.F.N. 5009



SPANNER FOR RETAINING NUT — FRONT HUB T.F.N. 9162.