

ALLARD MOTOR COMPANY LIMITED

SHORROCK SUPERCHARGER SERVICING INSTRUCTIONS.

INTRODUCTION.

1. The Shorrock supercharger is a precision mechanism, which is fully tested before despatch. Like any other machine, however, it requires running-in, and should be driven gently for the first 250 miles. During this period the maximum speed in top and third gears should not exceed 45 m.p.h. and 30 m.p.h. respectively. Properly treated, it will give many thousands of trouble-free miles.

Dismantling or major overhauls should only be undertaken by your Dealer or his Distributor.

SYSTEM OF LUBRICATION.

2. The system of lubrication for the Shorrock Supercharger has been designed to give trouble free service. It is very simple in operation but it is thought that some explanation would perhaps be of help and guidance to the owner of a Shorrock supercharged vehicle.

Oil is fed, under normal engine oil pressure by means of flexible pipes from the pressure gauge or oil warning light tapping in the crankcase of the engine to the lubricator, which is positioned in the centre of the rear end plate of the supercharger.

There are two types of lubricator, both of which are similar in detail the only difference being, that whereas one is integral with the supercharger the other is a separate small casting and is bolted to it.

The lubricator consists of reamed 5/16" bore. .3125. Into this bore is fitted a finely machined restrictor or metering pin. The size of this pin is dependant upon the engine oil pressure and the viscosity of the oil used, but a range of pins is made to cover nearly all eventualities. The largest of these pins which are lettered alphabetically is the 'A' .311. These decrease in size a  $\frac{1}{2}$  thou. .0005 at a time, thus a 'B' pin will be .3105 and a 'C' pin. .3100 and so on.

When a supercharger installation is despatched from our works it is fitted with a metering pin which is the correct size for the engine to which it is to be installed. To take care of any difference which might occur between one engine of the same make and another, a second pin is supplied one size above the one which is fitted. This is usually bolted to the casing of the supercharger in a plastic capsule.

It will no doubt be realised that if for some reason the engine oil is changed for one of higher or lower viscosity some adjustment may have to be made by changing the metering pin to compensate for this, and again if a very thin additive is used, thus bringing down the oil viscosity the same will apply. It has been found that the correct rate of oiling for the supercharger is approximately one pint per 850 miles. As this is completely lost to the engine, topping of the sump should be slightly more frequent.

It should be pointed out that although the oil used by the supercharger is lost to the engine, it has some compensation in the fact that it supplies the engine with upper cylinder lubricant nearly all the time. More especially when the engine is started from cold the presence of oil in the fuel will be visible from the exhaust smoke.

The method of removing and replacing metering pins is described in the installation and maintenance supplied with each supercharger installation.

It is essential that the engine oil, be kept clean and free from sludge. Dirty, unsuitable or graphited oil will clog the lubricating passages and eventually lead to serious damage.

This supercharger is despatched with a 'B' pin in its lubricator. This should be satisfactory for initial running, and quite likely permanently. As a guide, there should be a slight amount of smoke from the exhaust on starting up from cold, which should clear after a few minutes running. Should, however, signs of pronounced over-oiling arise (for instance, clouds of exhaust smoke) then the lubricator pin should be replaced by the larger 'A' pin supplied with the supercharger. After fitting the new pin, check that the supercharger is getting a supply of oil.

Every 5,000 miles the lubricator pin should be removed from the supercharger, and the pin wiped with a soft rag: on no account should abrasives be used.

To remove and replace the lubricator pin, proceed as follows:-

- (a) Models with external lubricator (of brass) - unscrew the plug at the end of the lubricator furthest from the shaft - when the plug, spring and pin will come out together.

To re-assemble,  
assemble pin, spring and plug together, insert and screw down plug firmly.

- (b) Models with lubricator inside the drive shaft - unscrew the pipe union at the end of the supercharger, when the spring will push out the pin.

To re-assemble.

Insert spring first, then pin, then screw down pipe union firmly.

#### CHECKS AND MAINTENANCE.

##### First 250 miles.

Do not exceed 3,500 RPM in gears.  
Between 250 - 500 miles fit the 'A' oil metering pin at rear of supercharger. (as per servicing instructions). If the supercharger unit is fitted to a new engine particular care must be taken to see that not more than a third throttle opening is used and that 3,500 RPM is not exceeded for the first 500 miles.

##### First 500 - 1000 miles.

1. Check installation, bolts, nuts generally. Do not exceed 4,500 R.P.M. if fitted to new engine.
2. Check belt tension, adjust as necessary, by slackening top, front and rear mounting plate bolts and adjusting belt tension by means of the eccentric nut on the front mounting plate, or by sliding the supercharger slightly away from the engine.
3. Top up carburettor dashpot with 20 - 50 engine oil.

##### Every 5,000 Miles.

Check as for 1000 miles.  
Check carburettor flange nuts and front and rear mounting bracket bolts for tightness (do not over tighten).  
Check oil metering pin at rear of supercharger.  
Check tightness of float chamber bolt.  
Check dynamo bolts.  
Check plugs and points.  
Renew belts if necessary.  
Set carburettor and float level.  
Check ignition setting.  
Check crankshaft and blower pulleys for tightness.  
Check rubber connections on induction manifold.  
Check carburettor rubber insulation pad if fitted.

#### CONCLUSION.

Confident of the experience and care built into the Shorrock Supercharger, we wish you many thousand miles of enjoyable motoring from the much improved performance of your car.

KEEP THESE INSTRUCTIONS FOR REFERENCE IN ANY CORRESPONDENCE  
QUOTE SUPERCHARGER SPECIFICATION AND SERIAL NUMBER.

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