

SMORROCK SUPERCHARGER INSTALLATION.

FITTING INSTRUCTIONS FOR MINI AND MINI COOPER.

INTRODUCTION.

The design of the supercharger set for the 850,998,1071, or 1275 BMC engine is such that the work may be confidently carried out by any competent garage mechanic or owner driver, and necessitates no modification to the engine or chassis. Fitting is simplified by reading through these instructions before starting work.

The Supercharger is mounted on the manifold side of the engine with the ports facing on an angle towards the manifold, and is driven by the Duplex belt from the front end of the crankshaft.

N.B. This installation is not suitable for left handdrive models:

During the installation care should be taken to retain all nuts and washers removed and to avoid damaging any packing as some of these are used again with the supercharger set. All additional bolts, nuts and gaskets required are supplied with the kit.

BASIC SPECIFICATION:-

Stage. 1 : Drain cooling system and disconnect battery.

Remove:-	Bonnet.
	Front Grille
	Dynamo,
	Top Radiator Hose.
	Radiator Cowling.
	Fan Blades.
	Radiator.
	Bottom Radiator Hose.
	Crankshaft Pulley.
	Air Cleaner,
	Carburettor.
	Carburettor Flange Studs.
	Choke Control Cable.

(Disconnect heater pipes (if fitted) and keep them clear of engine compartment).

Stage. 2: Fitting Crankshaft Pulley.

- (a) Fit Pulley to crankshaft
- (b) Tighten securing bolt.

HYDROLASTIC PIPE:-

- (a) When the hydrolastic system is fitted, it will be found necessary to reposition the hydrolastic pipe fitted to the bulkhead near the radiator. This must be moved closer to the radiator sufficient to clear the supercharger pulley and belt, and then refitted to the bulkhead panel.

BELT TENSIONER PULLEY:-

- (b) As the supercharger cannot be moved to take up any drive belt slackness a belt tensioner pulley is supplied with the installation, so that the duplex drive belt can be tensioned correctly. Normally the tensioner pulley will be supplied fitted to the front mounting plate but of course will need adjusting before finalising the installation, this is done by slackening the bolt in the slotted hole in the pulley mounting plate. (N.B. excessive tension on the drive belt should be avoided. Tension similar to that of the fan belt is quite adequate).

Stage. 3: Fitting Front Plate.

- (a) Remove the two bolts from the timing cover, one located at its highest point and the other one adjacent at approximately 2 O'clock.
- (b) Front plate, with distance piece should now be fitted leaving the bolts loose.

N.B. At this stage both fan and supercharger drive belts should slip over the crankshaft pulley. Check the fan belt is in good condition.

- (a) Fit bottom hose complete with extension piece to radiator.
- (b) (It is essential that the head of the bolt which passes through the radiator mounting bracket and is located nearest to the bulkhead be reduced by $\frac{1}{8}$ " to $\frac{3}{16}$ "
- (c) Replace Fan.
- (d) Fit radiator and connect bottom hose, tighten clips and mounting bolts.

Stage. 5.: Fitting engine Tie Bar to Bulkhead.

- (a) Remove the bolt which passes through the heater pipe location plate nearest to the edge of the bulkhead strengthening rib.
- (b) Remove nut and stud nearest to rocker cover from Thermostat housing.
- (c) Locate tie bar on bulkhead rib and fit securing washer and nut but do not tighten at this stage.
- (d) (Screw the adjusting bolt in the required direction to locate engine end of the tie bar. Fit bolt provided and tighten down.
- (e) Tighten bulkhead securing nut.
At this point the front plate can be tightened.

Stage. 6.: Fitting the Supercharger.

- (a) The Supercharger complete with pulley, carburettor, and outlet pipe is turned until the carburettor flange is vertical. Place it in the space between engine and bulkhead and move towards front plate. Locate the supercharger mounting studs in the front plate and fit washers and nuts. Do not tighten nuts at this stage.

N.B. Although certain parts will be supplied bolted to the supercharger all nut bolts should be checked for tightness

- (b) Fit gasket between supercharger outlet pipe and inlet manifold. Fit bolts through supercharger outlet pipe and screw lightly into inlet manifold.
- (c) Tighten front plate nuts.
- (d) Tighten supercharger outlet pipe to manifold bolts.
- (e) Fit belt onto supercharger pulley.
- (f) Remove tape, fit and tighten relief valve in outlet pipe, if not already fitted.

Stage. 7.: Fitting Carburettor and Controls.

- (a) Fit carburettor to supercharger pipe and secure using gaskets and bolts provided.
- (b) Connect fuel supply line.
- (c) Fit copper or steel braided pipe to carburettor and connect the other end to flexible pipe removed from original carburettor.
- (d) Fit choke control cable which is supplied and connect to carburettor.
- (e) Connect throttle to carburettor (the standard cable is normally quite satisfactory) by locating the outer cable into the location boss fitted to the cable anchor bracket on the carburettor, and by threading the inner cable through this boss and then chancing it to the throttle lever arm. Finally check that throttle is opening fully.

(Throttle Return Spring).

Fit one end of the throttle return spring to the throttle cable anchor bracket and the other end to the top lever arm fitted to the carburettor butterfly spindle, this should then be adjusted to give sufficient tension to fully return the butterfly adjustment, screw onto its stop.

Stage. 8.: Oil supply to Supercharger.

- (a) Remove Banjo Bolt connecting filter pipe to engine and replace with tapped Banjo Bolt supplied with union.
- (b) With 24" Petroflex lay an oil supply to lubrication connection at rear of supercharger passing round rear of engine to the Banjo bolt. This should then be secured as required by the plastic strapping supplied.

Stage. 9.: Reassembling Heater pipes.

- (a) The pipe at the radiator end of the engine will need to be fitted with the piece of extension hose and copper pipe provided, and secured by jubilee clips. This is best routed over the front of the supercharger unit well clear of the supercharger pulley and supported by a bracket bolted to the supercharger casing nearest to the bulkhead.