

An article from "Beetling" - Dec 1962

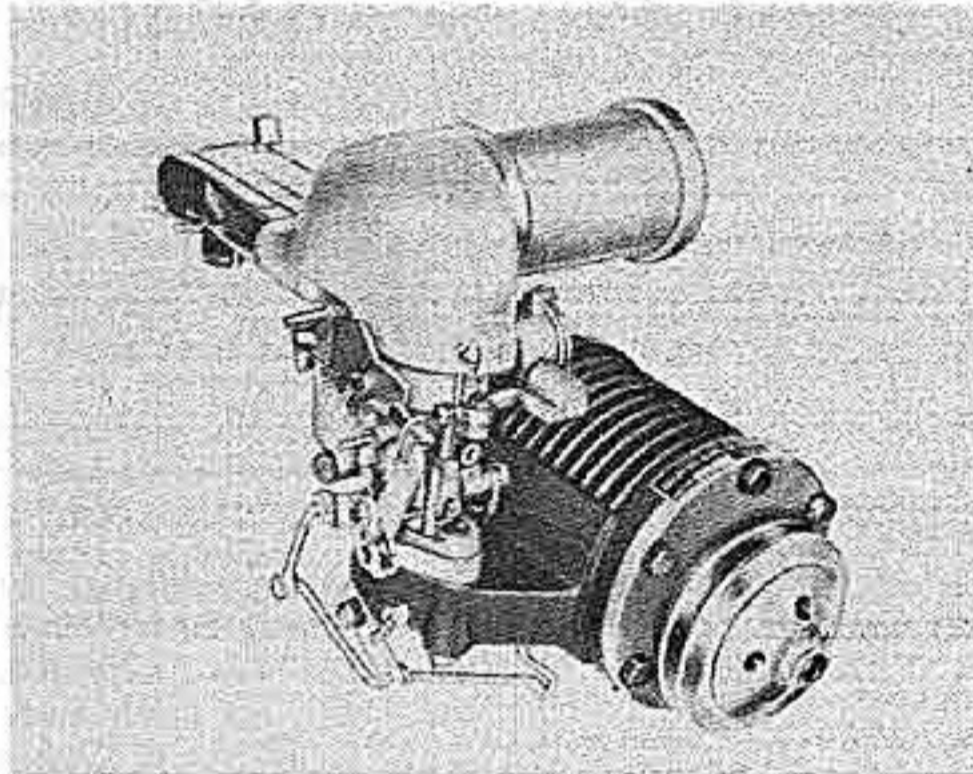
(the official magazine of the VWOC-GB)

Modifying the Volkswagen Engine

THE JUDSON SUPERCHARGER

This device is now marketed in this country by Performance Equipment Limited of Sandford Street, Birkenhead and is referred to by them as the Peco-Judson Supercharger.

The supercharger is of the rotary vane, positive displacement type, in other words it is rather like a vaned axle rotating inside a cylinder which sucks in mixture on one side of the cylinder, compresses it and then blows it out of the side into the inlet manifold. It is a low pressure compressor (6lbs./sq. inch), unlike the type which is usually fitted to racing engines. The kit consists of the supercharger itself, air cleaner, pulleys and belt for the drive from the crankshaft, replacement fuel pump spring, lubricating oil reservoir and supply lines and replacement carburettor jet. The kit for the Karman Ghia also includes a modification for the engine compart-

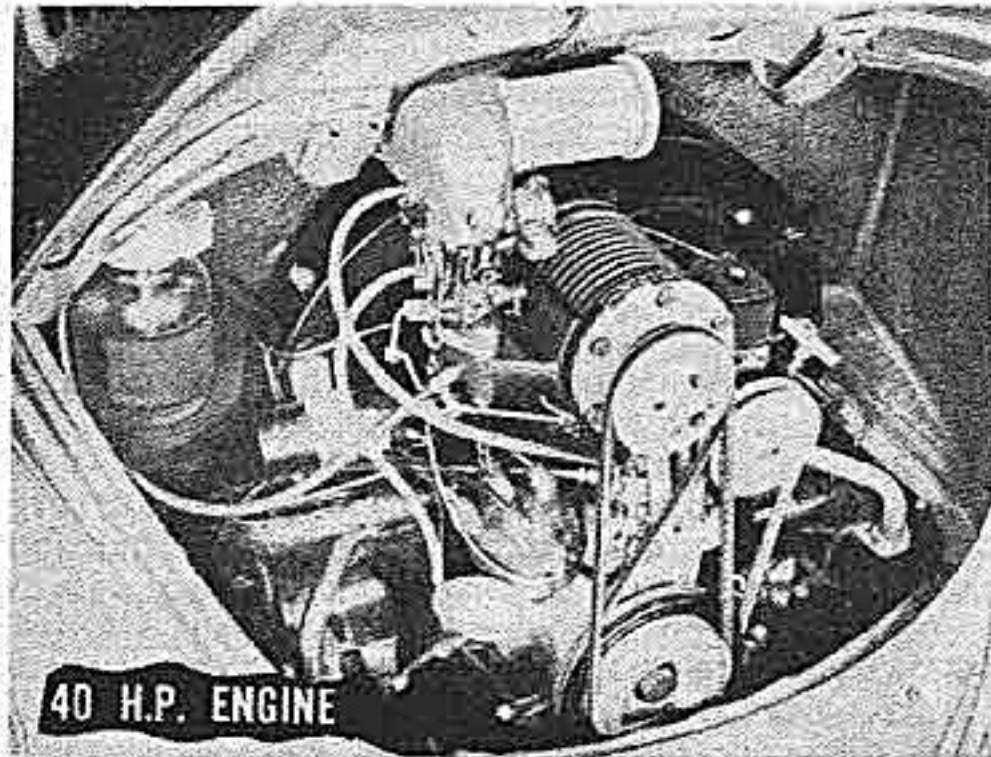


ment lid to clear the air cleaner. The cost for the kit for the normal saloon both 36 and 40 h.p., is £69.0.0. and for the Karmann Ghia is £78.0.0. The makers say that one of the principal advantages of this supercharger kit is that it can be bolted on to the engine in two hours and can be removed just as easily without any modification to the engine or its removal from the car.

Reliability: the makers say that the standard engine is quite rugged enough to withstand any strain involved. They claim that any strain placed upon the engine is far less than that encountered with other types of engine modifications because the blower merely ensures complete cylinder filling at normal engine speeds and there is no strain whatsoever due to increased engine speeds. They also claim that cylinder bore wear is reduced due to better atomisation of the mixture. The supercharger itself is supplied with its own lubricant reservoir, the oil being automatically fed to it; approxi-

mately one quart of oil should be used per thousand miles. It is claimed that this oil also has some effect as an upper cylinder lubricant.

We have given below details of the performance figures which are claimed by the company in their advertising matter. We are publishing these merely as a guide; we would like to have the opportunity of road testing a Judson-supercharged VW in order to satisfy ourselves about the possible performance.



<i>Acceleration (secs.)</i>	<i>Saloon VW (36 h.p.)</i>		<i>Saloon VW (40 h.p.)</i>	
	<i>normal</i>	<i>supercharged</i>	<i>normal</i>	<i>supercharged</i>
0—30 m.p.h.	7.5	4.2	6.5	4.0
0—40 m.p.h.	13.5	7.0	11.0	6.0
0—50 m.p.h.	30.0	10.2	17.0	9.5
0—60 m.p.h.	30.5	15.5	28.0	13.0
<i>Maximum Speed</i>	70	85	71	85
<i>(m.p.h.)</i>				
<i>Maximum H.P.</i>	24	42	31	49
<i>at rear wheels</i>				
<i>Maximum engine B.H.P.</i>	36	57	40	59

The makers say that fuel consumption will be increased due to the use of the extra available power; they say that this increase will be in the order of 5—10% depending upon the driver. It is also claimed that oil consumption may be reduced due to the extra pressure in the cylinders preventing oil being drawn past the cylinder into the combustion chamber.

If the supercharger gives the claimed increase in power and the improved performance which the makers claim and if it does not affect the reliability of the engine, then it is indeed a remarkable product, especially at its price. As we have mentioned earlier, we would like to road test a VW modified in this way before committing ourselves to an opinion on performance. We ourselves can give little information about reliability; perhaps some of the Club Members who have fitted the Judson to their cars can give us some information on this particular topic.