

# WADE SUPERCHARGER INSTALLATIONS



for  
private  
cars

## QUESTIONS AND ANSWERS

Q. Isn't Supercharging only suitable for racing cars ?

A. No. Wade low Pressure Installations are eminently satisfactory for everyday saloons.

Q. What are the advantages of Supercharging my car ?

A. Exhilarating acceleration, greatly improved pulling power and hill climbing ability, easy starting and less gear changing with consequent increase in driving comfort.

Q. Doesn't all this strain the engine and shorten its life ?

A. No. Providing the makers r.p.m. limits are not exceeded the engine should not be impaired.

Q. What about petrol: I suppose I shall get about 5 m.p.g. ?

A. Due to the exceptional efficiency of the Wade Supercharger the increase in consumption is slight and is certainly less than an unsupercharged car with equivalent performance.

### *The function of the supercharger*

AN unsupercharged engine (relying on partial vacuum created by the piston's descent on the induction stroke) is never filled efficiently. This is understandable when it is realized that, on an average car, there are approximately 100 inductions per second at 45 m.p.h. A supercharger overcomes this handicap by supplying the mixture under pressure.

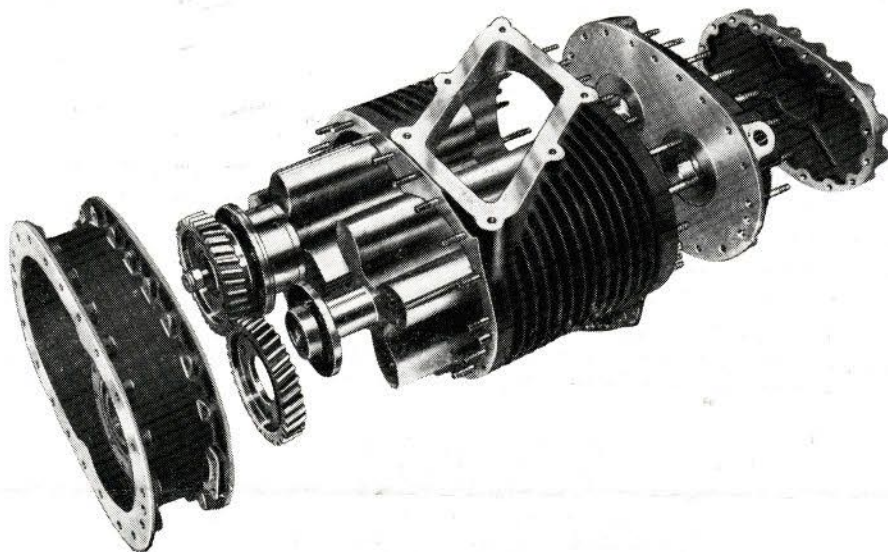
The Wade Supercharger consists, basically, of a case, with ports on either side, containing two contra-rotating rotors driven from the engine. The mixture from the carburettor is carried round by the lobes of the two rotors and expelled through the outlet port to the engine. As the delivery from the supercharger exceeds the swept volume of the engine a pressure is built up and efficient filling of the cylinders and equal mixture distribution is ensured.

In this type of supercharger there are no sliding vanes or contacting parts to wear out but, although the rotors do not touch the case or each other, the clearances must be very small otherwise excessive leakage and loss of efficiency will ensue. To combine these close clearances with complete reliability under a variety of operating conditions and temperatures calls for a high degree of skill in design and production.

### *The Wade Ventrator Supercharger*

The Ventrator range of Wade Superchargers are particularly suitable for automobile installations, being exceptionally efficient and completely reliable.

The combination of the Helical port (under Broom and Wade licence) and four lobe rotors with close operating clearances ensure a pulsation-free delivery with the minimum of operating noise.

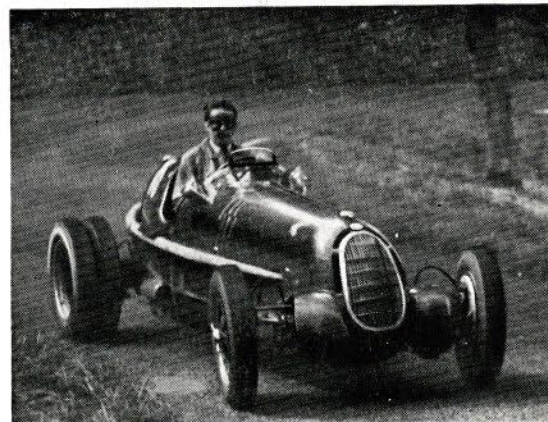




The patented labyrinth oil seals are of particular appeal to the motorist as they are frictionless and have an unlimited life, unlike the usual contact oil seal.

Steel to bronze gears are used, this combination being exceptionally hard wearing and silent in operation.

The foregoing features and the particular care and craftsmanship which has been given to the design and construction of the Wade Ventor Supercharger, coupled with the use of the finest quality X-ray inspected materials, are responsible for its exceptional performance and well proven reliability.



Photograph by Guy Griffiths

### Standard Installations

Standard 'ready to fit' Wade Supercharger Installations are available for a number of popular cars and new ones are being developed.

Neat and compact, they are specifically tailored for the car to ensure the optimum results and the improvement to performance must be experienced to be fully appreciated. The owner of a small or medium size saloon can enjoy the satisfaction and safety factor of a constant reserve of power comparable to a large and expensive car; and the owner of a more powerful vehicle can enhance the pleasure of his motoring by improving the performance still further. They make business motoring 'pleasure motoring'. In addition, coldweather starting becomes easier with saving in cylinder bore wear due to reduced use of the choke.

Your nearest agent will be pleased to supply any further information and arrange a demonstration run.

### Special Installations

Special installations can be made quickly and efficiently for cars for which standard production installations are not available. These incorporate as many standard components as possible but parts such as induction manifolds must be specially made to fit.

To avoid inefficient and unsightly fabricated manifolds these are cast in aluminium on the lost wax principle thus the finished article is as neat and compact and as a standard installation and is interchangeable between cars of the same type. The performance characteristics of cars supercharged in this manner are improved just as much as those fitted with standard installations.

The price, varying according to the car, is usually only slightly above that of a standard installation including fitting. Your nearest agent will be pleased to give you an estimate and to arrange for the collection and delivery of your car if required.

### For the Enthusiast

The racing successes of Wade supercharged cars are well known and the fact that standard superchargers are used is sound testimony of their efficiency and reliability.

For the enthusiast, supercharging is the answer to the quest for performance. Tuning, involving high compression and special camshafts etc., results in 'peaky' performance characteristics, lack of power at low speeds and an engine which quickly loses its tune.

Supercharging, (usually for less expense) gives greater performance throughout the range on standard fuels and does not impair reliability by necessitating continuous use of excessive r.p.m.

The competition driver can obtain even more power by increasing the boost pressure, still without special camshafts.

For the trials driver, and others requiring high torque at low r.p.m. Wade Supercharger Installations are ideal because of their exceptional 'bottom end' performance.

### COMPARATIVE PERFORMANCE FIGURES

taken from customers cars of varying conditions and mileage

Make and Year of Car	Acceleration 0-50 m.p.h.		Average petrol consumption (m.p.g.)	
	Uns'chgd.	S'chgd.	Uns'chgd.	S'chgd.
Ford Prefect 1939 ... ..	29.6 sec.	16.4 sec.	33 m.p.g.	30 m.p.g.
M.G. Tc. 1947 ... ..	16.8 sec.	11.0 sec.	28 m.p.g.	26 m.p.g.
Triumph 1800 Saloon (Triumph engine) 1947 ...	19.2 sec.	12.8 sec.	20 m.p.g.	18 m.p.g.
Morris Minor 1949 ... ..	33.0 sec.	19.2 sec.	39 m.p.g.	36 m.p.g.

### PRICE LIST (Standard Installations)

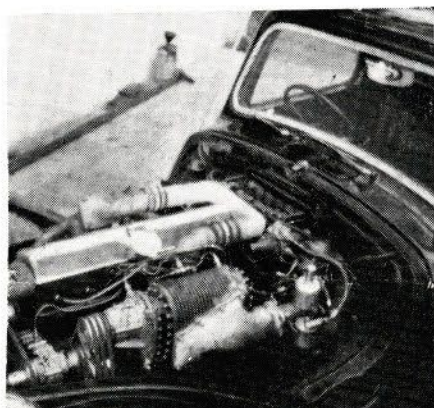
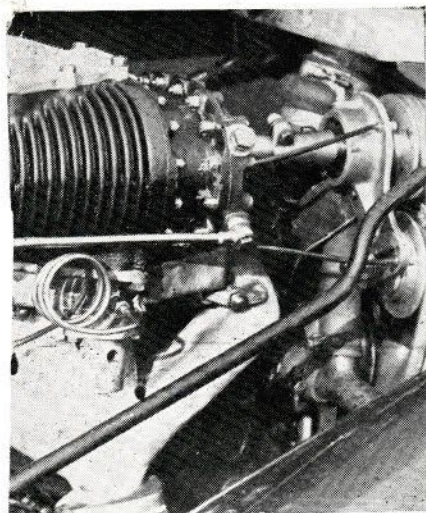
	£	s.	d.
FORD 8 (ALL MODELS) ... ..	75	0	0
FORD 10 (ALL MODELS) ... ..	75	0	0
MORRIS MINOR (1949) ... ..	75	0	0
M.G. (TC MODEL) ... ..	90	0	0
TRIUMPH 1800 ... ..	95	0	0
STANDARD VANGUARD ... ..	95	0	0
FORD MERCURY (1948 ON) ... ..	105	0	0

NOTE.—Further standard installations are being developed. Special installations can readily be made up for cars for which standard installations are not available. Estimates on request.

# WADE

WADE ENGINEERING LIMITED  
GATWICK AIRPORT, HORLEY, SURREY  
HORLEY 1510 Extension 125

Special installation  
fitted to a Citroen  
engine



fitted  
standard  
ation



## WADE'S SUPERCHARGER INSTALLATIONS

Your Wade Supercharger Installation is designed for a long and trouble free life without constant and irksome maintenance. The following notes are for your guidance and will enable you to ensure the optimum results from your installation.

### 1. The Supercharger.

The Wade Supercharger is carefully inspected and thoroughly tested before leaving the works and apart from lubrication, does not require attention.

Under no circumstances try to dismantle the supercharger or remove the helical gears as this will upset the rotor phasing. In the unlikely event of trouble developing in the supercharger, take it to your nearest agent. The steel to bronze helical gears are an extremely hard wearing combination and you may find that gear noise will be present for 500-600 miles until they are fully run in.

### 2. Lubrication.

As there are no contacting parts no lubrication is required in the supercharger case. The end housings however, contain the bearings and, in the front, the gears. The amount of oil required by these components is very small (the supercharger only uses approximately an egg cupful every 200 miles) and they are lubricated by splash feed from oil contained in these end housings. This oil level is maintained by "topping up" from a tapping on the main engine supply. To do this DEPRESS THE LUBRICATION BUTTON FOR 10 SECONDS EVERY 200 MILES WITH ENGINE IDLING.

If this simple operation is overlooked the supercharger will run dry and will become excessively noisy in the gears, an immediate injection of oil will cure this and, unless it is permitted to run dry for a prolonged period, it is unlikely that damage will have been caused.

If an excess of oil is injected the exhaust will probably smoke for a short period until the oil drops to its correct level in the housings.

### 3. Greasing.

The drive shaft outrigger bearing should be greased every 500 miles.

### 4. Care of the Belt.

The V-belts provided are of the finest quality and will give long service. It is essential however that they are kept at the correct tension. If allowed to run slack the belt will tend to slip, equally if the adjustment is over-tight the excessive heat generated will cause rapid deterioration.

Adjustment, which is effected by moving the jockey pulley towards or away from the belt, should be checked every 500 miles.

### 5. Carburettor Settings.

The carburettor has been set with the correct jets for normal use. Providing that your engine and the carburettor itself are in sound condition the petrol consumption should be only slightly greater than when unsupercharged.

If this is not so, consult your nearest agent, a carburettor specialist or ourselves.

In the event of your requiring special carburettor settings (for competition work, etc.), we strongly recommend obtaining advice from the carburettor manufacturer or an acknowledged carburation specialist.

### 6. Driving a Supercharged Car.

You now have a greatly increased power output from your engine and whilst it is in no way suggested that you should not enjoy it to the full the following points will help you to maintain the reliability of your car and avoid an excessive fuel consumption.

- (a) Do not exceed the makers recommended maximum r.p.m. (or speeds) in the indirect gears.
- (b) You have greatly increased pulling power at low r.p.m. so you can change up at lower speeds without sacrificing performance. In this way you will conserve petrol by avoiding 'revving' in the indirect gears.
- (c) Due to the improved mixture distribution it is not necessary to hold the choke out for such long periods when starting in cold weather. This effects a material saving in cylinder bore wear.

Finally, may we assure you that we are at your service and wish you many thousands of miles of pleasant motoring with—

**SUPERCHARGING BY WADE.**

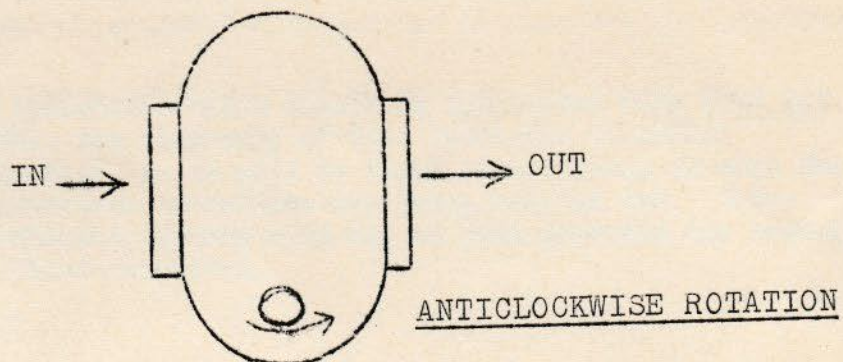
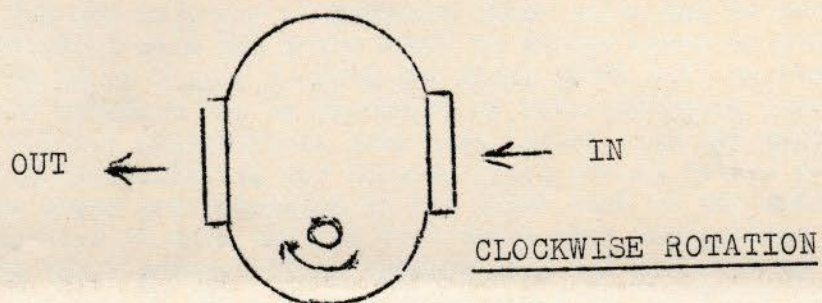
Under normal circumstances our products will give long, continuous and reliable service providing they are correctly maintained. It is imperative to use the correct grade of lubricant and to be certain at all times that the housings are filled to their correct levels. The oil levels should be checked every five to eight days if the units are running daily. Running periods of 2000 to 2500 hours should be possible without inspecting the unit for overhaul.

It is our recommendation that a unit be returned to us for inspection and overhaul at the end of 3000 hours running time.

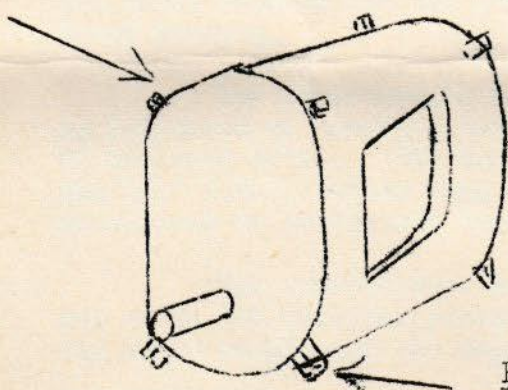
If there are any doubts that you have please do not hesitate to contact our Service Department.



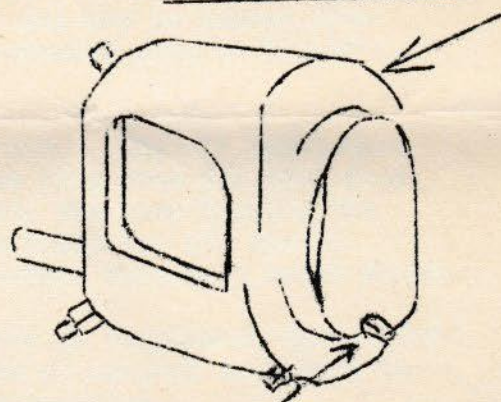
AIR FLOW AND DIRECTION OF ROTATION  
FIGURE 1



FRONT FILLER PLUG



REAR FILLER PLUG

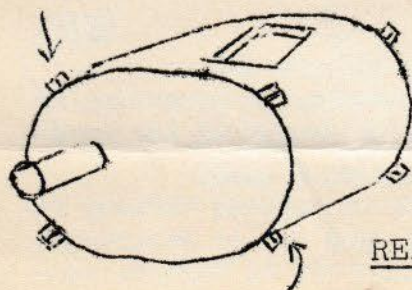


FRONT LEVEL PLUG

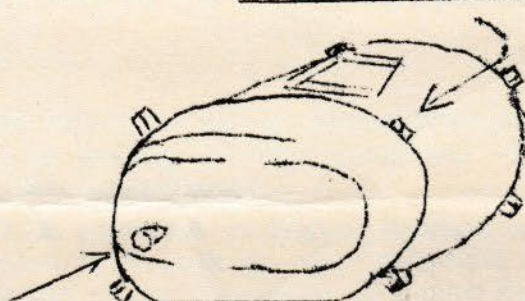
REAR LEVEL PLUG

FIGURE 2

FRONT FILLER PLUG



REAR FILLER PLUG



REAR LEVEL PLUG

FRONT LEVEL PLUG

FIGURE 3