
RUNG-RUNNING.—With Mr. Lowe at the wheel, the Dellow makes a quick, clean climb of Nailsworth Ladder, while the front suspension does some hard work.

*The Midland Editor Reports on a Novel Enterprise in Which Reconditioned Ford Parts Form The Basis of a Potent Competition Machine Now in Limited Production*

*Built for Trials*

# The SUPERCHARGED DELLOW

ONE of the most interesting features of the trials side of motor sport in the past season has been the emergence from the trials-special stage of what can reasonably be regarded as a new marque, the Dellow, which is now in limited production.

Owing to the queer economic conditions of the moment, this new car is not quite like any other, in that the purchaser is expected to provide the basis of his future machine, which is not, strictly speaking, a new vehicle at all, but a complete reconstruction, with additions, of reconditioned components.

These basic components are all of Ford Ten origin and comprise an engine-gearbox unit, transmission line, axles and springs, braking system and wheels. The condition of these parts is not of paramount importance, since all are completely reconditioned before assembly.

Dellow additions to these basic components include a tubular chassis frame, quarter-elliptic rear springs, a blower and a special light trials-type body with light-alloy panelling.

The whole conception is the outcome of the ideas of two prominent trials enthusiasts, Mr. K. C. Delingpole and Mr. R. B. Lowe (hence "Dellow"), directors of Dellow Motors, Ltd., who are also concessionnaires for the Ventor supercharger, as fitted to the Dellow.

### Tubular Frame

Shaped rather like the letter "A," the chassis comprises two side-members and a main cross-member of 3¼-in. diameter 10-gauge tubes. At the apex of this formation, the tubes are welded in holes in a stout angle-shaped member, whilst welding is also used for the junctions of the main cross-member and for the attachments of the tubular framework of the body.

At the front, the protruding flange of the angle-shaped cross-member is used as a bracket, to which is bolted the standard transverse Ford Ten front spring. At the rear, quarter-elliptic springs are used. Their forward ends are inserted in blocks which fit tightly in the main frame tubes and are located positively by a bolt passing through tube, blocks and spring and by a U-bolt and bar which bears direct on the upper block through a slot cut in the tube.

At the front, the standard Ford axle is used and is located by the usual radius arms, which terminate in a ball joint carried on a dished cross-member passing below the engine. The rear quarter-elliptic springs are shackled at their ends, and a torque tube is used to provide rear-axle location and take the driving torque. Hartford friction shock absorbers are used, front and rear.

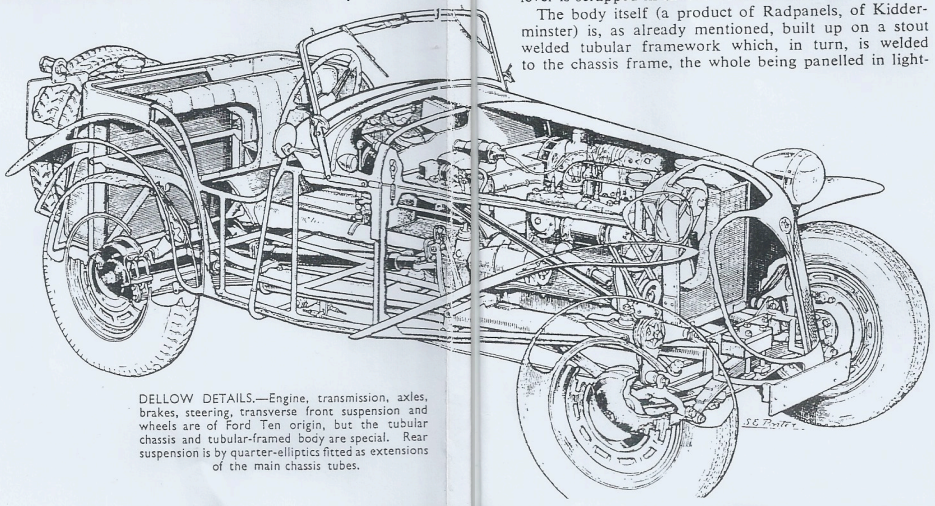
The engine being mounted well back, and the seating position also being well to the rear (but still forward of the rear axle), the majority of the weight is on the rear wheels. The exact proportion as between axles is the result of considerable experiment to compromise between the conflicting requirements of rear-wheel adhesion and steering control.

The engine is standard, apart from double valve springs, the blower and attendant induction modifications. The blower itself is of the Ventor constant-output Roots type, with helical ports. The helical gears run in a self-contained oil bath, so that the need for an external supply of lubricant is completely avoided.

The blower is mounted on the nearside of the engine and draws its mixture from an H3 horizontal S.U. carburetter and circular air cleaner. The drive is by means of a V-belt from the crankshaft, with the pulley for the four-blade cooling fan arranged to act also as a jockey to provide correct tension. The dynamo, mounted in a new position on the off side of the cylinder head, is driven by a separate belt.

The R 007 Ventor blower produces a maximum pressure of 4-5 lb. running at 1.35 times engine speed, and this gives an output of 46-48 b.h.p. at 4,400 r.p.m. (compared with the 30 b.h.p. at 4,000 r.p.m. of the standard product). Actually, the engine is capable of considerably higher r.p.m., and a speed of 7,000 r.p.m. has been exceeded without trouble, but such speeds are not considered advisable for ordinary use. The output quoted, in conjunction with the standard Ford gear ratios and the light weight of 11 cwt. dry, is ample for even the more severe of normal trials sections.

A feature of the cooling system is a large radiator with a small header tank, the idea being to provide a sufficient cooling surface, but to ensure rapid warming up—a very desirable feature in modern trials, where cars are often kept waiting for considerable periods at the foot of observed sections. The exhaust system is mounted alongside the main frame on the near side.



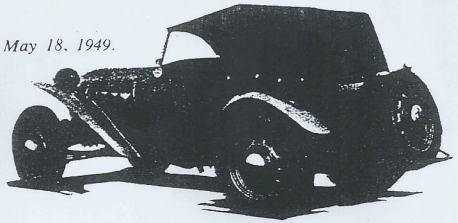
DELLOW DETAILS.—Engine, transmission, axles, brakes, steering, transverse front suspension and wheels are of Ford Ten origin, but the tubular chassis and tubular-framed body are special. Rear suspension is by quarter-elliptics fitted as extensions of the main chassis tubes.

### Ingenious Braking

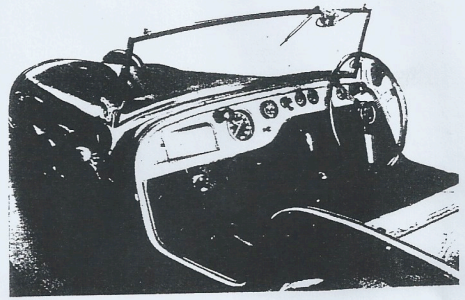
The braking system is basically the standard Girling pattern, but by a clever modification the ratchetless external lever can be pushed forward to apply the front brakes or pulled backwards to brake the rear wheels—an arrangement which should prove extremely useful both for special tests and for descending hills in reverse, where an excess of braking on the front often creates steering difficulties. In addition, a ratchet-type pistol-grip brake is fitted internally for parking purposes.

In other respects, also, special attention has been given to adequate control under trials conditions. The steering, for example, is extremely high geared (one turn from lock to lock), whilst the normal Ford gear lever is scrapped in favour of a neat remote control.

The body itself (a product of Radpanels, of Kidderminster) is, as already mentioned, built up on a stout welded tubular framework which, in turn, is welded to the chassis frame, the whole being panelled in light-alloy sheet, secured to the tubes by means of beading and self-tapping screws. The result is light, strong and workmanlike. The same applies to the upholstery (incorporating Dunlopillo cushions) and to the hood, which, mounted on detachable hood sticks, is reasonably simple to erect, and offers adequate protection.

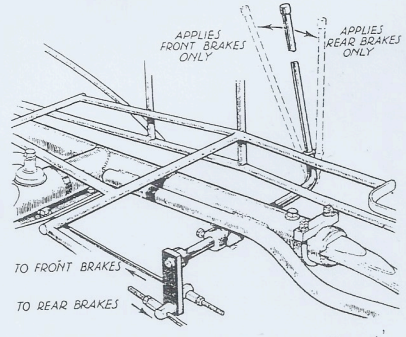


UNDER COVER.—An easily erected hood provides weather protection. Facia layout and the remote 3-speed gear-control are shown below.

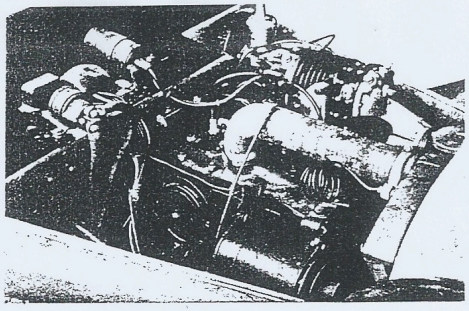


As regards price, the figure naturally depends on whether the buyer requires any special fittings or modifications, but for what might be termed the standard edition as described, the inclusive price is £570, less the value of the usable components supplied by the customer. Normally, 4.50 by 17-in. Dunlop tyres are fitted at the front and 5.50 by 16 in. S-type Michelin at the rear, where 6.00 by 16-in. or 4.75 by 17-in. covers can be used as alternatives.

On the road, the Dellow is a most refreshing vehicle for the man who appreciates a car which is built for a job and does it. As one would expect, there is a touch of Spartan reality in its make-up which yields




DRIVER'S CHOICE.—In addition to foot-brake and normal pistol-grip parking brake, an external lever is installed by which alternative front- or rear-wheel braking can be effected.



BLOWN FOR POWER.—Apart from the blower and use of double-valve springs the engine is a standard Ford Ten unit.

## The Supercharged Dellow—Contd.

no concessions to luxury where performance is at stake.

On the other hand, the Dellow is emphatically not the sort of vehicle in which the journey to and from the start of a trial is a form of purgatory endured for the sake of a few hours' competitive joy. Rather does it resemble a sports car of the old school which offers practical, if austere, everyday motoring.

The engine gives a plain indication of its presence, both by a somewhat hearty exhaust note and a certain amount of mechanical and blower whine, although the latter is, in itself, very moderate.

Neither weight nor wheelbase have been squandered in providing more than reasonably comfortable seating for two, plus a luggage space adequate for week-ending by those who do not mind travelling light. Similar characteristics apply to the steering, in which twirly-whirly gearing is eschewed in favour of a very direct-acting linkage which is a little disconcerting until one becomes used to it. The suspension, too, has a simple adequacy which ensures reasonable main-road comfort, plus good road holding and cornering.

These are the impressions one gains on taking over the car on normal roads—plus a very wholesome respect for acceleration and top-gear pulling power; but the Dellow is not a car built primarily for main roads, and the obvious thing was to try it on some hills.

Juniper Hill, near Painswick, seemed as good a choice as any, being a hill with a nation-wide reputation as a "stopper." The weather was fine and the approach looked comparatively dry. As a concession to these indications of a possible slight easing of the usual conditions, it was attempted without any preliminary inspection and without any alteration of main-road tyre pressures (of the 6.00 by 16-in. size fitted) or shock absorber settings. The idea was to see just what would happen. What did take place can be gathered from the fact that the Temple Press Midlands photographer (who has watched many trials on this hill) found himself nearly caught out: he had never seen anything like this climb for speed, he said.

After this effort, experiments on other hills in the immediate neighbourhood would obviously have been an anti-climax and no further time was wasted except for a pause to see how the car would react to the rough steps of Nailsworth Ladder. A full-bore climb, hitting the famous bump fair and square, produced a dramatic leap which represented just about as harsh a suspension test as could be meted out by any trials hill—but, as inspection showed, had no effect on the front axle and suspension. On later climbs, easing the throttle right back and picking a bump-dodging course showed that the Wade Ventor blower offered no objection to such carburation-upsetting tactics, whilst, as a final effort, a restart was made half-way up the hill—again without the slightest difficulty.

Subsequently, the Dellow was put through the usual performance tests in abbreviated form and the figures obtained are given in the accompanying panel. For these tests, 4.75 by 17-in. rear tyres were used. The maximum speed was obtained with a shorter approach run than normally given (circumstances prevented the car being taken to the usual proving ground) and the consumption figure was for a measured half-gallon consumed in the course of driving round a short, varied circuit at a cruising speed of 40 m.p.h.—a fair representation of favourable touring conditions.

To sum up briefly, it may be said that the Dellow is a car built essentially for a specific purpose and that it fulfils that purpose outstandingly well, providing, at the same time, a measure of suitability for general motoring quite acceptable to the average trials enthusiast.

### DELLOW BASIC SPECIFICATION

| | |
|---|---|
| **Engine:** | |
| No. of cyls. | 4 |
| Bore | 63.5 mm. |
| Stroke | 92.5 mm. |
| Cubic capacity | 1,172 c.c. |
| Make of supercharger | Wade Ventor, type R.007 |
| Speed of supercharger | 1.35× engine speed |
| Boost pressure (normal max.) | 4-5 lb. |
| **Transmission:** | |
| Gear ratios | 5.5, 9.71 and 16.89 |
| Prop. shaft | Enclosed |
| Final drive | Spiral bevel |
| **General:** | |
| Front suspension | Transverse leaf |
| Rear suspension | Quarter-elliptic |
| Brakes | Modified Girling |
| Chassis frame | Tubular |
| Wheels and tyres: front | 4.50×17 Dunlop |
| rear | 5.50×16, 6.00×16 or 4.75×17 S-type Michelin |
| Turning circle | 28 ft. 6 ins. |
| **Price:** | |
| Normal equipment | £570 (less value of parts supplied by customer) |

Engine, transmission, axles, brakes, steering, front suspension and wheels are reconditioned Ford Ten, modified as necessary.

### "THE MOTOR" ABBREVIATED TEST REPORT.

## DELLOW

PRODUCED BY: DELLOW MOTORS LTD., ALVECHURCH, BIRMINGHAM.

### TEST CONDITIONS

Fine, warm, little wind. Pool petrol.

### TEST DATA

**Acceleration times on two upper ratios.**

| | Top | 2nd |
|---|---|---|
| 10-30 m.p.h. | 8.4 secs. | 4.7 secs. |
| 20-40 m.p.h. | 8.1 secs. | 4.8 secs. |
| 30-50 m.p.h. | 9.6 secs. | — |
| 40-60 m.p.h. | 13.7 secs. | — |

**Acceleration times through gears.**

| | |
|---|---|
| 0-30 m.p.h. | 4.3 secs. |
| 0-40 m.p.h. | 7.6 secs. |
| 0-50 m.p.h. | 12.6 secs. |
| 0-60 m.p.h. | 20.3 secs. |
| Standing ¼-mile | 22.8 secs. |

**Maximum speed. Flying quarter mile.***

| | |
|---|---|
| Mean of two opposite runs | 69.2 m.p.h. |
| Fastest run | 69.2 m.p.h. |

**Hill-climbing.**

| | |
|---|---|
| Max. top gear speed on 1 in 10 | 47 m.p.h. |
| Max. top gear speed on 1 in 15 | 59 m.p.h. |
| Max. top gear speed on 1 in 20 | 61 m.p.h. |
| Max. gradient climbable on top gear | 1 in 8½ |
| Max. gradient climbable on second gear | 1 in 4½ |

**Fuel consumption.**

| | |
|---|---|
| 40 m.p.h. cruising on varied circuit | 24.5 m.p.g. |

**Weight.**

| | |
|---|---|
| Road weight unladen (full tank) | 12 cwt. |
| Laden weight as tested | 15 cwt. |

* *Note*: Maximum speed figures were taken at the end of a ¼-mile approach run from rest.