Devon Moonraker Diesel – likeable but leisurely

Report by CHRIS BURLACE

Rumours abounded before the release of Volkswagen's new Transporter in 1979. Was the air-cooled tradition to continue, or would the new van be powered by one of the generation of successful new VW water-cooled engines? Would the power unit be at the rear, for good traction even when the vehicle was unladen, or would it move to the front to eliminate that obstruction to load space?

Some, who claimed to have stolen a glimpse of the new VW, spoke of a tell-tale grille at the front, surely a sign that at last Volkswagenwerk had succumbed to convention!

When the new vehicle finally appeared the traditionalists were proved right — as Dr Porsche had intended air was still the cooling medium and the engine was still in the tail. But there was a grille at the front, and unused space sufficient to accommodate a radiator. The prophets of change were in part right; the van had been designed to accept water cooling, not for its own sake but to make further use of Volkswagen's very successful small diesel engine, already making a name for itself in the Golf...

By the time VW were ready to implant the diesel engine in the Transporter it had grown to 1588 cc, and gained a little in power, from a 6.5mm increase in stroke. For commercial use, however, the passenger car engine was slowed to deliver maximum power at 4200 rpm instead of 4800 rpm, bringing the bhp figure down to the 50 of the early engine but boosting maximum torque to 76 lbf ft at only 2000 rpm.

These maximum power and torque figures are identical to those of the 1584 cc petrol engine, the standard unit in the Transporter; but the diesel engine does bring the benefit of high torque over a wide speed range for good flexibility — over 66 lbf ft from 1200 to 3900 rpm.

For commercial use, modifications to the VW diesel include a larger flywheel and a heavy duty clutch, while to cope with heavy load conditions there is an oil cooler to regulate engine temperature. The greater starting loads of the diesel are catered for by fitting a starter motor of increased output (1.7 kW) and a 63 amp-hour battery instead of the standard 43 Ah unit.

The engine drives a vane type vacuum pump for the brake servo. Gear ratios (with the exception of top, dropped from 0.82:1 to 0.85:1 to take account of higher engine speed) and the rear axle ratio are the same for both diesel and petrol versions of the Transporter.

On lifting the large cover in the top of the rear engine deck the in-line mounted diesel unit looks very accessible, although with the diesel less likely to receive DIY maintenance from its owner than a petrol-engined van, this is an area which may be only rarely revealed. Routine oil checks, as with the petrol-powered Transporter, are performed via a hinged flap behind the number plate. Checking the level I found to be easy, but adding the pint of oil which the vehicle required after 1,000 miles of driving needed a funnel to reach the awkward filler.

One of the advantages of the new VW commercial over the superseded model is the lower engine deck, and greater internal space, afforded by the adoption of the revised flat-four, air-cooled engine with its crankshaft-mounted fan. The extra space in the new generation Volkswagens is valued by motor caravan buyers as much as any, and those contemplating the diesel version will be pleased to learn that the engine steals no more space than the 'conventional' VW power unit.

To save height, the block is inclined at 50° to the vertical. The main modification necessary to fit the engine to the van has been to the sump, but this has been turned to advantage. The cast aluminium sump bolts to the bellhousing as well as the crankcase, so giving increased rigidity to the drive unit, while the aluminium alloy also aids cooling.

The Transporter cab offers car-style comfort. Cloth-trimmed seats with head restraints, and well placed controls and instruments.

Naturally the engine drives forwards to the gearbox, and other traditional VW features which are retained are the exhaust unit (which bolts directly to the engine) and easy removal of engine and exhaust as a unit when necessary. The engine is carried on tubular members at the rear, and by the gearbox at the front, with specially developed rubber mountings which bring significant benefits in cutting noise and vibration.

Less traditional are the arrangements for the waterworks! Pipework, carried and protected by the underframe of the van, leads forward to the radiator. The water-cooled version of the Transporter is easy to spot by its extra grille just above the front bumper to provide cooling air to the radiator, where cooling is aided by two electric fans governed by a thermostatic switch.

Before I took the Moonraker away on test I looked over Devon's contribution to the vehicle and compared it with the model which launched the new range of VW-based motor caravans in Britain early in 1980. There have been only detail changes to the conversion, with the layout remaining identical to that of the early model — a layout which seemed to set a standard for a number of other convertors.

www.vwT25camper.info - a useful website for owners and enthusiasts of VW T25 / T3 / Vanagon Campervans

Devon's side-lifting Double Top continues, and goes up easily with assistance from gas filled struts. Pulling it down, on the other hand, needs a hefty pull, but lightweight owners can always swing on the internal securing strap! Outside I was pleased to find that the security pins for the two strong roof catches had been improved, making them easier to use.

Two upholstered bed boards in the roofspace join to make a 73ins by 46ins bed, while by day they stack to leave a 45ins by 44ins opening with full headroom in the centre of the 'van. One of the merits of the VW compared with its competitors, however, is the good internal height in the base 'van. Even with the roof lowered I found about 5ft 2ins of headroom in the caravan area, space enough to move around without too much discomfort, so that for short stops it is not really necessary to go to the trouble of putting the roof up.

Another benefit of the Transporter's generous interior height is reflected in the high window line which permits the working surface of the kitchen unit, ranged along the offside, to be a comfortable 33ins above floor level. Sub-divided into three sections, the worktop lifts to reveal, in turn from the front, a well proportioned rectangular stainless steel sink and drainer, a Fellows 2-burner-and-grill stainless cooker with neat, fold-out splash guard, and finally an enormous locker, 30ins long, 17½ ins wide and 15ins deep.

Below the sink I found an Electrolux 1 cu ft fridge, an extra at £183, while beneath the drainer, and utilising previously wasted space, is a new small but handy cupboard. Two spacious cupboards account for the rest of the space in the unit, the rearmost one accommodating the gas bottle in the relatively inaccessible space beside the rear bench seat. I was pleased to find a floor ventilator to drain away any leakage of gas, and isolator valves for cooker and fridge.

Over the engine deck the wardrobe forms a continuation of the units along the offside of the Moonraker. With a hanging height of 40ins and maximum width and depth of 17½ ins and 22ins respectively, it is far more generously proportioned than the clothes storage in many an earlier VW conversion which sought solely to fulfil the requirements of H.M. Customs & Excise in those balmy days when a 'properly fitted' motor caravan was exempt from all taxes!

The wardrobe is just one of the units in the 'van which Devon have chosen to construct in fibreglass, a material which brings strength and durability with weight savings and, for series production, a long term saving in manufacturing costs.

The storage tray below the engine deck cushion, the locker occupying the roofspace over the engine deck, and the curved end of the bench seat are other assemblies which are moulded in fibreglass. External surfaces of these mouldings, where they are on view, are trimmed in the rich brown carpet trim which is used throughout the Moonraker below waist rail level.

Like nearly all VW conversions the Moonraker features a rear bench seat with storage below. The seat, at 45ins wide is big enough for two in comfort or three at a squeeze; the 19½ ins deep squab gives good support to the legs, while the seat back is nicely raked. All in all, a recipe for comfortable travel.

There are a pair of rubber security straps to be released before the seat base can be lifted, and then with a pull the seat extends to make a comfortable 45ins wide by 73ins long bed. Underseat storage is easy to get-at via a drop-down door in the face of the seat locker.

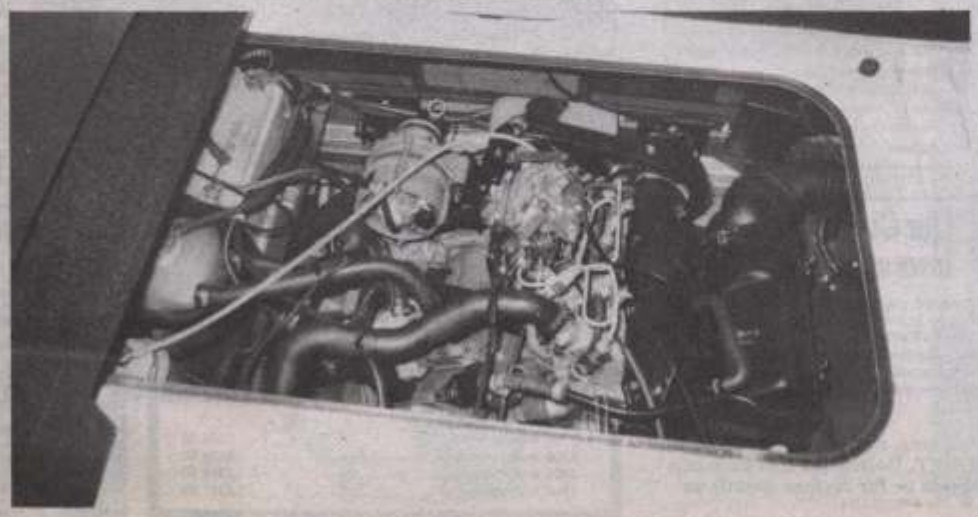
Further caravan area seating is somewhat rudimentary in nature. Backing on to the passenger seat and adjacent to the sliding side door of the Transporter is a seat box with lift-off lid, and at its inboard end a hinged extension which folds up and is supported on a folding frame. Thus one or two places are provided at table, but there is no back support so the seating is not suitable for use when travelling and neither would it be comfortable for lounging when on the campsite.

If there are more than two in the 'van they must retire for after-meal repose to the cab seats; not that this is a hardship, for the reclining cab seats with their headrests are very comfortable, but it does preclude a cosy togetherness!

On the credit side, the seat box is sized to conceal a Porta Potti and the box can be removed in seconds to increase the floor space, either for load carrying or when the Moonraker has a complement of only two.

On the road it was not surprising to find the performance of the diesel Transporter virtually indistinguishable from that of its 1600 petrol-powered brother. Although power and torque are identical for the two different versions of the VW, the diesel carries a weight penalty of an extra 220lb in extra engine weight, the radiator system and 16 litres of coolant, this extra weight being split two-thirds to the rear axle and one third to the front.

ABOVE LEFT: The cook at work. Seat box beside door is sized to conceal a Porta Potti. ABOVE: Time for a snack. Desmo 'island leg' table mount gives versatility and plenty of legroom. LEFT: Neat fibreglass storage tray over engine. There are plywood lids to cover the contents. BELOW: The lift-off panel provides good access to the engine, arranged 'in-line' and canted at 50°.



• *Continued Page 533*

www.vwT25camper.info - a useful website for owners and enthusiasts of VW T25 / T3 / Vanagon Campervans

DEVON MOONRAKER

• *Continued from Page 531*

However, the diesel seemed to produce its power remarkably smoothly without a trace of a flat spot, and the wide high-torque characteristic served to mask any effect of the extra weight. Overall the diesel was not quite as brisk as the conventionally powered 'van, itself not renowned for performance, but redeemed itself by its very smoothness.

VW claim 0 to 50 mph can be achieved in 22 seconds. With only 1400 miles accumulated, and perhaps a little improvement to come as the engine loosened up further, I was able to record 23 seconds to an indicated 50 mph. To achieve that figure, and to get acceleration in typical traffic conditions which matched that of the petrol 'van, I found that I was exceeding the recommended change-up speeds marked on the speedometer (about 14, 26 and 42 mph) by about 5 mph, but the engine sounded quite happy at the higher speeds and was not held back by its governor.

As in the normal 1600 Transporter it is necessary to make frequent use of the gearbox — a pleasure with the much improved 'box in the new model — in order to get the best from the vehicle. Examination of the power curve showed why it is necessary to keep the revs up, for there is fairly pronounced fall-off in power below 3000 rpm.

Although the good low-speed torque allows a smooth pull-away from a much lower speed in each gear, one can employ the early change-up technique only if satisfied by the most gentle acceleration!

Hill climbing was acceptable in those situations where the revs could be kept up and the 'attack' made at 50 mph or more, but approach too slowly, or change down too late on the hill, and the diesel is soon buzzing away to maintain a modest pace in second gear. Once in second, however, the Moonraker will climb most things, and is often able to reach maximum revs but does not have power in hand to cope with an upward change.

Diesel and 1600 petrol versions of the Transporter could both benefit from the 5-speed gearbox that is to be offered on the 1983 Transporters.

However, buyers of a diesel van are not looking for performance; their wish is economy. Volkswagen introduced the diesel version of the Transporter not for the private owner but for the business user. The payback with a diesel comes not on long hauls, where the vehicle is running at relatively high speeds, but in the stop-start of town deliveries with a large proportion of low speed work and idling. Those are not the conditions which, in the main, concern the motor caravanner.

Efficiency in an internal combustion engine is a function, among other things, of the compression ratio. In the normal petrol engine this is seldom greater than about 10:1; in the diesel, by contrast, ratios are commonly over 20:1. The small VW diesel operates at a CR of 23.5:1. For the owner the concern is more over miles per pound than miles per gallon, and in the UK there is little difference in the pump price of petrol and of diesel oil, currently around 15p per gallon in favour of DERV.

In many Continental countries, however, taxation policies give diesel a big advantage — sometimes it costs only half as much as petrol! To the straightforward considerations of mpg, then, must be added an assessment of where the vehicle is likely to be used. The motor caravanner who spends much time in Italy or Scandinavia, for example, could far more quickly recoup the extra cost of a diesel 'van than he who never leaves these shores.

The VW commercial range has been more comprehensively tested in accordance with the German DIN fuel consumption standards than it has with UK government standards. In the DIN test, at three-quarters of manufacturers' quoted maximum speed and with half payload, the 1600 petrol van returns 25.6 mpg, the 2-litre 21.4 mpg and the diesel 32.8 mpg. In the UK urban test the consumption of the 1600 soars to 17.9 mpg (compared to 23.7 mpg for the equivalent UK steady 56 mph consumption test) while a comparable German urban cycle test credits the diesel with 30.7 mpg. Tests by the German Post Office in letter collection work, surely one of the most severe stop-start routines, have given 28 mpg.

I was able to clock up a big mileage during my week with the Moonraker to get some meaningful mpg figures. Over 205 miles at typical motor caravanner's pace — 50 to 55 mph, on motorways and good 'A' roads with a 15 mile cross-country route on 'B' roads and a final 40 miles of hilly work — the average running speed was 42 mph and the consumption just 6.5 gallons, or 31.5 mpg. In 70-plus miles of pottering, seldom exceeding 40 mph but with plenty of gear work on narrow lanes, each gallon stretched to 34.8 miles; but a trip of over 300 miles, half 'A' roads traversed at 50—55 mph and half motorways where the needle was kept on 65, saw only 28.3 mpg achieved.

• *Continued Page 535*

ABOVE: Seat width takes three children or two adults in ample comfort. RIGHT: Seat-to-bed conversion is child's play. LEFT: Drop-down gives easy access to underseat storage.

www.vwT25camper.info - a useful website for owners and enthusiasts of VW T25 / T3 / Vanagon Campervans

DEVON MOONRAKER

• *Continued from Page 533*

Non-identical twins — the Diesel has the double grille.

Glow plugs are fitted to assist starting of the diesel, and come into play when the key is turned to its first position. When the indicator light goes out, after a maximum of 6 seconds but electronically controlled according to engine temperature, the key is turned to the second position to start. In practice, during the mild test period, the engine always started virtually instantaneously whether hot or cold, and the injection advance device to assist running during the warm-up period in cold weather was not required.

Only when starting, at idle and in traffic at 10 mph or less did the engine in fact reveal itself by the typical diesel clatter. Under normal running conditions it would have taken a keen ear, inside the 'van, to detect that this Moonraker was in fact anything other than a 'conventional' VW Transporter.

Four days and nights on the move and in the 'van provided the opportunity to assess the Devon conversion as much as the engine. The Moonraker's is a practical layout. We liked the way that the storage space (with the exception of the trays over the engine, well suited to store and to air any clothes which are not immediately required) is at all times accessible.

The wheeled water container straps to the rear of the wardrobe.

The kitchen unit is arranged in a practical manner and working space can be supplemented by the 34ins by 21ins table top mounted upon the versatile Desmo island leg. Seating is comfortable when on the move, although the rear seat squab cushion has a tendency to slide backwards, a fault which could easily be cured with a piece of plastic foam between cushion and base.

The beds are quick to arrange, the cushions for the lower bed having just the right degree of firmness and the thinner ones for the upper berth being comfortable for the children who will be the normal occupants.

Devon's furniture is as always well made, a mixture of chipboard, plywood and fibreglass being used. Plastic laminate covers the surfaces, with doors in chocolate brown matching the round-edged worktop sections and the lower trim of the interior, and contrasting with the creamy-coloured background of the main kitchen unit. Flush fitting, bolt-action catches hold doors securely, and only one rattle was heard, that of the cooker (another small problem which might be solved with thin plastic foam).

Up above the roof cutout surround, the roof bows (padded for safety), the bed boards and the underside of the elevating roof are trimmed in oatmeal coloured carpet, a contrast to the darker colours below and creating an air of space.

Upholstery in the Moonraker complements the warm and rich appearance of furniture and trim. Cushions are buttoned, clad in a rich, beige velour with sculpted patterns in browns and gold. Curtains have vertical gold stripes on an oatmeal background, the material being of heavy weight and generous cut, and a neat night-time appearance is ensured by full length Velcro fasteners at each edge-to-edge join. The floor covering is a practical, spongeable carpet with a stipple effect pattern on its smooth surface in beige and brown.

Against a background of craftsmanship, good materials and attractive decor, however, I was disappointed to find so much untrimmed metalwork in the Moonraker. Around the windows in the Kombi-based conversion, on the rear quarter panels above waist level, and on the metal of the engine deck are only a few coats of paint. Peering behind the fridge I found that I could see the metal side of the van with no insulation.

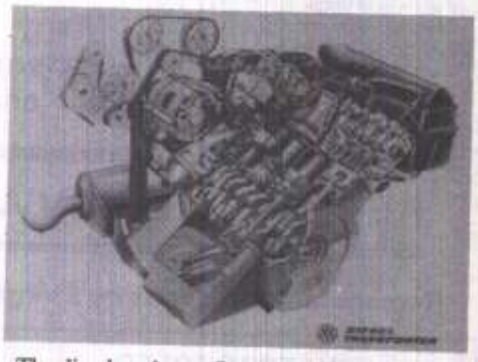
Motor caravans which are simple panel van conversions are seldom used for year-round camping, but many extend their season into the chilly days of spring and autumn, and at such times the unclad metal surfaces in the Moonraker will be a source of condensation which, for a few pounds more, could be reduced or eliminated.

Ventilation is another important feature where condensation is concerned. A good rooflight is a standard item in the Double Top roof, but if you want opening windows in the caravan area to create a through-flow of air a sliding unit adjacent to the cooker will add £71 to the bill, or a louvre window £84.

The Devon Moonraker continues to be a well designed and constructed conversion, able to provide for a couple or the two-plus-two family. With the versatility which is characteristic of the VW, it will be equally at home as day-to-day transport, as camper and as load-carrying workhorse. There has been little change since the model was launched some three years ago, although scope for improvement exists in the areas of trim insulation and caravan seating. These problems are not unique to Devon or to the VW!

Is the diesel version of Volkswagen's Transporter worth its extra £622? Undoubtedly neither of the 1600-engined 'vans, petrol or diesel, is for those who want to go places in a hurry. Both are rather underpowered compared with the competition, yet their refinement does so much to compensate for lack of performance. With a car-like ride and driving comfort, impeccable steering and handling and first class braking, driving a VW Transporter is always a pleasure.

The motor caravanner, with leisure his objective, should have less need of speed than his commercial counterpart. But costs can be of equal importance. Will the diesel be a cost saver in the long run?



The diesel engine as fitted to the Transporter.

That will depend upon individual circumstances. Volkswagen have calculated the costs for business users; with their high mileages the break-even point for UK users could come in a year or so. For the private owner, even with the new incentive provided by recent reversals of petrol/DERV price differentials, at even 12,000 miles per year the wait would be far longer. Three or four years would be my guess.

But everything must be taken into consideration. The robustness of the diesel, its longevity and perhaps lower maintenance costs; the benefits for the owner who habitually takes a long holiday on the Continent. Certainly the diesel Transporter is no less pleasant to drive than its conventional brother; the prospective owner must make his own choice.

Now we learn that there is to be a new 1.9 litre water-cooled flat-four engine for the Transporter for 1983 (*News Round-up*, Nov issue) and it will be most interesting to see just how much extra performance and refinement this brings to an already highly developed vehicle.

Moonraker Diesel provided for test by Devon Conversions Ltd. Price at test date £9,293 inclusive of Double Top roof and taxes.

www.vwT25camper.info - a useful website for owners and enthusiasts of VW T25 / T3 / Vanagon Campervans