

Motoring with Disability

Featuring Hyundai Atoz automatic, Daihatsu Hijet and VW Golf automatic



THERE'S EVEN MORE REASON TO appreciate the benefits of a car of your own if you're disabled or if advancing years are taking their toll. The car can then become a lifeline with the outside world, so it's no wonder that most people want to keep driving - or be driven - for as long as possible.

Choosing the best car for your special needs requires a bit of unravelling, and although nowadays the choice is wider than ever, the whole business can be rather bewildering. But help is at hand, if you know where to look.

First port of call should be the Department of the Environment's Mobility Advice and Vehicle Information Service - MAVIS (details on page 4). It has produced a helpful leaflet called *Choosing a Car*, which organises one's priorities about special needs. From there, MAVIS will perhaps recommend an approach to a Disabled Drivers' Assessment Centre (there are a dozen in the country at present) which will give more guidance about adaptations that both you and the car may require to keep you motoring safely and comfortably.

Hand controls, for example, may be required and, on your own, it's not easy to assess their suitability and ease of use prior to fitment. Another worry is that the rods

and linkages required can often present an injury hazard in an accident, as well as making it tricky for the driver to get in and out.

Fortunately, recent developments in new systems are taking this into serious consideration, but there's some way to go before any car can be fitted with these "injury-conscious" kits.

One car maker - Volkswagen - has taken the problem to heart and we tested a new Golf recently with its factory-approved and dealer-fit hand controls. Unlike a proprietary conversion, these will enjoy the same three-year warranty benefits afforded to the rest of the car. Similarly, Daihatsu has sponsored an approved conversion on the Hijet mini-MPV to make it suitable for occupied wheelchair access.

Some people's needs are more straightforward, such as being able to get in and out. Too much bending and straining from low seats and having to negotiate awkward door sills with your feet, or load sills with a wheelchair, are to be avoided. Here the choice of car can be crucial yet, surprisingly, not too expensive; that's why we also chose to test the high-built Hyundai Atoz with automatic transmission.

PERFORMANCE - ATOZ

Acceleration using manual hold/accel kickdown in D (seconds)

mph	30	40	50	60	70
THROUGH THE GEARS	2.7 / 3.1 6.3 / 6.8 11.5 / 13.3 20.7 / 22.4				

20 mph	30	40	50	60	70
SPEED RANGES USING KICKDOWN	5.0 10.2 6.8 16.4				

Maximum speeds

using manual hold/accelerator kickdown in D

REVS PER MINUTE	1st/2nd	3rd	
	6000 - manual 5400 - in D	5800	
			3 85
			2 59/52
			1 33/29

mph

PERFORMANCE - GOLF

Acceleration using accelerator kickdown (seconds)

mph	30	40	50	60	70
THROUGH THE GEARS	2.4 5.2 8.4 12.6				

20 mph	30	40	50	60	70
SPEED RANGES USING KICKDOWN	3.8 6.0 5.2 7.4				

REVS PER MINUTE	1st/2nd	3th	4th	
	5900 / 6000	5900	5850	
				4 112
				3 84
				2 58
				1 31

mph

FUEL CONSUMPTION - ATOZ

Type of use - air conditioning not fitted*	mpg
Urban (17mph average/heavy traffic)	28
Suburban (27mph average/6.4 miles from cold start)	33
Motorway - 70mph cruising	29
Cross-country (brisk driving/20 miles from cold start)	38½
Rural (gentle driving/20 miles from cold start)	43
Typical mpg overall	35½

*with air conditioning switched on, consumption will increase by 2-4% in winter and 4-8% in summer, on the average car



FUEL CONSUMPTION - GOLF

Fuel grade unleaded Premium, 95 octane	
Type of use - air conditioning not fitted*	mpg
In the city - heavy traffic	21
In the country - quiet driving	36
Typical mpg overall	31
Realistic tank range †	50 litres/340 miles

*with air conditioning switched on, consumption will increase by 2-4% in winter and 4-8% in summer, on the average car



Hyundai Atoz



Special features

Easy entry and egress for a wheelchair and passengers; quart-into-pint-pot interior; cheap

The first time we left the Atoz test car on the drive, an elderly neighbour looked at it and remarked, "I wouldn't like to drive around in an ugly, boxy car like that!" Ugly or not, Atoz's tall, cubic shape is the key to its success - at under 11½ft (3.5m) long, it's one of that new breed of city cars we shall be seeing more of.

It's delightfully easy to get in and out, at the front or rear, with seat cushions that are an ideal 22-24½in (56-62cm) off the ground, with vestigial door and tailgate sills and an open tailgate that's easy to reach, at 68in (173cm). You can load or (more importantly) unload a folded wheelchair without backbreaking effort - from a rear passenger door, as well, when the seat is folded forwards - simply by wheeling it in upright. Our test car had the disadvantage of a one-piece rear seat, but the importer assures us that, from early 1999, the Atoz will have a split/fold facility. At the rear, the open tailgate is easy to reach and gives good protection in rain; speaker/load cover support panels reduce the loading width, but you could easily unscrew and remove them to gain an extra 10in (25cm).

For £700 extra, a three-speed automatic gearbox is available, which we found to be both smooth and surprisingly eager at low speed, although serious overtaking can be improved by using manual hold. So, no complaints on local trips, but with no fourth gear or torque converter lock-up, it takes its toll of fuel consumption and induces increased engine frenzy in main road cruising, around 45-60mph. Oddly enough, the noise subsides again past 65mph, but as our table shows, it's very thirsty when driven this way.

With light controls and power steering, it nevertheless offers a lot of advantages over other smallish cars for those who are less spry, whether driver or passenger - so long as it gives enough legroom.

One criticism that could be turned to advantage is the ultra-light accelerator linkage - it's a blessing rather than a bane if you're converting to a hand control. What makes a big impression, however, is that, in contrast to the Hijet, the Atoz's build and finish are so impeccable, with signs of real quality to items like the sun visors, interior lights and the feel of the minor controls.

You may be happy to live without the alloy wheels and front foglamps, but the Plus model's central locking and electric front windows can be a real asset to disabled people, while the air conditioning and driver's airbag speak for themselves.

There's a clutchless manual available, as well, which could be the solution for drivers who can't use their left leg, but who want to retain the manual transmission car's superior performance and economy.

All in all, then, the Atoz provides a lot of solutions at a modest price. Never mind the looks - it works!

Daihatsu Hijet Mobility



Special feature

Accommodation is provided for a wheelchair with an occupant

This little MPV is derived from a commercial van and, as tested by us (see R9654), had three rows of forward-facing seats. The Mobility conversion puts the centre pair facing rearwards, back to back with the front ones, which results in a very upright seating posture for all four occupants, and even more restricted legroom for the driver - reduced from a none-too-generous 39in (99cm) to 37½in (95cm).

However, the Mobility's real asset is its ability to accommodate someone in a wheelchair, with an electric winch and a set of folding ramps to get it safely on board - and off again. In this role, the wheelchair is firmly pegged to the floor and a reel-type lap-strap seatbelt secures its occupant. The normal pair of rear seats fold up against the rear flanks - nothing has to be removed.

It's a nice idea, but the Hijet has limitations which thwart the good intentions. Whereas many modern cars have seats that are too low for comfort when getting in and out, the Hijet's cushions are 32-34in (81-86cm) off the ground, which creates the opposite problem, especially for shorter people. In fact, you may need the wheelchair winch to get in and out! There are no sills to worry about, however, and there are two middle sliding doors with windows that wind down - but they're very stiff to wind up again.

The tailgate opens too high for shorter people to be able to reach easily and its integral lamp works only with the other lights on; there's no central locking, either.

We weren't impressed by the fit and finish of the details of the conversion, or the Hijet's paintwork and

some of the sharp, hard edges on view in the front cabin; there's no airbag provision, either. No, we have to give the Hijet the thumbs down for safety.

With only mediocre road manners, which the latest version's 1.3-litre, four-cylinder engine only partially addresses (no automatic transmission is available), a lot of motorway pleasure has to be sacrificed to gain this Hijet's admittedly unique features.

VW Golf 1.6 Automatic with hand controls



Special features

**Dealer-fit hand controls also easy to remove;
normal three-year manufacturer's warranty;
non-steering wheel location for controls**

Hand controls are available from a number of specialists who fabricate the various rods and linkages to suit lots of different cars, all requiring distinct variations on the same theme. Some have moved towards specialising with one or two makes in the pursuit of better quality and function. The recent adoption of airbags and adjustable steering columns hasn't made adapters' lives any easier as they seek to fit wheel- or column-mounted hand controls. The other worry concerns locating the hardware so that it doesn't endanger the driver in a frontal impact accident.

VW is now offering a range of adaptations that take these controls away from the wheel area and use a shepherd's crook-style control, operated by the driver's left hand, instead. You twist it for acceleration and push it forwards for braking; so far, so good. However, your occupied left hand can't therefore operate the indicator stalk or hold the car on a gradient after stopping and use the gear selector or, more importantly, the handbrake at the same time. You're supposed to press a minuscule pin on the lever arm's shank to lock the footbrake in position, but this is a clumsy, awkward arrangement.

Our test car was also kitted out with a right-to-left foot accelerator conversion, as well as a steering wheel ball, necessary because you're reduced to one-handed steering all the time. Apart from ripping the pocket off an anorak as our driver was getting out, the ball arrangement worked well with the Golf's fairly light standard power steering. When there are special needs like this, one's priorities change radically, so there was no talk about the desirability of "road feel" or the steering "weighting up when on the open road" - we

simply wanted as much assistance as we could get. Bear this in mind when reading other car tests.

The VW Golf is, of course, a conventional five-door hatchback with typical accommodation, including seat cushions around 18-20in (45-51cm) off the ground and sills to negotiate, including an 8in (20cm) tailgate lip. The 60/40 split rear backrest aids use of space.

The gearbox is a conventional torque converter type with four stepped ratios and a lock-up engaging in top. It's a particularly smooth, user-friendly 'box that has an electronically governed ability to adapt to your driving style, making part-throttle gearshifts sooner or later, to suit. The top ratio keeps engine speed close to the manual car's on the open road, but the engine drones too much past 55mph for our liking - the diesel is much more relaxed.

The automatic's inevitable mechanical losses make dents in the acceleration and fuel economy, but they're not as bad as some. If we were to believe our SE version's trip computer, there would be hardly any mpg penalty at all! Our test car couldn't achieve our "foot-operated" accelerator's best times because the hand control wouldn't activate the kickdown switch.

If you stick to N and D, the selector movement is unrestricted, but you do need to apply the brakes in P to start the engine or release the key after switching off - these safety measures only add to the complications of using the hand control, of course. The selector's side-mounted release latch is less than ideal, as well - especially as it comes so close to the hand control lever - arthritic hands could be in trouble.

The Golf is well made, as is this conversion, yet currently it would cost under £350 fitted (that's excluding the transposed accelerator pedal on our test car). It certainly passes muster in matters of injury avoidance, and when it comes to its removal and selling the car on, the set-up can (hopefully) be transferred without leaving any sign that it had been installed or removed. However, these undoubted advantages will have to be assessed against its inconveniences in use.

Mobility Advice & Vehicle Info Service (MAVIS)

"O" Wing, Macadam Avenue, Old Wokingham
Road, Crowthorne, Berkshire RG45 6XD
Tel: 01344 661000

Disabled Motorists' Federation

The National Mobility Centre,
Unit 2A, Atcham Estate,
Shrewsbury, Shropshire SY4 4UG
Tel: 01743 761889

Disabled Drivers' Association

Ashwellthorpe, Norwich,
Norfolk NR16 1EX
Tel: 01508 489449