

Thrifty soft-roader

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HONDA HR-V

IT IS easy for hardened four-wheel drive enthusiasts to sneer at the soft off-roader.

After all, these vehicles have a limited off-road capability, not only because they lack a low range, and often do not have sufficient ground clearance, but also because they're not equipped with permanent four-wheel drive. However, the sales success of this class, created by Toyota with its RAV4 series, shows that they do fill a niche, and the Honda HR-V illustrates perfectly just what advantages these vehicles offer.

Honda describes it as a cross-over vehicle, combining the driving dynamics of a hatchback with the practicality of an SUV. Well, perhaps that statement embodies a fair amount of wishful thinking, because the HR-V is about 150 to 200 kg heavier than the average 1 600 saloon, and this shows up in the handling and performance. On the positive side, all the four-wheel drive sport-utility vehicles in its price class are noisier, have harsher suspension, or are more truck-like, except the Toyota RAV4 180, which is only a 4x2. Most, if not all of them, have more off-road credibility, but this serves to illustrate the trade-offs that have to be made to get the NVH down to very low levels at a reasonable price.

The styling is distinctive – the Honda stylists have succeeded in their intention of creating a vehicle that's different to anything else on the road. A horizontal scallop runs around the body at mid-height, allowing the lower half to be shaped to flow into the rear bumper, and leaving the upper half looking less bulbous. The station wagon body is taller, with the floor higher than on a saloon-based vehicle. This makes it possible to strap babies into the rear seat

or load light parcels into the interior without bending. It is also easier to see obstacles when the traffic gets heavy.

The ground clearance is a good 35 per cent better than on a saloon, which means that dirt roads one would tackle cautiously in a low-slung car fitted with low-profile tyres, can be traversed with confidence. In fact, we see the exploration of dirt roads, in a vehicle that can also cruise in comfort and silence on a freeway, as one of the major advantages of the soft-roader. The HR-V shares this ability with most of the very expensive off-road vehicles, yet it costs about 60 per cent less, and is much less unwieldy.

On driving the Honda, one immediately notices that the steering, clutch and gearchange require very little effort, compared with some saloons in the same size class. The gearlever is longer than normal, and all the controls are within easy reach, making one feel at home. While the engine has to be revved to get the most out of it, the transmission is very refined, with no discernible snatch.

Front suspension incorporates a MacPherson strut with a single lower arm, but the rear suspension is much more unconventional. The differential unit is bolted to the floorpan, and the two shafts taking the power to the rear wheels are jointed at each end. Two trailing arms locate each wheel hub, but these hubs are also linked by means of a dead axle. Some literature describes it as a De Dion axle, but this would only be true if the axle were located in the centre by a sliding pivot. There is an anti-roll bar at each end of the vehicle. The spring rates are an obvious compromise, in view of the vehicle's dual nature, so that it bounces on bad surfaces

when unladen, but comfort levels improve as weight is added.

The transmission, which is similar to the system employed on the slightly bigger CR-V, is called the Dual Pump Real Time four-wheel drive system. The vehicle is in front-wheel drive mode as long as the front wheels have enough traction. However, the onset of wheel-spin will cause some torque to be fed to the rear wheels. This action is completely automatic, and controlled by two oil pumps and a multi-plate clutch mounted in the nose of the rear differential. One of the pumps is driven by the propshaft connected to the front differential, whereas the other pump is connected to the rear differential input shaft. The output from the pumps is connected in such a way that the pressure generated is proportional to the speed difference between the two sets of wheels. This pressure is then employed to engage the clutch, fully or partially, coupling the rear wheels to the front wheels in proportion to the torque transfer needed.

The advantage is that the system is completely automatic and quick-acting, although an expert might object to having control taken away from the driver. It means, for example, that if you encounter a slippery uphill patch you cannot pre-engage the unit, or tackle it with a small throttle opening, because you have to initiate wheelspin before four-wheel drive is activated. It is, however, the perfect transmission for this kind of vehicle, which has no pretensions of being a bundu-basher.

When traction is regained, the clutch disengages, and drive once again reverts to the front wheels only. Honda claims the system is lighter than a



conventional one, and that it requires no servicing, apart from an oil-change at 120 000 km and every 60 000 km thereafter.

The HR-V is not fitted with Honda's electro/hydraulic power steering but, instead, has a normal assisted rack-and-pinion. It is lighter than you'll find in some small European cars, but not so light that it loses all feel. The ABS brakes, with EBD, stopped the car in an average of 3,2 seconds from 100 km/h, which compares well with other vehicles in its class.

The engine is a single overhead cam 16-valve unit developing 77 kW at 6 200 r/min, and torque of 138 N.m at 3 400 r/min. It is not fitted with Honda's i-VTEC variable valve-lift system, with the result that the specific power output is a relatively mild 48 kW/litre, compared with the 55 kW/litre of the i-VTEC-equipped two-litre CR-V. The engine pulls well up to the red line at 7 000 r/min, but low-down torque delivery is not particularly impressive. The result is a vehicle that is not fast when compared with a 1,6-litre saloon, but is nevertheless adequate when the vehicle's dual role is considered. It just manages to break the 13-second mark to 100 km/h, and top speed is only 165 km/h, with the speedometer showing 173 km/h. However, a fuel consumption index of 9,96 litres/100 km is better than anything we've measured on a 4x4, showing that the part-time function is not just a gimmick.

The load area is what one would expect from a 1600 station wagon, and the upward-swinging rear door is not heavy. The 50:50 split rear seatback can be adjusted for rake, or folded forwards, or the rear seats can be removed altogether. There is a cover for the rear section to

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Clockwise, from the top: sporty headlight design reflects HR-V's "urban vibe" look; fascia is cheerful and uncluttered; rear luggage space is considerably improved, from 224 dm³ to 1 016, by folding the seats down; neat engine layout is typically Japanese.

Bottom: large vertical tail-lights are just about compulsory on any modern SUV, and they blend well with the rooftop spoiler, which should deflect airflow to help keep the rear window clean.

Rivals

OUR CHOICE

	Honda HR-V	Toyota RAV 180 4x2
price	R208 400	R228 870
cyl/capac	4/1 590	4/1 794
power	77/6 200	92/6 000
torque	138/3 400	161/4 200
power/mass	61	78
engine revs/km	1 993	n/a
gears/drive	5/4	5/F
0-100 km/h	12,99	10,7
max speed	165	175
fuel index	9,26	12,8
boot capac	224-1 016	n/a



SPECIFICATIONS

ENGINE:
 Cylinders four in-line, transverse
 Fuel supply electronic multipoint injection
 Bore/stroke 75/90 mm
 Cubic capacity 1 590 cm³
 Compression ratio 9,6 to 1
 Valve gear s-o-h-c, four valves per cylinder
 Ignition electronic
 Main bearings five
 Fuel requirement unleaded

ENGINE OUTPUT:
 Max power ISO (kW) 77
 Power peak (r/min) 6 200
 Max usable r/min 7 000
 Max torque (N.m) 138
 Torque peak (r/min) 3 400

TRANSMISSION:
 Forward speeds five
 Low gear 3,50 to 1
 2nd gear 1,96 to 1
 3rd gear 1,34 to 1
 4th gear 1,07 to 1
 Top gear 0,87 to 1
 Reverse gear 3,46 to 1
 Final drive 4,56 to 1

WHEELS AND TYRES:
 Road wheels 16x6 JJ alloy
 Tyre make Yokohama Aspec
 Tyre size 205/60 R16
 Tyre pressures (front) 200 kPa
 Tyre pressures (rear) 200 to 230 kPa

BRAKES:
 Front 282 mm ventilated disc
 Rear drum
 Hydraulics ABS, EBD

STEERING:
 Type power-assisted rack and pinion
 Lock to lock 2,8 turns
 Turning circle 10 metres

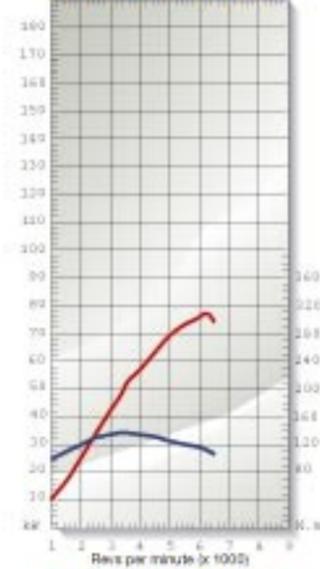
SUSPENSION
 Front MacPherson strut, anti-roll bar
 Rear rigid axle, trailing arms, Panhard rod, anti-roll bar

CAPACITIES:
 Seating 4/5
 Fuel tank 55 litres
 Boot space 224 dm³
 Utility space 1 016 dm³

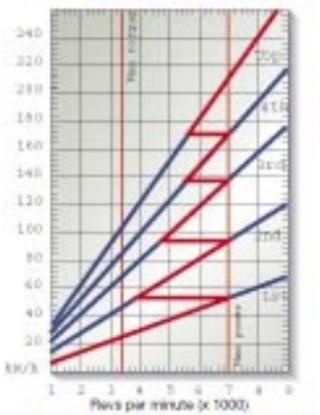
WARRANTY AND SERVICE INTERVALS:
 3 years or 100 000 km
 Service every 20 000 km
 Oil change every 10 000 km

TEST CAR FROM:
 Honda South Africa

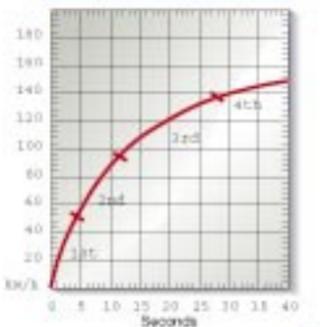
POWER AND TORQUE



ENGINE SPEED



ACCELERATION



TEST RESULTS

MAXIMUM SPEED (km/h):
 True speed 165 at 5 625 r/min in top gear
 Speedometer reading 173
 (Average of runs both ways on a level road)
 Calibration: 60 80 100 120
 True speed: 57 75 95 114
 Odometer error 2,3 per cent

ACCELERATION (seconds):
 0-60 5,27
 0-80 8,39
 0-100 12,99
 0-120 19,36
 1 km sprint 34,83
 Terminal speed 144,15 km/h

OVERTAKING ACCELERATION (seconds):

	3rd	4th	Top
40-60	4,44	6,07	8,17
60-80	4,53	6,28	8,74
80-100	4,99	6,77	9,49
100-120	6,29	8,24	12,04
120-140	-	11,77	18,41

FUEL CONSUMPTION (litres/100 km):
 *Fuel index 9,26 litres/100 km
 10,04 km/litre
 Estimated tank range (*Calculated overall consumption) 552 km

BRAKING TEST:
From 100 km/h
 Best stop 2,91
 Worst stop 3,34
 Average of 10 stops 3,15
 (Measured in seconds with stops from true speeds at 30-second intervals on a good bitumenised surface.)

GEARED SPEEDS (km/h):
 Low gear 46* 52
 2nd gear 83* 94
 3rd gear 121* 137
 4th gear 152* 171
 Top gear 187* 211
 (Calculated at engine power peak* - 6 200 r/min and at max. usable r/min - 7 000 r/min.)

INTERIOR NOISE LEVELS (db, A-weighted):

	Mech	Road
Idling	40	-
60	63	-
80	66	71
100	68	74
120	71	76

PERFORMANCE FACTORS:
 Power/mass net (W/kg) 61
 Frontal area (m²) 2,68
 km/h per 1 000 r/min (top) 30,1
 Mass as tested (kg) 1 259
 (Calculated on "mass as tested", gross frontal area, gearing and ISO power output)

TEST CONDITIONS:
 Altitude at sea level
 Weather mild, easterly wind
 Fuel used unleaded
 Test car's odometer 10 228

Likes and dislikes

- DESIGN**
 ✓ Unusual, but distinctive
 ✗ Also attracts unfavourable comment
- POWERTRAIN**
 ✓ Smooth transition from 2wd to 4wd
 ✗ Needs wheelspin to work
- COMFORT AND FEATURES**
 ✓ Good NVH control
 ✓ Good ergonomics
- PERFORMANCE AND BRAKING**
 ✗ Acceleration and braking average
- FUEL ECONOMY**
 ✓ Consumption low
- RIDE AND HANDLING**
 ✓ Handles almost like a saloon
 ✗ Harsh ride
- VALUE FOR MONEY**
 ✓ The cheapest soft off-roader
 ✗ Some serious off-roaders are cheaper

hide the contents from prying eyes.

The black interior was not to everyone's liking, and the seat material was also black, so the overall effect was sombre, contrasting disturbingly with the cheerful effect of the exterior styling. However, there is above-average legroom behind the front seats, and four people can be carried in comfort.

Convenience items include headlamp beam height adjustment, a radio/CD player, remote central locking that includes an immobiliser, power windows and retractable, electrically adjustable exterior mirrors. A removable ashtray, in the shape of a cup, fits into any of the two front or two rear cupholders. Safety equipment includes two front airbags and front seatbelt pre-tensioners.

Test summary
 The only other soft-roader at a similar price is the Toyota RAV4 180. This has most of the features of the HR-V, but does not have any form of four-wheel drive. On the other hand, the Daihatsu Terios and Kia Sportage are both cheaper – and the Kia has low range. However, neither of these vehicles achieves the car-like manners of the HR-V.

If you're looking for refinement, and only travel on dirt roads very occasionally, the Honda is worth considering. And, if price and fuel consumption are important, then the HR-V is a serious contender. ●

