

GROUP TEST

'Motor's' test team go driving in convoy to try competitive cars under identical conditions



No 14 Automated babies

Honda N600
Daf 33
Daf 44
Mini Super

AS the smallest available cars with automatic transmission, this group might well be thought of as town cars, family run-arounds for the wife's shopping, or taking the children to school. But they are really much more than that; all are small four-seaters capable of taking four adults, albeit with a considerable reduction in power/weight ratio, on any journey with some space left over for luggage—more in the two Dafs than in either the Mini or the Honda. So we still took this group on one of our cross-country runs but, to make sure that we judged the transmission in its natural habitat, we went through all the towns rather than trying to skirt them.

Prices range from £610 for the Honda to £756 for the Daf 44; with the two Dafs the automatic transmission is of course standard, but for the Mini and Honda you pay an extra £98 and £61 respectively. We might have included the Fiat 850 Idromatic, but you still *have* to move the gear lever on that type of selective automatic, and we wanted full automation. We might also have chosen the 848 c.c. Mini rather than the Mini Super, but the bigger-engined version is more nearly the same price as the larger Daf. Cars like the BMC 1100s and Daf 55 are more expensive and will be the subject of a future Group Test.

Performance figures in our charts are usually taken from previously published road tests, but in this instance we have tested the Honda, but not yet published the report, and for the Daf 33 we have rechecked the maximum and 0-50 m.p.h. figures as our previous test was on the Daffodil with a nominal 2 b.h.p. less; this one felt and was proved to be faster.

Performance

With the majority of the world's cars cooled by water, it is rather surprising that three out of the four on this group should be air-cooled twins. Although it has the smallest engine (600 c.c.) the Honda produces the most power, uses the most revs and, not surprisingly since it is also the lightest of the group,

is considerably faster than the rest, not only in maximum speed but also on acceleration; with good pick-up and a very wide rev. range it leaves the drivers of many larger cars gaping with astonishment at its retreating back. It reaches 50 m.p.h. in 13.7 sec.—almost as quickly as the manual 600. The secret of this performance is the sophisticated little engine, a compact vertical twin with a chain-driven overhead camshaft, and an amazing appetite for high revs.—roller bearings contribute to this—with peak power developed at 6,600 r.p.m. Despite this extra 1,000 r.p.m. on top of the normal Mini-type rev. range it gives little sign of being strained; it is always fairly noisy but not really tiresome unless you are cruising at over 70 m.p.h., or are pushing hard in the gears.

In standing-start acceleration times the Mini comes next, its conventional water-cooled engine being less obtrusive than the Honda's with the better sound deadening of cast-iron and water jackets. You can hold the lower ratios up to 6,000 r.p.m. but the normal change points are around 5,400 r.p.m. beyond which it does begin to sound a little frenzied, if still smooth.

The Dafs don't come off as well against the stopwatch from rest as there is always a "thinking time" while the transmission adjusts to the lowest gearing in the first couple of yards; perhaps this is why they are unable to start on a 1-in-3 hill, which the torque

converter cars can manage with ease. On the road, though, they are much more competitive: the 44 is usefully faster than the 33 and at 70 m.p.h. cruises more quietly than any other car in the group, with the Mini next best. The 30-50 m.p.h. test figures, recorded with the accelerator flat, show the Dafs up rather more as they behave on the road. Since the maximum speed of the 33 is under 70 m.p.h., it is only fair to consider its ability to cruise at its comfortable gait of 60 m.p.h. or so at which it is fairly quiet. At this speed, the others are well within their capabilities and with the windows shut are as quiet as many larger cars. With strict control over its ratio adjustment, you can only over-rev. a Daf if you are going flat out downhill, but its flat twin engine seems very smooth, even if the everchanging note can be a little irritating.

All the cars started from cold easily with a bit of choke and the water-cooled Mini didn't seem to require a longer warm-up period than the others in the recent hot weather. With the Dafs you have to be careful that the stiff hand-brake is hard on, otherwise the blip you give the throttle may cause the centrifugal clutch to engage—they don't have a fast idle setting so don't fight against the brake as the torque converter cars do. Once warm and at normal tickover there is still considerable creep on the Mini at traffic lights; if you object to this (we didn't) you can start in "2" or "3" to reduce the effort required to hold the car on the footbrake. When manoeuvring with the Mini and selecting drive from neutral there is a considerable jarring clonk; the Honda is rather better in this respect and creeps less at the lights. With the Dafs there is no creep or clonk since you start the engine in gear.

Running costs

On the assumption that none of these cars is likely to be driven with great sporting verve, we pottered round the Cotswolds on the outward journey and rarely exceeded 55 m.p.h.; this set a consumption pattern with the Honda and Daf 33 at 42.4 and 41.6 m.p.g. respectively. The Daf 44 followed with a respectable 38.2 m.p.g., but the Mini was very much thirstier at 32.6 m.p.g.; on the return journey we travelled a little faster, cruising at nearer 65 m.p.h.; still the Honda returned over 40 m.p.g. As the Daf 33 had to work at nine-tenths a lot of the time, it dropped to 38.4 m.p.g., while its less highly stressed brother was little worse at 37.4. But the Mini dropped below 30 m.p.g. The overall result is an average-to-good figure which many drivers would achieve unless they spent all the time in town.

The three air-cooled cars all run on 2-star fuel, but the Mini needs 3-star, a grade you usually have to brew yourself from 2- and 4-star. Spread over a 10,000-mile year the comparative costs are as follows:

	gallons	£
Honda 600	240	75
Daf 33	250	77½
Daf 44	264	82½
Mini Super	330	108½

If you consider that a car like the Triumph Vitesse, for instance, costs £134 over the same distance, it can be seen what small-engined cars offer in economy over a year.

Before you get too shocked over the relative cost of running the Mini, it is worth looking at the insurance group ratings. The Mini is the only one that both the AOA and Lloyd's list as group 1; the Daf 33 is group 1 for one and group 2 for the other, while the Daf 44 is group 2 for both; the Honda is group 3 for both—the same as an Austin 1800. This apparent discrepancy is based on the cost of



Mini and Daf 44 showing about the same amount of roll under quick cornering.

Next week

Motor's Group Test drivers give their own views about the cars in Personal Choice



Japanese mini-car being thrown around like its British equivalent and momentarily getting its inside rear wheel off the deck.

repair work; according to the people responsible for these ratings Honda parts are more expensive than Mini ones and comprehensive insurance premiums go up accordingly, so some of what the Honda gains in fuel economy may well go in the different insurance rates. This would not apply, of course, if you opted for a scheme like the Alpha one where the premiums are related to the driver's age.

Servicing intervals for all four cars are 3,000 miles, so there is no particular convenience difference on this score; but it might cost extra in time and petrol to find either the Daf or Honda agents which are inevitably less numerous than those of BMC.

Transmission

The Daf transmission is unique in the motoring world in that its overall ratio is infinitely variable between fixed limits. The rear wheels are driven by belts from a countershaft; the pulleys on the countershaft can expand and contract to change the gearing and the rear pulley adjusts itself accordingly. The control factors are manifold vacuum (a function of engine load) and engine speed (with bob-weights adjacent to one of the front pulleys); the fine point of the design is how these factors work together. High vacuum tends to increase the gearing; low vacuum, that is with the accelerator down, lowers it. As engine speed rises the bob-weights raise the gearing, so the two can be adjusted to give ideal gearing

for any condition; on the overrun at high speed there is little variation but as the car slows down, the bob-weight changes overcome the vacuum control and you get some engine braking; apply the brakes and this destroys the vacuum trying to raise the gearing and you get full engine braking; if you want this for a mountain pass when you don't want to be on the brakes all the time, you can pull a knob on the fascia to lower the gearing.

Both Dafs have a simple centrifugal clutch; the Mini and Honda have a torque converter in series with the gearbox. The Mini has four speeds with a possible torque conversion ratio of up to 2.1:1, while the Honda sticks to 3 speeds with a 2.4:1 ratio. Both allow the driver either to select his own gears manually or to let the gearbox do it automatically.

We very much like the Daf principle with its complete freedom from any jerky changes, but we got a little tired of the perpetual and very audible engine speed changes, particularly when you slow down. Accelerating from rest is still a fascinating exercise once the gearing has adjusted down in the first few yards. The car accelerates with the engine speed and noise constant, only a rising speedometer needle tells you that anything is happening. With complete engine noise deadening this would be ideal, but drivers brought up on stepped-ratio transmissions would probably prefer a little more override control, particularly the ability to get in the right gear before over-

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Group test No. 14

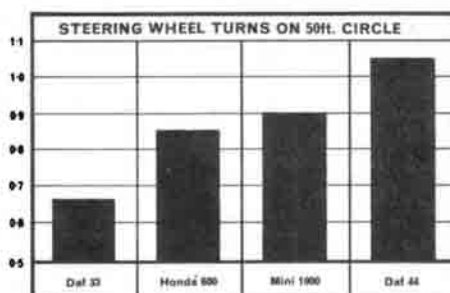
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taking as there is a definite "thinking time" before the right ratio is reached. There are two ways round this: either to anticipate to a greater degree than usual and start accelerating some time before the road is actually clear or, if you are desperate, to keep the left foot just on the brake pedal. All of which sounds as though we are wearing the wrong hats; perhaps we are for both Dafs are really quite sprightly on cross-country journeys.

The Honda is a lot noisier, but its ability to reach about 60 m.p.h. by holding onto second gear makes this car the quickest out of town. We found the kickdown position a little uncertain and the adjustment of the clutches wasn't quite right, because the engine would speed up excessively when changing

down to second; with manual override it was pretty smooth. For really smooth motoring it was quite acceptable to leave the selector in 3; it would even get away from rest without too much effort in this ratio—much better than the Mini would in 4 rather than D, which gives acceleration comparable to that of a London taxi. We found this 4 position on the Mini totally unnecessary, especially as you have to push the notchy floor-mounted lever through two positions for the desired down-change.

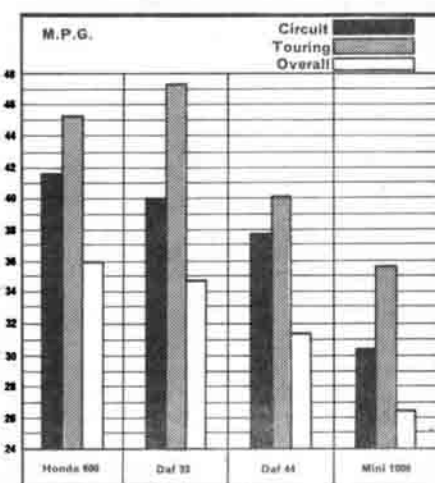
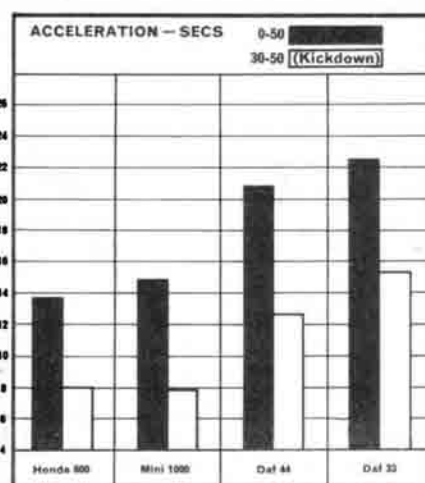
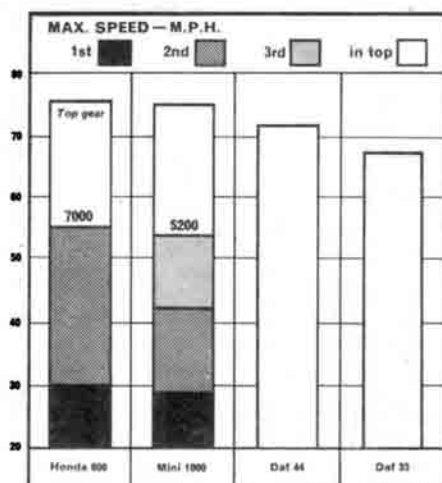
The quality of this Mini's changes is very much a function of adjustment; at their best they can be fairly smooth, although never as smooth and slurred as those of a Chrysler Torqueflite for example. In practice they benefit from a little help by easing the throttle when you want the change to occur. Down changes, too, are smoother if you time a little blip on the throttle as you shift the lever. If in concept this transmission is something of a hall mark,



an approach to an ideal that is an object lesson to many, it falls down on refinement by being rather too jerky.

Apart from its kickdown adjustment, the Honda transmission functioned more smoothly than the Mini's, making up for its lack of four-speeds with a wider usable rev. range and a lower final drive ratio.

To quote a best buy is impossible; the Daf



Circuit—Group Test run to Wales and back from London. Touring and overall figures from earlier solo road tests.

The Cars

Honda 600-£610

Integral steel saloon; front wheel drive with air cooled vertical twin engine; 599 c.c. with chain driven overhead camshaft; Macpherson strut front, dead axle rear on leaf springs; three speed automatic with torque converter; Firestone Champion tyres.

Daf 33-£653

Integral steel saloon; rear wheel drive with front mounted air cooled flat twin engine; 746 c.c. with pushrod overhead valves; transverse leaf front suspension, swing axle rear; continuously variable automatic transmission with adjustable pulleys and belt drive; Michelin X tyres.

BMC Mini-£747

Integral steel saloon; front wheel drive with water cooled four cylinder; 998 c.c. with pushrod overhead valves; wishbone front suspension, trailing arm rear interconnected by hydrostatic displacers; four speed automatic with torque converter; Dunlop C41 tyres.

Daf 44-£756

Integral steel saloon; rear wheel drive with front mounted air cooled flat twin engine; 844 c.c. with pushrod overhead valves; transverse leaf front suspension, swing axle rear; continuously variable automatic transmission with adjustable pulleys and belt drive; Michelin X tyres.

The two most economical cars, the Daf 33 and the Honda 600, scuttling round a corner with more roll evident on the Honda despite the counterbalancing weight of a passenger.

is the simplest and most foolproof, with just a floor lever for forwards or reverse; the other two are more versatile and have the usual selections for Neutral, Park, Drive and the various gear holds—we preferred the Honda's steering column lever to the Mini's stick shift because it was easier to reach and more precise to operate.

They all seemed correctly geared for cruising and none of the transmissions was very noisy.

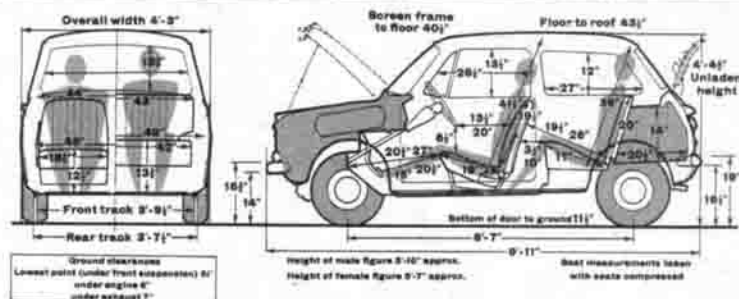
Handling

A glance at the suspension specifications of this group might tell its own story to many, two front-wheel drive cars and two with swing rear axles. But don't be misled by the specification; the swing-axle Dafs were extremely manageable and didn't get left behind on the corners, particularly the 44 with its wider track.

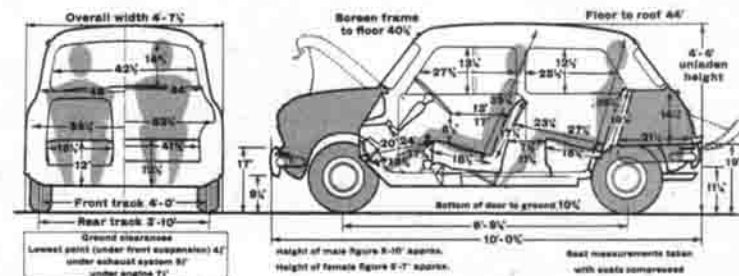
As ever, the Mini can be made to outcorner most cars if you chuck it around; it stays stable and flat while the speed is scrubbed off, it doesn't have too much foot-off tuck-in even at quite high cornering speeds, and it is really an extremely safe little motor car. The Honda was just about as quick and can also be thrown about safely; but it has a little more natural roll and thus lurches a little more than the Mini. Even so, it scuttles along very quickly.

We were initially a little cautious with the Dafs as we have never been convinced that the cheapness of a swing axle layout justifies its shortcomings. But the 44 on Michelin X tyres (the Honda and Mini were both on cross ply covers) could be driven round corners safely and quickly with predictable oversteer coming in only at the sort of speeds that few owners are going to indulge in. The 33 was not so quick, and oversteered quite easily on tight corners, but it scored with its remarkable steering; like that of a go-kart, it was very direct and responsive, so much so that it made

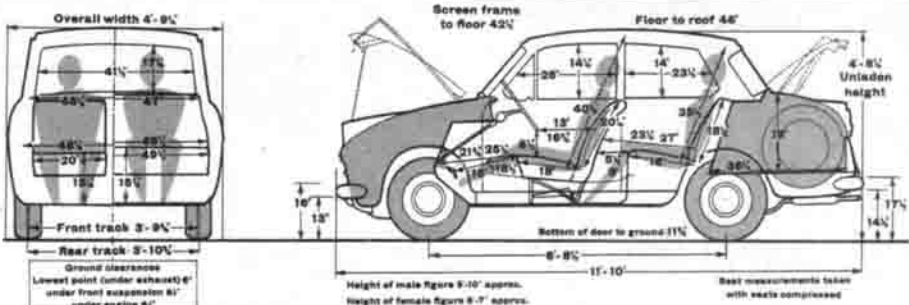
Specification



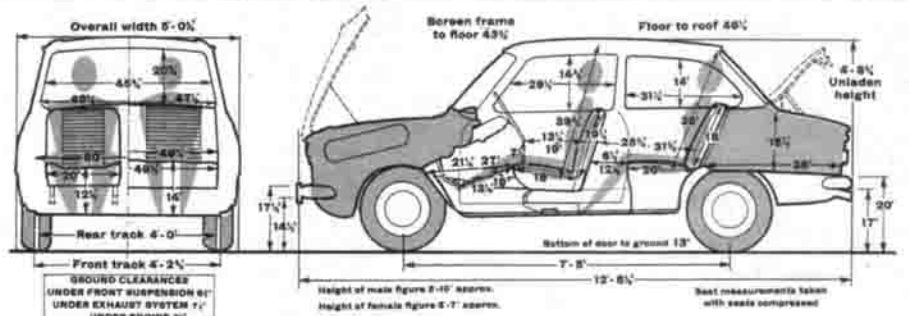
Honda N600



Mini Super



Daf 33



Daf 44

the Mini's normally highly rated handling feel all soft, spongy and heavy; stepping from either the Honda or the 44 the contrast was less marked, but the Mini steering was still heavier.

All the cars have handling and roadholding in keeping with their performance, but the Mini and Honda have more in reserve for the sporting driver.

Brakes

The Honda had the lightest brakes with the Mini second, but there is not really much difference, both being of average weight and reasonably progressive in feel. Those on the Dafs were marginally heavier until the automatic downchanging relieved them of some work. A characteristic of the Daf's transmission is that the engine braking effect is reduced just before you stop: so you have to push a little harder for the last few feet.

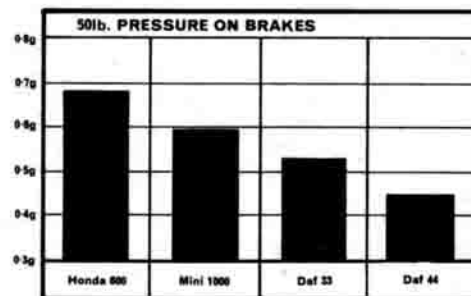
As you start the Dafs in gear, the handbrakes on both cars could be better, especially as they can't be left in gear in an emergency. On the Mini and Honda there is a park position

for the selector which gives an alternative to the handbrake.

Comfort and controls

Pottering around little Cotswold lanes soon showed the Daf 44 to have the most comfortable ride, with plenty of suspension movement and little jerking for the occupants; the mountings absorb any radial thump very well. The 33 had some of this character but felt a little

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Group test No. 14

continued

harder although it was still comfortable, possibly a little more so than the Honda which still manages to have a surprisingly good ride for such a short car; it has some pitch and generally sharper movements, but the wheels stayed on the road and it seemed to be at no disadvantage for being the only car without independent rear suspension—it has a light beam axle suspended on leaf springs.

The Mini was poor on bumpy roads; its characteristic vertical bounce—a design feature of the Hydrolastic suspension—was sometimes so sharp that you could almost leave the seat, which didn't help matters by being over bouncy itself. It is good on fast undulations with a firm even taut feel, but no better than the rest on better road surfaces.

Surprisingly for such a small car the Honda offered a very good driving position; the driver's comfort has not been sacrificed for rear seat legroom so the seat goes far enough back to accommodate a tall person. This is as it should be because you only have to accept a compromise when you have rear seat passengers. With the seat right back we all found it comfortable and the major controls within easy reach. The Dafs are very comfortable, too; you sit higher and a little more upright, with the 44 being a little more sumptuous than the 33 with softer and slightly better-raked seats; it was the higher seats that made the handbrake a little too far down.

Some people don't object to the Mini driving position; others do, strongly, and those with sensitive backs developed an ache in the first ten minutes. The angle between back and squab is wrong and the steering wheel is at an awkward angle and distance if you have the seat far enough back to get your legs

comfortable.

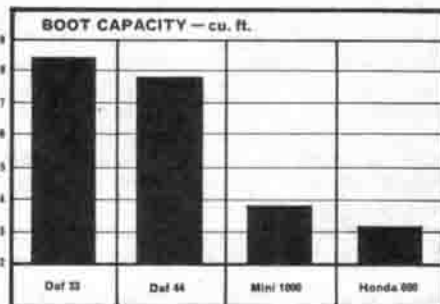
All the cars had lap and diagonal seat belts, inertia reel ones for the Mini which are essential if you want to reach the left-hand controls and the radio. The belt on the Honda is too near the neck but those on the Dafs are well placed. For those who like to use left-foot braking with automatics, it was easy enough on the Dafs and Honda but difficult on the Mini as the standard (small) brake pedal is well over to the right.

With a steeply sloping bonnet the Daf 33 gives a very close view of the road ahead and its little fins on the back help when slotting its neat little shape into a parking spot; so this one came out best on visibility because it has fairly thin screen pillars as well. The 44 would have come out even better if it had been possible to see the rear deck when reversing as it is good in other directions and is very light and airy inside. With their squat little rumps the Mini and Honda can be parked very easily, but their screen pillars are thicker than on either of the Dafs.

Accommodation

Being among the smallest cars on the market, the Daf 33, Honda and Mini are not sprawling four seaters and to carry adults comfortably in the back you really need to push the driver forward a bit, more so in the Honda; the 33 is better and has a useful width which might tempt an optimist to get three adults in the back. With an extra 3 inches over this, the 44 is certainly the largest of the four and with its good ride is the best for a fully laden family holiday; it also has a longer wheelbase than the 33 (giving longer belts with greater life) so knee room is greater too.

For oddment space inside the car the Mini is best endowed with those really useful door pockets and others at each end of the back seat, plus a large shelf surrounding the instrument binnacle; the Honda comes next with an open pocket at the driver's end of the fascia and



a locker on the passenger side, plus pockets in the rear side panels. There are also twin pockets on the Daf 44 fascia, but only a single one on the 33. However, what the Dafs might lose to the others on interior stowage they gain in the boot with the 33 largest at 8.4 cu.ft.; the 44 has a shallower tail and swallows 7.8 cu.ft. which is still more than twice the size of that of the Mini. Although the Honda has the smallest boot, you can remove the back seats to increase the luggage space when used as a two seater.

Instruments and switches

We voted the Honda's fascia layout the best with a couple of round dials sitting in imitation wood and easily visible through the two-spoke wheel; with no water for a temperature gauge and roller bearings which work without oil pressure, you only need a fuel gauge and speedometer. Four warning lights in the left dial are well marked and the switches are also well marked and placed.

The two-dial 33 fascia looks a little less austere than the single nacelle 44 and its switches are handily grouped on the right within fingertip reach. The 44's switch gear, apart from two handy stalks, is less easy to reach in the centre of the fascia. The Mini has nice conventional dials in a central pod,



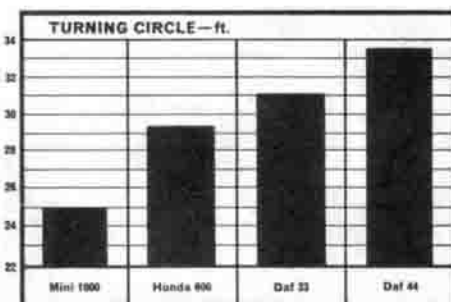
Left: Automatics away; Mini followed by Honda, Daf 33 and Daf 44. Only the Mini doesn't have extractor vents, which are just visible on the other three.

Above: Mini uses T-handle selector sliding through its awkward notched gate; brake pedal is just like that for an ordinary Mini and doesn't encourage left foot braking.

Top right: Honda uses steering column selector for its three ratios. Multi-purpose stalk has flasher button in its end.

Right: Daf 33 uses same "direction" level as the 44.

Below left: Gearlever on the 33 and 44 (shown here) is just for forwards and backwards and should only be moved at low revs when stationary.



but, compared with the other cars in which the instruments are straight ahead of the driver, they are not easy to see at a glance and the switches—with those for wiper and lights unmarked—require a long stretch.

Heating, ventilation and noise

No doubt to the relief of water-cooled adherents the Mini was certainly one of the quietest engined cars, but against this its road noise on coarse surfaces was worse than the rest; wind noise even with the sliding windows partly open wasn't too bad but best on this score was the Daf 44. Both Dafs were good on wind and road noise but fussy when accelerating and stopping. The Honda made a louder, crisper noise, clean and buzzy, if you like that sort of thing, but some would say that this limits its comfortable cruising speed to about 60-65 m.p.h.—still pretty good for 600 c.c. though. Wind noise was quite low and road noise better isolated than that of the Mini.

Our test covered a particularly hot spell so ventilation was considerably more pertinent than heating. As the only one with face level ventilation, the Daf 44 was the most pleasant in these conditions with adjustable outlets which could be pointed at the face; its heater is versatile, too, with two sliding knobs for volume and temperature adjustment, and two

little flaps to direct the flow; these could also give cold air so the atmosphere was always pleasant. The 33 had the same controls but no face level outlets; however, a combination of cold heater settings and open quarter lights gave an acceptable and not too noisy compromise. On the Honda, fresh air flaps are at knee level and admit useful quantities of ambient air to keep the atmosphere and the legs cool, but the heater controls are over simplified with just temperature and direction controls; however, you could keep the temperature comfortable with the windows closed which could not be done in the Mini. Even with its temperature knob on "cold", warm air still came through the vents, so we just had to shut the flap right off and juggle with the sliding windows—3 or 4 inches at the front and about 2 inches at the back on each side produced a reasonable compromise between cool and quietness. Better adjustment of the water valve should allow cold air to come through the interior outlets.

In conclusion

Of four small cars the Daf 44 was the largest and most comfortable, with reasonable speed

and economy making it a good all-rounder and by far the best touring car. Logically the 33 is smaller, slower and more economical, but still comfortable and, like the 44, absurdly easy to drive. Luggage space is unusually good, too. The Honda is smaller than this with a good driving position but its excellent performance made it the sports car of the group; most economical, too, but it can deteriorate to nearer 34 m.p.g. when driven hard. The Mini is still fun to drive, but sluggish by Honda standards and very thirsty; not very comfortable either, but still a well-planned little box with a bit more space in the back than the Honda.

On transmissions, we felt the Daf principle was the best, especially for novice drivers, despite its minor irritations. Of the more conventional types, the Mini with four speeds is certainly the more versatile but it is jerky and a bit insensitive in its change points unless well adjusted; the Honda with only three speeds showed up better with only the occasional irritation of that screaming kickdown into second—presumably a mal-adjustment.

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Specification	Honda 600	Daf 33	Mini 1000	Daf 44
Cylinders	2	2	4	2
Bore and stroke (mm)	74 x 69.6	85.5 x 65	64.6 x 76.2	85.5 x 73.5
Capacity (c.c.)	599	746	998	844
Net bhp at rpm	42 at 6,600	28 at 4,200	38 at 5,250	34 at 4,500
Brakes	Drums	Drums	Drums	Drums
Service interval (miles)	3,000	3,000	3,000	3,000
Fuel grade	2-star	2-star	3-star	2-star
Insurance rating (AOA/Lloyds)	3/3	2/1	1/1	2/2
Tyre size	5.20-10	135-13	5.20-10	135-14
Kerb weight (cwt)	11.1	13.0	12.5	14.7
M.p.h./1000 rpm in top	12.8	15.8	16.5	16.1