

YAMAHA RD400

An outstanding motorcycle

HOW WOULD most motorcyclists, whether or not they'd had personal experience of them, classify the Japanese "two-stroke" marques? We suggest in this way: Suzuki—sound, reliable, perhaps a flashy paint job, on the mild side; Kawasaki—do they still make two-strokes? Of course, now, the big 900 . . . oh, yes, there was that vicious 500 three . . . and the 750. They were lethal, weren't they . . . (If this suggested reaction for Kawasaki is in any degree accurate, it points out the way an early reputation, earned or entirely undeserved, becomes part of "establishment" thinking—usually, we might say, through hearsay rather than first-hand experience.)

And Yamaha—very fast, aren't they? And handle well. But you've got to fiddle with them.

Somebody a little more knowledgeable than "most motorcyclists" could affirm that: Suzuki are very quick (look out for 350s and the later 750s), Kawasaki 500-3s these days are a very different proposition from those early weapons, and the 1976 Yamaha

RD400 is, yes, fast, handles well—but seems quite tolerant of ordinary driving methods and ordinary, reasonable maintenance.

Like the other Japanese, Yamaha long ago got themselves out of once-traditional European c.c. categories. With the proliferation of 70s, 90s, 350s and 380s, there is no surprise in Yamaha joining Honda in making a nominal 400. The RD350, for several years at or near the top of American popularity polls, has had its 54mm bore pushed out to 62mm which, the stroke remaining as before at 64mm, means that the new capacity is 398, i.e. RD350 literature of a year or two back quoted maximum power as 39 b.h.p. at 7,500 and maximum torque as 27.5 ft/lb at 7,000 r.p.m. Now the figures are 40/7,000 and 30.4/6,500. So it is clear that the ultimate performance of this 400 is not likely to show any notable improvement over the RD350's—it will not be any sharper—but the manner of its going ought to be improved. And so it turns out.

The RD400 will accelerate in top (sixth) gear from 2,500 r.p.m.—about 32 m.p.h.—

with no protests. You would not, of course, make a habit of doing this, because that would be to ration the pleasure to be obtained from using a superb gearbox—and, fundamentally, to mis-use the engine. But it can be done, and at no apparent cost. The 350 would not have taken at all kindly to this sort of treatment.

From 3,500 r.p.m. power comes through smoothly, strongly. Keep the twistgrip turning, the tachometer needle moving up to and beyond the 6,000 marking, and you will skip any gross manifestations of "How smooth . . ." and instead make sure you have a really good grip on those high, wide bars, inch forward just a little because, well, that front wheel does seem a mite light and wobble, a little shamefacedly because after all you like to consider yourself not exactly inexperienced in these matters. If anybody would notice if you actually turned the throttle the other way before you and the bike took off from dear, tired, old Mother Earth . . .

This is all nonsense, of course—the RD400 is just another quick bike. With good acceleration. With very good acceleration. All right: for a 400 it seems to us to have phenomenal acceleration. Timing by Heavy stop watch, we made the 0-60 m.p.h. time something under six seconds, and later found that one of the better US magazines gave it 3.8 seconds.

The crankshaft, to take the new leap-



Good-looking. The 350-ib lightweight RD400 has (we think) clean, functional styling, with individualistic touches like all-black finish for engine and crankcase

stroke, is new also, as are the crank cases; as before there are four main bearings, one at each end, two in the middle. Sizes of all main components are identical with those fitted in the latest RD250 (which, incidentally, suggests well for long life in the relatively lightly stressed 250). As before, too, the carburettors are 38mm Mikonis (as on the 250) although various modifications have been carried out that distinguish the instruments from those fitted to last year's 350, most obviously a visual method of balancing and adjusting the slides. As has been Yamaha's practice for years the iron-cased cast-aluminium barrel is fitted with reed valves, behind the carburettor intakes, and the seven-part system is retained.

Ignition is by battery/coil, the plugs being NGK/B-7EX (8EX for European areas outside England). The AC generator develops 140 watts, which amplifies the miserly consumption (and output) of the 35w/21w headlamp bulb fitted to "English" RD400s. Machines for other countries are blessed with more generous illumination with, so far as we can ascertain, lucky old Norway, on 45w/40w, as top of the list. Why are we so dim? Now for 1976 is the provision of two bulbs for the rear lamp.

The frame remains as per RD350, so far as steering geometry—62.5° castor, 100mm trail—is concerned, although it has been altered in some respects, mainly to accommodate a new air-cleaner box and to enable the engine/gear unit to be re-mounted 30mm farther forward; this latter modification, together with a longer (by 40mm)



Exhaust system is quiet, efficient. We have reservations about width and angle of the handlebar

rear fork, has helped in restraining this new RD from being as front-wheel-light as the old 350.

These changes, of course, are not apparent

at first glance, or possibly even with careful examination. What you will notice at once are the seven-spoke cast-aluminium wheels and the disc brake for the rear wheel. The wheels, stamped "Kobe Steel", are Yamaha's own, and are the first of their kind to be fitted as original equipment



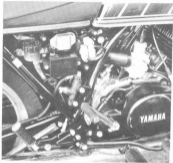
Superb switchgear of the RD400. Cast aluminum wheels are slightly heavier than ordinary spoked wheels, but stronger. They are polished at the edges of the



by a motorcycle manufacturer. In our view they look very well and must, surely, be stronger than conventional "wire" wheels. They are fractionally heavier—than ordinary Yamaha wheels, at least—and at the

moment you pay an extra \$40 if you have your RD400 fitted with them as new. Although it is difficult to imagine their being distorted in average use, you may care to ponder on Yamaha's terse advice to "no

Right-side cover removed to show master cylinder for rear brake, fuse box (four fuses) and main junction for the wiring harness



place" them—no adjustment here—should run-out exceed 1mm. The tyres have tubes. The disc calipers are neatly arranged, the front to the rear of the fork leg (cf. one-time forward-of-the-fork position), the rear caliper above the wheel spindle, behind the rear spring unit. The discs are 184in (218mm) in diameter and sport wear indicators. There is an abundance of neatly

sealed armoured tubing to transparent plastic master-cylinders—just for the rear brake being concealed behind the q.d. off-side cover under the seat where it can be pivoted out, after releasing a screw, for replenishing. The handbar reservoir's cap is retained by Phillips screws, to deter mischievous, or merely inquisitive, fingers.

The brakes look effective, and are effec-

tive—the most impressive, probably road bike's that we have tried. Powerful . . . powerful: the old stock, as so rarely, would mean exactly what they say here.

The control layout of Yamaahas, in recent years, has been exemplary. This year it is better than ever. Twin 31in-diameter dials, white numerals on black, flank a centre bin-rack holding the ignition key. The speedo reads to 120, has trip and cumulative mileage recorders, coach with one-tenth-mile readings; the rev-meter is red-lined from 1,200 r.p.m. to 10,000 and carries lights to indicate neutral selection and high beam. Flanking the ignition key are lights for Oil and Turn L and R—which brings us to one of the most noteworthy features of this latest Yamaha, the self-cancelling direction indicators. So far as you, the rider, are concerned it's all in the left-hand self-centring control switch, which you push to the right for a right-turn flasher, and to the left for a left signal, in the normal way; what you will notice immediately is that the thumb switch returns immediately to the mid-way position as soon as you release it. So what you do, if your friendly dealer hasn't told you about the new arrangement, and you haven't noticed that the turn signal is still flashing though you've released the switch, is to bang your thumb back on the switch, pushing it over again, and say "I don't think much of this idea, having to keep your thumb on the switch". But of course you don't have to, and it's the simplest, clearest set-up we've come across in years, and per-

ably a good enough reason, all on its own, for buying a Yamaha. You merely flick the switch over, release it, and then after your turn is completed, push it again, straight in, when the flasher cancels—and if you forget a little electric brain cancels the flasher for you after about 150 yards running!

Another Yamaha innovation in this area is the warning light for the Autolube oiling system, the red light above the ignition key which lights, when you turn on and start the engine, goes out directly you engage gear and keeps on when you're in motion until the 3.8 pt. oil tank drops to around a quart (Yamaha literature says that the light goes out when the engine is started, which seems a sensible idea, as per automobile practice—but ours, as we've said, waited till a gear was engaged.) Consumption: 200 m.p.g.

The headlight was moderate—i.e. not good enough—and could be achieved by an interesting combination of switchgear. The key acts clockwise, in this way: first position—everything off; second—ignition circuit engaged, third—lighting circuit engaged, additionally; fourth—low or dim or dipped (call it what you will) headlight on, with tail light, when the key can be withdrawn. This last setting for parking, obviously. All pretty straightforward. On the right handlebar the control block has the engine "kill" switch and a lights switch—"on" and "off". When you want lights, motoring along, you turn the ignition key to position 3 and then, even if the right-hand control is still at "off", you have the low ("lo" the Japanese

call it) light, plus tail light, of course. If you want "hi" . . . these snappy abbreviations probably arise through lack of space on the switches to accommodate extra lettering and a justifiable feeling that they're redundant anyway . . . it's time to make sure the right-hand switch is over to "on" and a rotary-action control—what would have been called the dip switch in Olden Times—on the left-hand control is on HI. You can control high or dipped beam then on this left-hand button—but if you leave it on HI, you can get precisely the same sequence by using the on-off switch on the right. So in effect you have two-dip switches. . . . (Count ten, or have a drink, and read again.) Is this merely another example of Yamaha ingenuity? Have we got everything absolutely wrong? Did a chap get his wires in a tangle?*

But however you turn it on, it's still a poor light.

The short wheelbase—32in we made it, with the spindle forward by about 1½ guide marks—the Yokohama 100 x 18 front tyre, and presumably a certain, intended, bias in the steering geometry contributes to a high-bred, lively, nervous feel to the Yamaha at 70-80-90 m.p.h. You can twitch the steering by a little push-pull on the bars; ripples, corrugations in the road surface are clearly felt.

This should not be seen as derogatory comment: the RD has a thoroughness—that's the word—feel to it, is active, not

[*Stop! The dip (flames) was broken, that's all . . . which explains everything.—Ed.]

passive, but not cold. If you want a quiet, well-behaved, under-steering, open-road cruiser, have a look at the 750 stuff: don't waste a Yamaha's spirit on motorway boxes.

The six-speed gearbox was superb though only rarely, moving off and at speed, could we have said which particular gear was currently, briefly, engaged. Not that that's important, as the change was so slick, the ratios so close—especially the top three—the labour involved no more than a twitch of the left foot, and spare the left hand for more important work, that these six speeds become a close relation to "infinitely variable". With this sort of box who wants five gears if you can have six?

Top speed, sitting up—blame the bars—is 95-98 m.p.h., and if you press on at 75 plus petrol (2-star) is swallowed at around 40 m.p.g. But cruiser riding, around 60, and in-town use will get you a good 50 to the gallon. Vibration is minimal—what little there is is quite tolerable—tribute to balance and rubber mounting of engine, handlebar and footrests (and, incidentally, to the rubber handlebar grips . . . a very welcome change from the usual corrugated plastic).

Briefly . . . the RD400 is a delightful motorcycle with more get-up-and-go, more style, more than than 75 per cent of the big stuff. So, as owner of a particular brand of the big stuff, the thought occurs to us . . .

The Yamaha range is distributed in Britain by Mitsui Machinery Sales (UK) Ltd., Oak-croft Road, Chessington, Surrey, KT9 1SA. Price of the RD400, including cast-aluminium wheels, is £660.