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MOTOR CYCLING

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JANUARY 1980

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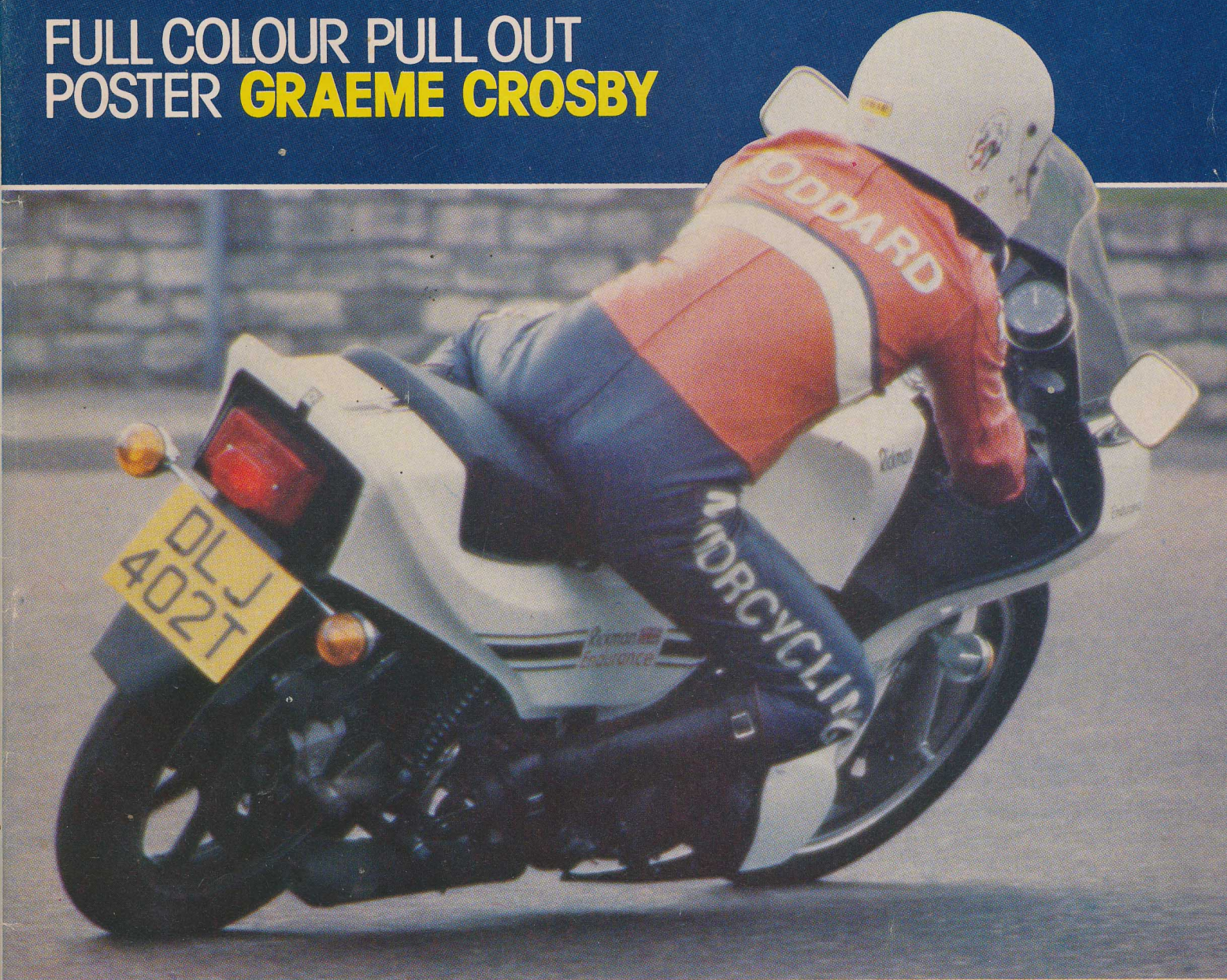

Bike Tests
Yamaha 650 Special Marathon
Rickman-Kawasaki 1000
Fantic & Gilera 50s on the trail

Features
It's no Guarantee... read the small print!

Workshop
Yamaha Trail irons service guide

MOTOR CYCLING

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January 1980 No.51

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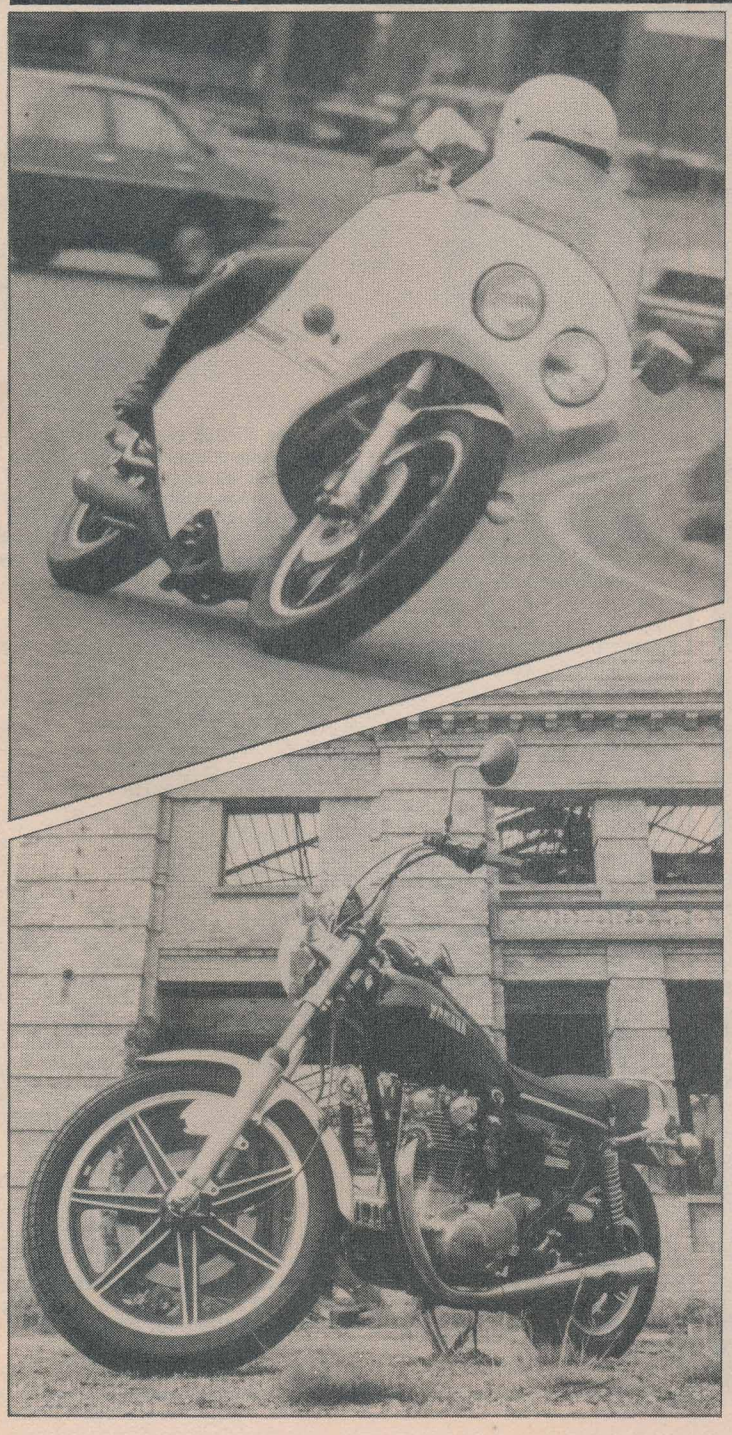

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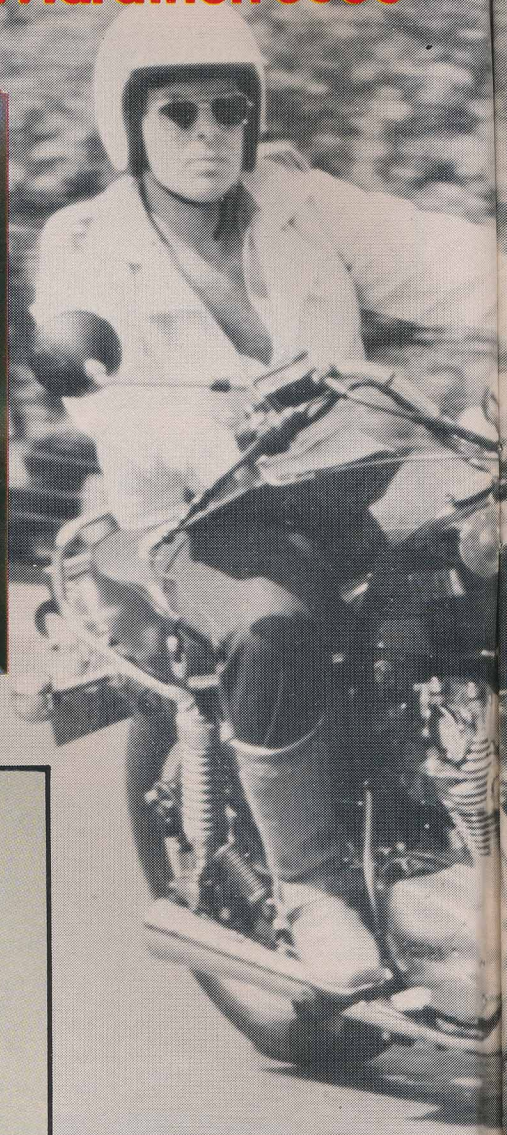
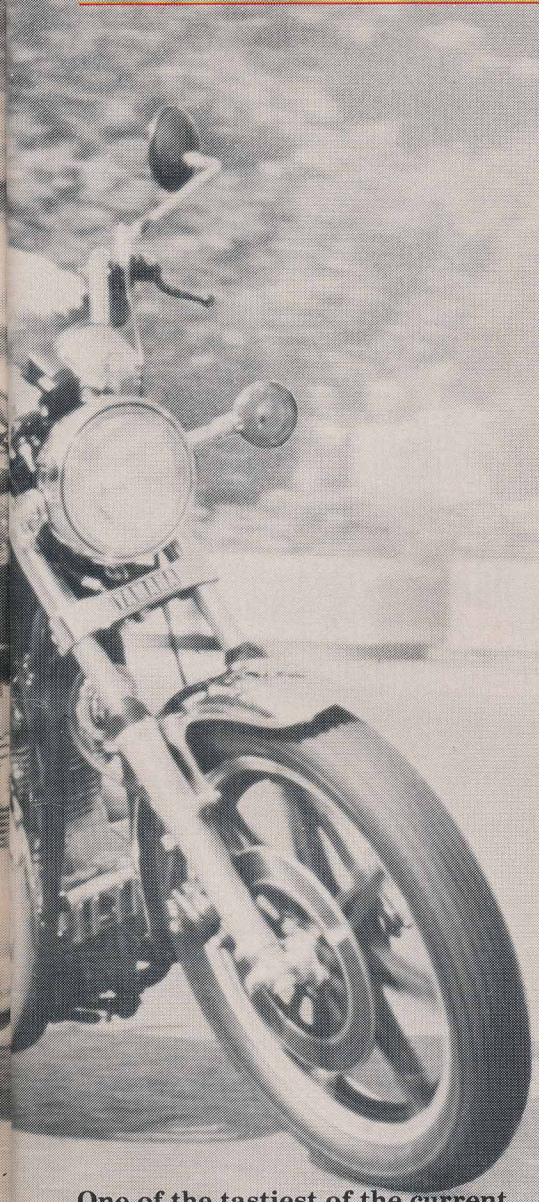


Marathon 5000

EVERY bike in the unique 'Motorcycling' test series is bought from stock at an ordinary motorcycle dealer's showroom. It is run for a minimum 5000 miles under all road and weather conditions and finally, it is tested at the Motor Industries Research Association test track at Lindley, Warwickshire, using electronic timing equipment accurate to 1/100sec. and 1/100mph. Performance is assessed with the rider seated upright, prone in leathers and with a passenger.

Our Star system gives a quick reference to the standard reached in both performance and engineering. The standard is:- * = Poor; ** = Below average; *** = Average; **** = Above average; ***** = Outstanding.

We claim that these are the world's fairest, toughest and most thoroughly researched motorcycle tests and are written without bias or prejudice, based on the experiences and facts obtained during the 5000 mile test period.



One of the tastiest of the current rash of semi-chop-cum-Statestyle variants from Japan is Yamaha's XS650 Special which we chose to join our Marathon test fleet last August.

Based on the standard 'no frills' XS650 which has been selling steadily in the UK for six years since replacing the original 1971 XS2, the Special has much more than superficial styling changes. The long list of modifications includes a new frame with altered castor angle and trail, and smaller carburettors. But at the heart of the machine is the same SOHC 653cc parallel twin motor which bears an uncanny resemblance to the old Bonneville mill.

We collected ELJ 24V from Loders of Dorchester on August 17 and commenced running in below 4000rpm for the first 100 miles then 5000rpm for the next 500 miles. This gave a top speed of 78mph and as comfort ended at 70mph — lower in headwinds — there was no real restriction.

Back at the office the bike was checked over and a few minor faults discovered: the rev counter cable had come undone at the instrument, the rear brake fluid reservoir was incorrectly mounted on its peg and screw fixing, the grease nipple in the left hand end of the swinging arm was crossthreaded and the toolkit's feeler gauge would not come out of its little pocket — the protruding end finally snapped off when pulled with the kit's pliers. The tyres were over-inflated by 2lb. and 5lb. and the speedo cable was loose at its mounting on the gearbox in the front wheel — although we didn't discover this until the cable came adrift and the inner was lost at 351 miles. Loders replaced the cable next day under warranty but by then the milometer had lost 150 miles.

Determined efforts

After sorting these teething troubles the machine ran happily for the rest of our 5000 miles with only chain adjustments and additions of oil outside the normal service schedules. Only the chainguard, which made determined efforts to leave the bike at around 4000 miles, caused any unscheduled spannerwork.

As the miles rolled by the 650 Special ran in, settled down, freed off and established its identity as a soft and lazy fun bike. Posing is what this machine is all about and there was no shortage of staff members willing to cruise the boulevards on the 650 and play the part. Show offs!

In two months the dressy black Special covered its 5000 miles on short hops, home-to-work journeys, weekend trips to the smoke and an occasional longer journey in the hands of Merril to Halifax and Jersey. Unlike an extended mile-gathering tour because its riding comfort, largely limited by the handlebars, discouraged long and hard riding. The pull-back bars were not exceptionally high, but they came back far enough to force an upright riding position. This meant the rider was literally pulled along by the arms which would show distinct signs of elongation as the miles or speed increased.

Wrist soreness

An additional problem the bars created was wrist soreness due to the unnatural angle the grips made with the rider's arms and this also created difficulty in operating the switches. Whilst on the subject of ride comfort, the seat made its presence felt after 100 miles or so and was not really big enough to carry a pillion passenger who also suffered due to the odd lean-back riding position, bad footrest siting and numb feet and hands due to vibration.

The rubber mounted handlebars soaked up most of the low frequency buzz but became distinctly tingly over 5000rpm. For some strange reason the right hand and mirror suffered more than the left, but the mirrors were well positioned and gave an uninterrupted rear view.

Movement due to the 'bars flexible mountings only became noticeable during the brake testing on the track when, combined with bottoming front forks, they affected rider confidence.

Despite the criticisms the pull-back handlebars are an integral part — even the focal point — of the Special's customising and are thereby an essential feature. It would be as unreasonable to mark down the bike for its handlebars as it would to criticise the fuel range which is limited by the tear drop tank. If you buy the bike you have to accept the limitations the customising enforces.

And Yamaha have not merely bolted on a few US spec goodies to the XS650 to produce this Special version. The engine features marginally higher compression ratio, (8.5:1 against 8.4:1) twin 34mm Mikuni carbs, (in place of the latest standard model's 38mm units) and an uprated clutch. The double cradle chassis is a fresh item having a little over one degree more castor angle and trail extended from 108mm to 119mm. The rear swinging arm is different, but front and rear suspensions are not altered.

The front wheel is up a size to 3.50/19 and the rear up from 4.00/18 to 5.10/16. Wheelbase remains the same but overall length is reduced by 75mm due to the shorter rear mudguard which, incidentally, allows the wheel to spray mud and water over the back of the bike and rider.

Handlebars, tank and seat are all changed for mildly chopper-style parts and the exhaust system which features a balance pipe now ends in shorty megaphone trumpets which just clear the rear wheel spindle and so make rear wheel removal and chain adjustment easier.

Failure lamp

The detail mods include a different warning lamp cluster which now has a stop/tail lamp failure warning light, and more chrome plated bits and pieces, such as footrest hangers etc. Performance-wise the XS650 and XS650 Special are surprisingly different.

The customised model was about 10mph slower on top speed and half a second slower on the standing quarter mile. So what is the point of the considerably smaller carbs and slightly higher compression ratio? This is where our passing times prove their value. Throughout the gears the Special was appreciably quicker on the uptake with more than half a second improvement on the standard bike's 40-60mph and 50-70mph times.

What Yamaha have done is to improve the parallel twin engine's torque in the low to mid range to give more throttle response and low down slogging oomph — just what the Special cries out for. A peaky motor with fiery top end performance would be lost on a bike which tears your arms off at 85mph and the Special's 101mph top (prone) speed is more than adequate.

The optimum cruising speed of 70mph coincided with 4500rpm in top and kept the motor below its vibration level. Power came in strongly from 2000rpm (30mph in top) and the bike responded best to early gear changes and low revs. The engine would continue to pull strongly up to its red line in the gears if needed, but there was no bonus in power and the noise and vibration encouraged patience instead.

On the open road the gearbox seldom required stirring up and, provided you

Location: Mr Shapes American disco diner, Richmond Hill, Bournemouth. Clothes from Jean Machine: FU's denim jeans £16.99, FU's cowboy shirt £10.50, FU's flying jacket £24.99. Fry Boots 'Star Wars' cowboy boots from The Boot Store — £39.95.

weren't in a big hurry, the laid-back ride produced an inner calm and thoughts of philosophy, poetry, and what's for dinner.

The transmission in general and gearbox in particular deserve critism. Clutch take-up was gravelly and the updated multi-disc unit displayed signs of both slip and drag at various intervals, almost giving up the ghost during our acceleration tests. Gearchanging was heavy and notchy and upward shifts were sweeter done clutchless. Neutral selection when stationary was near impossible. The ratios themselves were well chosen and only first could have done with being a little lower.

With almost 60lbs trimmed off dry weight and a slightly lower overall gearing the Special is more nimble and pleasant for the about-town purpose for which it was designed and the low seat height even permitted both of Merril's dainty size 4's to touch tarmac at once.

'Remote' control

Steering took a little getting used to. The bike had a tendency to understeer and required a firm approach to bends and this combined with the 'remote control' handlebars seemed strange to begin with. After the first dozen corners the rider was used to it and the bike felt safe and surefooted enough to heel well over. Roundabouts were a delight but the centre stand grounded all too easily, especially two-up.

Out of town the plot would get twitchy if you forced it into bends at over 80mph although bumps didn't upset it unduly with the rear suspension on the third of its five pre-load settings. We discovered the front forks' three position spring pre-load adjusters (under rubber bungs on the fork top nuts) only in the last 500 miles and found a quick twist of a screwdriver cured the bottoming problems we had experienced during our braking tests.

The front forks never bottomed on the road on even their softest spring setting and the rear units were able to handle 20 stones of rider and passenger on the bumpiest road with two notches to spare.

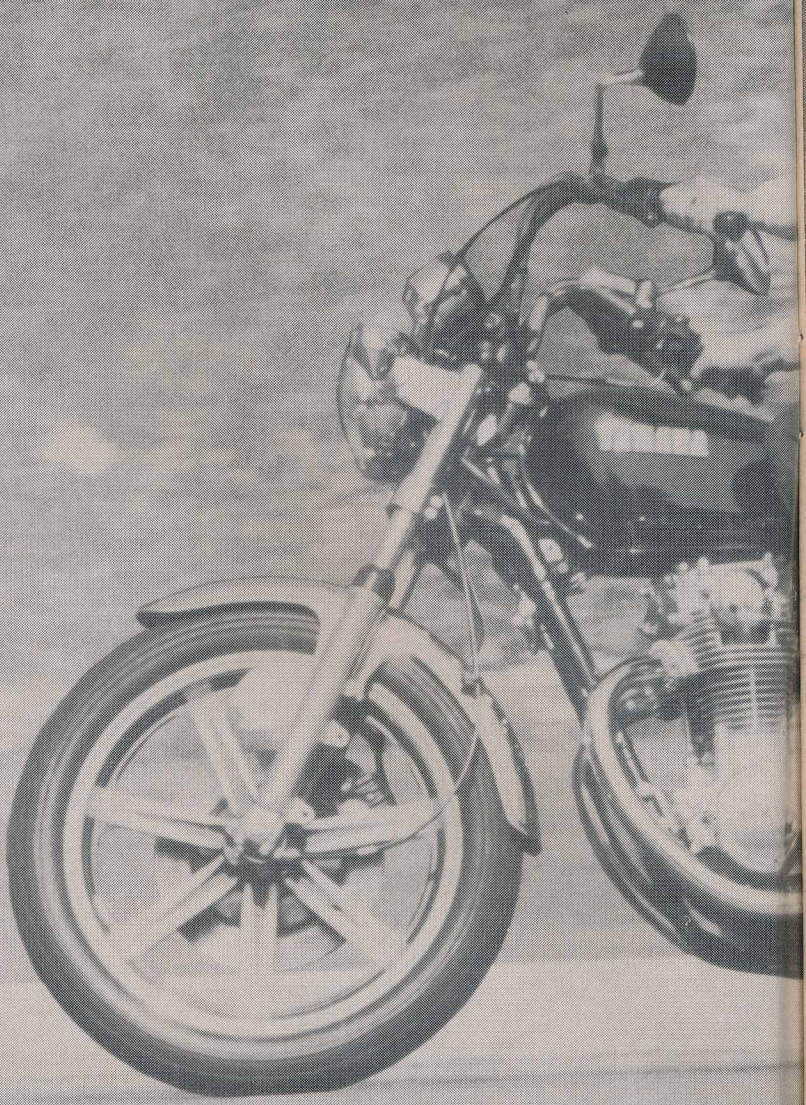
The tyres, which had almost two inches difference in width, performed well until they encountered a white line or tarmac seam. Then they reacted as though they had a broom handle to cross and the ensuing twitch felt like the bike was hinged in the middle.

Extra caution

This whitelining was so bad the rider searched out the gaps between road markings when swapping carriageways for overtaking and took extra caution in the wet. However both the narrow front and fat 'doughnut' rear Yokohamas gripped well enough on wet and dry tarmac to restore confidence.

The rear tyre had 2.5mm of tread on the centre line after 5000 miles so the Yamaha is not so heavy on its rubber as some of the Superbikes which junk a rear cover in 3000 miles. On the debit side a replacement 130/90s 16 for the Special costs over £45.

The Special had both electric and kick starters. The 14Ah battery cranked the motor adequately but cold starting was sometimes hesitant. The two position cold start button needed pulling fully out for the first cough of the day, then pushing in one stop for warming up the engine.



Fuel consumption averaged 51mpg over the test which included lots of unnatural usage at MIRA as well as town work and we would expect an owner to achieve 55mpg overall. Merril regularly recorded over 60mpg. The custom fuel tank belies its 2.53 gallon capacity which gives a useful 120 miles before reserve. Once the vacuum fuel taps had been turned to the R position it was essential to find an open fuel station quickly as the bike had only 10-15 miles left.

Oil consumption was light at 980mpp, half that of the 750 Bonneville and a third of the standard XS650's oil-thirsty motor, but then oil consumption relates only to individual engines. The Special seemed to try harder to emulate the Triumph as time went on by developing oil leaks from the base gasket (a weep only) the rev counter drive where it exited from the crankcase (enough to spray your right boot) and from somewhere underneath the motor (to ensure the side stand didn't develop rust).

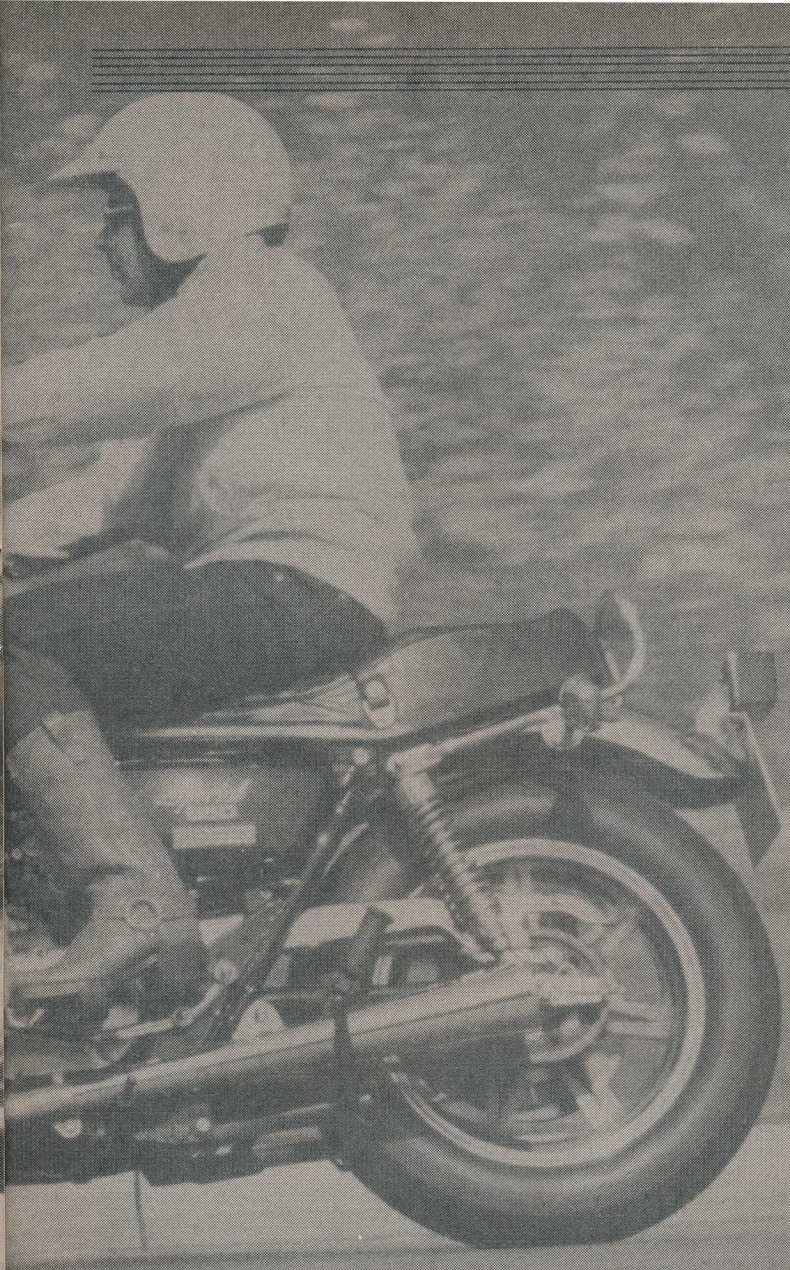
Missing bolts

Then, during our track testing, the front chainguard bolt vanished and we pinched one from the Suzuki TS100 which happened to be at MIRA at the same time. Despite tightening both chainguard bolts at this stage the rear one went missing 500 miles later and the chrome guard became quite battered where it rattled on top of the rear sprocket for the five miles back to the office and our spare nuts and bolts box.

The single disc brakes front and rear had good and bad points. In heavy rain they suffered badly from wet disc lag and a drum rear brake would have been an advantage in this respect and would offer more feel.

The single front disc was light and pleasant to use, stopped the bike adequately in an emergency, and avoided the extra unsprung weight, cost and complication of double discs. During braking tests with a passenger, however, the lever was back to the grip so it wouldn't take much extra weight and a little lack of maintenance to show up the front stopper's limit. Both brakes developed low-speed squeal after 3000 miles.

If the rear brake pedal lacked feel the front lever excelled, having a well-shaped cranked anodised lever for easy reach and progressive operation. The matching clutch lever was equally fine, but could not make up for the inadequate transmission at the other end of the cable. Both levers featured natty little rubber bellows around their pivots but these proved a mixed blessing as they occasionally slipped down the levers to get



tangled up with the rider's fingers. The clutch cable also had an effective rubber dust/rain cover over its handlebar adjuster.

The switchgear is standard Yamaha featuring automatic winker cancellation but proved awkward to operate due to the angle of the bars. Thumbs had to reach further to touch the switches and the indicators and headlamp flasher proved particularly difficult to use.

The self-cancelling device for the turn signals worked well, only occasionally cancelling before a turn was completed and then only in slow traffic. Manual cancelling was effected by pressing the turn button towards the handlebar. One niggle was the delay of up to a second between thumbing the button and the winkers flashing for the first time.

Golden glow

At night the large, clearly calibrated and reasonably accurate speedometer and rev counter were illuminated by a warm golden glow. Unfortunately the 50/40 watt Koito headlamp seemed to operate on the same principle and was less than efficient. The beam pattern, both on dip and main, was a flat and wide spread which lit up the roadside hedges but failed to reach far enough ahead. We would rate a quartz halogen lamp of Cibié standard a far more effective step towards safety than automatic indicators.

The warning lights for indicators, brake tail failure and neutral are well positioned between the two instruments and show up clearly in daylight. The main beam indicator light is in the rev counter.

Whilst having a bitch about the standard of the bike's main lights a couple of detail electrical faults spring to mind. The connectors directly above the stop lamp switch are protected from the elements by plastic sleeves, but the open end is at the top so they filled with water the first time it rained. Similarly the snap connectors to the rear light protrude unprotected from between the number plate and lamp. Judging by the amount of water thrown up the back of the bike and rider by the insufficiently guarded rear tyre these will also be a source of trouble in future.

The ignition switch mounted on top of the steering head included a steering lock and park light position in addition to a conventional steering lock on the frame. The ignition lock had a push-then-turn detent system which proved fiddly until the knack had been mastered.

The rear chain needed adjusting every 1000 miles and more frequent lubrication. By 4500 miles it had developed a tight spot and had passed the fourth of its six wheel alignment marks.

Other periodic maintenance jobs are simple and straightforward except for checking and adjusting the valve clearances and cam chain tension. These tasks are considered too onerous for the owner by the bike's handbook which instructs him to take his bike to a 'professional Yamaha service technician' and consequently gives no guidance on these service routines at all. This is most annoying — especially as the valve clearances should be checked every 2000 miles. Who is going to pay their dealer to check valve clearances once a month when all the other service jobs can be done at home? It's our guess that Yamaha's caution could have an adverse effect on their 650's reliability.

Anyone planning to carry out their own maintenance on the Special will need a number of extra tools. The bike's kit which lives in an easily accessible (for thieves too) position behind the left sidepanel, will tackle only the most basic jobs. Additional storage space on the bike is non-existent. There is a plastic flap under the seat pan which purports to be the document pocket, but it is too small for the compact owner's handbook.

The standard of welding on the frame was about average for a Japanese bike — untidy — but the paint and chromework looked good. The exhaust pipes stayed bright but the silencers had discoloured slightly by 3000 miles and also picked up a collection of other marks from melted wellies, nylon overtrousers etc. For some reason the shorty trumpet silencers ran very hot — maybe it had something to do with the amount of noise they absorbed, for the Yamaha was very quiet.

The overall finish was high and no-one argued that the styling was too pretentious. If anything it was agreed that Yamaha had not gone far enough. We had been riding the bike for three weeks before anyone noticed the metal flecks in the paintwork on the tank and sidepanels.

Delivery faults

1. *Loose rev counter cable.*
2. *Loose speedo cable.*
3. *Lefthand grease nipple crossthreaded.*
4. *Rearbrake fluid reservoir incorrectly mounted.*
5. *Feeler gauge stuck in toolbag.*
6. *Incorrect tyre pressures.*

Subsequent faults

351 miles: *Speedo cable came adrift from front wheel and inner cable was lost. Replaced next day under warranty.*
2600 miles: *Engine became rattly. Handbook gives no valve and cam chain service data so bike returned to dealers for adjustment and full service.*
3000 miles: *Silencers became discoloured due to running very hot.*
3500 miles: *Slight oil leak from rev counter drive at crankcase which became progressively worse. Slight weep also noticed from cylinder base gasket and oil leaking from lower crankcase.*
3800 miles: *Front chainguard bolt disappeared. Replacement fitted.*
4335 miles: *Rear chainguard bolt dissapeared. Replacement fitted but chainguard now damaged.*

Servicing ***

The Yamaha is an easy bike to look after having only two cylinders and a relatively simple single overhead cam design but Yamaha's decision to restrict valve and cam chain adjustment to a 'professional Yamaha service technician' lost the bike one star. Most of the routine service jobs need to be carried out every 2000 miles so you should keep in practice, but a wider selection of tools than the bike's own kit offers will be needed.

Performance **

The Special is not a high performance bike. It beats the standard XS650 on torque and throttle response but looses out on speed and acceleration. From here on it is all bad news as the opposition eats it alive. Kawasaki's 650 four is over 20 mph faster, nearly 1½ seconds quicker over the ¼ mile and makes the Special's 'torquey' passing times look sick.

The Bonneville and Kawasaki 750s, both parallel twins but admittedly 100cc bigger, beat the Special hands down on all counts and even the Suzuki GS425E twin compares very favourably with the Yamaha. Prone speed is identical, standing quarter time half a second down, but passing times are slightly better.

Balls-out track performance isn't everything in the Special's case though, and the soft punchy motor which thrives on early gearchanges and low revs suits the bike's image and riding admirably.

Handling and Ride ***

Once the unusual steering feel had been accepted the bike could be thrown around bends with confidence and felt quite happy scraping its centre stand on the tarmac. Winding country lanes were equally good fun providing the Yamaha wasn't pushed over 80mph when it started to get twitchy. The tyres gripped well in both wet and dry conditions although they felt strange at times and did very odd things on white lines and road tar seams. Whitelining was dramatic from new.

Suspension coped well, giving a smooth ride and front forks didn't bottom on braking after we'd discovered the front springs had pre-load adjustment. The ride was comfortable provided speed and distance weren't too high.

The seat became hard on long distances and offered little room for padding for passengers who further suffered from the lean-back position, badly placed footrests and vibration.

Engine ***

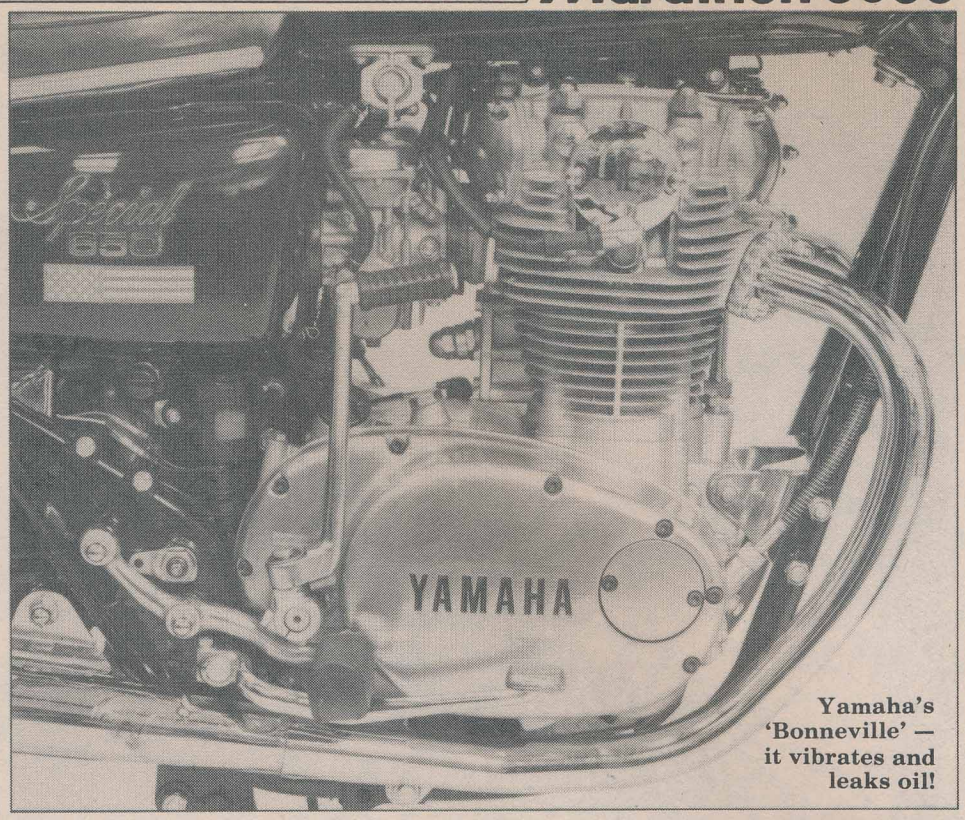
The SOHC parallel twin motor has much to commend it in size, weight, simplicity and torque but vibrates a lot.

The Yamaha XS650 motor looks, goes and feels like the old Bonneville and even sports a number of slight oil leaks to complete the picture. Mechanically quiet, the Special's mill proved fairly efficient in converting fuel into motive power — one gallon for each 51 miles on average.

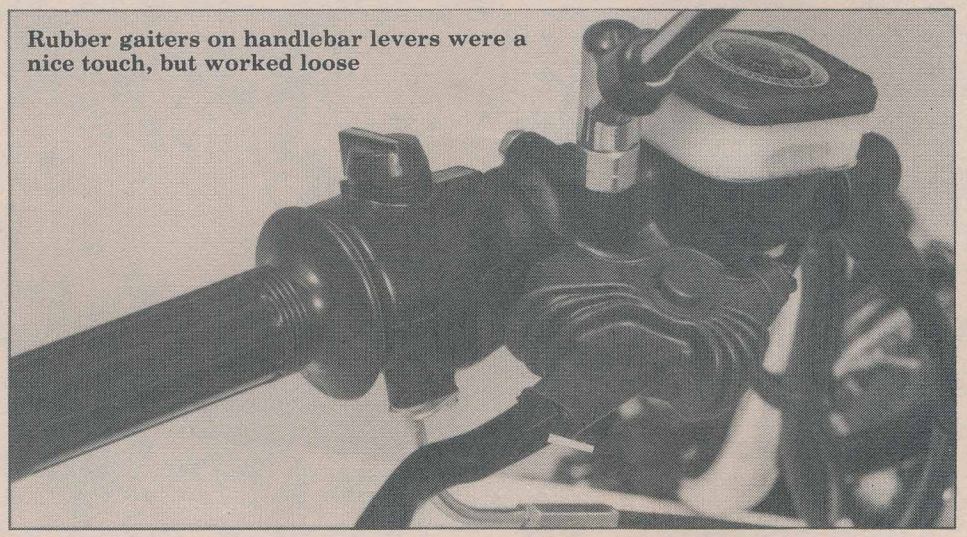
Compression ratio is marginally up from standard but remains a lowly 8.5:1.

Type: *Air-cooled, single overhead cam parallel twin fourstroke.*

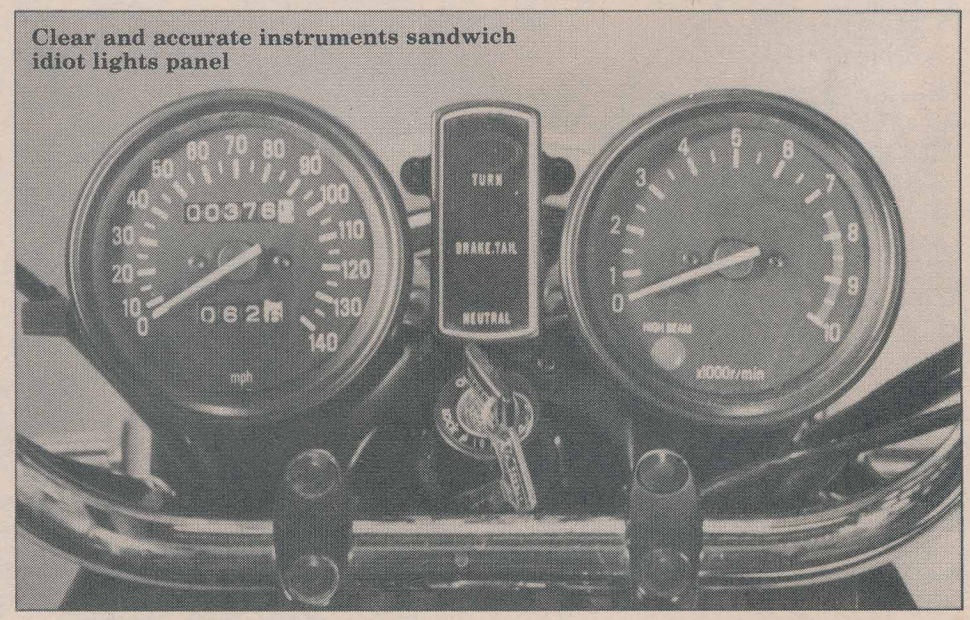
Bore x stroke: *75 x 74mm (2.95 x 2.91in.)*



Yamaha's 'Bonneville' — it vibrates and leaks oil!

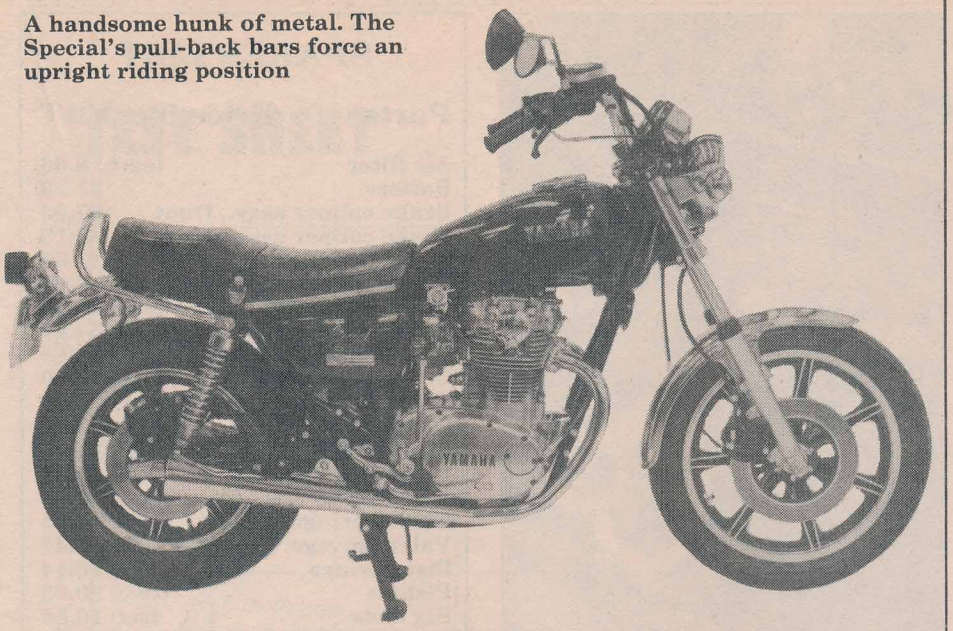


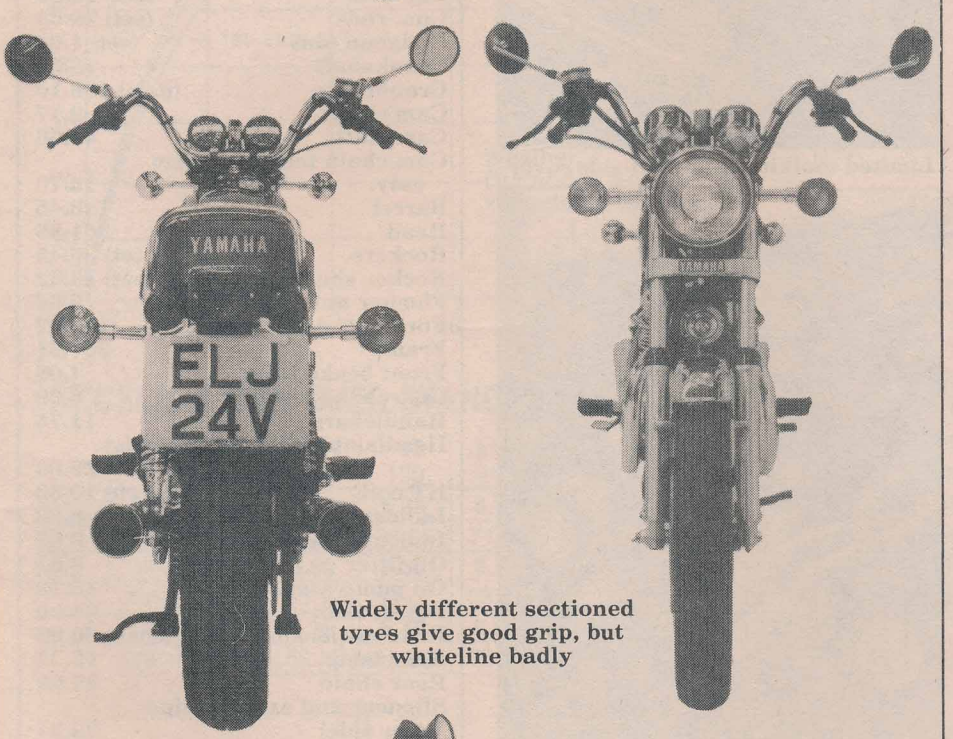
Rubber gaiters on handlebar levers were a nice touch, but worked loose



Clear and accurate instruments sandwich idiot lights panel

A handsome hunk of metal. The Special's pull-back bars force an upright riding position





Widely different sectioned tyres give good grip, but whiteline badly

Shorty trumpet silencers allow easy access to rear wheel spindle

Displacement: *653cc (39.85cu. in.).*
Compression ratio: *8.5:1.*
Carburettors: *Twin 34mm (CV type)*
Max horsepower: *54.8@ 7000rpm.*
Lubrication: *Wet sump with trochoidal pump.*

Transmission *

Clutch take-up was gravelly and the 'updated' multi-plate unit both slipped and dragged at various times during the test. Acceleration runs at MIRA almost wiped out the clutch which must have absorbed at least half a second on the standing quarter mile. Gearchanging was notchy, stiff and generally unpleasant and upward changes were best done clutchless. Neutral was virtually impossible to select once stationary.
Primary reduction ratio: *(gears) 2.677:1.*
Secondary reduction ratio: *1.941:1.*
Overall gear ratios: *1st 12.79:1, 2nd 8.25:1, 3rd 6.75:1, 4th 5.69:1, 5th 4.97:1.*
Drive chain: *105 link ⅝in. pitch (15.8mm).*

Frame and forks ***

The Special has a new, double loop cradle tubular frame giving bigger castor angle and trail, and sports a different rear swinging arm from the standard XS650, presumably to clear the fat rear tyre. The frame handles well at reasonable speeds becoming twitchy over 80mph, but lacks cornering clearance.

Front and rear suspension give a smooth ride and controlled the wheels well. Front forks featured three-position pre-load adjustment and rear shocks five positions.
Frame: *Tubular twin down tube cradle.*
Front forks: *Three position pre-load hydraulically damped.*
Rear suspension: *Five position pre-load hydraulically damped rear shock absorbers.*
Castor: *27° 45'.* **Trail:** *119mm (4.69in.).*

Wheels and Brakes ***

Seven spoke cast wheels in matt black and polished alloy look very smart and are easy to clean. Yokohama tyres gripped well in wet and dry conditions, but caused vicious twitches on white lines and road seams. Widely different sections gave occasionally strange feel but didn't affect handling.

Single disc front brake was light to operate, powerful and had plenty of feel, but came near its limit under two-up panic braking. Rear disc lacked bite and feel. Both brakes took too long to bite in heavy rainfall. They should have sintered pads and preferably a drum rear brake.
Front tyre size: *3.25S/19 Yokohama.*
Rear tyre size: *(5.10in.) 130/90S 16 Yokohama.*
Front brake: *Single disc, hydraulically operated.*
Rear brake: *Single disc, hydraulically operated.*

Electrics ***

Poor head and tail lamps for a 650 machine. Indicators feature self-cancelling device and very bright 27 watt bulb lamps. Good safety feature is the rear/brake lamp failure warning light in the idiot lights console, but the rub is that the warning light is nearly as powerful as the rear lamp bulb. Couple of careless points on wiring near the rear lamp

and rear brake lamp switch could lead to corrosion trouble, but otherwise the electrics were fault-free.
Ignition: *Battery and coil ignition.*
Battery: *12 volt 14Ah.*
Alternator: *14V 11Ah @ 2000rpm.*
Headlight: *50/40 watt Koito tungsten filament unit.*
Rearlight: *5/21 watt single bulb lamp.*
Indicator bulbs: *27 watts.*
Warning lights: *Winkers, brake/rear lamp failure, neutral and mainbeam.*

Dimensions ****

The Special won a lot of friends amongst its riders because of its small size, low seat height and light weight. The frontal area is slim and the whole plot feels manageable and a pleasure to weave through traffic.
Overall length: *2130mm (83.86in.).*
Overall width: *930mm (36.61in.).*
Overall height: *1225mm (48.23in.).*
Wheelbase: *1435mm (56.50in.).*
Seat height: *785mm (31in.).*
Ground clearance: *135mm (5.2in.).*
Dry weight: *209kg (416lb.).*
Fuel tank: *11.5l (2.53gal.) inc. reserve.*

Equipment and Finish ****

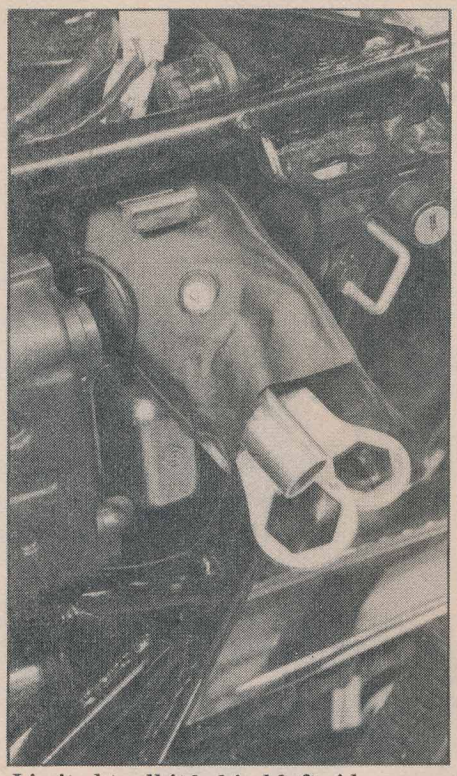
The XS650 Special is styling from the tyre treads upwards and comes off very well. It was generally regarded as a very tasteful, chunky-looking tool which, if anything, had not gone far enough in chop-styling. The paintwork and extra chromium plate were high quality, with neat finishing touches such as the Yamaha decal chrome trim on the lower fork yolk and rubber gaiters on the handlebar levers. The machine has a high standard of equipment including: ignition steering/park lock, separate frame-mounted steering lock, helmet lock, self cancelling indicators, toolkit, handbook, tachometer, speedometer with tripmeter, pillion grabrail, twin mirrors, centre and side stands and adjustable front forks.

Good Buy?

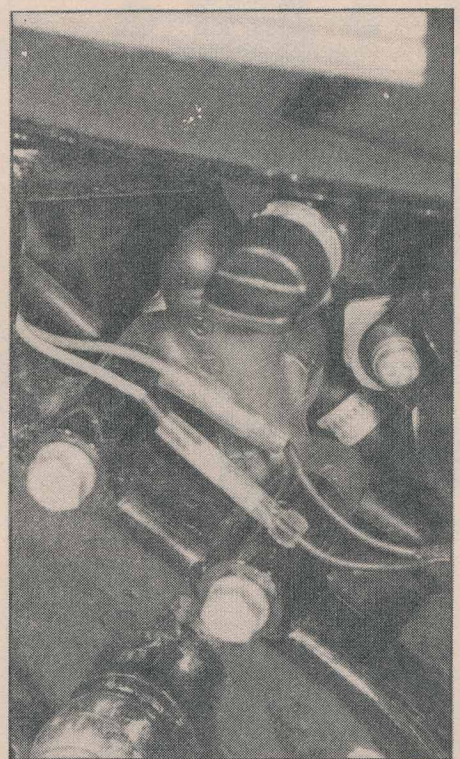
The answer to this question really is in the eye of the beholder. If you fancy a smart and dressy custom bike for posing down the high street on Saturday afternoons then this machine will offer the style.

If beauty knows no pain then the potential buyer must be prepared to compromise comfort for styling. The Special is not the ideal touring machine and will probably be hard pushed to stay with a quick 250 on bendy roads.

We enjoyed riding the Special. It was a lot of fun and that, after all, is what motorcycling is all about, so we gave it ***.



Limited toolkit behind left side cover



Stop lamp switch connectors filled with water

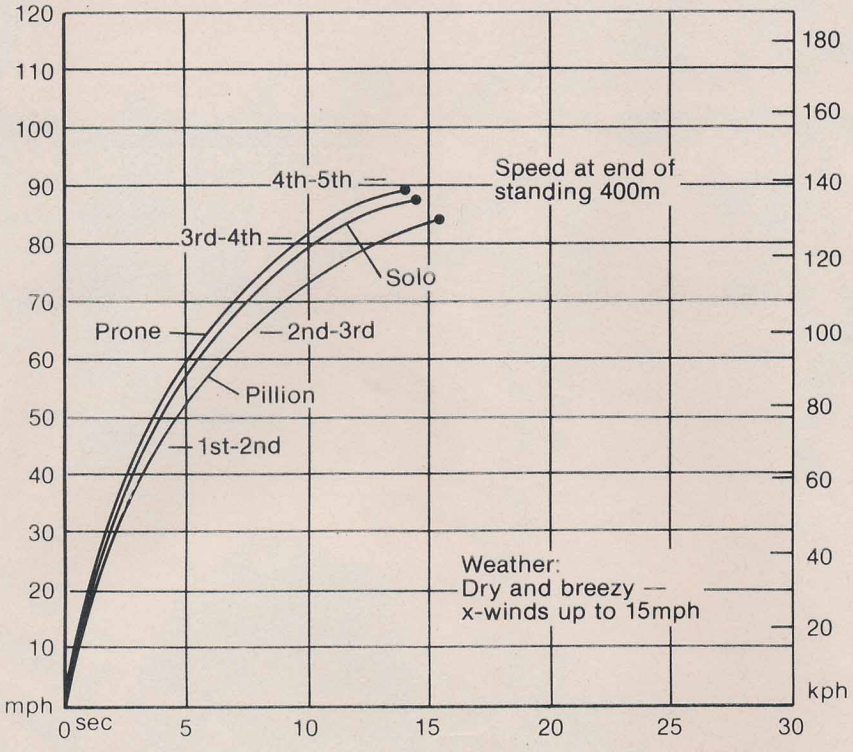
SPARES LIST

Parts	Price inc. VAT
Air filter	(each) 8.66
Battery	31.83
Brake caliper assy., front	67.94
Brake caliper assy., rear	82.16
Brake pedal	11.65
Brake pads, front	(pair) 16.64
Brake pads, rear	(pair) 22.41
Carburettor assy.	(each) 54.21
Clutch plate, friction	(each) 5.88
Clutch plate, plain	(each) 2.50
Clutch lever	4.08
Clutch springs	(set) 3.04
Contact set	(each) 4.91
Exhaust valves	(set) 15.41
Inlet valves	(set) 13.13
Valve springs, inlet	(set) 2.94
Valve springs, exhaust	(set) 5.47
Piston rings	(set) 16.14
Pistons	(two) 20.03
Big ends	(set) 10.58
Con. rods	(set) 28.59
Gudgeon pins	(set) 4.04
Crankshaft	48.50
Crankcases	(pair) 196.16
Cam chain	9.17
Camshaft	48.50
Cam chain tensioner arm assy.	13.70
Barrel	143.45
Head	361.86
Rockers	(set) 26.45
Rocker shafts	(set) 13.52
Flasher unit	9.94
Fork legs assy.	163.02
Frame	267.81
Front brake lever	4.08
Gearchange lever	6.09
Handlebars	11.75
Headlamp rim/light unit assy.	28.84
HT coil	(each) 10.33
Indicator lamp, front	8.69
Indicator lamp, rear	9.67
Oil filter	3.85
Oil pump assy.	13.13
Petrol tank	95.20
Rear suspension unit	(each) 30.92
Rear lamp	12.75
Rear chain	27.93
Silencer and exhaust pipe (per side)	73.34
Speedometer	47.62
Gearbox sprocket	8.22
Sprocket, rear wheel	9.80
Starter motor	91.74
Tachometer	47.13
Tyres, front	38.03
Tyres, rear	45.64
Wheel, front	143.45
Wheel, rear	156.50

COMPARISONS

	Speed prone	SS ¼ mile (prone)	Dry weight	Claimed bhp	mpg	Price inc. VAT
Yamaha XS650 Special	*101mph*	*14.39sec/89mph*	*416lb.*	*54.8 @ 7000*	*51*	*£1525*
Triumph Bonneville	*110mph*	*13.93sec/95mph*	*395lb.*	*not quoted*	*48*	*£1560*
Yamaha XS650	*110mph*	*13.85sec/95mph*	*474lb.*	*49.1 @ 7500*	*52*	*£1399*
Kawasaki Z650	*123mph*	*12.95sec/100mph*	*465lb.*	*64 @ 8500*	*46*	*£1542.15*
Kawasaki Z750	*112mph*	*13.39sec/97mph*	*480lb.*	*55 @ 7000*	*48*	*£1542.15*
Suzuki GS425E	*101mph*	*14.89sec/87mph*	*375lb.*	*40 @ 8500*	*53*	*£1063.75*

TEST SHEET XS 650 SPECIAL



MAXIMUM SPEEDS and SPEED RANGES

gear		mph max	mph min
1	solo	45.69	6.39
2	solo	70.88	10.07
3	solo	88.60	13.30
4	solo	96.45	16.26
	pillion	93.77	,,
	prone	99.59	,,
5	solo	93.67	20.49
	pillion	92.76	,,
	prone	101.15	,,

ACCELERATION OVER STANDING ¼ MILE/400m

	ft / m	164 / 50	328 / 100	492 / 150	656 / 200	820 / 250	984 / 300	1148 / 350	¼ mile / 400
solo	sec	**3.04**	**5.42**	**6.74**	**8.16**	**9.76**	**11.52**	**13.07**	**14.59**
	mph	43.04	59.46	66.08	71.93	77.87	82.83	85.11	88.59
pillion	sec	**3.05**	**5.52**	**7.30**	**8.96**	**10.69**	**12.60**	**13.88**	**15.51**
	mph	43.02	55.12	63.02	69.87	75.46	79.36	82.18	85.08
prone	sec	**3.03**	**5.39**	**6.70**	**8.09**	**9.46**	**11.10**	**12.76**	**14.39**
	mph	43.06	59.58	68.98	75.71	81.71	84.46	88.45	89.45

ACCELERATION FROM REST

mph	solo	pillion	prone
0-20	0.99	1.46	0.83
0-30	1.63	1.85	1.51
0-40	2.61	2.93	2.50
0-50	3.91	4.50	3.72
0-60	5.69	6.69	5.31
0-70	7.72	9.16	7.48
0-80	10.68	12.80	10.21
0-90	16.14	21.28	14.90
0-100	—	—	21.65
0-110	—	—	—

SPEEDO

ind	true
20	18
30	29
40	38
50	48
60	59
70	66
80	76
90	86

Milometer

accurate

OIL CONSUMPTION

980 miles per pint

MPH per 1000 rpm

gear	1	2	3	4	5	6
mph	5.5	9.1	10.8	13.2	14.9	—

PASSING TIMES FROM STEADY SPEEDS

gear		mph 30-50	40-60	50-70	60-80	70-90	80-100
2	solo	3.68	3.61				
	pillion	4.02	4.09				
	prone	3.67	3.60				
3	solo	4.50	4.51	4.86	7.34		
	pillion	5.39	5.31	5.75	8.39		
	prone	4.50	4.42	4.34	6.95		
4	solo	5.81	5.84	7.20	7.93		
	pillion	7.37	7.26	9.49	10.36		
	prone	5.80	5.83	7.07	7.11		
5	solo	7.27	6.90	9.73	11.54		
	pillion	9.52	9.18	12.27	14.37		
	prone	7.24	6.88	9.47	11.11		

BRAKES (both)

mph	solo ft	solo m	pillion ft	pillion m
30	37	11.3	48	14.6
40	65	19.8	70	21.3
50	102	31.1	127	38.7
60	145	44.2	175	53.3
70	203	61.9	214	65.2

MPG

mph	solo	pillion
30	91	91
40	85	80
50	77	68
60	68	62
70	53	49
overall	51	

MOTOR CYCLING

Performance figures obtained at:-
Motor Industry Research Association Test Track
Nr. Atherstone, Warks.
Test riders: Bob Goddard
Merril Boulton