◈ YAMAHA **XS650**
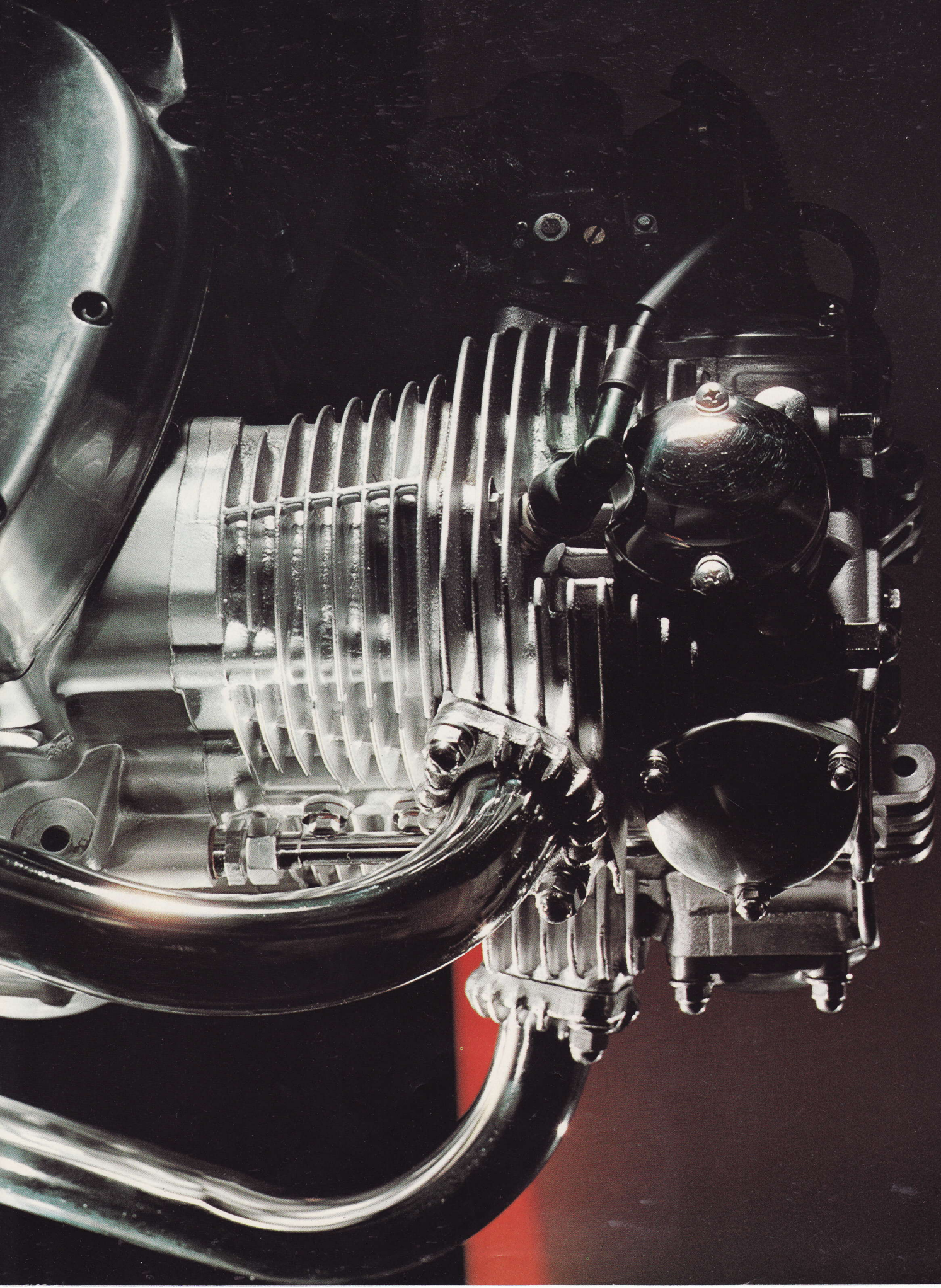
When the XS650 came on the scene, it immediately set new standards of performance and engineering quality for the 650 cc class and then surpassed them ! Since its introduction, the XS650 has also been the focus of continual development.

The Yamaha XS650 specification has all of the points that earlier manufacturers in this class should have had . . . but didn't !
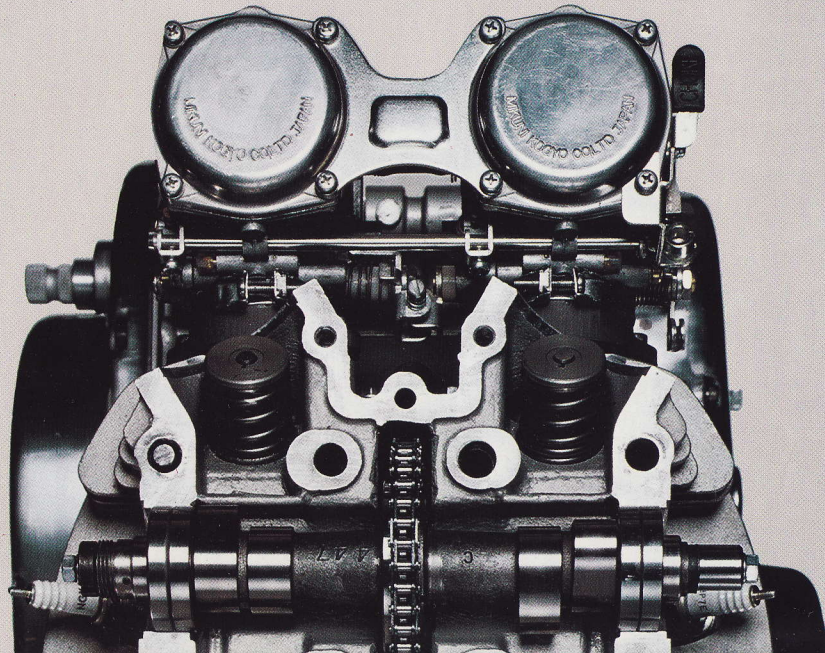
Oiltight single overhead camshaft power unit, electrical starter, five speed transmission, constant-velocity carburetion, Yamaha's unique self-cancelling turn indicators, full instrumentation with speedometer, tachometer, neutral, high beam, stoplight and turn signal operation indicator lights plus a warning light against excessive brake lining wear. All these are part of the basic Yamaha XS650 specification along with the added feature that, of all the bikes in its class, the Yamaha is the only one featuring twin hydraulic disc brakes at the front.

This year the list is expanded even more. The Yamaha XS650 now features front forks that have easily-set three-stage pre-load adjustment to compensate for different loading or usage conditions. Another Yamaha invention in the class ! Also new for 1978 are the black, plastic-coated handlebar levers with a special "bell-crank" bend for extra leverage and easier operation.

The Yamaha XS650 might have been introduced ten years ago but the continuing development ensures that each year's model is right up to date with current trends and customer requirements.

Transmission

Power from the engine is transmitted via closely-meshed gears and a multi-plate oilbath clutch to the five speed, constand mesh gearbox. All of these components have established themselves as efficient and reliable performers.

Frame and Suspension

Any large capacity or high-performance machine must have a frame and suspension capable of meeting the demands that acceleration or top speed might put on it.

The XS650 is well-equipped in this area with a tri-angulated, duplex cradle frame. The engine is mounted low in the chassis to give the good handling that comes from a low centre of gravity. The chassis is strengthened at the engine mounting points to avoid any flexure under hard acceleration and similar strengthening is employed at the swinging arm suspension pivot point.

Hydraulic rear shock absorbers have five different adjustment points and visually-attractive chromed exposed-springs.

This year Yamaha engineers have gone a step further with the tough front fork set-up. As well as the double oil seals and rearward-mounting for the disc brake calipers, the forks now include three stages of easily-set adjustment.

Thus a Yamaha rider can tailor both front and rear suspension to his particular needs in terms of loading, speeds and road conditions.
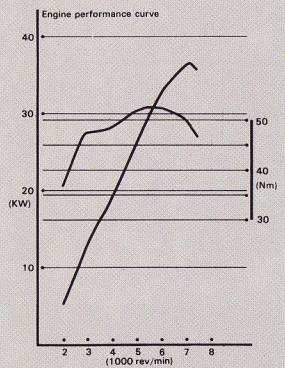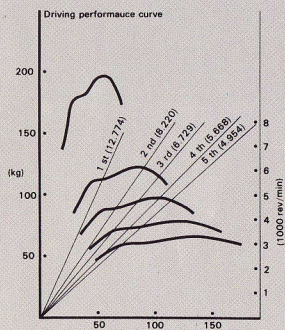
Engine

The parallel twin puts out 50.1 HP (36.8 kW), which combines with plenty of torque to make the twin capable of performing at least as well as many machines with a more exotic specification.

The Yamaha XS650

Handlebar

The "control panel" of the Yamaha XS650 gives an immediate clue to the lengths to which Yamaha have gone to make the mechanics of riding so easy that the rider can perform the necessary functions almost automatically.

At the rider's fingertips are the main light switches, the dipswitch, headlamp flash switch, electric start button, engine stop switch, and the controls for Yamaha's unique self-cancelling turn indicators. These are timed to automatically switch themselves off after the rider has completed his turn! Handlebar levers are of the new "Bell-crank" type for easy operation via their extra-leverage capabilities. In the central instrument console are the speedometer and smooth-operating tachometer, low oil pressure warning light and neutral indicator.
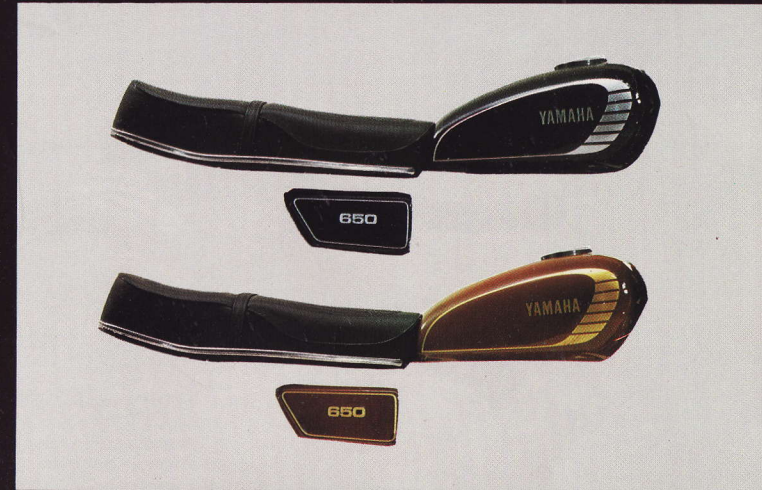
Driving performance curve

Engine performance curve

XS650

SPECIFICATIONS
ENGINE

Type	4-stroke, Twin, OHC
Displacement	653 cc
Bore & Stroke	75.0 × 74.0 mm
Compression ratio	8.4 : 1
Max. horsepower	50.1 HP (36.8 kW) @7,200 rev/min
Max. torque	5.3 kg-m (52.0 Nm) @6,000 rev/min
Lubrication system	Pressure-fed wet sump
Starting system	Electric & Kick starter
Primary transmission	Gear
Final transmission	Chain
Gearbox	5-speed
Carburettor	Mikuni, BS38 (×2)
Clutch	Multi-plate, wet
Battery	12 V, 14 AH
Charging system	A.C. Generator
Ignition type	Battery, CB/Coil

DIMENSIONS

Overall length	2,190 mm
Overall width	835 mm
Overall height	1,135 mm
Wheelbase	1,435 mm
Seat height	810 mm
Weight (net)	217 kg
Fuel tank capacity	15.0 lit.
Oil capacity	2.5 lit.
Tire front	3.25H-19-4PR
rear	4.00H-18-4PR
Brakes front	Hyd. disc, diam. 298 mm (×2)
rear	Drum

Specifications subject to change without notice.