

GROUND SHAKER



ONE quite often has to put up with all manner of minor inconveniences because Mother Nature, in her infinite wisdom, decided one should not be as tall as one's fellow men. Dirty books in the newsagents are placed on the top shelves, not only are they, therefore, out of the reach of minors but the contents of their pages must also remain a mystery to we shorter members of the race.

Motor bikes are also designed with the average man's proportions in mind. Laverda Jotas and Heskeths are not for us (even though we wouldn't be missing much as far as the latter is concerned!) and as for competition dirt bikes... forget them sonny.

Mitsui's former off road Supremo, Steve Burns, was quite difficult to pin down. Getting hold of the TT600 for test required numerous 'phone calls and a couple of per-

sonal visits to Mitsui at Chessington. I guessed the reason for the bikes seeming similarity to the Scarlet Pimpernell to be its desirability as a machine for the staff at Oakcroft Road to have fun on. The very bike we were to test was seen at the Weston beach Enduro being ridden by a member of Mitsui's staff. Seeing it in the flesh confirmed my initial impression of the TT as the Boss big inch enduro tool. ▶



With almost parental pride, Steve Goodyear, the number one off road Yamaha wrenchman this side of Hammamatsu, pushed the TT600 out of his workshop and into the road. He explained about the bike's reluctance to hot start and showed me the heat shield which he had crafted and fitted to the inlet stub. Never was the throttle to be opened when kickstarting the bike. The tyres were new and might be slippery at first. It was almost as if he were lending me something of his own, rather than a bike which belonged to his employers.

I could clearly see the apprehension in Steve's face when I tried to get on the bike. "How's a man so short in the leg going to ride this machine?" he was probably wondering. I did manage but without any exception, the TT600 is the tallest bike I've ever ridden. It's not that I couldn't reach the ground very easily when forced to a standstill in traffic, I couldn't see the ground! This bike is not for those with a fear of heights.

Nor for the faint of heart either. On hard ground the slightest tweak of the throttle has the front wheel pawing the air. It took about a mile of riding the TT600 to realise any

similarity between it and the XT550 which I'd ridden before ended at the name on the side of the fuel tank.

How had Yamaha taken a bike like the XT550 and transformed it into an outright winning Enduro machine. The chassis seemed to be a good place to start my investigation and close inspection soon revealed that all the knowledge gained from many years of motocross World Championship competition have been put to full use in the TT's frame. The engine is used as a structural member of the chassis. The front down tube and the swing arm pivots being held in position by the crankcases. There is a bolted on frame slung beneath the engine. Its function is not to contribute to the structural integrity but to afford protection to the underside of the engine should any monster rock steps or three trunks be encountered when racing off-road.

Rear suspension is the Yamaha rising rate Monocross system used on the motocross bikes. By using the engine as part of the chassis Yamaha have been able to build the bike with the minimum of frame tubes. There is a double loop around the rear suspension

system and the most spartan of rear sub-frames to support the seat and hold the exhaust muffler. The XT used the top frame section as the oil tank. This meant a large diameter tube was needed to provide sufficient oil capacity. The TT600 has a separate oil tank, mounted on the left side of the rear sub-frame, which is altogether more sensible.

The swingarm is an aluminium weldment, the quality of the fabrication is without fault and the sectional thickness is obviously adequate. Frame building technique is yet another of the areas which the Japanese have now made their own and Yamaha competition machines feature all the best tricks around. No longer do the welds look like sparrow's excrement either. Now the fillets are flat, the beads smooth and undercutting unheard of. The single suspension strut has an auxiliary reservoir for the gas/oil damping medium. This, along with the miniscule battery, is housed under the left side panel.

Front suspension is taken care of by a pair of telescopic forks which I found impossible to bottom. The fork stanchions are a massive 43mm in diameter and the forks will allow no



ated for speedy wheel changes.

The ride which this high-tech chassis provides is little short of ideal for off road racing, the progression of the rear Monocross being a close match to the front suspension giving the rider the ability to pivot the bike about its middle by means of the throttle control to ensure that bumps and obstacles are met with the correct amount of weight bias on the suspension. The machine also proved to be quite forgiving and if a jump caught you unawares, you could feel confident that the suspension would not bounce you upwards with all the finesse of a pogo-stick.

Strange as it may seem to the uninitiated the TT600 will prove to be as good a bike to commence Enduro racing on as any. Undoubtedly in expert hands it is an open class winner but with its wide power spread and massive torque it is also very forgiving for the less experienced and where a light-weight two-stroke racer would spit its rider off if treated with disrespect, the TT600 would not complain at all.

On hard metalled roads the bike handled with equal ability. Once the sharp edges had

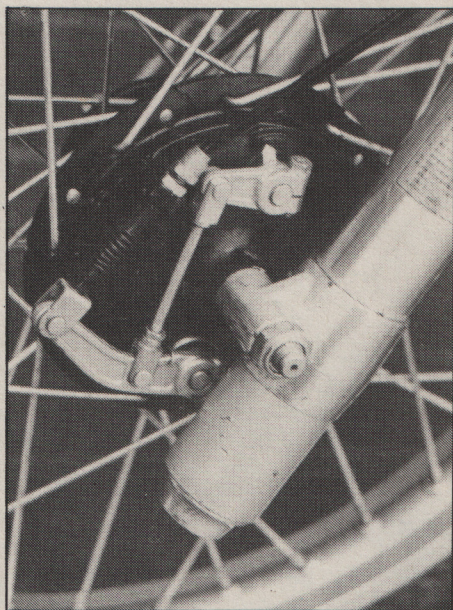
been worn from the knobbles on the rear tyre, it was possible to crank the bike over to silly angles, grab a fistful of throttle and know that the rear end would only hang out for as long as you wanted it to. Turn the twistgrip off and the front and rear wheels would skip back into line without any hint of trying to high-side the rider. That's the measure of the confidence which the TT600's frame inspires. *(I always knew you were crazy Loose — Ed).*

The engine has come in for its share of development. The extensive use of light metals shows Yamaha's intentions of keeping the weight of this bike down to be serious. Magnesium is employed for the side covers and the kickstart lever is a high tensile aluminium hot stamped item.

The carburettor is twin choked as on the XT550. In rather non-uniform style, the chokes of the carb feed individual ports in the cylinder head. When requiring maximum power from a four-valve engine the inlet and exhaust ports are fashioned as a single hole splitting into two separate ports at a point well upstream from the inlet valves and downstream of the exhaust ones. This system has been proven to give maximum gas flow, and thus maximum power; the bifurcated ports flowing more gas than a single port of equivalent cross-sectional area.

In the case of the TT600, maximising the gas flow is not a critical consideration. As such it is possible to make the carburettor a simple two stage device. Yamaha call the system YDIS which stands for Yamaha Duo Intake System. The carburettor has a single float chamber and the initial primary carburettor is a slide type unit. The secondary item being of the CV type. The combined intake area is 20% greater than a single carburettor of the same choke size. The system allows very lean mixtures to be fed into the engine at small throttle openings with immediate response being afforded when the secondary carburettor is actuated. In essence the system works like a very sophisticated accelerator pump.

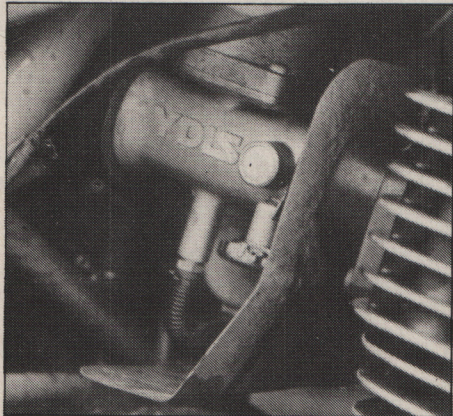
As supplied the bike is quite low geared but with the stock ratios a top speed of 89mph was possible. In fact the top speed could be reached within 500 yards from a standing start so impressive special test re-



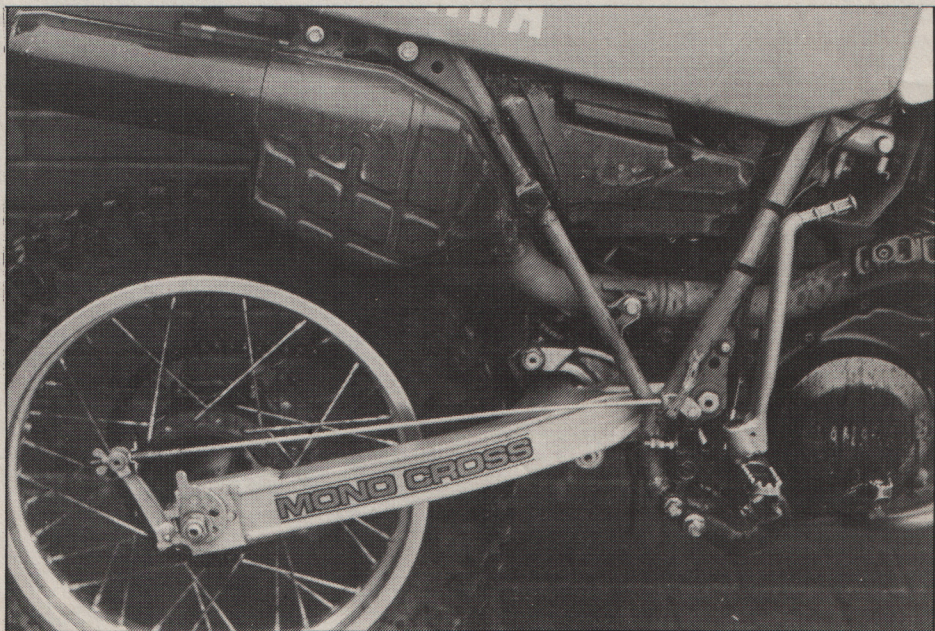
Above: Front brake, a twin leading shoe item is surprisingly powerful.

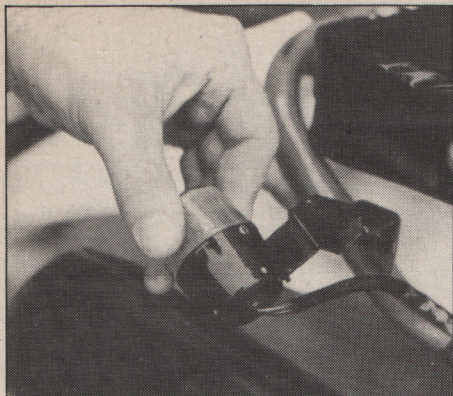
Below: Rear suspension by Mono Cross. The massive muffler features an essential spark arrestor.

Below: The twin choke carburettor was fitted with a Steve Goodyear heat shield.



less than 300mm of travel. There is provision for increasing the stiffness of the forks by raising the air pressure through a pair of inflation valves in the fork top caps. The wheel spindle is carried in the leading position and a quick release system is incorpor-





The indicators are all rubber mounted.

sults are on the cards.

To get the 14.02 second quarter mile dash time it was essential to move from stationary in second gear and then immediately engage the third of the five ratios in the gearbox. If the bike was allowed to pull to peak revs in second gear, the front wheel was so far off the ground that when third was engaged the bike would be heading skywards instead of horizontal! With higher overall gearing the

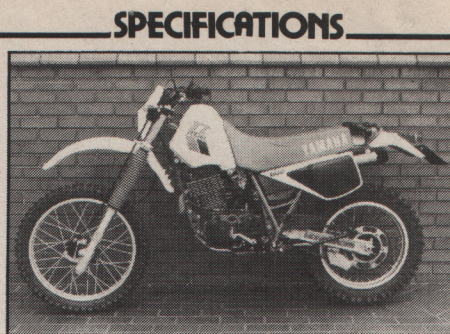
top speed would improve and the standing start quarter mile time might get fractionally better also.

The exhaust system is a dual front pipe one. The muffler is quite massive featuring the spark arrester and attenuation elements essential for today's legislation. It exits from the right rear of the machine and the exhaust note is attractively different and completely unobtrusive. In common with the engine, the exhaust is finished in matt black and during our test there were some signs of rust showing through. Black chrome would be better than the heat resistant paint which the exhaust is coated with but I guess for a competition bike the painted finish is sufficient. The black finish on the engine did show some signs of scuffing but with a competition bike greater importance is given to functional efficiency than visual elegance.

The TT600 looks just what it is, a mean, rip-snorting beast. It has sufficient power to put it amongst the top class Enduro competitors. With the fuel economy which its four-stroke motor gives it goes much further than some of the converted motocross missiles between fuel stops. As a four-stroke it also lasts much longer between engine rebuilds.

Maybe the bike is not for the short of leg but it's definitely for me.

Colin Taylor



YAMAHA TT600 PERFORMANCE

Maximum speed	
prone.....	89.72 mph
upright.....	89.68 mph
Standing-start 1/4-mile....	14.02s @ 88.89 mph
Fuel consumption	
average.....	45.3 mpg
worst.....	39.6 mpg

ENGINE

Type.....	4-valve, air cooled, 1-cyl. 4-stroke
Bore x stroke.....	95 x 84 mm
Piston displacement.....	595 cc
Compression ratio.....	8.5:1
Fuel system.....	one twin-choke Y27PV carb
Ignition.....	CDI

TRANSMISSION

Gear ratios 1st. 2.307, 2nd. 1.588, 3rd. 1.2, 4th. 0.954. 5th. 0.777.	
Primary drive.....	gear
Final drive.....	chain
Clutch.....	wet, multiplate
Final reduction.....	3.571
Primary reduction.....	2.387

ELECTRICS

Generator.....	21-W
Battery.....	6v 2A/h
Headlight.....	25/25-W

CHASSIS

Front tyre.....	100/80-21-4PR
Rear tyre.....	140/90-18-4PR
Front brake.....	2-LS Drum
Rear brake.....	1-LS Drum
Front suspension.....	telescopic forks air adjustable
Castor.....	28°
Trail.....	118 mm (4.65 inch)
Rear suspension.....	Monocross

DIMENSIONS

Wheelbase.....	1,485 mm (58.85 inch)
Overall length.....	2,180 mm (85.82 inch)
Overall width.....	850 mm (33.46 inch)
Dry weight.....	124 kg (273 lb)
Fuel capacity.....	11 litre (2.42 gal)

PRICE..... £1993.00
 Warranty..... three months parts only
 Importer..... Mitsui Machinery Sales Ltd.
 Oakcroft Road, Chessington, Surrey

TESTER'S VERDICT

Good points.....	performance, style
Bad points.....	none
Performance.....	excellent
Economy.....	acceptable
Handling.....	superb
Comfort.....	acceptable
Braking.....	adequate
Equipment.....	Enduro normal
Value.....	worth every penny

