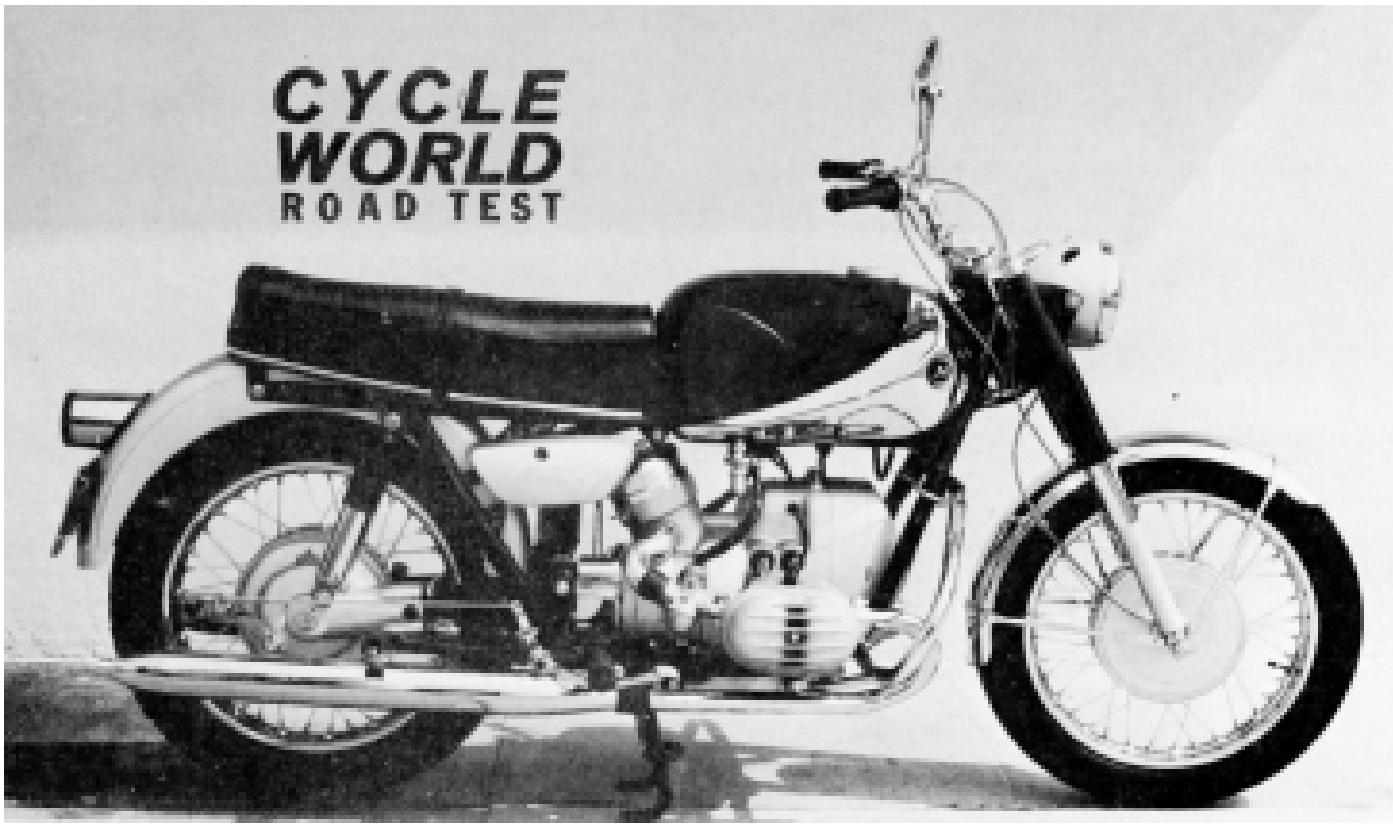

MARUSHO 500 ST

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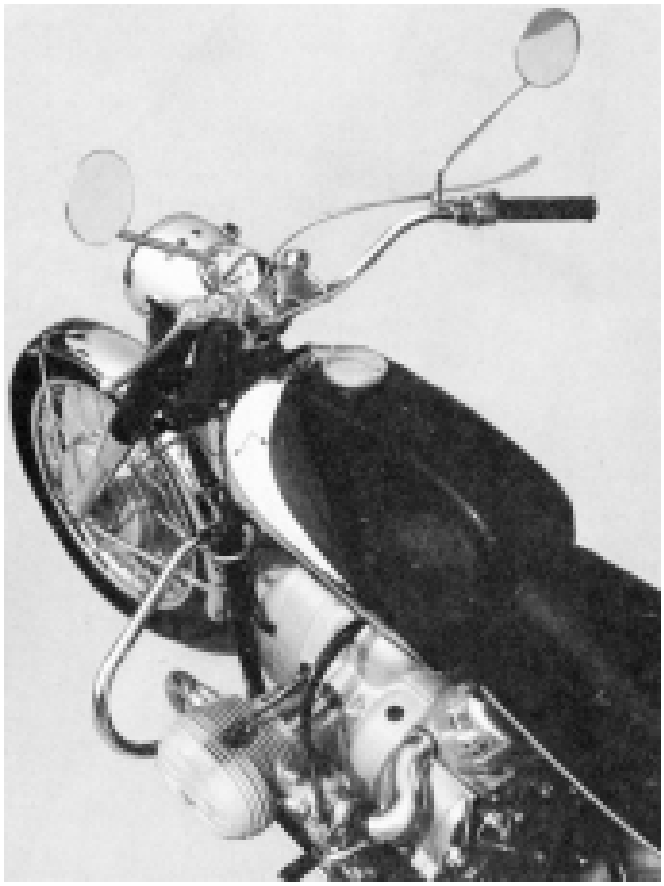
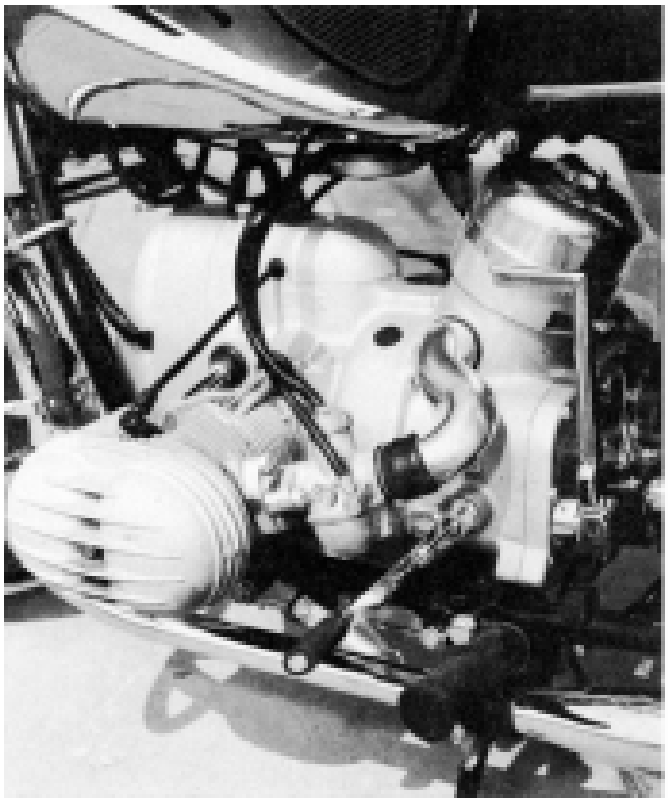
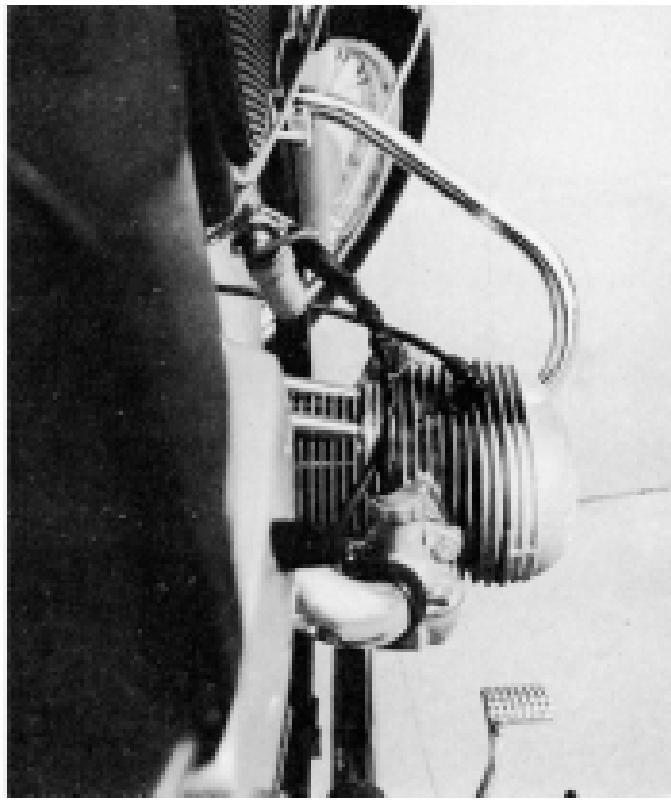


UNDER ANY but the most unusual of circumstances, we do not make direct comparisons between the different makes of motorcycles. It is difficult, perhaps even impossible, to be objective when making direct comparative judgments, and we have decided that the best course of action is to judge each machine on its own merits. If we make any comparison at all, it will be to say that some bike is, for example, heavier or lighter than the average for its displacement class — or something of the kind. However, basic policy notwithstanding, we find ourselves presented with a new machine that is so patently a copy of a long-established favorite that comparison is unavoidable.

This new motorcycle is the Marusho 500ST, and it is in many respects a copy of the BMW R-50. Indeed, at first glance the Marusho 500ST will appear to most people to be an exact replica of the 500cc BMW, but that is not actually the case. While the Marusho has a duplicate of the BMW engine, transmission and drive assembly, its frame and suspension are quite different, and so are its handling characteristics. As a matter of fact, despite the points of similarity, the Marusho will impress the rider as being very little like the BMW. Both machines are intended for comfortable touring, and in this they both succeed very well, but they are not the same motorcycle, as anyone who has ridden both will surely realize.

What really confuses the issue is the engine/transmission/drive package. Both the BMW and the Marusho have equal bore and stroke dimensions, with total displacements of fractionally under 500cc, and both are opposed twins. Inside, both have built-up crankshafts and one-piece connecting rods, with a gear-driven single camshaft mounted above the crankshaft in the center of the engine. Very long pushrods transmit the motion from barrel-type cam followers out to rockers, and in both engines these long and rather willowy pushrods tend to





limit engine speed. In all, there is very little difference in the major items of engine architecture, but Marusho has chosen to do a few things differently. In the Marusho engine, the connecting rods are exceedingly narrow, which helps to hold the offset between cylinder axis to a minimum, and the rod shanks do not have a true I-beam section, but are almost flat, with a slight thickening at the edges and a shallow depression in the center. Another point of difference is seen in the Marusho's pistons, which have 3 compression rings and an oil control ring above the wrist pin, like the BMW, and then there is a second oil ring at the bottom of the piston skirt.

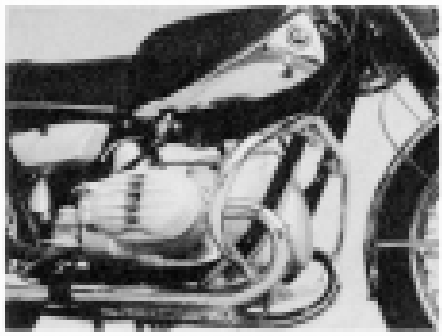
The Marusho's clutch and transmission layout is exactly like the BMW. The clutch is an automobile-type unit bolted to the flywheel, with a single dry plate. There is one difference in the clutch design worth mention: the BMW is fitted with a diaphragm-type spring, where the Marusho has the more conventional (but not as satisfactory) collection of coil springs. The transmission has three shafts, with the drive coming in on a clutch shaft, where a gear passes it over to a layshaft, and finally to the output shaft. If you think that the drive has to pass across too many sets of gears for best efficiency, you are quite correct. However, there is no other convenient means of transmitting power to the offset drive shaft. This final driveshaft is, by the way, driven through a rubber U-joint, which is a good idea. Rubber joints do not require lubrication, and they will flex, in torsion, enough to remove some harshness from the drive. At the end of the drive is a set of spiral-bevel gears that provide the necessary 90-degree bend in the direction of rotation, and also give a drive reduction of 3.22:1. Top gear in the transmission is indirect, as are first, second and third, and gives a further reduction of 1.59:1, for an overall ratio of 5.12:1. For those who are interested, the transmission reduction ratios for first, second and third are 4.29:1, 2.78:1, and 2.09:1, respectively.

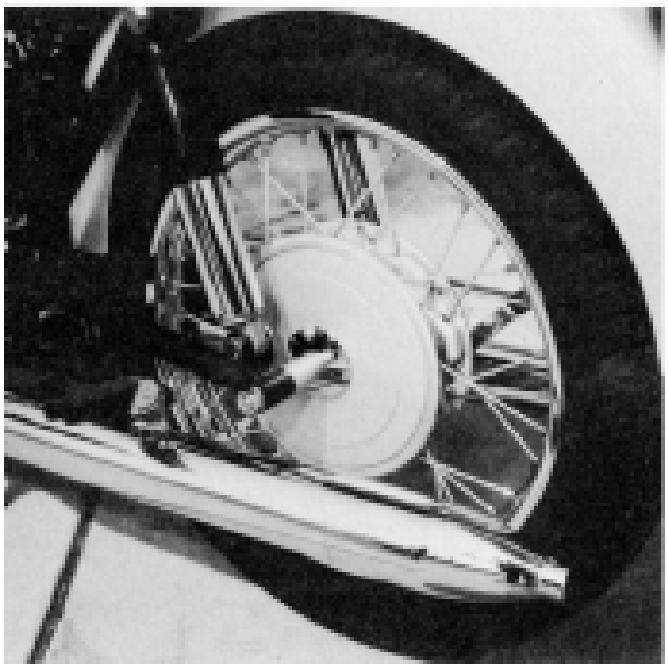
The Marusho's hubs and brakes are also very similar to those of the BMW, with those clever convolutions that permit the use of absolutely straight spokes. There are also the same 18-inch wheels, but the Marusho has a 3.25-18 front tire, with a 3.50-18 at the rear.

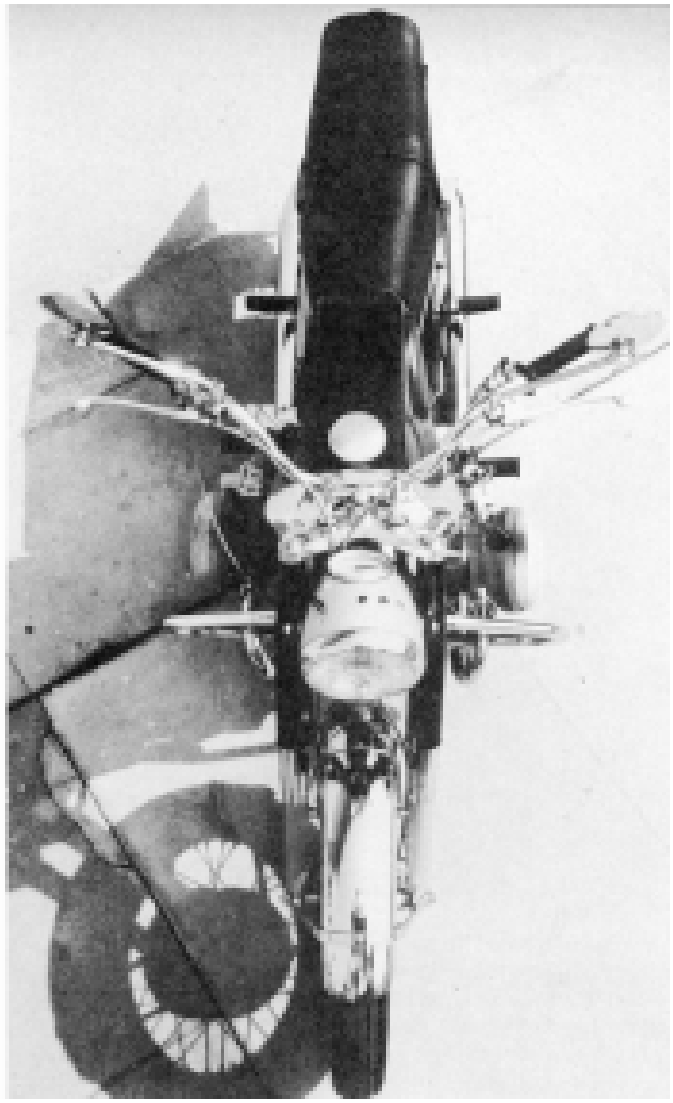
In its frame and suspension, the Marusho is a complete departure from the BMW. Where the BMW has Earles-type front forks, the Marusho is fitted with more modern telescopic forks. The telescopic forks do not have the "constant wheelbase" and anti-dive characteristics of the Earles forks, but they are lighter and, more important, do not have a lot of metal far from the steering axis. Because the structure of the Earles fork places a considerable mass some distance from the steering axis, this creates a pendulum effect that makes the steering feel rather heavy. BMW employs the Earles fork primarily because it is easy to provide alternate mountings for the suspension arm. The rearmost pivot mounting is for solo riding; the forward position reduces "trail" and makes the bike handle better when a sidecar is used. The Marusho's forks have no alternate positions for sidecar work, but they give lighter and generally better handling for solo riding.

One of the best features of the Marusho is its styling. Even though it has a longish wheelbase, and a more than slightly bulky engine, it manages to look relatively small and lean. We especially liked the tank, which was very nicely sculptured, and finished in black enamel with large panels of chromium plating. The bike comes with a dual saddle, as indeed does almost everything these days, and for the man at the controls it is a moderately comfortable perch, albeit a trifle hard. Unfortunately, a passenger will find that the aft end of the seat is even more hard, and too narrow. Marusho should do something about this.

Another bother was the offset in the foot-peg positions. Looking at the bike from above, the left-hand cylinder is a couple of inches forward of the right cylinder, and a similar offset has been incorporated in the pegs. Probably, one would soon become accustomed to this (all the BMW owners apparently have







done so), but it was quite noticeable to us, and felt rather strange.

Something else we did not particularly care for, but would learn to live with in due course, was the outward swinging kick starter which, again, was like that of the BMW. The saving grace is that it is not necessary to use this device very much. The Marusho starts very easily, and not much effort at the starter pedal is required to bring it to life. When the engine is cold, you will find it necessary to use the choke lavishly, and it may be that in really cold climates, some pre-flooding (using the float ticklers) may be needed, too. The choke is, by the way, incorporated in the air-cleaner housing, which is connected to the carburetor inlets by long aluminum tubes.

In every aspect of its handling and ride, the Marusho is obviously a touring machine. The suspension has been made as soft as is possible without having a bad effect on control, and the handling has clearly been engineered for stability rather than lightness of control or ability. It is the kind of machine the rider can wiggle around on, or lean on one handlebar, or even just generally give full freedom to natural clumsiness on, and not get himself into trouble. On the other hand, it is not the sort of motorcycle that cooperates when the rider actually wants to swoop and swerve. The Marusho does not appreciate being forced into doing anything undignified. If the rider is really determined, he can force it to corner hard by sheer force of muscle, but the bike always seems to hang back from that kind of activity. Of course, we did try to force the issue (it is our business to do so) and as it developed, the Marusho knew what it was doing — even though the rider might not. If you insist upon stuffing it into a corner really hard, it simply sags down on its soft suspension and begins scuffing away bits of its underside on the pavement.

What the Marusho, and its rider, will find most enjoyable is a moderately rapid tour through scenic country. The bike likes to be ridden at moderate speeds, and it shows its appreciation by being smooth, quiet, and cooperative. The rider will like the fact that the bike will allow him to give most of his attention to the countryside, and not spend every moment changing gears or aiming the machine. The Marusho 500ST is a touring motorcycle, and it shows to best advantage when being used for touring. It has great smoothness and flexibility, and is powerful enough to climb those long mountain grades without undue difficulty. Is it better than the BMW? The answer to that would have to be an inconclusive and, we suppose, unsatisfying "yes and no." It is lighter, and has handling more in keeping with that to which the average non-BMW touring rider is accustomed. On the other hand, it is as yet too recently introduced to have established the record of reliability of the BMW. In the end, we suppose its reliability, or lack of it, will determine its fate on the American market. In the meantime, we can rest in the sure knowledge that, with this report, we have managed to alienate the affections of all BMW owners for having the gall to even attempt a comparison — and those of everyone else for reasons that will come to light later. •

MARUSHO 500 ST

SPECIFICATIONS

List Price	$995.00 F.O.B. L.A.
Frame Type	tubular, two-loop
Suspension, front	telescopic fork
Suspension, rear	swing arm
Tire size, front	3.25-18
Tire size, rear	3.50-18
Engine type	opposed twin, ohv
Bore & stroke	2.68 x 2.68
Displacement, cu. in.	30.02
Displacement, cu. cent.	493
Compression ratio	8.0:1
Bhp @ rpm	35.6 @ 6300
Carburetion	(2) 22mm (.867") Amal VM22
Ignition	battery and coil
Fuel capacity, gal.	3.97
Oil capacity, pts.	
Oil System	wet sump, gear pump
Starting system	kick

POWER TRANSMISSION

Clutch Type	single dry plate
Primary drive	direct
Final drive	shaft, spiral-bevel gears
Gear ratio, overall:1	
4th	5.12
3rd	6.73
2nd	8.95
1st	13.8

DIMENSIONS, IN.

Wheelbase	55.2
Saddle height	31.5
Saddle width	9.5
Foot-peg height	10.2
Ground clearance	5.1
Curb weight, lbs.	423

PERFORMANCE

Maximum practical speed (after ½-mile run)	79
Max. speed in gears @ 6300 rpm	
4th	(unattainable on level) 92
3rd	70
2nd	52
1st	34
Mph per 1090 rpm, top gear	14.6

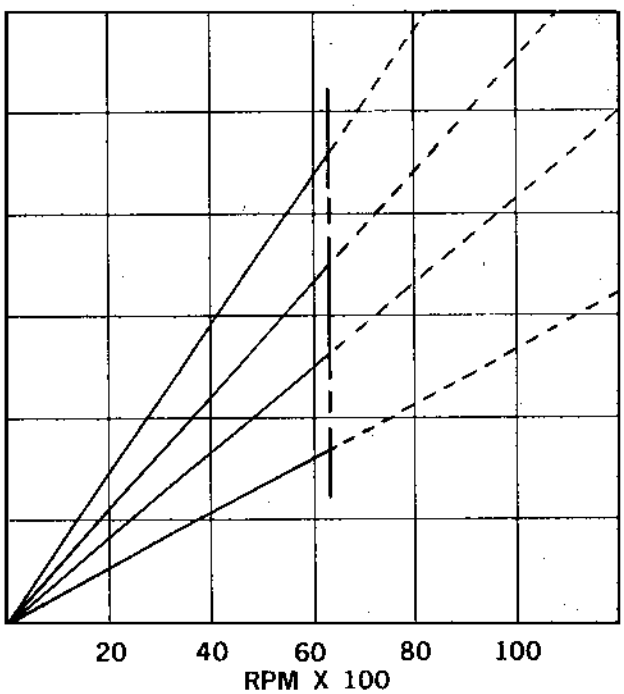
SPEEDOMETER ERROR

39 mph, actual	
50	speedo failed before accuracy tests
70	

ACCELERATION

0-30 mph, sec.	3.5
0-40	6.0
0-50	8.5
0-60	13.1
0-70	19.4
0-80	32.7
0-90	
0-100	
Standing ¼ mile	18.6
speed reached	69

ENGINE / ROAD SPEED



ACCELERATION