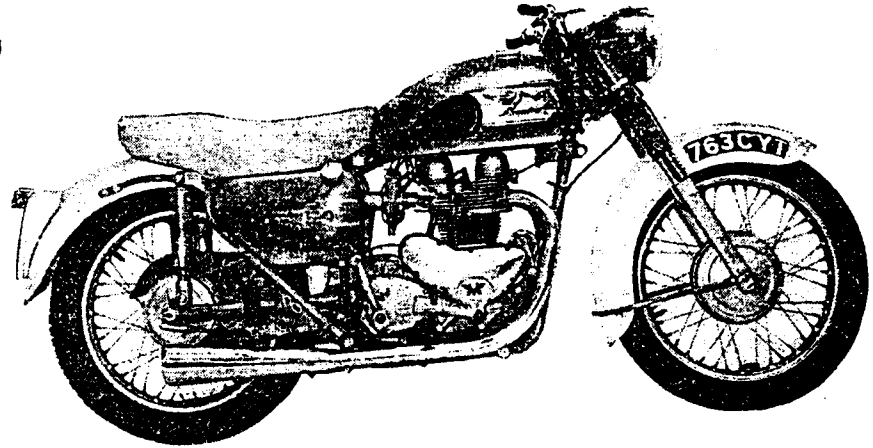


The 646 c.c. MATCHLESS G12 'MAJESTIC'

1962 ROAD TESTS

All the Best
in British
'Big Bike' Tradition



Specification

ENGINE
Type ... Parallel-twin four-stroke
Bore ... 72 mm.
Stroke ... 79.3 mm.
Cubic capacity ... 646 c.c.
Valves ... Overhead (push-rod)
Compression ratio ... 7.5 : 1
Carburettor ... Amal Monobloc, 1½-in. bore
Ignition ... Lucas battery-powered coil, auto-matic control
Generator ... Lucas 6-v. 60-w. RM15 alternator
Makers' claimed output ... Not released
Maximum power at 6,200 r.p.m.
Lubrication ... Dry sump with two gear pumps
Starting ... Kickstarter

TRANSMISSION
Separate gearbox with footchange
Ratios ... 4.8, 5.8, 8.1, 12.2 : 1

Speed at 1,000 r.p.m. in top gear ... 16 m.p.h.
Speed equivalent to revs. at maximum power rating:
Second gear ... 60 m.p.h.
Third gear ... 84 m.p.h.
Top gear ... 104 m.p.h.
Primary drive ... Chain
Final drive ... Chain
Clutch ... Multi-plate in oilbath
Shock absorber ... Rubber-vane type in clutch centre

CYCLE PARTS

Frame ... Duplex cradle with brazed lugs
Front suspension ... "Teledraulic" telescopic forks with coil springs and two-way hydraulic damping
Rear suspension ... Swinging fork with three-position Girling hydraulically damped spring units
Wheelbase ... 55 in.
Tyres ... Dunlop: ribbed 3.25 x 19-in. front; studded 3.50 x 19-in. rear
Brakes ... 7-in. dia. in full-width hubs front and rear; total lining area, 23½ sq. in.
Fuel tank ... Welded steel. Rubber mounted. Two taps
Oil tank ... 5 pints with anti-froth device

Lamps ... 30/24-w. head; 3-w. pilot; 18/6-w. scop/tail; 1.8-w. speedometer
Horn ... Lucas MLZ9E, 11 a.h.
Battery ... Smiths 120 m.p.h. with trip
Speedometer ... Two-level dualseat
Seating ... Centre and prop
Stands ... 1 ring, 1 ring
Tool kit ... Spanners: 3 double-ended, 1 ring, 1 tappet, 1 contact-breaker, 2 Allen keys; 1 screwdriver; clutch-spring tool; tommy bar; grease gun; pliers; circlip tool
Toolbox ... Semi-pannier type on left side
Finish ... Red frame and tank, white guards, grey seat

OTHER EQUIPMENT

Twin exhaust pipes and silencers; pillion rests; twin rear lifting handles.

PRICES

Machine ... £262 6s. (inc. £47 6s. Od. P.T.)
Extras ... Red and white colour scheme, £4 5s. 5d. (inc. 15s. 5d. P.T.)
Total as tested ... £266 11s. 5d.
Tax ... £4 10s. p.a.; £1 13s. for four months
Makers ... Matchless Motor Cycles (Associated Motor Cycles, Ltd.), Plumstead Road, London, S.E.18

'Motor Cycling' Test Data

Conditions. Weather: Perfect, bright and cold (Barometer 29.20 in. Hg. Thermometer 36°F.). Wind: Nil. Surface (braking and acceleration): Dry asphalt. Rider: 11½ stone, wearing two-piece suit, safety helmet and boots, normally seated except where stated. Fuel: Super grade (101½ research method octane rating).

Venue: Motor Industry Research Association Station, Lindley.

Speed at end of standing 1,000 yd.:
East ... 90 m.p.h.
West ... 79 m.p.h.
Mean ... 84 m.p.h.

Speed at end of standing 1,400 yd. (rider prone):
East ... 100.3 m.p.h.
West ... 90.9 m.p.h.
Mean ... 95.4 m.p.h.

Braking from 30 m.p.h. (all brakes) ... 10 yd.

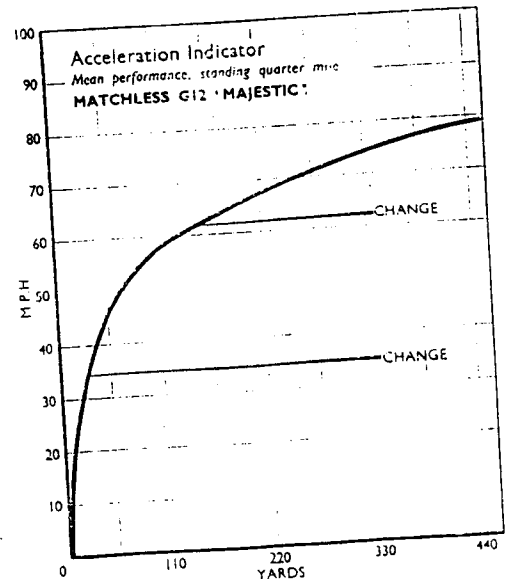
Fuel consumption
At constant 30 m.p.h. ... 108 m.p.g.
50 m.p.h. ... 72 m.p.g.
500-mile overall figure ... 58 m.p.g.

Speedometer
30 m.p.h. indicated = 28.9 m.p.h. true
40 m.p.h. indicated = 38.9 m.p.h. true
50 m.p.h. indicated = 48.2 m.p.h. true
60 m.p.h. indicated = 57.4 m.p.h. true
70 m.p.h. indicated = 67.0 m.p.h. true
80 m.p.h. indicated = 76.2 m.p.h. true
90 m.p.h. indicated = 84.3 m.p.h. true
100 m.p.h. indicated = 93.3 m.p.h. true

Mileage recorder ... Overreading 1%

Electrical Equipment
Top gear speed at which generator output balances:
Ignition only ... 20 m.p.h.
Minimum obligatory lights ... 31 m.p.h.
Headlamp main beam ... 30 m.p.h.

Weights and Capacities
Certified kerbside weight with oil and 1 gal. fuel) ... 441 lb.
Weight distribution (rider normally seated):
Front wheel ... 40%
Rear wheel ... 60%
Tank capacity (metered):
Total ... 4.13 gal.
Reserve ... 3 pints



VERSATILITY is the keynote of the Matchless G12 "Majestic"—650 c.c.—worth of useful and satisfying performance. This Plumstead product is as suitable for daily commuting over short and long distances as it is for high-speed galloping with a passenger at week-ends. It shines equally on the speedy let's-get-to-the-seaside run as it does on the leisurely by-lane Sunday tour—a real maid-of-all-work.

It is powered by a lusty, oiltight o.h.v. twin-cylinder engine built along the established lines for which the British motorcycle industry is renowned. But it is now alone amongst this country's four-stroke products in having a three-bearing crankshaft. It is also one of the few remaining marques on which it is possible to dismantle engine or gearbox separately without breaking down the other.

The G12 always did precisely and exactly what the tester asked it to do. The gentlest jaunt at 28 to 30 m.p.h. in top was free from snatch or roughness and sufficiently far up the engine scale for worth-while acceleration to be obtained if the throttle was opened smoothly. Indeed, even an indiscreet handful brought no protest. The point is stressed to illustrate the engine's excellent spread of power and to emphasize the effectiveness of the rubber-vane cush-drive in the clutch centre.

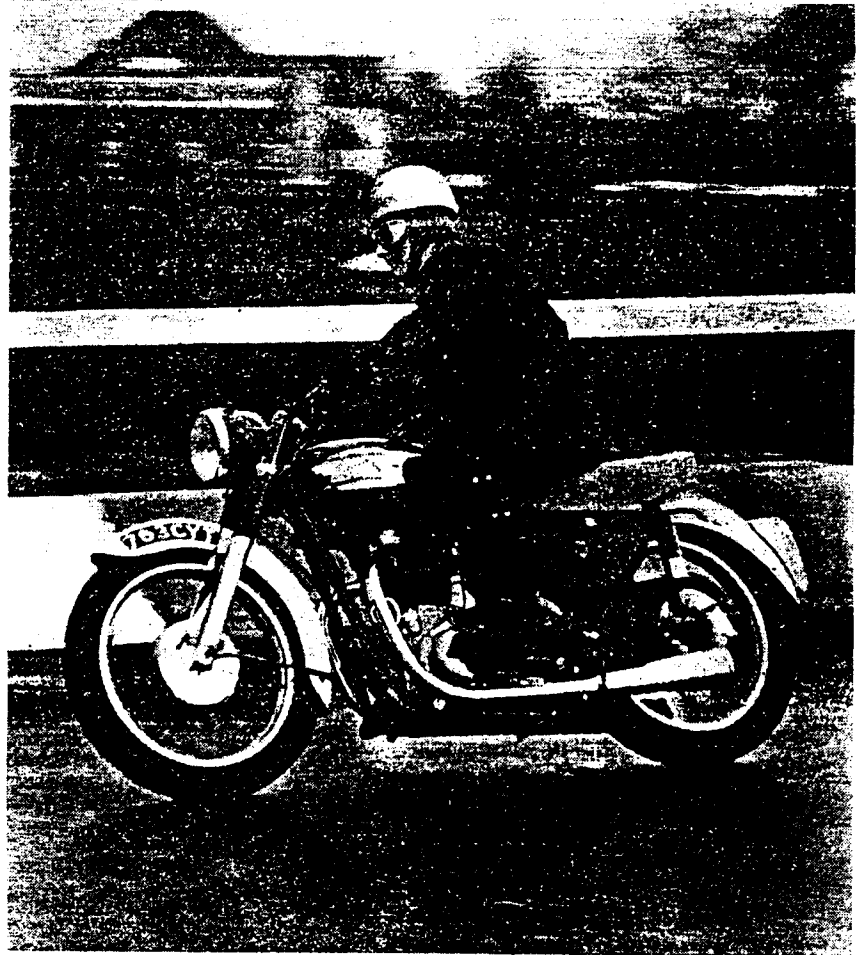
When flitting from a 30 to a 40 m.p.h. speed limit one just didn't bother to slip momentarily into third. Complete tractability extended down to tickover, which was of plonkity-plonk slowness with infallible reliability. There was clean carburation when coming off the throttle stop and a willing, fuss-free response well suited to nudging oneself gently through traffic without attracting notice or creating offence.

The low-speed engine and transmission characteristics were so good that 10 out of 10 marks were awarded on the tester's check card. The same score was also given for starting from both the hot and the cold conditions. When icily cold (literally!), the engine burst into life readily: the mixture was weak enough to demand generous use of the choke for moving away. On a cold January morning, with black ice on the road, full air could be restored within three-quarters of a mile. The twin usually liked a flood for a cold kickstart. When hot, it asked for no more preparation than the turning on of the headlamp-mounted coil-ignition switch.

The presence of the third (centre) main bearing—together with plain big-ends—did not create cold-cranking difficulty, though its slight extra drag was detectable.

Middle-speed manners also earned high marks. Here was 650 c.c. performance without temperament. When well under way—at 30 m.p.h., for example—the "Majestic's" motor was a willing worker and would climb straight up the remainder of the rev band with alacrity.

Cruising in the 70s or 80s was almost playing, and even faster mile-swallowing made no demands the power unit could not meet. In fact, rider-tolerance of wind pressure was probably the prime limiting factor. Vibration was present above r.p.m. corresponding to some 75-ish in top. It could be felt in all gears and was mainly



"Majestic" progress, even on slippery, wet roads.

manifest through the bars and the rests. The rubber-mounted tank and the seat were free from it. It did not exceed a tolerable level but was more marked than in several contemporary twins, some of which are virtually free from vibration.

Hard driving produced not a vestige of an engine oil-leak. Weeping from the primary chaincase—a Matchless mannerism of yesteryear—was utterly non-existent, though the twin inspection caps of this latest-style cast-alloy assembly could be sited better. Engine oil consumption was moderate.

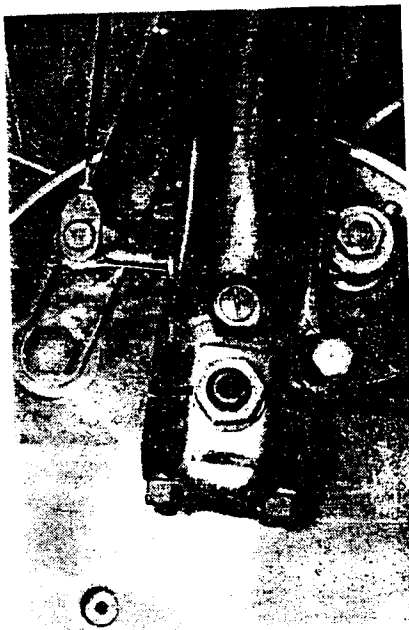
The hard rider ought to relish the acceleration available through the gears. This was well worth having. It was accompanied by a fairly hearty medium-tone exhaust note with the calico-ripping quality beloved of the enthusiast. Mechanically, the unit was quiet: what noise there was came from the valve gear and from the clutch plates floating in the grooves in the drum, when lifted.

Gear-changing during full-throttle thrashing was excellent. The pedal moved lightly and positively and gave not the slightest trouble. Downward changes were just as easy as upward ones. If the rider was using rather less than full performance—such as when commuting to and from work—the cogs moved in an equally satisfying manner. Then, a typical change-up pattern was 22, 45 and 65 on the Smiths speedometer.

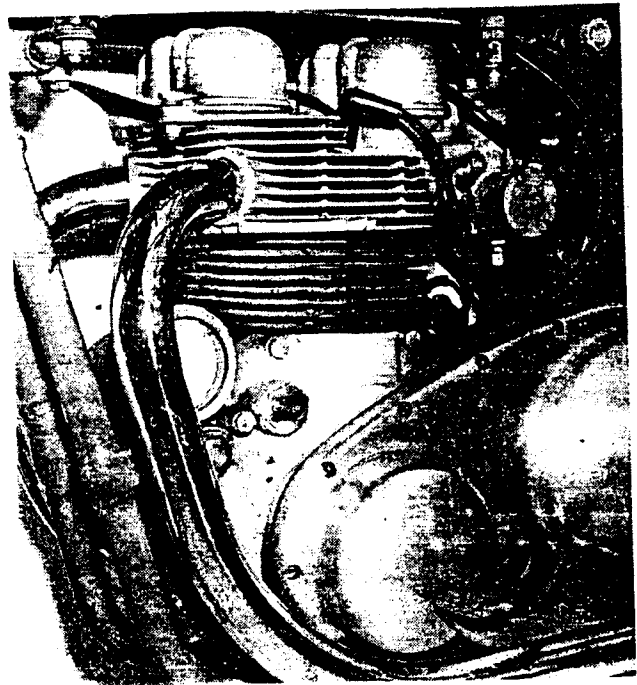
Downward shifting needed mild blipping with no particular effort at road/engine speed synchronization. Neutral was readily found from either second or bottom, when at rest as well as when coasting to a standstill. The adjustable footchange pedal could be well placed in relation to the adjustable footrest. The kickstarter crank did not interfere with the leg when putting the foot out; but no rubber was fitted so the foot sometimes slipped off at full depression in wet weather.

Hard braking to a full stop, in a short distance, was well within the G12's capabilities from traffic speeds. The front anchor was delightful to use and needed no more than a loving caress to bring instant, controllable response. Dipping at the front was slight. The rear brake, the footpiece of which was properly placed, did all that was asked of it. Neither brake became waterlogged in the wet, even when the machine had been standing outside. Neither grabbed in the damp and no fade was experienced—though, in view of the relatively small diameter and area of the front stopper, it must have been working well up towards its rated maximum.

The keyword, versatility, also applies to the model's handling. The "Majestic" was equally at home in traffic and on the open road. Finding one's almost pedestrian way



Left: Close-up of the sturdy front wheel mounting showing also the fork leg drain plug and items of the brake assembly. Right: The "Majestic" engine features separate barrels with light alloy heads and exhaust pipes which are pushed in without locating rings. The engine steady plate from the frame and the cast aluminium chain case are other points worthy of note.



to the head of a stationary queue without losing balance revealed good weight distribution, highlighting a quality of importance to the man faced with the need to negotiate city traffic, fight his way out of a crowded factory gate, or thread a cautious passage along a narrow track to a remote farm or house.

On byway and highway, the duplex frame did its share to promote safe navigation. Cornering at steep angles and on generous lock at, say, 15 m.p.h., was good—though the weight could be felt a little. At really high speeds, such as when making time on a long run, the bendswinging properties of the Matchless "Majestic" were a great asset. The machine was very sure-footed, in the wet and the dry, and possessed better road-holding than many of its contemporaries.

In fact, when cornering on wet roads the handling was completely free from vices. There was never any fear of the back end suddenly breaking away and the approach of mild drifting could be controlled and used—a fact which speaks well for the good characteristics of frame and suspension.

Braking on a wringing-wet highway, granite-chipped or shining black, was of

the straight-ahead variety and most stable. Comfort-wise, the springing absorbed low-speed road shocks well; at high velocities it managed to retain the necessary firmness to hold line and to refrain from giving the rider that awful jelly-like feeling of a too softly sprung, under-damped mount. The Girling rear units are adjustable for passenger load and use was made of this advantageous feature even though alteration is a toolkit task:

The dualseat, of the slight split-level type, is wide and resilient. It is also long enough to commend it to those who have experienced the cramped accommodation of many other so-called dual seats.

The riding position was on the high side, perhaps too high for those with short legs. But, then, this machine is big in stature in every respect.

No he-man tactics were needed to get the "Majestic" on to its 1962 centre stand. This is a good device and required no more than firm foot pressure on the special tread bar and a flip up from the right hand grasping the edge of the pressed-steel basepan to the seat. The tread bar's pressure pad is so small that it can be uncomfortable when operated in soft-soled shoes. Support when on the stand was excellent.

The fairly accessible prop stand demanded careful use, however. It would not hold the mount on a soft surface, or much out of the vertical. In short, it demanded a hard, flat surface. Also, it tended to spring up as soon as weight was relieved.

Both stands tucked up out of the way and were fully proof against grounding during vivid cornering and when thrusting fast along unmetalled roads. In fact, the abundant ground clearance, generous lock, and wide handlebars would commend themselves to many faced with daily journeys of the sort undertaken by, say, the forestry worker.

The bars, however, seemed a little too

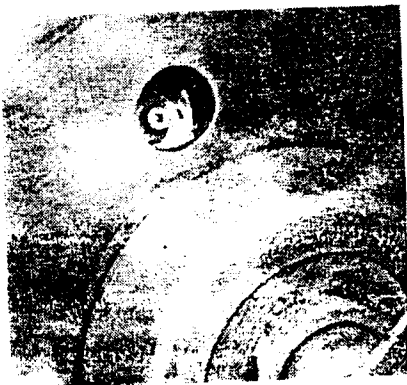
wide. On the left one the plastic grip worked loose several times and its collar prevented the hand being slid inboard to reach the dipswitch horn button easily. The layout also produced an awkward reach to the clutch lever.

Electrically, many high marks were given to the G12. The RM15 is one of Lucas' more powerful alternators. It kept the battery fully charged during the short days of December and January and provided sufficient light at night. The block-lens light-unit gave rather better beams than those we have previously experienced. The main had good range and spread with a subsidiary pool of light thrown close up to the mount; the dipped beam gave equally effective illumination. Both filaments produced a vivid white light indicative of plenty of voltage. The horn was an advance on earlier patterns, though towards the end of the test it went out of action, as did an ignition condenser, most accessibly located in the distributor.

Our test machine, a 1962 model, was not fitted with the new-season battery nor a detachable key to the ignition switch. These items, though announced, are not yet featured on production models. But it did have the massive and attractive chromium-plated Matchless medallion now emblazoned on the tank for the coming year. It is a zinc-base die-casting.

The "Majestic's" colour scheme of red frame and tank, with white guards, is pretty to look at and proved surprisingly serviceable. At first, we expected that it would show every dirt smear. But the guards have sleek lines and offer few crevices to trap road filth. Consequently, they could easily be swabbed down with a wet rag.

Indeed, as well as being eminently versatile, the G12 is an eyeable and thoroughly practical mount. It is a Matchless of which to be proud—every bit as majestic as its name.



The concealed rear hub greasing nipple. R10