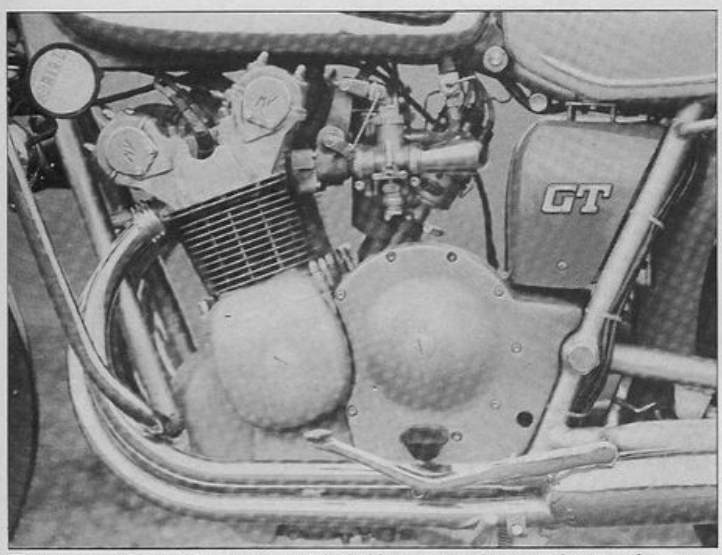


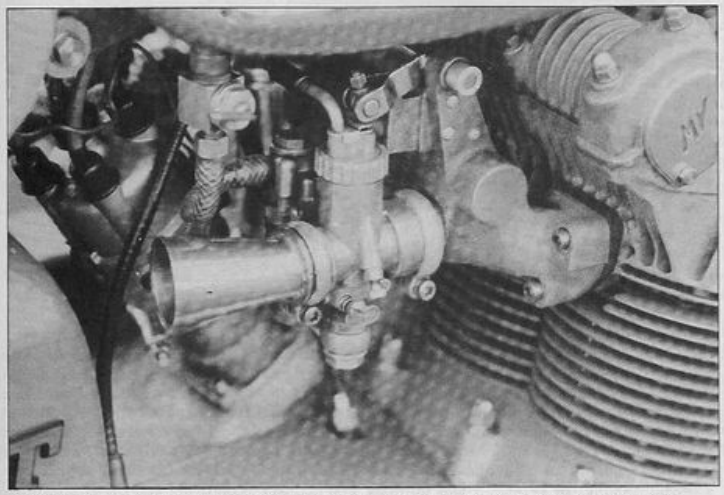
"Beauty lies in the eye of the beholder". Dave Kay's unusual 1971 MV 600. (Patrick Gosling)

THE KING'S NEW CLOTHES

It took MV Agusta 13 years to get a four cylinder motor cycle onto the highway. Was it worth the wait? Chas. E. Godden investigates; photography by Patrick Gosling.



The ancestry of the engine could never be hidden – it simply oozes charisma from every line. However, the lack of air cleaners was criticised by American testers.



Twin 24mm carbs restrict the MV's breathing at high revs; they are operated by a transverse shaft, with a single cable from the twistgrip. Operation was smooth and light. The distributor emerging from behind the cylinders takes its drive from the central gear train.

THE very name MV Agusta stirs the pulse of any red-blooded enthusiast who can recall the great names of road racing in the years since the second World War. Names such as Les Graham, John Surtees, Mike Hailwood and Giacomo Agostini all thrilled thousands of onlookers at race circuits throughout Europe with the howl of four megaphoned exhausts, winning Grands Prix from 1952 until its final season more than two decades later.

Bearing more than a passing resemblance to the established Gilera 500cc 4-cylinder model in the engine department, the MV Four turned many a head when it made its International competition debut in 1950. Its only notable finish in that season was Artesiani's third place in the Grand Prix des Nations at Monza, behind Geoff Duke's Norton and Umberto Masetti's Gilera. With an abundance of power from the double overhead camshaft transverse four-cylinder layout (the factory claimed 52bhp at 10,200rpm from the 52mm x 58mm engine) the riders were clearly hard pressed to use this potential to the full with torsion-bar sprung girder forks with welded blades rather than the more conventional brazed tubular construction that Velocette were still using to winning effect. At the rear end, torsion bars controlled a duplex rear fork, with friction dampers as a supplement. The duplicated forks were supposed to eliminate the adverse effects of the shaft final drive's torque reaction, but it is a moot point if this was so. Certainly, the machines did not enjoy a reputation for impeccable handling in their early years.

For 1951, they recruited the riding and development talents of Les Graham, who had captured the inaugural 500cc World Championship for AJS in 1949. Graham's departure for foreign parts did not bring with it the instant results that Duke's later recruitment to the Gilera camp wrought. The MV for that season looked a little more modern with telescopic forks and rear dampers, but the transmission remained their Achilles heel and even Graham's great talent could not bring him a single leaderboard finish in the Grands Prix of the season. Artesiani finished third in a meagre field in the Spanish race and Carlo Bandirola added a tally of fifth in Spain and fourth in Switzerland to the total of 1951 racing results.

It was in 1952 that Les Graham's influence began to have effect. He had persuaded Count Domenico Agusta to try the Ernie Earles-designed leading link fork on the mighty four and after some experiments that included a blend of Earles forks with the old duplex rear forks and shaft drive, the 1952 version appeared at the Belgian Mettet circuit with chain final drive, Earles forks and conventional swinging fork rear end. Leslie led the works AJS "Porcupine" of Rod Coleman and the 3-valve 7R of Bill Doran before judicially retiring with an unspecified problem, although one suspects that he was assessing the opposition whilst giving away very little about his own mount's potential.

Graham truly put the MV on the racing map as a serious 500cc class venture in



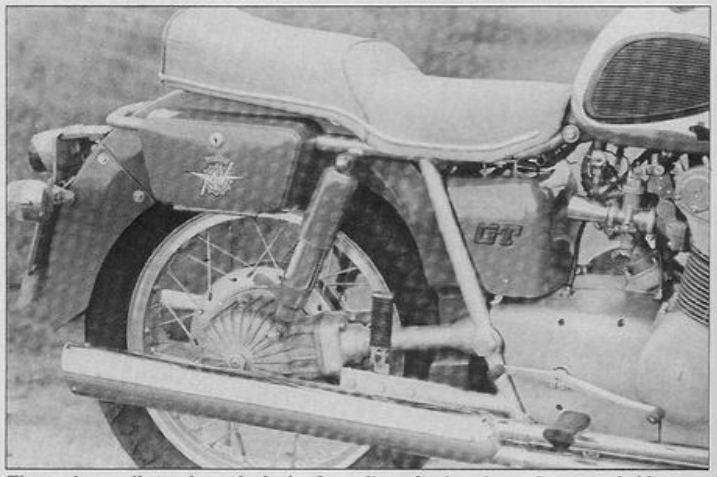
The intrepid Godden braves the elements to taste the stuff of legends.

1952. Second in the Senior TT after a disastrously long pit stop and covering the closing laps with the rear end of the machine smothered in oil, he was leading both the Swiss and Ulster Grands Prix when forced out by the rear tyre making contact with the mudguard. After the Swiss race, one might query the repeat of the problem in the Ulster, but to do so is to overlook the enormous battering that all cycle parts were subjected to during a flight along the bumpy 7-mile Clady Straight. Four weeks later came Italy's Grand Prix des Nations, at the high speed Monza track, where the grace of Graham and the speed of the now reliable MV combined to leave all in their wake and set both race and lap records. Three weeks after that, on the tortuous twists and turns of Barcelona's Montjuich Park, the same combination confounded the pundits by trouncing the works Nortons on a circuit where the winning speed was a mere 59.54mph; set that speed against the 106.29 that Leslie had averaged at Monza and you can see the MV had developed into a machine combining speed with handling. Graham started the 1953 season as a favourite for the world championship.

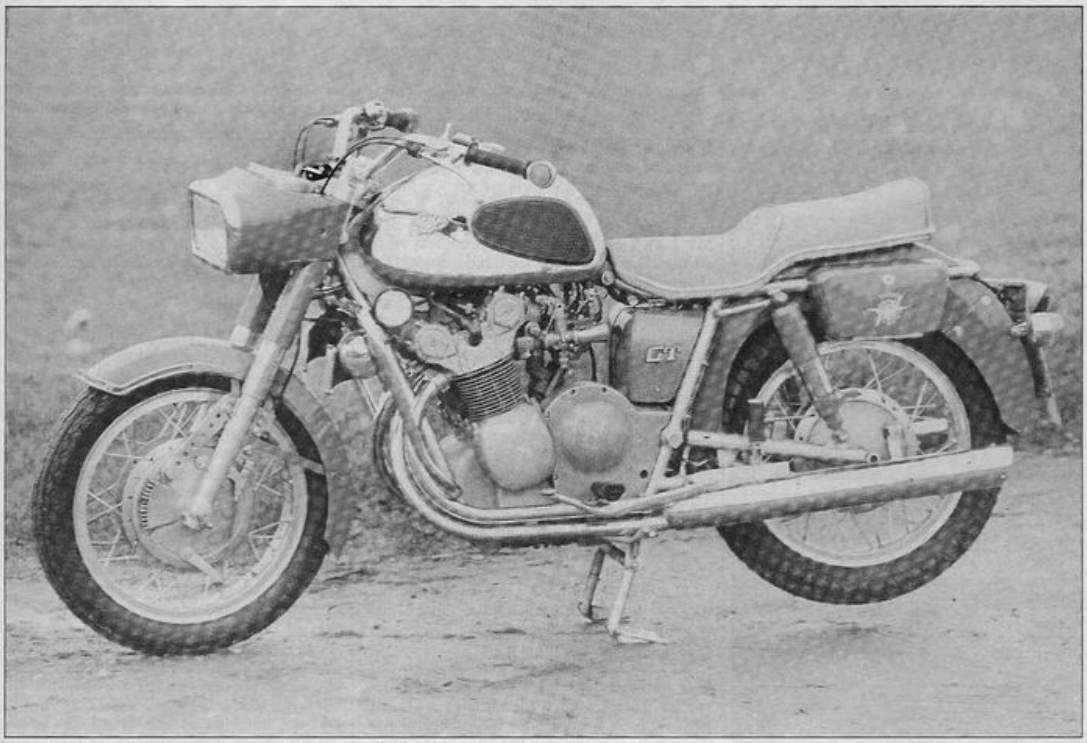
But that, alas, was not to be. After winning his first TT in the 125cc Ultra Lightweight race, Les Graham was fatally injured at the bottom of Bray Hill when contesting the lead of Friday's Senior event. It was a tragic blow to racing in general and the MV Agusta team in particular; without a figurehead of Graham's stature, they ceased to be a force in the racing world for the next two seasons, only figuring in the world championships in 1955, when Umberto Masetti finished third in the title chase.

For 1956 the factory signed up a promising young Londoner who had been showing numerous big names the way around British circuits: his name was John Surtees. John rewarded the factory's confidence in him with the 500cc championship that year, a modest third in 1957 in the 500cc class, then a remarkable run of 350 and 500 championship doubles in 1958, 59 and 60. The factory also won the other solo world titles in those years, Carlo Ubbiali and Tarquinio Provini obliging in the 125 and 250cc classes; the factory taking advantage of the withdrawal from racing by Gilera, Moto Guzzi and Morini, to dominate racing like no other one make had ever done. Then came names like Hocking, Hailwood, Agostini et al, keeping the Blue Riband of the 500cc world Championship at Gallarate despite the multi-million pound budgets of Honda. When MV Agusta did quit the Grands Prix, they did so as the still living legend that had succeeded with relatively modest resources against the giants from the East.

During this era of outstanding success,



The modest toolboxes have the look of a styling afterthought, and were probably not intended to carry waterproofs!



The lines are, somehow, not quite what we have come to associate with Italian styling.

there had been much talk of the factory producing a roadgoing four. The rumourmongers were effusive, but the actuality was elusive; sleek prototypes were shown or glimpsed from afar on occasion, mayhap to keep the wealthy prospective customers salivating in anticipation. In 1950 the R19 Turismo was shown, with telescopic forks and a rear end copied from the racing machinery of that season; quoted output from the 54mm x 54mm engine was 40bhp at 8500rpm, on a compression ratio of 9 to 1. By the standards of 1950, when only Vincent's claim of 45bhp from the Rapide and 56 from the Black Shadow could surpass that, the idea of a 500cc roadster with 40bhp on tap was the stuff of dreams. And in dreams it stayed, the R19 never progressing beyond the stage of a mouth-watering prototype. At least it was displayed at a show, which was more than could be said for the tempting rumours that the willing-to-buy public heard in subsequent years.

Until the Milan Show in December, 1965, that is. Midway through the show, MV wheeled in a model that *Motor Cycle* described as a "Sensational late arrival . . . a brand new 591cc MV Agusta four." Not a sportster, designed to capture the racing spirit of the very name MV, this was the King in new clothes. Not very exciting clothes either, with shaft drive to inhibit any but the most ambitious from considering racing the beast, unless there was a second Walter Zeller waiting in the wings. Even if there was such a man, the rest of the specification was no encouragement to potential race jockeys. The biggest headache would be sleeving the engine down to 500cc, not a job the average Continental Circus contender was in the position to undertake lightly. The *Motor Cycle* report told briefly of the details: "With an upswept, semi-cowhorn type handlebar obviously intended for the US market, the model features 12-volt electric starting, and twin mechanically-operated disc front brakes . . . a massive rectangular-shaped headlamp, large humpback petrol tank, two sets of siamesed exhaust pipes and paired electric horns are other detail features."

The 216mm disc brakes evoked differing responses. Carlo Perelli, reporting for the American *Motorcycle* magazine in 1967, wrote: ". . . but not for its better eye appeal alone I would recommend the use of a double drum type brake such as a double-duplex brake manufactured by Fontana." In 1968 a road impression in *Cycle* magazine stated ". . . the brakes aren't up to it. The front twin-disc unit is clean, light and handsome, but it doesn't work very well."

The seating was a two-level dualseat, not far removed from an executive office chair in appearance. The huge headlamp, with 45/40 watt bulb, would have rendered the machine illegal in certain conservative states in its intended market. What the whole assemblage did confirm was its owner's wish to stand out from the crowd; not a crowd of MV's, let it be understood.

One example of the model did find its way into Britain in 1967, and was promptly snapped up to be offered as a prize in a *Motor Cycle News* competition. The winner was a Mr Arundell, who declared his intention of fitting a sidecar. It is fair to assume that the marriage was not a success; within three months the outfit appeared in the For Sale columns.

The shaft-drive 600 was not to be a commercial success for MV Agusta, if indeed that was what they sought. From 1967 until 1971, a total of 135 were made and of these a maximum of 35 were exported to the United States – estimates vary of this figure, with 35 the highest quoted. (The fact that importers for the marque appeared and disappeared in America almost with the change of the seasons must account for this lack of statistical information.) The model is most certainly a rare bird, and of the genre the 1971 drum-braked version is the rarest of all.

You will understand that an enthusiast who lives, eats and breathes the MV name and who already has a collection of the marque, would welcome the chance to add an example of the drum-braked 600 to his line-up. Thus, when Dave Kay, secretary of the MV Agusta Owners' Club of Great Britain, heard in September 1983 that one was coming to these shores, he very promptly girded his loins, hitched up his trailer and headed south to Worthing, where a deal was struck with Bol d'Or Motorcycles. The motor cycle he bore home in triumph was not pristine, but it was a sound runner and the basis of a restoration that brought him a "Highly Commended" rosette at the 1984 Belle Vue show.

The machine as collected was black; MVs should be red, which this one now is. But this story is not about the straightforward jobs of spraying, dismantling and rebuilding and then tracing all the correct minutiae to complete the rebuild. It is about a machine unique in Great Britain, and the chance to look at what goes into an engine that has become a legend with few equals.

I have met no Englishman better qualified to tell about roadster MVs than Mr Kay. His home is dominated by the marque, from the logo on the garage door and the blue and gold



The front brake could come straight off a racer, but the headlamp is definitely "turismo". Crash bars were a standard fitting.



Rev-counter and speedometer sit in the rectangular binnacle. The clock is a later addition.

macaw (and what else could he call it but "Ago"?) that is being hand-reared before being sold to raise more funds for MV involvement, to the host of spares carefully locked away in his study. In the garage are no less than a quartet of the four-cylinder products of Gallarate; a separate machining area contains lathe, vertical drill adaptable to milling when necessary, welding equipment and virtually everything necessary to complete a rebuild. Above all these facilities is the knowledge of the man; Mr Kay knows his stuff.

"The 600 uses a very mild cam, with only 7.5mm lift," he told me. "The later 750 America models had 8.0 lift and the Magni racing cam 9.0, but it is possible to go as high as 9.5mm lift if the head is machined." Correctness of technique during the building of such a fine engine is essential, as his own experience setting up a cylinder has shown. He explained: "You must torque the head bolts to 24psi, with the correct gasket. It's also possible for the camshaft to bow out of true if you don't take care. I set a head up once with graduations of torque at 2psi a time over the recommended figure; at two pounds over the cams spun freely, but at four pounds they nipped up." The camshafts themselves are notably well lubricated, with a central oil feed to the hollow shafts and single outlets on the lobes of cylinders 2 and 3 and two outlets on cams 1 and 4, to equalise the flow.

Mr Kay has a number of main bearings in store and explained the MV system of splitting the outer races to ensure a true circle. The race is machined, then drilled across its width before being split with a chisel. The percentage of rejects from this process is high – very high in fact, something over 50 per cent – but it does ensure that the two halves, carefully numbered to ensure a matching pair, form a true circle when the main bearings are bolted up with the carrier; "After all, this is a hand built motor cycle", Mr Kay pointed out "The crank is very strong; I've known bottom ends do 50,000 miles without being touched. If people change the oil when they should, and don't over-rev them, they go on for almost ever."

The central drive from crankshaft to camshaft is by gears held in a cast LM25 carrier; on the roadster engine there is an idler 'twixt upper and lower shafts, but Kay pointed out that in the racing versions there was no intermediate pinion; one of the few significant differences between the two extreme expressions of the MV Four. The driving pinion and the two camshaft gears were sold as a numbered set, to ensure proper matching. Not so surprising when one considers that both road and racing components came, where practical, from the same batch. "They used to make the cranks in batches, and pick out the best for the race shop, then send the rest to the production line," Kay explained.

The use of a single cast unit for all barrels in one engine unit and for various capacities is clearly illustrated by the samples in Dave's workshop. A 58mm bore 600cc barrel has enough meat to support the base of the liner, whereas 67mm bore 750 and larger cc units simply have the liner pressed in without an extension to support its lower extremity. One casting can be machined off on one side to leave the circular outer shape for barrels 1 and 4; machine off both sides and there is a flat-sided casting for numbers 2 and 3.

Does the machine have a weak point, I wondered? As the racing history of the earlier years would suggest, and also according to Mr Kay, it is in the transmission. "If the needle rollers on fifth gear wear, that puts more load on the outrigger bearing," he explained. "And when that happens the ball bearing on the shaft end can collapse. I've known one disintegrate and drop a ball in the bevel, which locked it up." The clutch, with six driven plates of 4¾ inches diameter, can be a weak point if abused.

A feature of the 600cc model was its sale without the benefit of a parts book – the only road-going MV to be despatched with such an omission. That is not the problem it may sound, because every component part is numbered, even the shims for the tappets.

The chance to ride a rarity as precious as this is not one to be missed, even if wet conditions forebade anything but the most gentle of treatment. Not having the facility of a kick-starter, the MV depends upon electricity (or, in an emergency, the time-honoured run-and-bump) for starting. A Marelli starter motor is actuated by a button on the right handlebar and draws its power from a 12 volt, 18 amp-hour battery; once the engine is running the starter motor reverts to its more normal function of dynamo. The choke lever on the left bar closed, a press of the button had the engine running, with Dave Kay warming it up at 1500rpm; the note from the siamesed exhaust pipes was sharp enough to be interesting, yet not offensive to any but the most noise conscious person.

Sitting on the wide seat, the outlook is suggestive of a big motor cycle, with the rather ungainly tank spreading one's knees and the high and wide handlebars falling readily to hand as they impose an upright stance. Controls are basic, all of them within a thumbspan; to the right is the starting button, with a simple toggle for the direction indicators below it. On the left is another toggle, for the optional soft or loud tones of the horns, and a dipswitch beneath. Ahead looms the sizeable instrument binnacle, the rev-counter and speedometer side by side and very clearly visible.

The clutch is surprisingly light and, pleasing for a traditional British rider, the right-foot gearchange offers a one-up-and-four-down sequence. Beloved of Italians in the 1950's and 60's was the rocking gear pedal, and one is fitted to Mr Kay's pride and joy; in use I found it confusing and after a few tentative waves of the boot I resorted to the method I know and trust best, using the toes to press or lift the pedal.

With instructions not to exceed 6000rpm and unfamiliar wet roads to negotiate, I drove away from an owner apparently trying very hard not to make a meal of his fingernails; trusting such a rarity to a stranger is co-operation of the highest order. The MV needed choke for some miles before low-speed response was clean, but it was as smooth as one can expect a four-cylinder engine of such pedigree to be, with no handlebar tingle to mar the experience. Carburation was not as clean as one would like at low engine speeds, perhaps because fine tuning has yet to be completed. The effect was to make the MV a contradiction in terms. Its appearance suggests a touring performance, easy to ride in the lazy style with minimal gearchanging and a broad spread of torque; in practice it proved to be a mildly peaky engine, carburation spoiling it below 2500rpm and the power band hinting at things to come as the needle reached the 4500 mark.

The man who rides such a strange machine hard on damp roads is either more brave or more foolhardy than I. But a doubtful surface can soon bring out any glaring shortcomings in a touring motor cycle, and in the course of an afternoon's riding both MV and rider were on their best behaviour, the machine proving itself surefooted with neutral steering. The brakes, used gently at all times, proved to be powerful and smooth, with none of the rather sudden effect for which early two-leading shoe types were renowned. The gearbox was positive, if a little slow in operation; the clutch was smooth in its takeup, but above 50mph one could hear the rear bevels at work. Just a slight whine, but definitely there.

The MV left an impression of smooth, effortless travel in a high state of comfort. By no stretch of the imagination is the 600cc model a pseudo-racer, it is a motor cycle built for long journeys in comfort and safety, and that it would achieve without stress for itself or its rider – lucky fellow. I returned it to Mr Kay with regret, for him to line it up with his other Gallarate classics, and for me to head for home wishing the day had been longer. And to look forward to sunnier days, when there may be the chance to straddle one of the sportier examples of the Kay stable. That, as has been said on many occasions, is another story.