

# Two fours



# from Verghera

THE TACHO needle flicked off its stop as the revs hit 5,000, 6,000, 7,000, reach down for the right-hander, feather the throttle a fraction, crank hard over, wind it on. Induction roar changes from a whistle to a crack, exhaust rises on a raucous crescendo as four cylinders push together, urging me forward. Its pitch drops as I shift up, building again as I rush through minor bends, sweeping left and right, leaving cars behind in a flash of red, resonating to the echo of four megaphones screeching the MV creed. Spirits of Hailwood, Surtees, and Agostini are at my shoulder, their ghosts in the machine and for a few fleeting seconds I feel them through the metal. A temporary medium. Inevitably there is a lorry or caravan blocking the highway and in any case the bike must be returned to its owner.

For this fleeting glimpse into the other world, I must thank Edward Atkin, whose MV Agusta 750S and Magni Monza I was privileged to ride.

**An invitation to ride a couple of superbly prepared MVs is not to be taken lightly. Tim Holmes got carried away on a 750S and a Magni Monza.**

He, in turn, is lucky to have working for him John Lee, a toolmaker at the firm Edward runs, who got him interested in the idea of restoring a bike.

Edward had tried various machines, and, not particularly caring for the Japanese experience, lighted on a Laverda. John, a keen motorcyclist and restorer himself (his memories go back to the ton-up days at the Busy Bee) kept on at him to try his hand at restoring a British bike.

The idea of restoration appealed, but not the British slant. An acquaintance had an MV in terrible

shape, it was for sale — and the rest you can guess.

To be truthful, Edward left the restoration to John, who most assuredly knows what he is about. He'd never worked on an MV before, but starting from first principles, experience and careful noting of how things came apart he soon had the measure of the bike. Luckily, the machine was complete, but horribly worn or bent or smashed and most of the job came down, in the end, to stripping, mending or replacing, and meticulous rebuilding. Being used to the made-to-a-price engineering of British roadsters, John found the quality of workmanship in the MV four-cylinder motor superb.

Where his BSA and Velocette make do with bushes or chains, the MV has gears and roller or ball bearings throughout. The main bearings are a good example. There are six of them, but only the outer two are conventionally assembled. The inner

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four are all 'burst': the shell is weakened at two points opposite each other, then burst apart. Because each break line is unique, the bearings will only fit together when the correct halves are joined. The inner race is part of the five-piece, pressed-up crankshaft, the rollers are uncaged, and the matching outer races are retained in the crankcase halves.

Having cut his teeth on the relatively straightforward 750S, John felt quite confident about tackling Edward's next project. This was an MV Monza for which former race-shop supremo Arturo Magni made an 862cc conversion kit. Magni emphasises the need for these conversions to be undertaken with access to proper toolroom machinery; it is a skilled job, not just a simple matter of bolting on bigger barrels. As mentioned, John is a toolmaker by trade, and the factory he works in is well equipped with heavy machinery. Edward Atkin delivered the bike and left him to it.

They had imagined that it would be in fairly good condition, as it had just had a major rebuild. However, a generous amount of oil outside the cases indicated that something was amiss, and John had great difficulty taking the cylinder head off. The reason, it transpired, was that the stud holes had closed up as the retaining nuts had been overtightened. The nuts had been overtightened because, in someone's hands, the head had been machined, but the inlet and exhaust stubs had not been correspondingly skimmed, therefore when the head was tightened, they fouled the cooling fins and further distorted the head. This meant the joint leaked, which encouraged the mechanic (or butcher?) to give the nuts an extra twist, which meant more distortion and so on.

It is important to note that this occurred simply because someone could not be bothered to get to the root of the problem. However, as John discovered, there was another factor. The Magni barrels (two castings in place of the usual four separate pots) had not been machined accurately, and one of them was four thou. higher than the other. By dint of relieving the oversize barrel, skimming the head true and inserting alloy plugs in the closed-up stud holes, the top end was saved. That just left the bottom end.

As indicated, this is a piece of engineering of some complexity. Not only are there six bearings to align, the five pieces of the crank must be perfect, and the use of gears in the primary and cam drives means there is no tolerance for inaccuracy.

Almost predictably, the crank was running five thou. out of true. The

main bearing caps had been filed, but whoever did it had left them with a double radius instead of a true radius, which gave the bearings insufficient support. John machined them true.

To overcome the misalignment on the outer wheels, he decided to machine and sleeve the end shafts. Then, to ensure the housing was not distorted, he made up a shaft with a diameter fractionally smaller than the main bearings and a length slightly greater than the crankshaft. Using micrometer blue to guide him, he hand-scraped the housing and then machined it. All of which took up a great deal of time.

However, what he had done was to virtually remanufacture the engine to correct tolerances, and once new main bearings had been acquired, the bottom end would spin round perfectly freely and true. Those bearings took five months to come, and eventually Edward went to the MV factory to collect them in person. While there, he discovered something else, as he told me.

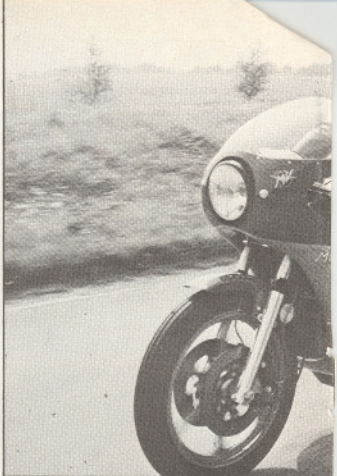
'The law of Italy makes it incumbent on any manufacturer to supply spare parts until five years after the last date of manufacture, so until the end of next year (1983), law says the spares depot must stay open. But after that, Signor Laudi, who runs the operation, does not know what will happen. Judging by the amount of effort that's been put in over the past few years, I would say there is considerable doubt as to whether it will stay open.'

'There is a large quantity of spares, the only omission being castings — the dies have been mislaid — so no new engines can be made. However, the factory's ability to supply spares is pathetic — the quickest way to get them is to go there and make it quite clear that you're not going to go away until you have what you need!'

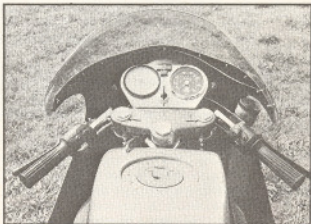
Explaining that he arrived while the store was shut for the midday break, and he was able to wander unchallenged around the buildings, Edward continues 'Now, as well as the spares, there is a large part of the warehouse that is bricked off — a separate area, locked and bolted, strictly no access. I looked in through a broken window, and in there are all the racing parts — bikes, frames, fairings, castings, everything.'

'With access to that lot, you could not only build new racers, you could rebuild the examples that are now on their last legs. The difficulty lies in persuading somebody to do something about it — there is something really worth saving there.'

It does seem a shame that such a historic treasure should lie neglected, but John Surtees, who has more



Tidying up the details has created a machine of superb lines.



The new handlebar switches and console carry on the fine engineering theme.





**Proud owner Edward Atkin puts the Magni Monza to good use.**

reason than most to be concerned, is quite calm about the matter. When I contacted him, he first of all expressed surprise that Edward Atkin had got anywhere near the race shop, but then went on, very realistically, to point out that Italy is facing rather more pressing problems, economically and politically, than the fate of MV's racing heritage. The important thing, as he sees it, is that the parts are all still there. When things are looking better will be the time to form a pressure group.

To return to the tale of the bigger bike, after assembling the motor and doing a volume check, John found the compression ratio was higher than the 10.5:1 maximum specified by Magni. Making a 20 thou. spacer to go under each barrel brought the figure down, and the engine was, at long last, ready to go. Setting the carburation and timing took a while longer, but with John's skill it was soon sorted.

Being a later machine, the Monza comes with a left-foot gearchange. This was felt to spoil the classic nature of the bike, so John removed the cross-over linkage and made a new one to run behind the timing side cover. This was a tricky proposition, as it had to avoid both the starter and generator drive belts, also situated under the cover. He also made the new footrests and their associated pedals.

It was almost enough to look at these bikes, but I was going to ride them. It is hard to encapsulate the experience, but what follows is a brief impression of each machine.

I felt immediately at home on the 750S as the riding position was just right for me. The induction noise from the spun alloy bellmouths gracing the four 27mm Del'Orto carbs turns from a vague waffly sucking into a tuned roar, almost stinging the ears, as the revs rise above 5,000rpm. Induction noise is more obvious to the rider than exhaust noise, but this is not the case with bystanders or passed motorists, as I can vouch.

There is no powerband, but when the induction note changes you can feel the acceleration building more rapidly, and it just keeps on building. With all the gear trains and a fairing there's quite a lot of mechanical noise, but on this bike the motor sings — all the components sound to be running in harmony. It's a lovely sound, a very happy mechanical noise, that gives a literal sense to the word 'tuned'.

The gearbox is positive without being harsh, and the shaft-drive might as well be a chain for all the effect it has on changing up or down. This is taken for granted now, but these systems were designed in the fifties.

The suspension is hard (as I prefer

it) and the bike sticks to your chosen line, steering to a hair. All comparisons are meaningless here, since standards of expectation depend on the best in one's own experience. I have ridden a good selection of bikes, old and new, and the MV's handling is the best ever. It must be handled firmly, though. The all-alloy motor may be light by current four cylinder standards but it is still a fair mass, and while there is no problem changing line, it is a deliberate process, not to be effected with a casual flick of the wrist. There is no weaving or pitching, and the bike is equally happy to be laid over hard and sharp or peeled in gently.

The brakes, twin Scarab discs at the front and a drum at the rear, are superb.

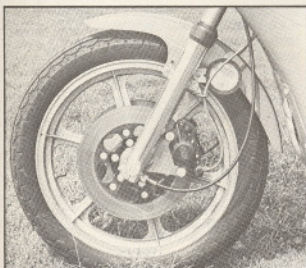
The Magni Monza feels completely different. It was not so comfortable for me, and although there is an immediate impression of more power, it did not feel such a harmonic creation. The power comes in lower down (though as the rev-counter does not register until 5,000rpm it is difficult to be specific) and builds to 9,000rpm. I limited excursions to 8,000, which translates into a road speed of 120mph. As the top gear ratio is very high, an extra 1,000rpm will add a lot of speed.

There seems to be more mechanical noise of a less musical quality, and the induction noise from the 30mm units equipped with wire guards is of a different timbre altogether.

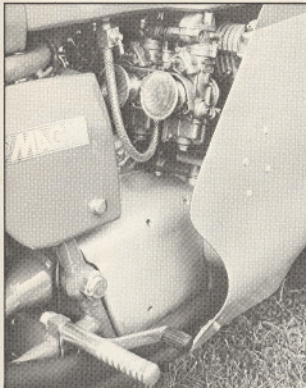
The steering and handling are as superb as the 750, inspiring one to trust completely in the machine, until a twisty road soon becomes a flowing series of hand and foot movements co-ordinated by a cool eye. Knowing that bikes like this one have been developed on the most demanding road circuits in the world by the most demanding riders helps confidence enormously. Modern factories may use racing 'spin-offs' on their road bikes, but MV made road machines from their racers.

It is not a bike for towns or traffic — the clutch gets hot and bothered, and the fairing directs engine heat straight on to the rider. Out in the open the clutch behaves perfectly, biting firmly but not fiercely with a strong, but not too strong, action. The converted gearchange is beautifully sweet and positive; a tribute to John Lee's ability.

The style of the bike goes beyond what the factory intended. To be specific, the tank was altered by a friend of John's, making it longer and less square; the seat John made himself, using a later Magni pattern, likewise the instrument console, which is now alloy rather than plastic. All American market MVs have the ignition switch and choke lever mounted rather inaccessibly under the

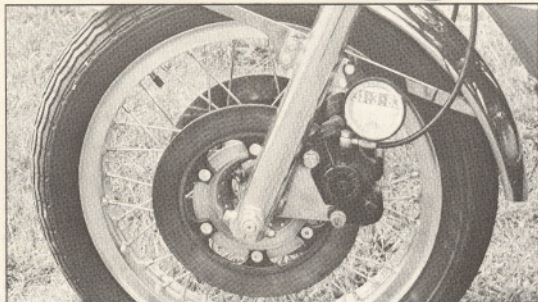


**Twin Brembos, on cast-alloy Campagnolo wheels, stop the Magni Monza.**



**Footrest, gear linkage and side panel were all fabricated by John Lee.**

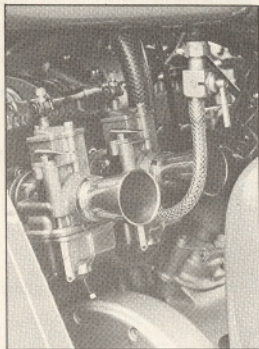
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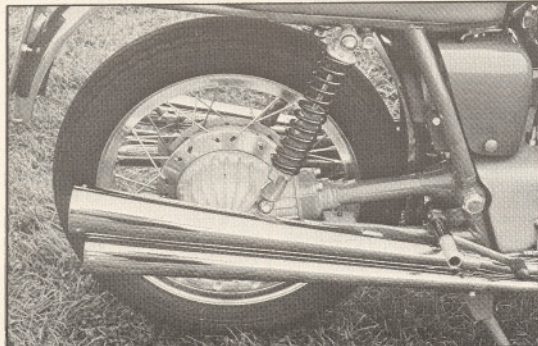
Twin disc brakes from the lesser known Scarab works grace the 750s.



Jellymould tank is a work of art in itself; the rest of the bike matches it.



Bellmouths create a distinctive note in the induction roar.



Custom-made silencers by Pipecraft were cheaper than importers replacements.

tank, so these items were moved on to the new console.

The handlebar switchgear was taken from a BMW, since Edward regarded it as the best design available, and the rear-brake master cylinder originally graced a Yamaha. The MV equipment was stuck gracefully on the nearside of the machine — a vulnerable and obtrusive position — and since John had to make up a new linkage to convert the brake pedal from right to left, he tidied the whole area up, and then made the sidepanels to conceal his handiwork. 'What we wanted to do', explains the owner, 'was take away all the nasty little bits and replace them with something worthy of the engine.'

That engine compares with any equivalent modern unit in terms of power and smoothness, and with the updating and restyling the Magni Monza is now convenient and superbly attractive. The typical Italian disregard of finishing details such as switchgear soon loses its Latin charm if a bike is to be used regularly. Use it to its fullest extent, and it must all work all the time. Edward Atkin's MVs certainly do that — if he's not using one or the other, John Lee will be.

John is keen to work on other people's MVs, and has formed a separate business to do so. If, having seen here his excellent standard of workmanship, you are interested in entrusting your MV to his hands, contact him at Verghera Engineering, 86 Malden Court, Great Cornard, Sudbury, Suffolk. He will consider working on other makes, but please, nothing too ordinary. Working with the superb gives a man standards he wants to maintain.

## PARTS AND SERVICES

**Stove enamelling:** Harvic Stove Enamellers, Lodge Lane, Langham, Colchester, Essex. **Paint Supplies:** Koter Developed Coatings Ltd, Adison Rd, Sudbury, Suffolk. **Chrome Plating:** CDK Metal Finishing Ltd, No. 8 Factory, Chilton Industrial Estate, Sudbury, Suffolk. **Silencers:** Pipecraft, 10 Wilbury Grove, Hove, Sussex. **Paintwork:** Lufax Ltd, 32 Fairfax Rd., Colchester, Essex.



The man behind the bikes — John Lee with one of the machines he put to good use.





Edward Atkin's MVs at rest on Long Melford green. The 750S is resplendent in red, white and blue, while the Magni Monza wears MV racing livery — silver and red.