

Motorcycle Sport

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ISDT in the Isle of Man ★ Testing the BMW Range
Racing in the MGP ★ One Track
Vintage Hill-climb ★ Book Reviews

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FRONT-COVER PICTURE shows one of the American entries in the International Six Days Trial, L. Laarson, on his 250 KTM. More photographs on pages 425 to 427



Press-on style of A. Savage (460 Husqvarna) in the Ilford Amateur's recent scramble at Noak Hill, Romford

No Prize For Britain

LONG BEFORE riders gathered in the Isle of Man for the 50th anniversary International Six Days Trial it became clear that Britain's role was going to be confined to that of host nation. We should like to be able to blame the machinery, but the works Jawas supplied were as good as the best. Certainly there was an element of bad luck when two of the team went sick the day before and a rider went out with a broken collar bone on the first day, but the plain fact remains that we were just not good enough. Most of our teamsters, very good riders at a national level, were out of their class when confronted with the top continentals and it is clear that if we are ever to do well in this event again it will take more than the limited amount of money available and the undoubted talents of team manager Ken Heanes.

What do we suggest? First: that the very best six riders are selected regardless of factory ties and their apparent unwillingness to ride for their country when there is more money to be made elsewhere. Second: that every effort is made to ensure that the riders arrive at the starting line fully prepared for the rigours of a six days trial by entering them in every preceding cross-country event. Third: that we recognize that an event of this nature takes more than six top-class riders to land the trophy, and we give them the support they deserve. The facilities available to the German and Czech riders at every checkpoint put the home country to shame, and that is not to criticize those who did help. They did their best, but without the facilities it was not enough.

Finally, a few random thoughts on the trial. The Japanese were clearly not in contention with only four entries out of 307 but the quality and variety of European machines more than made up for this and, with Rokon and Can-Am coming from the United States, there was an abundance of technical interest. The blight of this event is cheating and, although we kept our eyes open, the only known contraventions of the rules were promptly punished with exclusion—Valak, the Czech vase man, suffering more than mere personal indignity. We were impressed with the number of "followers" riding the course on machines similar to the contestants' and the top teams did not lack for support if they were unfortunate enough to stop by the road side . . . Of course the rules did not allow for them to receive help. We were impressed too with the press facilities, for there was no shortage of information available to journalists, and it was interesting and informative. Our particular thanks go to Peter Fraser, PRO for the trial, and the Murray Evans man on the spot.

ACU Licence Fees

THE DUST still hasn't settled over the decision of the ACU to increase some licence fees and to make it necessary for competitors to have licences for all ACU events (with one or two exceptions). It is no secret that the matter is still causing headaches to the ACU Competitions Committee. There have been several meetings on the subject. At the moment, the position is that any member of an ACU-affiliated club who rides in an ACU event is required to have a licence. The only exceptions are listed events such as the National Rally. A club is allowed to run one "propaganda" event a year for which unattached riders may enter without having a licence. Club members who ride in these events are required to hold licences.

The event to suffer most from this ruling is the closed-to-club trial, the trial in which, we were originally led to believe, members would be allowed to ride without a licence, provided it was also classified as a "propaganda" event. Alas, this is not so, for club members will still have to hold a licence to compete. The only way such an event may be run without the need for competitors' licences is to organize it purely as a social event with no marking and no results published. Which does rather take the fun out of it. Could not an exception be made for the closed-to-club trial? Often it is the only ride of the year for those who take part—the people who usually do all the dirty work in the major club events. Is not that payment enough for the ACU?

Down Hillberry, chin on the tank, at 30mph (or maybe 20, or even 10)



AN AERMACCHI SAGA

The writer on his Aermacchi, 115, talking to Hector Dugdale at the starting parade before the Senior MGP. Beside them Keith Trubshaw, 117, is with a worried-looking Alan Dugdale



NO, not *the* Aermacchi saga; that must wait until a great deal of spadework has been done. This is simply the saga of a specific machine, and is a cross between a track-test and a race report.

It all started just before the last Manx GP, when I was dithering between riding a 450 desmo Ducati and a 182 CR93 Honda. The Honda won only because the Ducati/Senior ride was not offered by the Manx Committee, so that I was foiled once more in my plans for a four-stroke Senior ride. The Ducati had been bought specially for the Senior Manx, and was sold when the ride was not forthcoming. It had been acquired as being in good condition from a man in Bath, and after it had blown up in a big way after the first five minutes on a track, turned out to have had a worn out crankpin, a cracked head, and whole host of other horrors inside. The blow-up itself was caused by the big-end locking up, smashing the piston, bending the valves, breaking the desmo rockers, and braking up the liner while bending the rod. The flywheel had been boded on, and helped the process by coming loose.

Now: did this teach me anything? Yes . . . to determine the precise condition and suitability of the machine before purchase, or get it from an official dealer in this specialist trade, if at all possible, as this gives some protection via the trade descriptions and sale of goods acts *in extremis*. Having spent £200 and more putting the Ducati into 100 per cent condition before sale may have satisfied my pride in selling sound goods, but it had been a financial disaster.

Still hankering after four-stroke 500, I inquired after Manx Nortons. Phil Kettle confirmed the sad truth that original parts were not readily available. Other enquiries suggested that the current sources of pattern and replacement parts production did not receive universal acclaim. The Manx was also aged – to say the least – but the same applied to the G50 Matchless. The Seeley Matchless was clearly the best bet, and although parts are now extremely difficult to obtain, they were at least new very recently. This was a fairly general view, but I felt that the Aermacchi Harley Davidson had a great deal to offer, and the one thing that stayed my hand was the complete dependence on a single supplier, now that Italian sources are exhausted. Even the factory is virtually cleaned out, and new parts are made to order from Lawton and Wilson, the Southampton dealers. This monopoly position also extends to information. No manual or workshop guide or complete specification have ever been made available in the UK for the racers. Lawton and Wilson comprise the sole source of accessible Aermacchi data on parts lists, assembly, models, modifications, and setting up. Of course, individuals have become expert, but no full written details exist for those less expert. Some detailed data sheets have been produced by Lawton's, and these are made freely available, but for assembly, maintenance, and other data – Lawton himself is the source.

Sid Lawton has dealt with four-stroke Aermacchis for many years, and actively supported racing with a great deal of success, especially in the Isle of Man. Inevitably, as he is sole supplier and spares stockist, many stories circulate, favourable and unfavourable: the Gas Boards attract the same kind of thing, as do all monopolies. It is always difficult to disentangle fact from fiction in such matters, but after detailed discussion of the last few machines still held by Lawton, it was quite clear that he continued to supply after-sales support if a machine was purchased from him, and indeed, when it was not, he retained a lively interest and that his interest in racing had not flagged. Although his staff had been reduced to just himself and a storeman, a steady

flow of engines continued to pass through the workshop, and he was clearly under time pressure. Presently this is accounted for by the need to find new premises by the end of the year, somewhere near Southampton.

The machines available were a 408, a 382 and the 350 used by Alan Barnett to produce a 99+ m.p.h. lap of the Isle of Man, but when I had decided to do the Senior Manx in 1975, only the 382 was still available, as Sid was continuing to run the 402 chassis with 402 and 350 motors.

The 382 is one of Sid's special machines, owned, maintained and run by himself for sponsored riders. It is fitted with a sintered bronze clutch, offset 38mm carburettor, oversize crankpin, special rod, N6 cam, large cam followers, 382 piston and liner, and a special set of extremely close-ratio gears. The frame is fitted with a special heavy-duty swinging arm from a batch of three supplied by the factory, and a heavy-duty rear spindle. Other components worth noting are the Fontana 4ls front brake, the Ceriani rear brake, and Girling gas/oil shock absorbers. The appearance was of a well used and well kept machine – but not of an immaculate one. The frame was hand-painted in an excruciatingly horrible streaky silver, which was the main cause of the slightly down at heel appearance.

Sid wanted a pretty high price for the bike, in full accord with his Aermacchi reputation, and we went through the entire machine with care, checking off and confirming the state of each item. The whole bike had been rented to Geoff Biggs for the 1974 Manx GP at a sum of £200. Before the meeting a new big end had been fitted, and the bike had done only the Manx and a couple of short circuit meetings in the hands of Alan Lee. The entire machine was set up precisely as it had been for the 1974 Manx, and all the settings had been left undisturbed. Obviously the big end was the key item when worrying about the Manx, and as it was being bought essentially solely for the 1975 Senior, specific enquiries were made about its suitability: The only part of the bike advised as needing precautionary replacement was the exhaust valve, and that not until after a season of racing, including the GP. The type of big-end fitted was normally good for a busy season and the Manx, and after some spares had been added to the deal, the sale was agreed. I did not intend to touch anything, and would just do one or two meetings before the Manx so as to get the machine sorted out. The price was £650, admittedly £100 or so over the rate for a good standard 350 Aermacchi, but this one had had a long and successful Isle of Man record, with numerous laps at over 97 m.p.h. to its credit and places in the first three in Manx GPs – 2nd as recently as 1973 – and on the leaderboard in several TTs. It was also fully ready for the Manx, and normally I allow about this sum (£100+) when obtaining a second-hand racing machine as they are so rarely what they purport to be.

After the deal was settled, a further request for VAT came up: another £54; this was a most unwelcome surprise, but as other arrangements had been cancelled (for a TZ350 in fact), and as Lawton had done a lot of work on the machine, including new liner, good piston, new gear or two, and new cam followers, I was already committed, although the option to cancel the deal was offered. Apparently even such "second-hand" racing bikes, if owned by the dealer throughout, are subject to full VAT, as the purchase price is not admissible as a base reference for an estimate of VAT on "profit" basis, as used for purchase and resale of second-hand motorcycles. Thus spake Inland Revenue: Tom Christian in the Isle of Man had also bought a 350 at the same time (and being

My version of the starting procedure for an Aermacchi

better clued up on the bikes, had insisted on a set of essential tools with the deal), and had had the same unwelcome news. Two critical new spares came with mine: a special piston and rod, key items for long-term use of this machine, which rather softened the blow.

After all this palaver, the bike had *better* be good . . . however, I had been given copies of notes on the general set-up of the machine, had been told that more would be sent on (it was indeed, in a precise and useful form), and the sole copy of "A La Verde" road machine workshop manual passed on as the final addition to a comprehensive start on AM-HD lore. Quailing before the complexities of this apparently fiendishly complicated single, the first pushrod motor I had had for 10 years, I was pleased to know that Sid had stripped, rebuilt, and set up the bottom end completely, and that timing and tappets were set accurately. He even fitted the correct gearing for the circuit I was to go to first! Apparently, ignition timing shifts hardly at all once the heels have bedded in, and the tappets also remain extremely stable. Checking is worthwhile, but mainly as a diagnostic tool rather than from necessity.

With this knowledge I had my first AM lesson: how to start it.

I can say with some vehemence that I found starting an Aermacchi is a harder knack to achieve than even that for a Velocette, or that most demanding of two-strokes, the wet-clutch Yamaha TD2. After attempting to follow the sheet of instructions for evening after evening I gave in, and a phone call to Southampton produced a few variations to try – and that essential assurance that the bike *was* set up. I was *not* going to change those Manx settings of his until the Isle of Man if at all possible, so this was welcome news. Finally the knack came after a ludicrously long time. Sid's patient phone tuition paid off, and my own simple version of the starting procedure follows:

Switch on fuel taps, hold bike vertical with some care. Ensure N8 or N5 plug is fitted. If using R50 (i.e. Shell Super H), push the bike about for a dozen yards or so, if using R40 (i.e. ShellSport R or Super M), still do the same as a kindness to the engine, but it isn't needed to get a good start.

Now flood the carburettor until fuel squirts out of the float bowl, and stop. Retard ignition fully and switch on ignition. Leaving throttle *completely* closed, push to a good speed, usually four or five hard steps for R30/40, and drop the clutch instantly. Don't feed it. The engine will then spin; then continue pushing with small and steadily increasing throttle opening up to quarter-open until it fires. If using Shell H or similar heavy grades, a

Another shot of Trubshaw on the 352 Dugdale-Maxton Yamaha on his way to finish second

saddle bump is sometimes needed to get the motor spinning, but otherwise continue as described. This works every time. Sid gives a slightly different version which is 100 per cent for certain conditions, but the method I have described worked under *all* conditions.

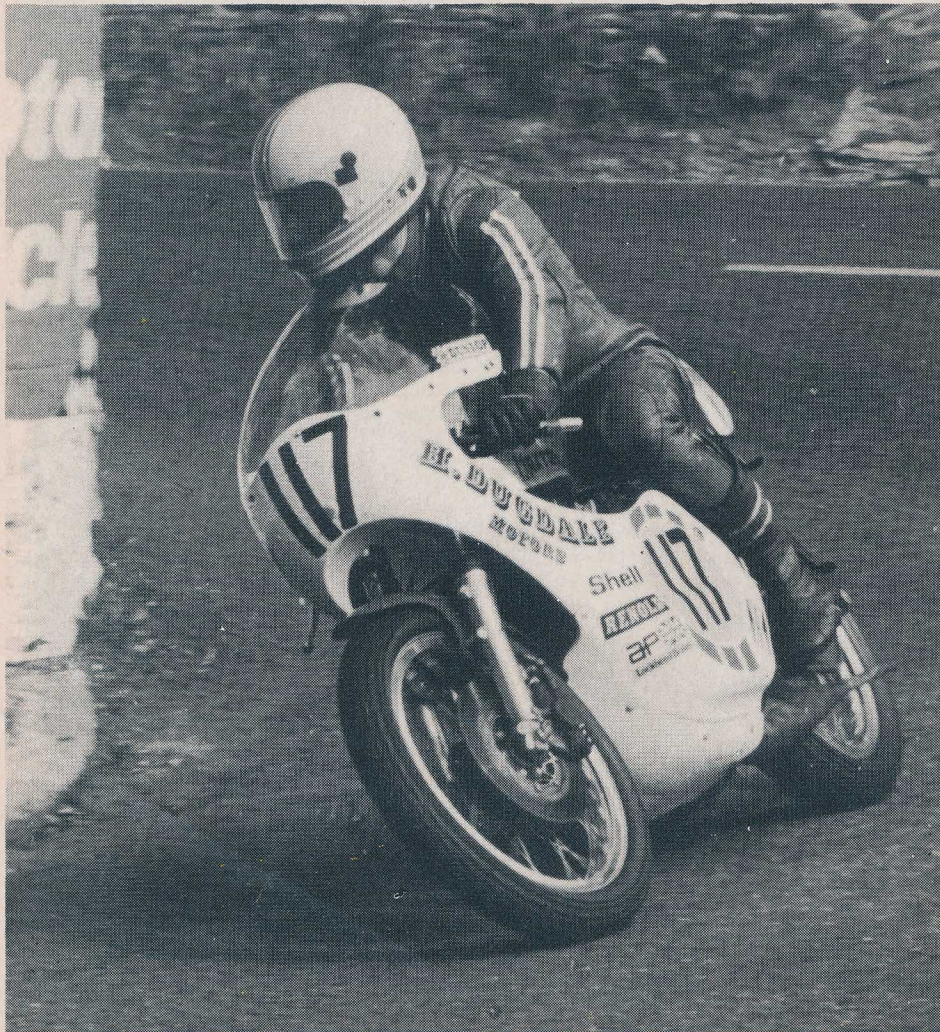
Aermacchis can be very hard on cam followers, and big-ends also need gentle treatment at the warm-up stage. Go on chuffing away until the oil sump feels warm and don't be deluded by the heat of the rest of the engine. I would like to be able to say that this cautious ritual had succeeded in ensuring a good big-end life, but for me even this sort of care failed to allow the big-end to survive 600 miles from the time I got it. Heaven knows how long it would last with ruder treatment. Other factors – as usual with racing bikes – obscure the contribution of warming up, and make it harder to be sure of its contribution. One of the appealing things about Aermacchis is that once the points have settled down, the timing barely shifts over an entire season: the tappets shift, but barely the odd thou, over the same period as long as nothing is going wrong. This was cheering to hear, and was later confirmed by numerous other Aermacchi owners. The cam followers fitted were the fat works type, and both were brand new. They are prone to flaking, in that if they survive the first 300 miles without flaking, then they last for a very long time indeed. When the machine was taken away I was advised to take the side off to look at the cam follower faces after 100-150 miles.

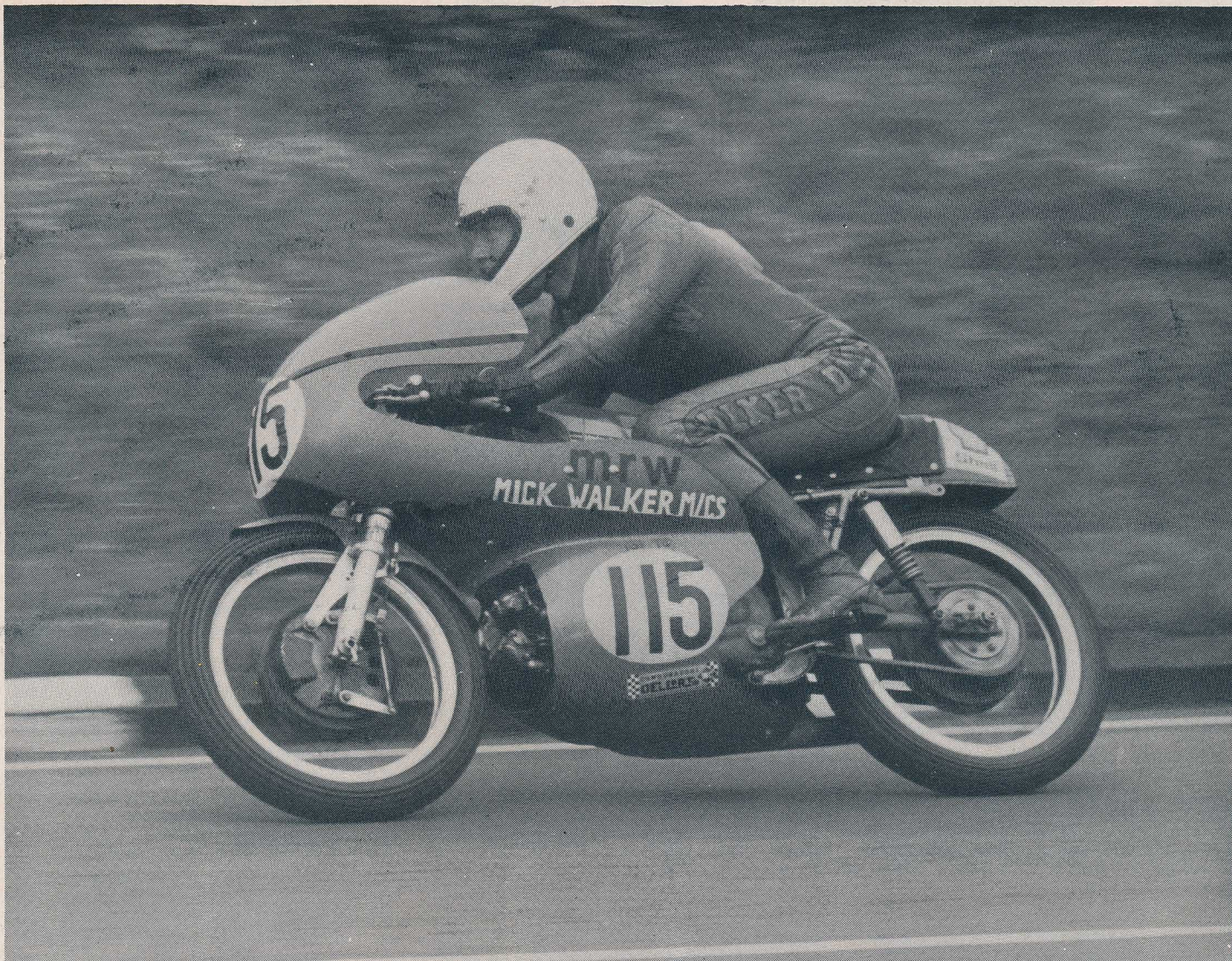
Foiled from riding at the first meeting by Easter snow, we entered for the Southern 67 Racing Club meeting at Snetterton. As the Aermacchi had been left set up for the Isle of Man on jetting, it was adequately rich to be left alone for these familiarisation rides. The brakes seemed reasonable, but not good: the handling a bit odd – it flopped into corners with an alarming lack of security and a tendency to understeer. The gearbox was superb, and no doubt would have been even better if used without the clutch for upward changes. I have established an almost immutable reflex to use the clutch for all changes; among other things, it gives a slight safety margin when jumping from one bike to another with quite different gear-change arrangements, or so I have found. The acceleration of the 382 was fairly good, but the top speed was not unduly impressive. My lap times on 382 AM and 750 Ducati were identical – and slow: clearly I was not yet *au fait* with the machine. Off to Silverstone to try to give the bike a fair chance, and to try to adapt my style of riding.

Minor adjustments to the brakes transformed the braking, and after these trivial adjustments the braking was quite superbly matched to the machine.

The gearbox continued to impress, but the handling, though good, was qualified by a nasty wallow round the ripples of Maggots bend. As a last resort to getting a good feel for the bike, I asked Martin Sharpe and Alex Ayres to do three or four laps each to give me a more skilled appraisal. Alex has had considerable AM experience, and came in glowing with enthusiasm, and Martin came back with similar comments, qualified by the caution which his unhealed injuries from earlier in the season had forced him to adopt. Right: I simply had to ride it *harder* and use the full 8,000 instead of 7,500.

The oil had been changed every time the bike had been taken out or at 100 miles: expensive on oil, but good for the engine as a whole. This time the tappets were checked: no change in settings. The cam followers were checked: slight evidence of work-hardening, but no sure signs of flaking on the chrome. Timing checked . . . and here some of





The writer at Creg ny Baa: "The motor was really flagging now, and 6,900 to 7,000 was its lot in top"

the potential problems started to show up. The backing plate of the advance-retard mechanism was not fully free as the grease had vanished, so the advanced timing could have been anything from 36° to as much as 43° . The points gap had stayed rock-steady, so no change of timing had occurred. It was reset to $35\frac{1}{2}^\circ$ at full advance, and the advance mechanism given some free movement on the cable adjustment. That fixed the timing. The tappet adjusters did not look entirely clean on the screwdriver slots, so as a precaution a new set of adjusters and lock nuts were purchased and fitted. Sid had supplied a special tappet spanner, made up for the job. Invaluable, and a thoughtful aid. The inlet tappet adjuster went in easily, but the exhaust needed to be adjusted to nearly the limit of the thread to get the correct 7 thou clearance. Had the valve stretched? Surely not in 100 miles? The front forks were then examined. One set of fork seals on the Cerianis were worn out, and less than half the oil in the other leg came out of the weeping side. New seals went in, and Tellus 27 Shell hydraulic fluid, rather more viscosity than recommended, but a better match to the rear damping rates. The carburettor jets were, of course, left untouched.

Brands Hatch was the next tryout, but before

the meeting the head was examined as a result of a sticky N8 Champion warm-up plug. Horrors: it had a malformed thread at the electrode insert, and had damaged the head thread. This was obviously the result of inserting the plug from astride the bike, forced on me by lack of a helper at the race meeting. This was a disaster, as the head is the heart of such a machine, and for one with such a history it was close to blasphemy. Take note, all new AM owners... examine your plugs, and beware of the slightest stickiness when inserting a plug. I helicoiled the thread, inserting the tap on a drill press to ensure square insertion. Keith Manning supplied the equipment for the job.

The Brands SSSRC meeting (the second before the Manx) gave a chance to check out the adjustments. In a last-minute change of plan I arranged to race the AM in two races, and then sprint off to Glydebourne for "The Rake": this meant changing from racing leathers to DJ at a dead run, and a hard drive down to Sussex to make it in time for the curtain. Dave Habel, another ex AM owner friend of mine, agreed to haul the bikes down and ride them in the races I had entered but could not wait for, one on AM and, two, on my CR93, also being tried out after a virtually new motor had been fitted.

This time it all worked out. Starting was easy, the note was crisper than it had ever been, and the 382 went very well indeed. The wallow had gone,

cured by the front-fork changes, and handling, braking and acceleration were right up to the mark this time. The torque allowed the 382 to pull from 4,000 to 8,000 r.p.m. The works 402 exhaust system fitted to the 382 helped this spread of pulling power. After my rapid exit Dave found the bike equally good to ride.

At last it was beginning to feel like it should.

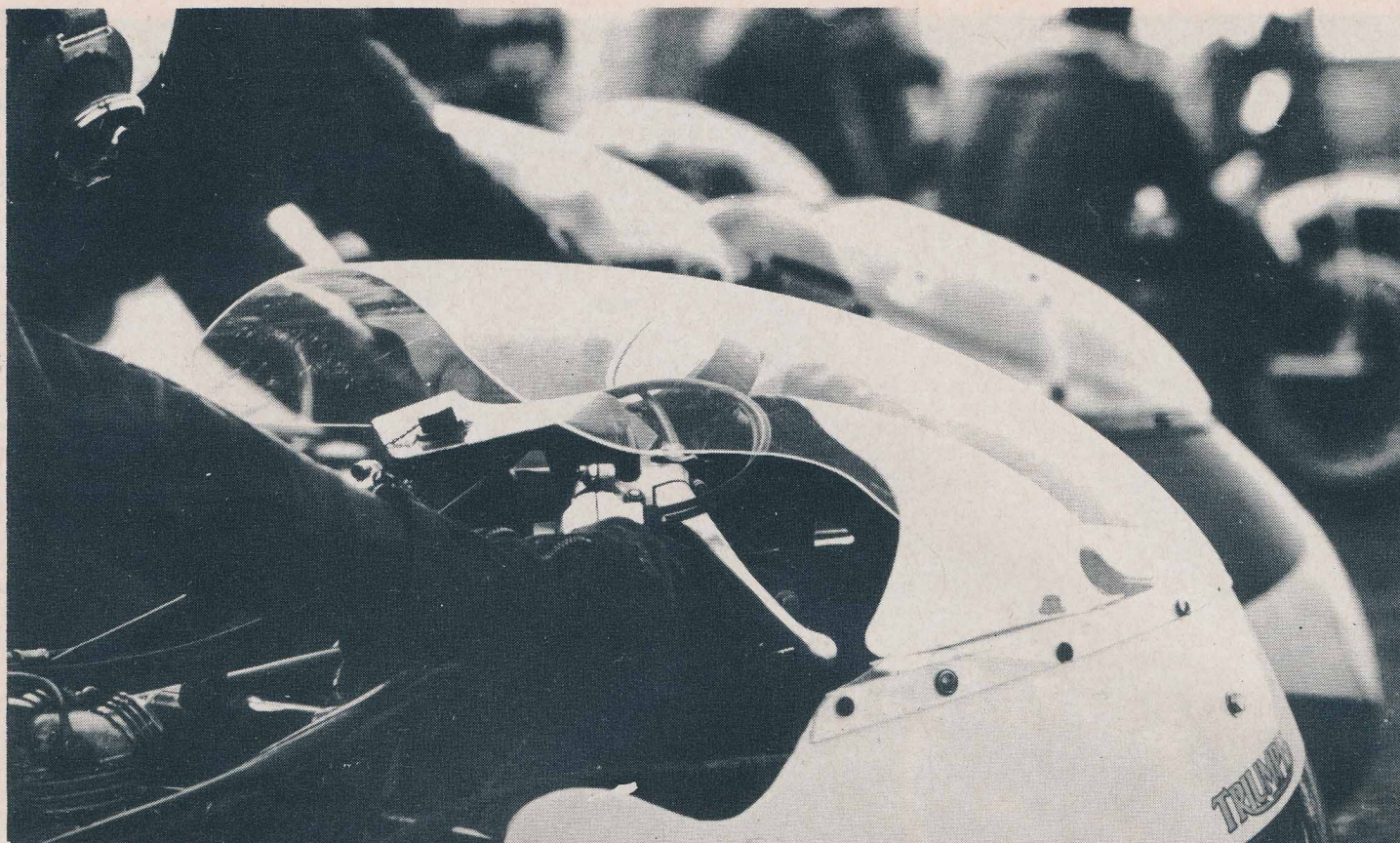
This time the meeting had exacted a price: two steel clutch plates had cracked and a third looked dubious. Unfortunately, Sid Lawton's stocks were badly down on these items, and he could only spare two from his last five plates: the remainder were going straight into his own 350 for the Manx GP.

The price of these plates was very reasonable, and not at all the extortionate charges that one might have expected for such a special item, had one listened too credulously to the stories of "high prices". There is only a handful of sintered bronze clutches in use, so, when the stocks ran out at the factory, Sid had the friction material planed off standard dry clutch friction plates as these were a good substitute. Some of these would be with him in the Isle of Man.

The real test for the Aermacchi would, of course, be the Isle of Man. This was the race it had been bought and prepared for. This year would — or should be — as fuss-free as when I took a TR3 for the Junior in 1973.

It didn't work out like that.

On the first morning a nice quiet ride round



A sporting race, the Manx GP — sporting for all . . .

gave a lap at a pedestrian 29 minutes. The AM wobbled on Cronk-y-Voddy, weaved on the Veranda, and twitched at Union Mills. It was also patently incapable of pulling the 350 gearing of 19.48 fitted as a temporary measure while awaiting the correct 20t gearbox sprocket: 7,600 or 7,800 was the very best that could be squeezed out. The previous year Geoff Biggs had 8,000 to 8,200 on 20/49. Ah, well. The plug was an RL51, and looked rather hot. Sid thought the jet (which turned out to be a 170, which he had fitted the previous year) was too small and that an RL52 would be better. And so it was done. A couple of laps of low 26 minutes followed, but cost cracked porcelain on an RL52! So a 178 went in, with new RL52. This time 26½ and 25.04 followed — a 90.3 stopping lap. The timekeepers had me down for 27½ and 24.04 — far too fast, and not even in accord with the total time recorded by several of my timers. On investigation, the 24 was changed — not to 25 (which would have given correct times both for each lap and the total time if the first had been reset to 26½) — but to 26, with the first unchanged. So much for doing two laps on the trot: the time auditors have a tough job. Fortunately I had sufficient independent timers to confirm 26½ — 25.04. The only problems were an intermittent blowing under the helicoil, and a sad-looking plug together with a slight misfire. Once again 7,600 was top r.p.m. The AM was really fun to ride, and the timing had shifted less than ¼ of a degree on any outing.

Clearly the helicoil was not good enough. Off

came the head. I got a double-threaded brass bush made, and the head tapped in a drill press to 18 mm. Penetrating permanent Loctite fixed the bush when cut to accurate length, and a short peg of 1/16 in. brass completed the job. I would have liked to have made a smooth shape to fair into the contours of the combustion chamber slightly better, but the ½ mm lip at one point soon proved to be eased by carbon deposits in a few hours' running. Before we removed the head, tappets and timing had been checked again not only to see how they had changed, but as an aid to rebuilding the motor. The timing had stayed dead on its pre-session setting (of 36° BTDC as an experiment). The tappet clearances had altered. The inlet by 2 thou, and the exhaust by a full 7 — taking it to the very end of the thread. This really bothered me, and Sid wanted to check the valve on the exhaust side. I stripped the head to examine all parts, and found that the exhaust cam follower (the one on the outside of the casing) had flaked already. New follower needed. The exhaust valve proved to have stretched to 1½ mm overlength . . . the last 9 thous having been taken up since purchase. Sid sorted through his valves, as this motor has a large 35 mm exhaust valve fitted. The seat had to be cut back a long way before we were both satisfied with the seating, and the valve size rose from a first trial 34½ mm to a full 35.2 mm o.d. to suit. When the springs and collets had been fitted, the free length of the spring was exactly correct . . . it was all in the valve extension.

By next day all was ready again for three laps of 26, 26 and 30 minutes, when the chain snapped and disappeared at Signpost. Pushing in clearly costs four to five minutes from that point. The jet was now far too rich, and the brass insert was working superbly in transferring heat. Jet size was cut to 172 and the Saturday practice used an RL51 again: 26 minutes . . . and fourth gear went completely. There had been all sorts of other small problems all week, with misfires and sundry other easily cured details, but this was serious. Everything outside the inner crankcases had been stripped and rebuilt during the week and was working perfectly: now, on the Saturday, the whole lot had to come down. Just to add joy, another plate had cracked in the clutch. One of the slotted ones. Sid readily lent the tools for crankcase splitting, and the fourth gear lay there, pinionless after a few hundred miles. I had already discovered that in this I was far from unique in the Island. Of the three Aermacchis in the same street, only mine had any hope of making the race by this time; fourth gear and big end trouble had scotched the rest. I wished I had driven it more inconsiderately, and failed to use the clutch: then the gear would have failed a great deal earlier and given me a chance to go hunting for the lost speed rather than fix problems all the time. Back it all went. One small trick which is worth passing on is that in reassembly the right-hand side of the crank has two gears on it which need special care. The inner one is a friction fit, and transfers the power from clutch to crank, and is simply pushed on a taper. I didn't know this. The outer one is a half-time pinion with a Woodruff key. The camshaft and timing lobe is on one gear. An N6 cam was fitted to the 382, but this is no different from any other AM cam in this respect. A dot on the half-time pinion engages a double dotted tooth on the cam wheel when the piston is at TDC. The Woodruff key then slots into the keyway pointing vertically down from the centre of the pinion —

and not the one facing the camwheel! A quick check of the ignition timing confirmed this. Once again, Sid was the source of the key datum, so I have given the details here for wider consumption.

By this time I was getting really worried about the ability of me and the bike to finish the Manx, and beginning to forecast a big-end failure in the race as being the only thing I had not had down and double-checked in the Island. Contrary to my usual practice, I had left the motor as set up for the Island at acquisition, and had taken great care to disturb it as little as possible. Usually everything is treated as suspect and dealt with accordingly, to ensure a finish in the Manx. I really learnt from my first year, but this was the first time I had not done the preparation myself. Gloomily I forecast more trouble for the Monday morning last practice. And, thanks to my own oversight, I got it. I jetted up to 175 again for early morning condition, and it ran fairly well, with the return of the intermittent misfire to haunt me – just before the motor stopped transmitting drive to the clutch. That idler gear. My fault entirely, I should have asked about it.

All the bits torn off again – we were getting absolutely expert at it by now – and the offending gear was lapped and ground on to the shaft this time, and Sid's extra-leverage tools were used to get it up really solid. A new set of tab washers were of course needed, and they were generously given free of charge on this occasion. A big morale booster as this point, with all practice over. The batteries I had were all put through load testing, and were just a bit questionable, so Alan Porter lent me his from his immobilised Aermacchi.

It seemed that 172 jet and RL52 for the race was a safe mix, and the bike was scrutineered with crossed fingers. It was run at a quiet and steady 3 to 4,000 r.p.m. in bottom for the whole parade through the town, so for once I didn't end up on the tail of the lead car. After engines were stopped the bike had to wait for five minutes before the first man went, and then another 19 until my late starting number came up.

Flag up

At last the flag came up in front of me after 30 min dead engine time, and with a precautionary curse at the big-end a half-hour the bike was pushed off. As the motor was barely warm it was softpedalled all the way through Union Mills and up the hill: only at Glen Vine was it given its head and with the violent wiggle and shimmy it always gave there, it got down to going, it was rather lonely at number 115, and with no one in sight it was hard to push on the pace. Wayne Dinham came streaking by at Crosby, only to stop in the Glen Helen section, shaking his head. By the end of the first lap I had caught and passed a few riders, although the lap was only at 86.7: on the next lap John Goodall came past me (started number 7), but the lap was at 88.6 and by my pit stop I had caught up 104 and 105 with a lap at 89.2. The pit stop was pretty slick. Roy Garnett got me away in about a minute, and the whole lap was at 85.5. On the third lap the bike had started that uneasy vibration that means either an over-rich jetting or a fading big-end. High-frequency vibration had been intermittently evident during the week, but I hate having gloomy forecasts fulfilled, and I was hardly happy as the bike steadily lost speed at the top end. Only 7,100 came up at the Highlander on the fourth lap (instead of the 7,600 of the first), and it looked as if my specially purchased and prepared machine was not going to get me through the race. Oddly, this year I really found that I knew the course,

and was looking for more speed and acceleration even on many of the bends. On this fourth lap it all came together, and I saw bikes ahead at last in clumps. They were faster on the straight but one by one I caught them through the bends. This was definitely going to be a fast lap: the Aermacchi was handling and stopping superbly and I was really pushing it at last. Then, at Parliament Square, when I had got most of the way through the second bunch that I had caught, I was black flagged. It appeared that fuel had been seen coming out of the tank cap on earlier laps, but although it had virtually stopped the marshal insisted on a number of makeshift plier bends on the tank cap retaining ears and tests of the potential spillage rate, before he would even hear of allowing me to go on. After a certain amount of "persuasion", I was permitted to proceed "as long as you go steady . . . it'll be me who has to answer for it if you come to grief," said the marshal . . . as if he could be hurt any worse than I could be in such an eventuality. Alerted to the possible hazard, I was hardly likely to have ignored it in any case. As I had really thrown the bike about and braked in a jerky fashion all up the Mountain, it was clear that the spillage from the cap was over. In fact the tank top stayed bone dry to the end of the race. I then pressed on again, and made the lap at 31.36 (the six minutes and a bit lost had cost me a 90 lap in the race . . . if not a bit faster).

End of the trouble

You might think that this was the end of the trouble . . . anyway, I had passed a faster bike, a Seeley (No. 88) before on one or two occasions, and soon caught him again on this last lap. The motor was really flagging now, and 6,900 to 7,000 was its lot in top. I nipped by into the Verandah and it slowed considerably with a very unhealthy feeling, 88 went passed again (for the last time) and I nursed the bike up towards Brandywell. It didn't make it. Half a mile before it made a very nasty noise and I whipped the clutch out before it could seize. As I feared, the big-end – was it a result of distortion produced by the hot plug? On the last lap, and starting 115, with six minutes of black-flagged delay, I had 25 minutes less time to push in than number 1 would have had in the same position. That meant that I had only a very faint chance of getting home from my starting position of 115. As the acquisition of the bike had been essentially for this race, and this race only . . . I was not going to stop until all hope was lost. I ripped the visor bolts off my helmet, tore off the visor, and put it in the fairing. There is nothing as exhausting as pushing a racing bike in leathers uphill on a hot day. And when you started tired after 5½ laps, it is really gruelling. I shouted to marshals at Brandywell and Mountain Box. "How much time have I?" and all I got were doubtful looks and shaken heads. Coming down to the 33rd Milestone, Pete Harrison (whose son had had a new short-stroke motor from Lawtons this season, and who had lost his big-end on the Tuesday of practice week) laughed at me, and waved a camera. I'd like to see that shot . . . just to see my own expression. Two boys came running up, and a shout from an ex-TT scrutineer stopped them, I snarled at them to keep away, and with hurt expressions they fell back. No time to tell them why. Down Hillberry with chin on the tank at 30 m.p.h. (or maybe 20, or even 10). The shattering push up Cronkny-Mona now. The policeman said "The car is on your tail" . . . but I went on, and at the top a big single chugged by, being tailed by the road-opening car (which I then heartily cursed). From that point to the finish I had once before that fortnight pushed in in under four minutes . . . so as I reckoned I had a little more than that it was worth

"finishing" to try to appeal for the black-flagged time. Anyway, No. 33 came in with the car, so even if I just pushed in in 10 minutes I would have the satisfaction of having completed six laps at a faster average speed than him, even if he was a finisher, due to his earlier starting number. So I simply tried to forget about everything but pushing, and concentrated on the cursed big-end and its mutinous premature end. The anger helped to push my feet along, and as I came up to the finish Roy appeared with the van, and I waved him back, pushed across the line, and staggered into the timing hut to ensure they ratified my completion of the course, and then to the Clerk of the Course, Jackie Woods, and asked him to put the question of black-flagged time to the stewards. After all, I had finished the six laps in 3 hours 5 minutes with all interruptions – that is an average of a bit over 73 m.p.h. – and a good 3 m.p.h. faster than qualifying time for the race in practice!

I needed a cup of tea badly, and went to the tent: one of my friends saw me, and I expressed my curses at the man who had fitted the big-end, and not advised its replacement for the race, still fired with the exhaustion of the last two miles. I was so tired I could not hold my tea cup, and flopped to the ground to try to stop my legs and arms shaking.

When I had recovered a bit the bike was taken back to the garage and instantly torn down. Plug? Perfect mixture. Head and valves? Perfect mixture. Big-end? 1/8in slack! It was indeed the pig in the middle, which had cost me the finisher's award that the bike had been acquired to win.

At the presentation, Roy came skating up to say that he thought I was in the results . . . if I was, I would certainly not be last. Yes . . . true . . . the appeal had been allowed and the time credited, giving an average speed of 75.6 m.p.h., with No. 33 afterwards at 70.3. This news wiped out all the residual animosity I might still have felt after that charged three hours of the race, and I approached Sid Lawton to start again. After all: had not the bike done everything else it could? Obviously the speed loss in practice lay at the door of the failing crank at heart, and a near-90 lap on a bike painfully slower than practice could hardly be bad for the smallest four-stroke in the Senior! Not surprisingly, the approach was unwelcome. *Ca va*. The Island is one long race meeting, and emotions get very charged even at a short circuit meeting of a single day.

Minor irritations

The increasing tempo of minor irritations, rising steadily in severity at the very end of practice, and culminating in the race; such a programme had done little to encourage a cool approach to anything other than the riding! This little Italian machine had certainly passed on an unfamiliar and almost Latin approach, and it was hardly a creditable temperament: I do prefer a cooler style.

The Aermacchi had really demonstrated its worth: had I done an intensive series of race meetings before the Manx, and sorted out all these teething troubles, I am perfectly certain that I could have lapped in the low 24-minute band, up to about 94. This may seem unreasonable, but bear in mind that a pit stop lap at 89.3, putting 7,400 on 19/48 gearing, shows how useful the 8,000+ on 20/49 would have been, and this is precisely what it had delivered with Geoff Biggs aboard. Having won my Senior finisher's award, I must say that I find myself turning back to a 250 Yamaha, for a real go at a Silver replica. Have you not noticed how the achievement of one ambition merely spurs on the introduction of a new one?

Up to this year the limiting factor on my IOM lap speed was myself: this time – it is the machine

Gone are the days when full mechanics and spares support was available in the Isle of Man

— like all things it is a choice, but one cannot have a TZ250 and an Aermacchi, so the AM will be up for sale shortly, when the big-end is done.

It is amazing how tractable it is. Ramsey Hair-pin needed no clutch, nor did the Gooseneck: climbing up through the Waterworks, I reached the gear before rolling it off for the Gooseneck. This sort of pulling power is a godsend to the semiskilled rider, although I am sure that many of the really fast riders of my acquaintance would gladly trade it all for more speed. Francis Beart has seemingly managed both: his lime-green 350 Aermacchi was astoundingly fast, and carried Stuart Morell to seventh place and a replica — with laps of 97. The care and attention paid to that bike is evident: the paintwork (done by Keith Manning at Wokingham) sets off a superbly light machine. Beart has spent years on this bike, and it has clearly paid off.

Light machine

The Aermacchi is certainly a light machine: the 382 feels only about 250 lb, but Beart's must be nearly 50 lb less. You might have expected this lack of weight to have shown up in sidewinds and on bumpy parts of the course. It doesn't: the nitrogen-filled dampers on the 382, complemented by Shell Tellus 27 in the front forks, gave a superb ride. Schoolhouse Corner (at the entrance to Ramsey) is very bumpy indeed now, and is almost the only place where the suspension was caught out. Up at Windy Corner, and on the drop to Brandish, sidewinds were worrying on occasions, but only the gusts from gateways in the bank were at all worrisome. Up on the Verandah it was very different: for some reason the bike weaved and snaked round the four bends, and was distinctly unhappy on the run down to Bungalow Bridge. I've never liked that stretch, so it may just have been rider trouble: a not uncommon problem.

Tyres present some interesting points: due to the potential top speed (unrealised in 1975) of this 382, I could not use Michelins of the correct section, and got a set of Dunlops: 472 compound on the front and T10/100 on the rear — the latter being a "long life" tyre. The rear needed 32 p.s.i. — a vast jump from the 26 appropriate to the ordinary 472/KR96. Obviously a different tyre construction — the tyre war warms up, to the benefit of all. Michelins had a full support team at the Manx, but, unlike the Internationals when they are worked to a standstill, the "Club" market has not yet taken to Michelin tyres. It is likely that the Michelin men will come to a few selected club events next year, to spread the message (and the service) more widely: I certainly tried to do my bit to persuade them to try it.

This question of trade support is little un-

derstood: it is of absolutely vital importance for the majority of riders in the Isle of Man. Renold's chain service is a prime safety factor, and the Michelin (and more limited Dunlop) tyre support is equally important. Shell's contribution to the races is often overlooked — until you take part, and see what a critical safety, supply, and support role the Shell service crew plays in both TT and Manx races: I'd hate to have to pay for their services; they would still be wanted even if the Manx had to hire them for the work.

The other form of support is to the machines: gone are the days when full mechanics and spares support was available in the Island in June and September: Manx Nortons, G50s, Seeleys, Weslakes are all "enter-yourself" models now: Yamahas have several crank builders, spares suppliers, and repair men in the Island. This year Dugdales and Padgetts and Fowlers all had services going. But for Aermacchis . . . Sid Lawton, a stack of spares brought over by Gary Thomas, and an unending slog for one and a half weeks as he doled out advice, tools, spares, reprimands, and suggestions to a steady stream of worried Aermacchi riders. There must be a considerable number of riders who would have failed to start without his presence. To my personal knowledge, lunch was skipped or hurried over in a van outside, to get back to do a critical job for one or another anxious rider.

Perhaps his lack of an additional mechanic pressed him too hard this year: his own (ex-Alan Barnett — 99.9 m.p.h. lap) 350, ridden by John Goodall, lost out on his time, and when a few tiny flecks of magnetized metal were caught on the sump plug on the Sunday before the race, he might otherwise have torn it down and rebuilt the crank. As it was, John dropped out after big-end failure, when lying well up in the Junior.

Aermacchi cranks

An interesting detail on Aermacchi cranks is that, since they went over to stronger crankpins with smaller holes down the centre, a common cause of end failure is insufficient oil changing. The fine particles block the hole and cause premature big-end flaking and cage failure. This simple check — on the swarf in the crankpin — tells Lawton how the rider is treating his motor to oil . . . just as anyone replacing rollers on a CR93 can tell at a glance the r.p.m. used by the blueing and tracking on the old rollers. Mechanical evidence is mute, but shouts aloud to knowledgeable eyes.

It is sometimes daunting to realize how fast one travels in the Isle of Man: I took my Z1 round a couple of times, and found that pretty spirited riding still yielded a mere 60 m.p.h. average from Ramsey to Douglas: yet 115-120 speeds were used frequently, the restriction to one side of the road, and caution for other road users adding minutes to the journey. Yet the Aermacchi was averaging 50% faster . . . and a fair bit faster than I could manage on a 350 Yamaha in 1973: And that on a fading big-end. . . . Fuel economy is another excellent feature of the Aermacchi: three-quarters of a gallon per lap is about 50 m.p.g. — twice as good as a Yamaha.

Once brought home, the Aermacchi was stripped down: everything was in beautiful condition, one clutch plate cracked, big-end gone, one gearshift plunger sticky (with metal from the dead big-end), and — on very close examination — the oil pump was not quite up to the mark. This too could have had some effect on the crank, but, although I am fitting a new one, it is probable that the extreme heat generated by the poor heat transfer of the petroil was the main culprit, by inducing detonation. Sid Lawton had let me have some of his small store of "Copaslip", a copper

grease for plug threads, but it did not help a lot. However, other riders have used Helicoils with great success: Dave Dann did it in the Manx practice this year, having stripped the thread in the read of his ex-Malcolm Noble machine on the Thursday.

How do you sum up the 382? It is a remarkably good racing machine, which responds to the rider's proficiency from rock-bottom standard to the most skilled performers: it handles extremely well, is light, solid, and surprisingly comfortable — even for a 13-stone, six-foot rider! While clearly down on speed this year, for reasons already discussed, it was still fast enough to get round within 1 m.p.h. of a 90 miles an hour average. Perhaps the best summary is to describe the 382 as an ideal beginner's machine, which quite unassumingly and imperceptibly raises the standard of driving of the rider, and responds valiantly to being ridden really hard. On the debit side, there are all too many minor, but cumulatively depressing, precautions and items of special knowledge required to obtain the reliability for which the four-stroke racers have a long-standing reputation. The second is curable by normal, if occasionally expensive, learning processes: the first is inherent in the machine, and cannot be put in unless designed there in the first place.

Summary of two weeks

The 1975 Senior Manx commands a similar summary: how far can one compress two weeks? Perhaps by analogy: a year or two ago the R.A.F.M.S.A. had an outstanding week of victories in individual and team awards, yet had only a short handful of riders with which to do it. Such success spurs others, and Barry Roberts of the Royal Engineers is now well on the way to getting the same sort of recognition from the Army as the R.A.F.M.S.A. gets from the Air Force, *i.e.*, petrol costs refunded for going to meetings, and a number of other real "sponsorship" aids of that kind. This year he brought across a Land-Rover and trailer full of equipment, and cheery Engineers, who then helped everyone in sight: thereby displaying the considerable competence to which R.E.s are trained in field work, and spreading goodwill around with significant effort. This year Barry finished on his TZ350 at a very healthy average speed: next year? Maybe a team? The team awards do not seem to register on those not involved, but they generate a great deal of enthusiasm between clubs and riders. Riders way, way down the field can determine a club team's success or failure, thereby giving more spice to us also-rans. This year I agreed to ride as one of the R.A.F.M.S.A. Senior team (as a result of my spell in the R.A.F.V.R. and the M.S.A.), with John Goodall and Dave Featherstone. John turned out to have previously arranged to sign for another club, and so we all ended up in different teams. Dave was in the winning team, but John was unsuccessful, although finishing in a very high position, with 97/98 m.p.h. laps on his Vendetta-Matchless, but, just out of interest, I added up the times of the winning team and the putative R.A.F.M.S.A. three. Although I finished on foot, one from last, the "R.A.F.M.S.A." total time was over 12 minutes faster than the actual winning team. It would be difficult to find a better example of the incentive to finish if at all possible. A sporting race, the Manx GP, and sporting for all (with apologies to the sports council for pinching their slogan of "Sport for All").

Perhaps you, too, might find the Manx GP version of road racing more congenial than short-circuit sprints and one-day meetings?

— M.R.W.