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HONDA'S 1976 TL-250 TRIALS

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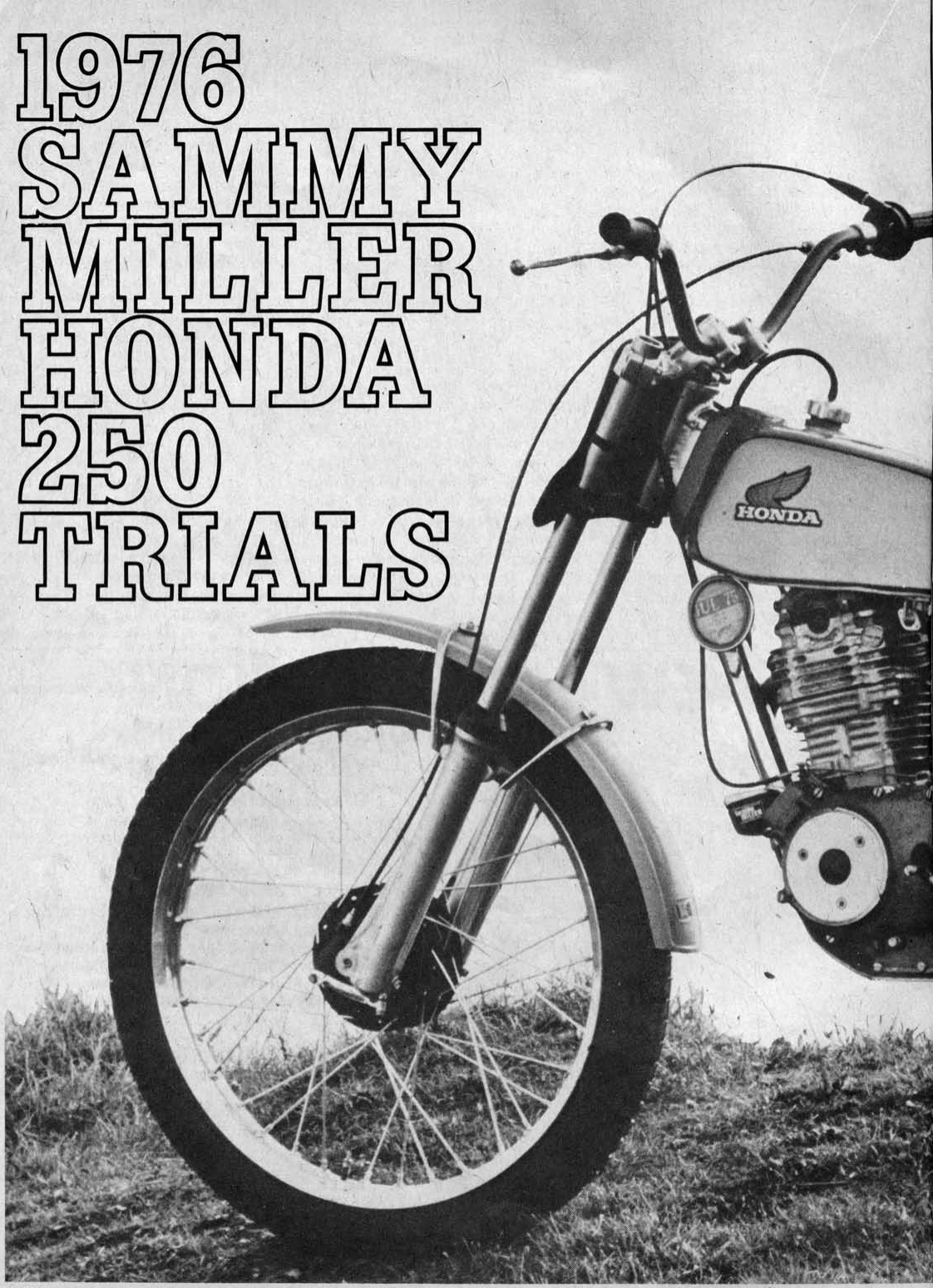
1976 SAMMY MILLER HONDA 250 TRIALS



Honda's light, modern singles are finding their way into today's two-stroke-only territory of trials, and the Miller-developed TL-250 proves they are here to stay.

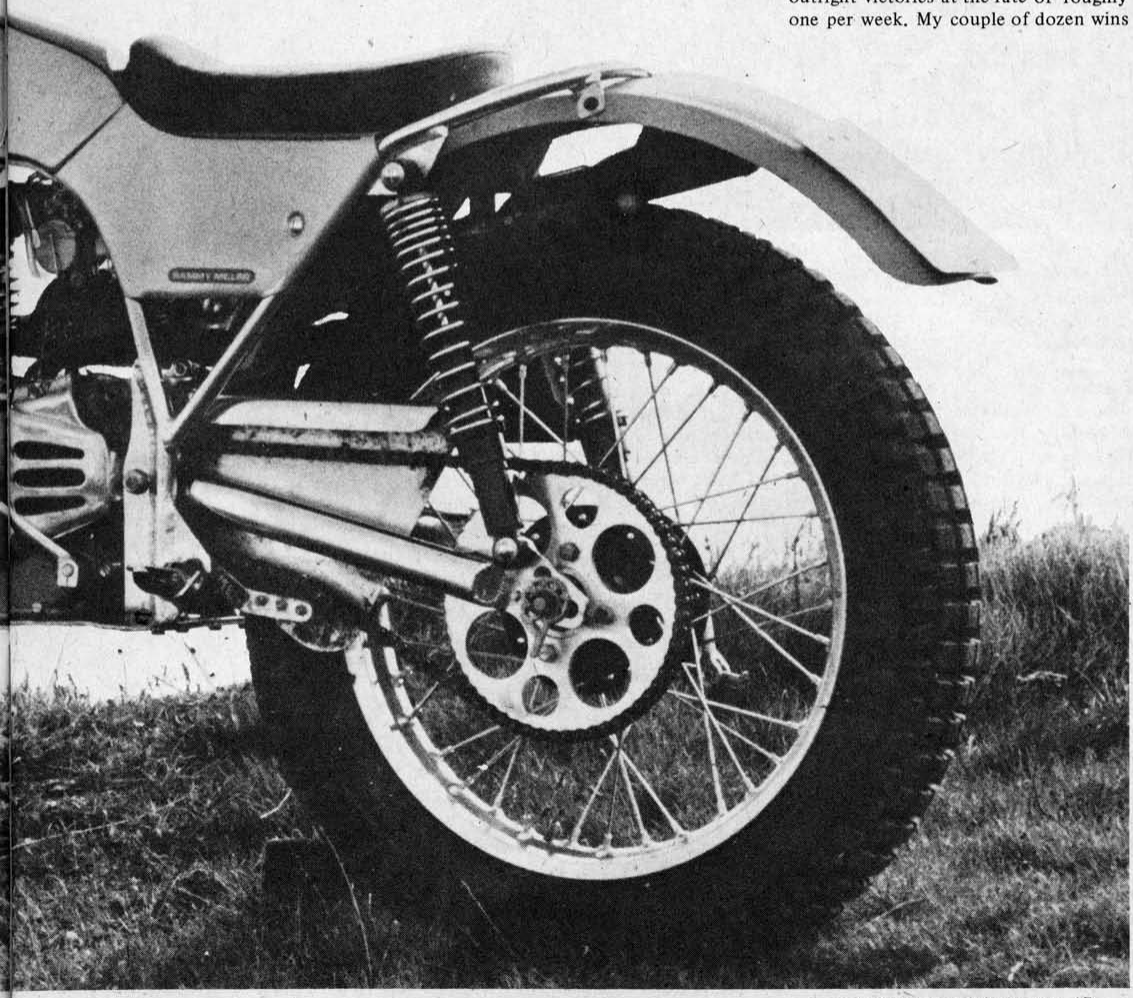
By Frank A. Melling, English Editor

■ After six years of riding the best competition motorcycles in the world and meeting their abundantly talented riders, I tend not to be over-awed by either machines or personalities. I am invariably impressed, but never reduced to a quaking, jelly-kneed novice. Well, very rarely. But the combination of the greatest rider in the history of trials and his prototype Honda, the product of the most powerful factory in the bike world, proved just too much for me. What could I, a humble journalist of very average riding ability, offer in the way of comment and criticism of this pair of titans? The answer at the time was, quite simply, nothing.

To meet Sammy Miller is a worthwhile experience in itself. His soft Ulster accent, rounded and without a hint of harshness, even in emphasis, is a mere decorative veneer on a hard shell. His natural good grace and charm do nothing to reduce the overwhelming sense of confidence he exudes in a ceaseless flood. Not arrogrance, but rather a total belief that anything he chooses to do is possible– and it often is.

The confidence must have stemmed originally from his success with motorcycles and is reinforced with successes now in business (Sammy has a thriving motorcycle business) and a world-wide acknowledgement that he is the finest development engineer in the trials world. After all, would Honda have anything less than the best?

As we unloaded the gleaming Honda from Sammy's custom-built station wagon, some of the highlights of his incredible career flashed before my eyes like a computer print-out. Eleven times Champion of Britain; "World" (officially "European") Champion twice; five times winner of the Scottish Six Days Trial; five times winner of the British Experts Trial, and added to this his overall total of between 800 and 900 outright victories at the rate of roughly one per week. My couple of dozen wins



In loose going, the superb pulling power that the Honda offered at very low rpm gave good traction.

in amateur motocross paled into insignificance.

Sammy warmed up the bike by plummeting over an apparently sheer cliff face to the sea and then riding up and down a sea-wall composed entirely of large and malevolent rocks that were between two and three feet in diameter. To put this exercise into perspective, imagine riding directly into a curb at the side of the road that is as high as a car hub cap. Most riders would kill themselves trying. Now imagine three or four thousand curbs, one after the other, and your bike slipping and twisting as its wheels claw up one side and down the other. Finally, as you ride nonchalantly up and down these rocks, look away from what you are doing and chat to bystanders, or take a long look at the carburetor. The effect on even knowledgable and hardened spectators is shattering.

After this display, Sammy handed the bike over to me and I made a fool of myself. Sections that I could never manage (and would never try unless someone bolted me to the bike) were proffered and reluctantly refused. I really did want to ride down vertical shale cliffs and over massive boulders as Sammy suggested, but although the mind was willing, the riding ability was far, far too weak.

I eventually proved this in the biggest possible way by not climbing a 50-foot ascent (apparently a secret stairway to the stars, judging from the angle at which it pointed skywards) composed entirely of some new form of adhesive which looked remarkably like coarse sand. In the process, I looped Miller's precious development machine, and after stepping neatly to safety with a skill born of a score of similar experiences, I watched the Honda bounce down the slope, much to the anguish of the watching superstar. After that, I was demoted to the kindergarten sections where I couldn't do much damage.

This suited me, since once I got used to being watched by the benign but not uncritical eyes of the W.G.T.R. (work it out!) I began to learn something about the bike I was riding, which was, after all, the object of the exercise.

Because the Honda is a four-stroke, it feels markedly different from any trials machine on sale at present. From that statement, you may deduce that we journalists have rapier-like perception, since every other trials machine on sale is a two-stroke. The most noticeable

This climb is much steeper than it looks. The author knows just how steep it is because in 2 seconds he is going to loop Miller's shiny prototype Honda.

difference is that it lacks the instantaneous response of a bike like the 325cc Bultaco Sherpa, which will shoot forward like a bullet from a gun at the merest touch of throttle. The Honda, it seems to me, lacks this zip.

Sammy acknowledges this and points out that the Honda performs best when it's not treated like a two-stroke (a fair comment) and instead of revving the motor, letting it pull hard from the bottom end of the rev range. This is possible because the Honda does chug along at minimal revs like a diesel tractor, and it will accelerate cleanly from literally any point in the power band above stalling speed.

The motor obviously will rev, and we must be careful to remember that this motor is a DEVELOPMENT unit that can be and is changed week by week. In fact, it speaks well of both Honda and Miller that they have sufficient confidence to let CYCLE ILLUSTRATED have exclusive access to the bike.

Unlike other engines Honda has produced for evaluation as trials machines, Miller's motor is a completely special unit designed from the crankcase up for the feet-up game. The engine is well over square, with a 74mm bore and a 57.8 stroke, finally killing the great myth that only long-stroke engines have good torque at low speed. Peak power is produced at 8,000 rpm when some 22.5 bhp is available. Another 1,000 rpm is available on top of that for emergencies, but the power drops to 18.2 bhp at these revs.

Although like most of the motor, the head is based loosely on the XL series, this one features small valves and an inlet tract to match. A special piston gives a compression ratio of 8.8:1. Feeding the combustion chamber is a 24mm Keihin, itself the focus of some intensive development work on the part of Miller.

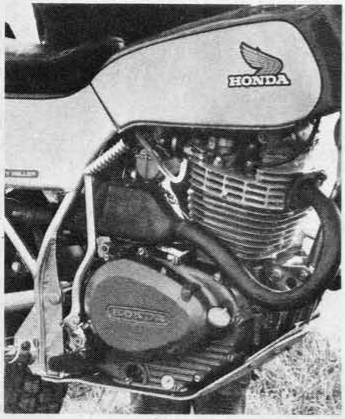
Because the engine is relatively short for a four-stroke competition unit (remembering that all valve engines carry the penalty of heavy and bulky valve gear) and use has been made of magnesium for the engine side-cases, the engine unit is a reasonably light 73 lbs. This is heavier than its two-stroke competitors but a good effort when compared with a motor like the old BSA B.50 MX, which tipped the scales at around 95 lbs.

The ignition unit of the new engine is a flywheel-powered electronic ignition which both contains its own advance

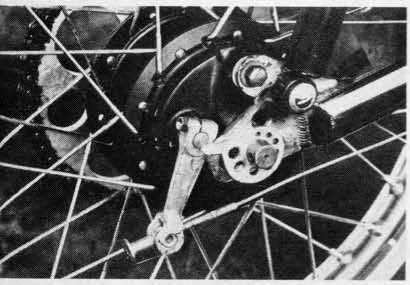
The Honda behaved well at low speeds but the high-up weight of the valve gear was noticeable.

Miller the perfectionist and the 250cc prototype Honda.

This prototype features Honda's own front fork and hub—both specifically designed for trials and very effective.



The trials version of the XL is much slimmer at the crankcase than the standard motor. Note also how the cylinderhead and barrel fins have been pared. Tank and seat are aluminum Honda items.

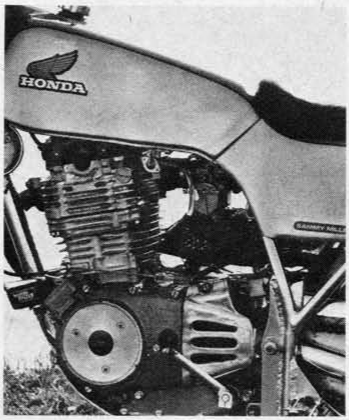


Rear chain adjustment is by snail cams. The whole bike is typically Miller–neat and functional. Note how the swingarm is drilled for lightness (and stress relieved) at the wheel spindle. The rear brakearm has been milled to remove the excess 1/2-oz. of metal. The rear hub is a new unit specifically for trials.

and retard mechanism and is free of contact breaker points. Just the sort of thing that one would expect from a company of Honda's standing.

Five gear ratios are provided, and they should cover almost every eventuality to be found in the trials world. Starting with an ultra-first gear of 42:1, they progress through 32.26:1, 22.37:1, 14.55:1 and 10.50:1, which should be high enough to ensure a reasonable turn of speed for trials which contain a time element.

Cosmetically, the new power plant certainly looks the part with all the superfluous fins removed and a drastic slimming of its width to a size suitable for squeezing between rocks or along cambered banks. The exhaust wends its way tortuously through an expansion chamber which, although empty, reduces noise by a phenomenon well known to engineers whereby the exhaust gas, alternately expanded and



contracted, is also quieted. The exhaust terminates in a silencer from which a pleasant burble issues forth.

I suppose I should mention that, unlike most competition four-strokes, the Honda has impeccable manners when it comes to starting. A firm prod at the kick-start will fire the engine, and if by any chance the rider doesn't manage the job the first time, he isn't going to get a broken ankle when the beast kicks back at him.

For development purposes, Miller has housed the motor in his own frame, which bears more than a passing resemblance to the Bultaco Sherpa, in whose development Miller had such a major influence. The layout is very conventional, with a 51-inch wheelbase and 11 inches of ground clearance under the crankcase. Using Reynolds T45 tubing and nicely bronze welded, the Miller frame follows the traditional standards of English frame building, and Honda could do a lot worse than emulate it in their production versions.

Sammy deliberately chose a tried and tested chassis design as a basis for his development bike, since this left him free to concentrate entirely on engine development. When the bike is successful in its basic form, many of Miller's ideas will be seen in the chassis department, the first of which will be the adoption of a beautifully neat cantilever frame which is already in existence.

As it stands, the Honda should sound a warning to any complacent manufacturer who feels like resting on his laurels. For example, the aluminum seat and tank unit is as neat as anything I have ever seen, and the front forks are on a par with those of any of the opposition. The hubs are neat and light and provide excellent braking. In fact, the whole bike has sound trials engineering and typical Honda quality. If it were put on sale tomorrow, it would sell by the thousands.

Although the next step is taken with bated breath, I must say that in my opinion the Honda as it stands at present is not as good as the opposition. True, Miller can make the bike do incredible things, but he also made a 500 Ariel and a string of Bultacos look equally good. The fact of the matter is that if Miller rode a full-dress Electra Glide, he would still out-perform most mortals in the trials world.

On a trials bike, weight distribution is ultra-critical, and that great lump of alloy and steel perched on top of a cylinder barrel definitely does make its presence felt at low speeds. Similarly, the lack of instant urge from zero revs will seem to be a detriment to most riders educated entirely on two-strokes.

However, the comforting fact of the matter is that Honda does not have to produce a superior bike in order to have a best seller; they merely have to produce a machine which is comparable.

The Honda weighs 200 lbs. ready to ride. Therefore, it is manageable by anyone who can ride a motorcycle. The Honda is quieter than any trials machine presently on sale. It can be ridden virtually anywhere—even within sight (but not sound) of a residential area. The Honda's exhaust emits no blue smoke. Not even the most neurotic environmentalist could find it offensive. The Honda will run for five or six hours on one gallon of gas. You will use as much fuel in a 15-mile run in the family station wagon as you would in a whole day of trials riding on the Honda.

The Honda is the trials machine of the future. ●