

# THE SCOTT FLYING SQUIRREL

By Jeff Glew

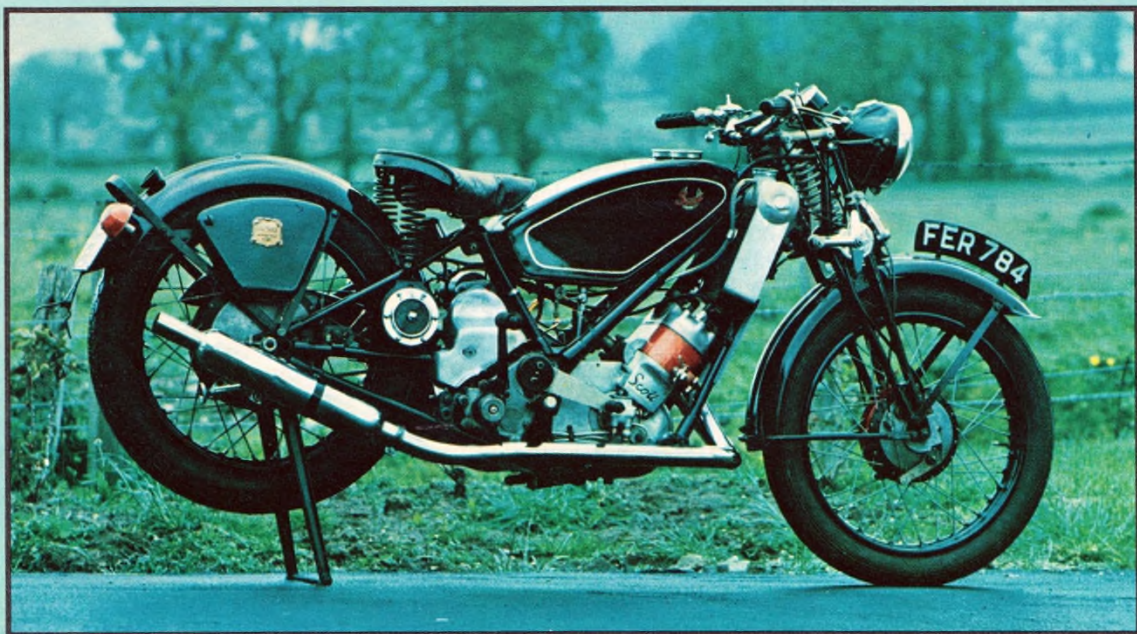
When Alfred Scott built his first twin cylinder two-stroke engine at the turn of the century, he could not have realized that he was starting a trend that would be in fashion some seventy years later. Utterly dedicated to this type of engine, he persevered with his experiments and evolved a design that was sufficiently advanced to permit limited production during 1908. The breakthrough came only a few years later, when a machine bearing his name won the 1912 Senior TT in the Isle of Man. This

success was repeated a year later and only narrowly missed in 1914. The motorcycling world began to take notice. Perhaps there *was* something very special about this unorthodox looking machine with its quiet purr and simple, but highly effective two-speed gear.

More surprising, Scott severed all connections with the company he founded immediately after the Great War of 1914-18. In typical fashion he had become obsessed with a novel but highly unorthodox three wheeler that had evolved from

experiments with a wartime gun car. But the legacy of his motorcycle designs lived on and others took over the continuing development.

No one knows for sure how many Scott motorcycles have survived the passage of time. There are close on 1200 recorded in the Register of the Scott Owners Club, but undoubtedly many more exist in unknown hands. The best models are unquestionably the open frame models of the middle and late twenties; these machines have a more favorable power to weight



PHOTOGRAPHY: BILL DELANEY

**In the Good Old Days, one learned to love a machine's idiosyncracies—or at least live with them. The Scott would, for example, bounce through a pothole and promptly over-oil itself. A bump, you ask, could foul a spark plug?? Sometimes. Crazy? Perhaps. Curious? Yes. Expected? But of Course.**

ratio than the much heavier post-war models.

The very first of the post-World War II prototypes, a 1946 596cc "Flying Squirrel," is unique; at that time no firm decision had been made about the form of front suspension. Apart from the full-width hubs and dual front brake, the machine is virtually the same as the model 1939, even down to the Webb girder forks.

Engine design closely follows Scott's 1908 patent. The massive alloy crankcase casting has two crank chambers separated by a space to accommodate the exposed central flywheel. A built-up 180 degree crank keys into this flywheel and is of the overhung type having the main bearings inboard those of the big-ends. All bearings are uncaged roller-types; sealing is effected by means of spring-loaded metal glands around the crankshaft that are copiously lubricated with oil. Access to the big-ends is by means of a circular "door" in each side of the crankcase casting. It is through these doors that the crankshaft is assembled. Lubrication is provided by means of a twin feed Pilgrim oil pump bolted to the right-hand crankcase door and driven from the end of the crankshaft. It is gravity fed from an oil compartment within the main fuel tank and each feed can be adjusted independently to provide the rate of drip required. It is not in any way connected with the throttle and once the adjustment is set, it remains constant.

Narrow, knife edge connecting rods carry pistons of the deflector type, always a feature on the Scott production models. The gudgeon pins are of the fully floating type,

with brass end pads. To reduce the risks of engine seizure, the full skirt of each piston is covered with a series of small grooves in the horizontal plane, each about a half-inch long. They provide a convenient means of retaining oil. Both the cylinder barrel and cylinderhead are water-cooled, relying upon the thermo-syphon principle and a massive radiator mounted above the engine. An Amal carburetor supplies the mixture; ignition and lighting is by means of a Lucas "Magdyno" chain driven from a sprocket rivetted to the right-hand side of the central flywheel. Another sprocket on the other side of the flywheel takes the primary drive to the separate, three-speed gearbox. This has an outrigger sprocket for the final drive, also by chain, to the rear wheel.

The cycle parts follow conventional practice in the main, apart from the use of a triangulated frame structure that gives the machine its unique handling qualities. This layout permits the use of a quite distinctive fuel tank that has a separate oil compartment and a controllable drip-feed lubricator for the magneto and primary drive chains.

One of two things would happen to the prospective owner of a Scott—either he would like it immensely and thereafter ride nothing else, or alternatively detest it from the start and never own another! Certainly the ownership of a Scott is a test of enthusiasm, especially if the machine has to be reclaimed from the inevitable heap of badly worn and rusty parts. Inevitably a most peculiar love/hate relationship will develop between machine and owner, even after restoration is complete in many cases. A Scott is a temperamental machine that somehow manages to retain an air of perverseness that will at times vex even the most hardened enthusiast. But when it is running well, Scott enthusiasts will tell you there's nothing better!

On the road, it is the turbine-like smoothness of the engine that appeals most, together with its smart acceleration when the throttle is snapped open. The exhaust note is normally a mellow, gentle purr. Acceleration at high speed produces the familiar Scott "Yowl," a noise

that defies description. Hills are climbed almost unnoticed, apart from a slight buzzing overtone that seems to originate from the induction system. Whilst waiting at traffic lights and road junctions, the engine hunts in a characteristic manner, accompanied by a curious jingling of the clutch plates when the clutch is withdrawn. This will identify the presence of a Scott, even if it cannot be seen.

By modern standards, the brakes leave much to be desired. The twin front brake is the main culprit, surprisingly enough, and requires linings of the so-called "black pudding" type to achieve reasonable efficiency. The rear brake suffers because the alloy brake plate is not ribbed internally for extra strength. The first really heavy application permanently distorts the brake plate and thereafter much efficiency is lost. Fortunately this defect was soon eliminated on the later models.

Starting is easy because the Lucas "Magdyno" is driven at engine speed and therefore delivers a very healthy spark at low rpm. A special reduction gear is used to slow down the dynamo, which would otherwise soon cook the avc unit. A rubber-mounted "T" battery ensures the rigid frame does not give this vital component a too hard life, always a factor to be considered when a good measure of performance is available. The lighting set does not match up to modern requirements and will permit speeds up to only the 50mph mark without cause for concern. The beam from the separate bulb and reflector type of headlamp is no match against the dazzle from oncoming halogen lamps.

The Achilles heel of the Scott is undoubtedly the Pilgrim oil pump. The setting is critical. Although it should remain constant in theory, it is prone to vary on occasion without warning. Too much oil and the plugs will foul; too little oil and ominous rattles soon occur. The ideal setting is the classic "two spits and a drip" from each feed pipe at regular intervals, as viewed from the inspection windows. This gives a compromise where the machine does not over-oil too badly in traffic and does not dry up when given the gun. A most curious feature is the way in which the engine

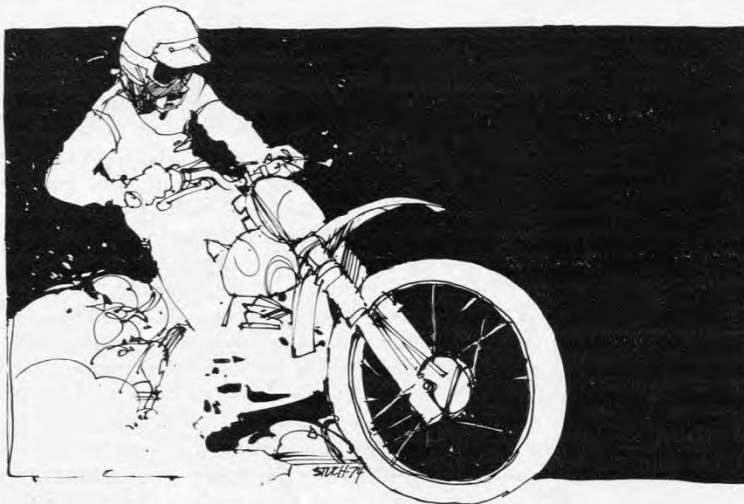
temporarily over-oils after hitting a pothole. This is caused by rapid agitation of the oil supply contained within a well in the base of each crank chamber. The well serves an important function since it contains sufficient oil for the machine to be driven up to eight miles at moderate speeds if the main oil supply ceases or runs dry. The choice of oil is critical too, and multi-grade or self-mixing oils have to be avoided like the plague except in dire emergency. The additives provide a high ash content, which quickly fouls the plugs. A straight SAE 40 is the answer; fortunately one British oil manufacturer makes a grade of oil that is especially suitable for the Scott.

Maintenance presents no real problems; but if it becomes necessary to remove either the primary drive chain or the magneto chain, it's a major operation. The main difficulty results from the need to feed the chains around their respective sprockets on the center flywheel. Even with the guide strips that are permanently mounted

within the crankcase casting, this is no easy task. The knowledgeable rider keeps his old chains and links them to the chains requiring attention, so that one pulls the other into position. Even then it is no sinecure.

The Scott is something quite unorthodox. A pause by the roadside or a stop for refreshment invariably produces questions and comments from onlookers. A few

are taken back by the unconventional appearance of the model and ask innumerable questions, such that it is frequently necessary to explain the left-hand crankcase door strap is not an exposed connecting rod! In short, whilst there is a real pride of ownership, never bank on being able to make a quick journey anywhere. ©



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