

Peraves Crack the 200 mph Barrier

ENGINEER AND DESIGNER Arnold Wagner, boss of the Swiss Peraves Company, has just announced his latest and possibly the ultimate in his line of Ecomobiles, this one dubbed the 'Super-Turbo-Mono,' for obvious reasons, with an output of 212 hp @ 8000 rpm and with a maximum speed, depending on gearing, of up to 330 km/h or 206 mph!

The 'W-18K 12T Super-Turbo-Mono-Eco,' to be precise, is a street-legal prototype, a single-seat sports version obviously in the same mold as previous models with their retractable stabilizers and so on, but this one features much more advanced systems and components. The basic body is still a self-supporting monocoque structure of carbon and Kevlar bonded with an epoxy resin and reinforced with aircraft-quality steel crash and roll bars. The engine mounts, frame, steering head, etc. are in argon-arc-welded steel, again to aircraft standards, while the unique front telescopic forks are of Peraves' own design and manufacture, with a BMW-Monolever and shaft drive taking care of the rear end. The company's usual gull-wing style door is incorporated, plus a sunroof.

As on previous models, the engine unit comes from BMW, but this time is from the K1200 four-cylinder, with IHI turbo-charger, intercooler, bypass-pop-off and wastegate controls, producing a torque figure of 142 lb./ft. @ 5250 rpm. The clutch is a reinforced single-plate device, and the five-speed transmission (four speeds forward and one reverse, electrically operated) is also heavily reinforced, as is the final shaft drive. Gear changing is effected by push buttons.

Braking is provided by three 320mm ceramic composite brake discs with four-piston calipers that use ceramic pads, and operated by Peraves' own fully integrated combination brake system, with electronic racing ABS and AWS (Anti-Wheel-Spin control). The low-speed outrigger stabilizers are also of a new design, and are now semi-automatic, hydraulically controlled and operated by a new multichannel computer, while the wheels are in magnesium alloy, either three or eight spoke, and fitted with Z-speed-rated radial race tires. It carries a 150/60-17 at the front and a 180/55-17 at the rear.

In spite of the sports image, a full array of 'little luxuries' are still included, like the leather seating, front airbag, heating system, GPS, and audio-CD system, etc. Nothing, but nothing, is forgotten!

But more importantly, how does it perform? As a guide, the machine has been circuit tested against accomplished riders on Honda CBR954RRs and Yamaha R1s, which were lapping in at 2:25-2:30



times, while the new Sports Eco was achieving identical times and, on occasion, marginally better ones! Serious performance, indeed.

In fact, exiting the bends under hard acceleration with the AWS system in operation meant that lap times were a shade below what was theoretically possible, but even so, the machine is no slouch, and its low center of gravity and well developed suspension and steering geometry make a rider's life easy when the chips are down. Contributing to this performance is the fact that the Super-Turbo-Mono

has a shorter wheelbase (85.3") than previous two-seater models, with the added bonus of a tighter turning circle. Acceleration has been tested as 0-62 mph (100kph) in 3.9 seconds, and stopping from 62 mph to zero in 126.9'. Weight is 803 lbs. and fuel tank capacity is 5.3 gals.

Production plans? Yes, although this is #1 of the new sporting breed, Peraves will build a small batch to order at an approximate price of \$99,284, FOB the factory, with deliveries beginning in summer 2004. So, if you need something fast, rare, comfortable and always dry, the Super-Turbo-Eco could be just the motorcycle for you!

The Australian "Irving Vincent" Approaches Production

THE VINCENT COMPANY that died in 1955 has always been revered, but never more so than it is today in Australia, as, of course, the original designer, Phil Irving, came from that part of the world.

Enter Ken Horner, a 51-year-old Australian engineering specialist and lifetime Vincent enthusiast. Ken actually became a personal friend of Phil Irving, with whom he talked frequently about the Vincent and how it could have been developed in more recent times.

Sadly, Phil died ten years ago, but Ken was determined to put some of Phil's ideas into metal, so in 1998 he set about building a Vincent for himself. After seeking replica components, which were frequently extremely expensive and difficult to source, he came to realize that everything he needed to build the bike was in his own factory, from the CAD design equipment to the latest in CNC machining centers. The idea was born not just to make one bike for himself, but a limited production run for sale to the likes of you and I, hence the "Irving Vincent" was born, now a registered name world-wide.

Ken wants the Irving-Vincent engines to be visually identical to the originals, but with internal changes for enhanced performance, to rival that of modern similar sized V-twins. Dyno tests have shown that Ken has achieved this aim.

The first prototype is, in fact, a 1296cc, 50° V-twin (100mm x 82.55mm bore and stroke), with the ability to allow a possible increase to 1600cc (100mm bore and stroke) once production begins.

Ken has succeeded in retaining the true Vincent image, but the crankcases he has created are heavy duty, built to accept a Nippon Denso starter motor and alternator, and the new crankshaft and con rods are made from high-spec EN26 material. Cylinder barrels also are made "in-house" and use Nikasil-coated bores that accept specially produced JE pistons to give a 10:1 compression ratio. Lubrication is taken care of by a two-stage oil pump.

Serious changes were necessary in the cylinder head area, as the old original heads were virtually impossible to successfully re-work. So Ken has designed new high-efficiency, narrow included valve angle, big port items with a revised rocker arm geometry, short pushrods, and vernier-adjustable cam timing. Also, to achieve modern V-twin performance, it was necessary to depart from carburetors (apologies to Vincent die-hards) in favor of an Australian-built Motec EFI engine management system which has proven to be very reliable and incorporates an Advanced Data Logger which is reported to be a real advantage in keeping everything running to perfection. The transmission is also up-rated to cope with the increase in performance, now with gear-driven primary drive, a new wet multiplate clutch with integral shock absorber, and finally, a new 5-speed gearbox with a drum type selector, again built in-house, of course.

The rolling chassis of the race bike stays true to the original with the engine used as a stressed member, but with an improved chromoly



tubular steel frame. Of course, a Vincent pattern cantilever rear suspension is fitted, but this time controlled by the latest adjustable Ohlins monoshock. The forks are Norton units, suitably modified, and the brakes are the most advanced drum-type, used for their period appeal—8" Fontanas, a 4-leading-shoe up front and 2-leading-shoe at the rear. The bodywork is fiberglass and it has a gastank capacity of approximately 5.8 gals.

The first Irving-Vincent is visually vintage, but replicas are of course being built to order, and the company sees their main market in the "sport-touring" sector. Already, such a machine is coming together. This one will be fitted with the same Ohlins rear monoshock, but the forks will be 43mm Ohlins inverted units and the brakes will be from Brembo, twin 320mm discs with 4-piston calipers, and at the rear, a single 245mm unit with a 2-piston caliper. The paint finish will be the same on every model produced—black.

Ken's ability, facilities and resources will ensure that the Irving-Vincent will be a reality on the world market by 2004. Still retaining the look and design of the originals, they will have performance to match the best of today's latest high-tech V-twins. We suspect that they will have a definite market ready and waiting.

Ken doesn't envision his bikes retailing for less than \$65,827, but compared with other hand-built machinery produced around the world, it is most certainly not over-the-top, considering the quality. So, Vincent enthusiasts, you don't have long to wait, your new "Irving-Vincent" is coming closer. That is a certainty, but if you require only an engine/gearbox unit for your older machine, that will be available, too, and 2004 promises to be quite a year for this new Australian company.

Take a look at the parent company's website: www.khequipment.com.au

— Doug Jackson



Left: Crank assembly with H-beam connecting rods and JE pistons. Right: 100mm piston and cylinder assembly.