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BEAUTY AND THE BSA

Magni R3 – The ultimate café racer

Story by Andy Saunders
Photos by Nick Cedar

If you could have the bike of your dreams, what would it be?

A few years back, Brent Lenahan decided he wanted to build his dream BSA triple. He started talking to Jerry Liggett, co-owner of Triple Tecs (tripletecs.com) and builder of former AMA Grand National Champion Gary Nixon's AHRMA-dominating Triumph triple a few years back. Brent's dream bike was a street tracker BSA Rocket 3, maybe with a Trackmaster or Champion frame, lightweight and powerful with race-specification engine internals and classic Seventies credentials.

While this might sound great, the street manners of a genuine flat track frame can be brutal. The steering angle is steep, so turns are immediate. Add a hundred horsepower to the mix and it becomes a snarling beast, more in control than the rider. Exploring options, Jerry turned the conversation to café racers, and then Italy. Then, more specifically, to classic Italian racers such as Giacomo Agostini and his MV Agusta race bikes, built in conjunction with master frame builder Arturo Magni. What about building a Magni Rocket 3?

The beginning

The hybrid café racer has a long history in England, where backyard mechanics started transplanting Triumph twin engines into Manx Norton rolling chassis in the 1950s; in Italy, Italjet built Griffon motorcycles with Triumph engines, and Bimota later perfected the craft, stuffing Yamaha, Suzuki and other makers' engines into its own perfect frames.

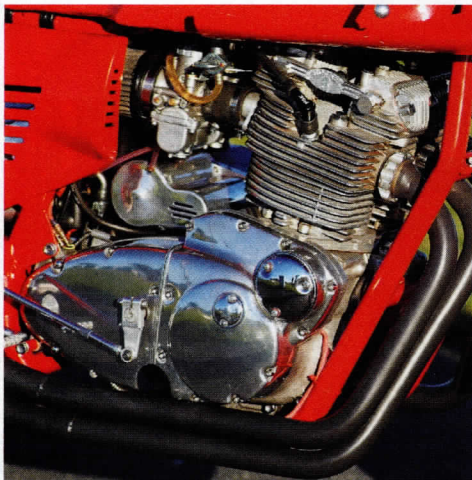
Brent remembers those days. He started his motorcycle career many years ago, on the dirt roads of his native Queensland, Australia. Wanderlust struck, and he headed off to the bright lights of London. After a stint working construction, he decided to keep heading west and spend a few months riding a motorcycle across the U.S.

He'd set his heart on a new BSA Rocket 3 from Pride & Clarke Ltd. in Brixton, South London, England, but then discovered he could buy a Honda CB750 in Jersey, Channel Islands, off the coast of France, without paying sales tax. The CB750 was \$170 less than the BSA, about 20 percent off the price. "I often think, how would my life be different if I'd



Owner Brent Lenahan aboard his
BSA Rocket-powered Magni M3.





2012 MAGNI R3

Engine: 930cc air/oil-cooled OHV inline triple, 72mm x 79mm bore and stroke, 9.5:1 compression ratio, 96hp @ 8,500rpm

Top speed: Not measured

Carburetion: Three Mikuni VM 32mm

Transmission: 5-speed, chain final drive

Electrics: 12v, dual-phase Lucas alternator, Tri-Spark electronic ignition

Frame/wheelbase: Chrome-moly dual downtube steel cradle frame/54in (1,372mm)

Suspension: 38mm Ceriani telescopic forks front, twin Gazi shock absorbers w/adjustable preload and compression rear

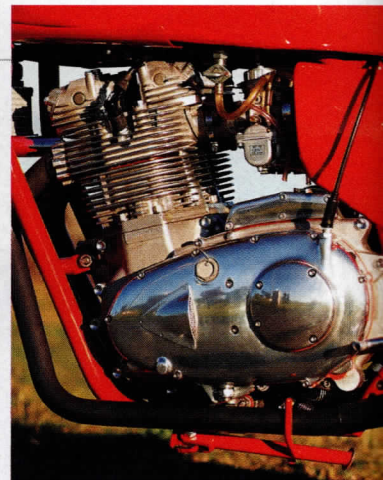
Brakes: Dual 10in (250mm) discs with Brembo calipers front, single 10in (250mm) disc with Brembo caliper rear

Tires: 110/65 x 18in front, 130/65 x 18in rear

Weight (dry): 355lb (161kg)

Seat height: 30.75in (781mm)

Fuel capacity/MPG: 4gal (15ltr)/25-40mpg



bought that BSA?" Brent says. "Would I have had the same trouble-free six months riding around the U.S.?"

Today, after a life spent bouncing between the U.S. and Australia, Brent is settled in Northern California, where he and a partner own the ultimate man cave — a former Chevrolet dealership paint shop, now outfitted with motorcycle lifts and filled with a variety of ancient and modern British and Italian motorcycles.

The Magni connection

From 1950-1976, Arturo Magni was the chief of MV Agusta's race department, working on MV Agusta's famous racers, with riders like Mike Hailwood and Giacomo Agostini in the saddle. When the department closed down five years after Count

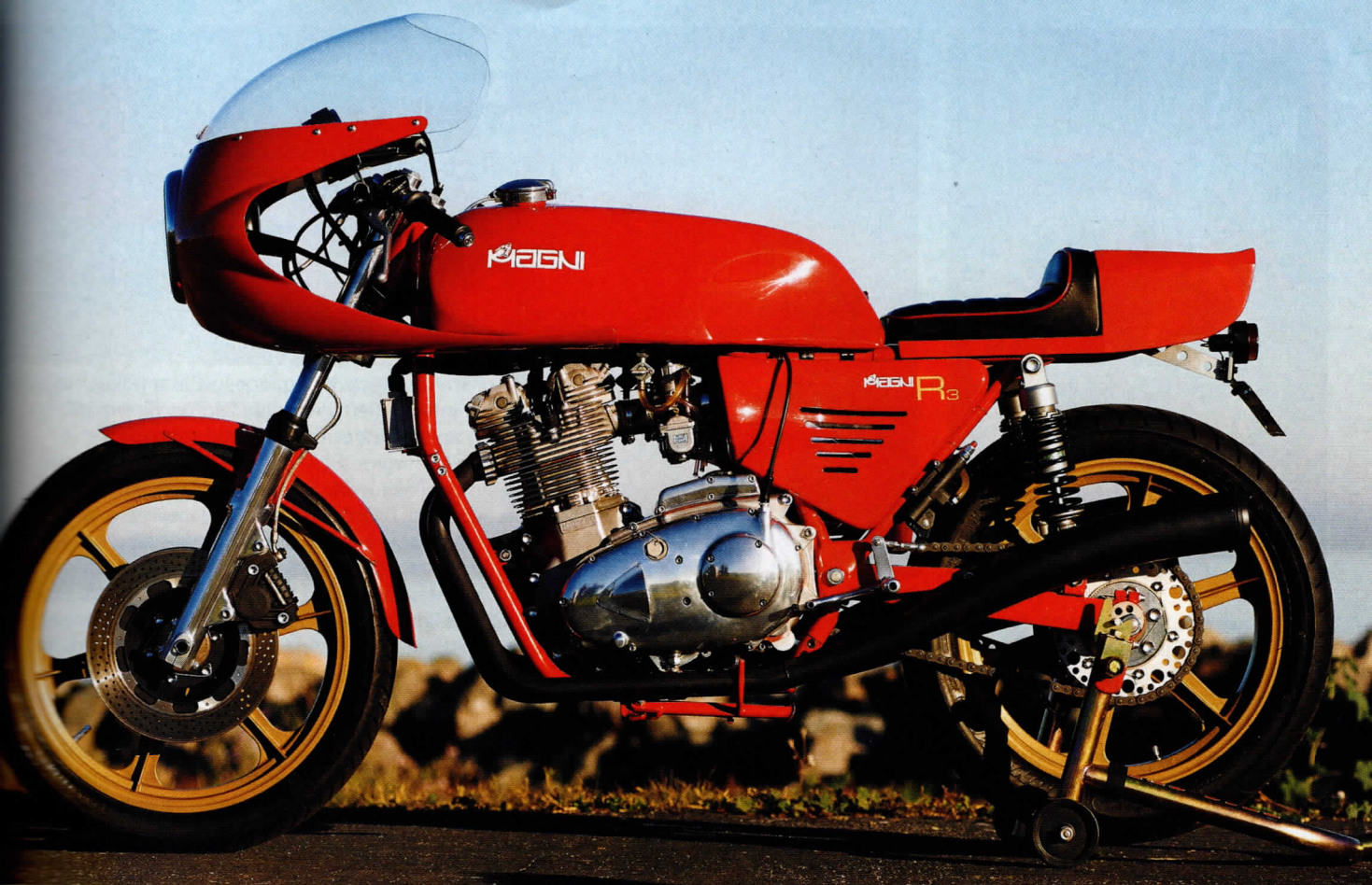
Agusta's death in 1971, Magni went into the custom bike business. Since 1971, he and his sons Carlo and Giovanni have supplied hundreds of complete bikes and many more frame kits based on the classic MV racing frames he helped perfect.

Over the years, Magnis have been built with a variety of powerplants, including MV Agusta, BMW and Moto Guzzi engines. There was also a Magni café racer powered by a 1,157cc inline four from a Suzuki Bandit 1200.

Jerry contacted Arturo's son, Giovanni Magni, who now handles the business, and asked if the engine mounts of a Magni frame could be modified to suit the BSA engine: "Si" was the reply. According to Giovanni, it's the first time a British engine has ever been fitted in a Magni frame. Jerry ran his idea past

The 3-into-3 exhaust looks like it wears mufflers, but they are actually megaphones. Note the two pipes on the right side of the bike.





Brent, who simply said, "Go for it, mate." Off went a dummy set of engine cases to Italy.

While Jerry waited for the frame — almost a year — he selected a well-preserved set of 1971 BSA A75R 4-speed engine cases from his parts stash and began building the engine. The idea was to get as much power as possible while still being able to run on pump gas. The 930cc engine was built to full race specification, just without the high-compression 12:1 pistons. Instead, 9.5:1 pistons drop the compression down enough to allow 92 octane fuel, with no fear of overheating or seizure.

A lightened and stroked crank uses Carrillo rods for strength at high rpm. The stroke is raised 9mm to 79mm. The TriplesRule cylinders (triplesrule.com) are forged and overbored 5mm to suit larger pistons. The cylinders are much stronger than stock, with finning that looks just like the original. High lift, longer duration Johnson 380 cams complement the stroker kit and are matched to lightened stock rocker arms and tappets.

The cylinder head was re-machined to suit by Triple Tec's co-owner Charlie Barnes and the experts at Branch-O'Keefe (branchokeefe.com), with new valve seats, guides and valves. Then the combustion chamber was carefully massaged to extract optimum power from the classic hemispherical shape. The inlet and exhaust ports were re-shaped to suit oversized inlet and exhaust stubs and polished to a mirror finish.

All the engine cases were machined to ensure proper fit and sealing (helpful when you have nine separate case sections) and treated to Triple Tec's finishing process for continuing good looks. Hidden inside, lightened gears drive the cams and the high-output oil pump, and a digital Tri-Spark single-fire ignition from Australia replaces three sets of Lucas contact breaker points.

The Lucas alternator, however, remains, since it works just fine to charge the modern, ultra-light Shorai lithium-ion battery, which is mounted under the seat hump.

Lost in the details

One of the weak points of the BSA/Triumph triples is the single-plate dry clutch. The clutch was originally based on an automotive unit and made of cast iron, and the clutch shock absorber, a separate part, weighs about as much as a complete MV Agusta clutch. A TriplesRule aluminum clutch saves 3 pounds, and it's fitted with an angular-contact release bearing designed not to overheat and fail like the stock unit is known to. It also comes complete with a drive ring for an electric starter as used on the 1975 Triumph T160 model, which featured BSA-style sloping cylinder cases.

A tiny starter and solenoid from Dave Madigan's MAD Components (mad-components.com) saves weight over the stock T160 Lucas parts. However, owner Brent thought the starter/solenoid looked "as though it belongs on a 1950 Morris Oxford." To fix this, he commissioned a streamlined alloy cover from metal maestro Evan Wilcox (wilcoxmetal.com), which Brent finished and polished himself.

Improving the clutch even more, Jerry added a TriplesRule alloy clutch shock absorber to lose even more weight, and then modified the release point, matching it exactly with the thickness of the clutch plate to reduce clutch lever pull substantially.

The stock 4-speed gearbox pieces were replaced with 5-speed parts, a straightforward conversion on the BSA requiring only a little machining, although almost every gearbox component must be replaced with post-1973 components to ensure reliability. A close-ratio gearset from Triple Cycles (triples.co.uk) in the U.K. made the gearset more suitable for high-speed work.

To add the frame-mounted oil cooler, tabs were welded on the frame by TC Fabrications of Diamond Springs, Calif. Thankfully, the Magni frame has a vertical section above the cylinder head area that is just the right size for mounting the cooler.

The frame detailing by Magni is impressive, including items



Smiths electronic gauges sit in a billet binnacle (left). An alloy Monza flip-up oil cap sits under the seat pad (above).

such as the eccentric chain adjusters, which allow quick, precise chain adjustment and ensure the rear wheel stays in line. The rectangular cross-section swingarm was the height of technological sophistication in 1971, and astute readers will have noticed that the BSA triple, with its direct-drive gearbox, has chain-drive on the left, in contrast to the MV's right side drive.

Alloy exhaust clamps by MAD Components replace the leak-prone, self-unscrewing OEM stubs with a screwed, three-piece clamping system that ensures a gas-tight seal at the exhaust ports. Other MAD Components include the neat engine inspection covers, with a hex head instead of the stock slotted plugs, which are often tough to get on and off.

The Magni frame arrived in its crate complete with MV Agusta 750 America-type side covers. Unfortunately, the covers were flared out to suit the 4 cylinders of the MV, so Jerry did a little

fiberglass work to slim them down. Nestled behind those modified side covers is a 3.5-quart aluminum oil tank, specially fabricated by Chris Coyle at TC Fab to Jerry's specifications. The tank is topped by a period alloy Monza flip-up

cap that matches the gas tank cap, accessible after removing the Velcro-fastened seat pad.

The front forks are 38mm Ceriani units that started life attached to a Ducati twin. They were fitted to the frame by Magni, and then sent to Catalyst Reaction Suspension (crstuning.com) in San Carlos, Calif., for revalving and respringing. Shocks are Gazi Hyper-X shocks in a 12.75-inch length.

A Smiths electronic tachometer and speedometer now nestle in a Triple Tecs custom-made binnacle, hewn from billet by Scott Streetman, engraved with the BSA flying B and anodized gunmetal gray. The wiring harness was made up by John Proto of Performance Cycle in Diamond Springs, Calif. John's previous claim to fame is working on the 1960s record-breaking Triumph X-1 Gyronaut. Painting was handled by Dennis Lesea Paint & Body in Sacramento, Calif., in MV Agusta red.

Finally, some two years after the start of the project, the bike was ready for display at The Quail Motorcycle Gathering. It's also featured in the 2013 movie *Why We Ride*, the camera going on a two-minute ride-along at Laguna Seca with Brent on board.

On the bike

I'm a little bit taller than former world champion Giacomo Agostini (for whom this frame style was perfected), and even stretching all the way back so my backside fits hard against the seat bump, my knees stick out from the tank cutouts. Brent has the same problem but somehow manages to tuck himself away neatly in the available space.

In front of the rider, the instruments are simplicity itself: a speedo and tach, and a headlight below the bubble of the fairing. Reaching forward, my aging back is thankful the fork-mounted clip-on bars are raised to a normal human angle rather than 1960s-style orangutan crouch.

Brent specified a half-fairing so everyone can see the alternative engine fitment, but from the saddle the gigantic tank masks the rider's

The Magni bodywork was originally designed to fit around an MV Agusta 4-cylinder engine.

