

Ariel Motorcycles: Spirit of the Air

By Mike Brown

“What’s past is prologue,” Shakespeare wrote in “The Tempest,” a fitting description of the historical significance of Ariel motorcycles, a true pioneer builder of fine machinery and significant innovator in the art of engineering excellence, especially on two wheels. Ariel’s rich history lives on today partly due to the qualities of the product, but largely the result of dedicated people devoted to keeping Ariel going strong into its third century.

Let’s leave alliterative nuances to the scholars, but at least tip a hat to Ariel’s name drawn from the character Ariel in “The Tempest,” a fictional spirit also linked by biblical reference to Ariel in the Book of Isaiah, a name meaning “Lion of the Lord.” Anyone riding the famous Ariel Square 4 might easily relate to being King of the Jungle, but Ariel is much more than just one motorcycle

and features a history rich with innovation and talented people who inspired it.

According to a marvelous history provided by the Ariel Motorcycle Club of North America (AMCNA) on its website at <http://www.arielnorthamerica.org>, Ariel was germinated by James Starley in 1869 who was then a foreman at Coventry Sewing Machine Company in Birmingham, England. Described as a “gifted engineer and inventor,” Starley apparently wasn’t in stitches over the sewing business and renamed the business Coventry Machinists Company where he and partner William Hillman set up shop building bicycles.

Even at these early times, Starley’s knack for improving wheeled transport shined brightly and Starley and Hillman are credited with making the first commercially produced



Shawn Doan, AMCNA vice president, is shown on the Oregon coast with his Red Hunter that gets a lot of riding. A "bitsa" built from various years, Shawn said it was mostly from 1947 but with earlier girder forks. (Photo by Brian Doan)



AMCNA members take a break at Paso Robles during the Solvang rally. (Photo by Tom Voss and provided by the AMCNA)

bicycle and then greatly improving on its design. The “penny-farthing” bicycles were so named for resemblance to two British coins, the bigger penny and much smaller farthing roughly representing the big front and small rear wheel look of early bicycles.

In 1871 Starley patented a new tensioned steel-spoke wheel design that greatly improved on previous wheels and significantly improved riding qualities. Ariel was first used to name this bicycle as it was a “spirit of the air” and the name stuck to a rapidly developing company.

While he didn't invent the wheel, Starley certainly improved it, and then his nephew John Starley invented another feature still used today, a chain driven rear wheel drive to replace the front pedal drive of the early bicycles and consequently revolutionized power delivery that was soon utilizing that new-fangled contraption, the internal combustion engine. By the turn of the century, Ariel was building three and four wheel cycles using di Dion engines and making a name for itself as a leader in the field of motorized transport.

The first quarter of the 20th Century saw Ariel rise into prominence as a builder of both motorcycles and cars.

Ariel's first true motorcycle in a conventional sense was built in 1901 but not available until 1902. The Ariel featured a 211cc Minerva engine that produced 1.5 hp and utilized belt drive. Charles Sangster took control of the company in 1902 as managing director who along with his son Jack are greatly credited with taking Ariel into even greater eminence, the Sangster name also being linked to many other great British motorcycle makes.

Unable to compete with Morris, Ariel stopped building cars in 1916.

In 1910 Ariel added a lot more power by using a 498 cc White and Pope side valve engine. Ariel then purchased the design rights to build the engine in-house that largely powered the Ariel brand until 1926, when a fellow named Val Page arrived.

Valentine “Val” Page is quite famous for his work in motorcycle design and linked to many British machines. Page left J.A.Prestwich where he was an engine designer. JAP's design work itself calls for a book of its own

with Page having large chapters in it. Page set about his business for Ariel by designing a new engine to replace the old White and Pope design.

Page's new engine replaced the old side-valve model with overhead valves fitted into a hemispherical combustion chamber and by 1927 the new engine was featured in a redesigned frame sporting a saddle gas tank and internally expanding brakes. With the new design came a prancing horse logo now forever linked with the Ariel brand and also a new slogan, “The Modern Motorcycle.” Page designed

Ariels of this period between 1926-1930 are often referred to as “Black Ariels” owing to the standard gloss black paint and differentiating them from later multi-colored designs.

Ariel added another legendary name to its list of notables when Jack Sangster hired Edward Turner in 1929. At the time, Turner was trying to sell a design for a four-cylinder motorcycle configured in a box layout, soon to be known as the Square Four.

The Ariel Square Four was the brightest star at the Olympia Motorcycle Show in 1930. Originally the Square Four was 500 ccs



Ariel had its beginnings building bicycles like this “penny-farthing” example. (Image courtesy of AMCNA)



Edward Turner's love of bright paint and lots of chrome can be seen in this 1938 Ariel Square 4 owned by Craig Warden. (Photo courtesy of AMCNA)



This 1939 600cc Square 4 was restored and photographed by Terry Barber. The 600cc pushrod engine is quite rare, having been made only in 1939 and 1940. (Photo courtesy of AMCNA)



Shawn's Red Hunter is shown in earlier times with a 21-inch front wheel. (Photo by Shawn Doan)



This 1903 Ariel features a 239cc Minerva engine.
(Photo from the Jerry Mortimer collection.)

and featured a chain driven overhead camshaft. A pair of opposite-revolving crankshafts were linked by geared flywheels. In 1932 a 600cc version arrived and this soon grew to 1,000 ccs by 1937 when the valve train was then operated by pushrods in the Model 4G. At this time only two other British makes could compete in the displacement department, the famous Brough Superior and HRD Vincent brands, but the Square Four outlasted both until its production ceased in 1958. Many consider the last Square Four as the best of all, the Mk II produced from 1953-1958, featuring alloy head and cylinders and subsequently less weight and better cooling.

Even with all of these accomplishments, Ariel closed shop for a brief period during the Great Depression in 1932 when its parent company, Components Ltd., closed for financial reasons. This lapse allowed Jack Sangster to buy all the tooling and hire the best of the previous staff which he moved only 500 yards away to a new building to form Ariel Motors Ltd. Page left Ariel then to work for Triumph and Turner became technical director.

While the Square Four was and remains a big part of Ariel mystique, one would be remiss if mention was not also made of the Red Hunter, very much akin to BSA's Gold Star in terms of quality and competitiveness. Debuting in 1932 as a 498cc single with a four-valve head, the finely tuned Red Hunter had plenty of power and handled well. The Red

Hunter was also gorgeous, dripping in chrome and bright red paint; the depression era machine turned heads everywhere just based on looks alone, but also won many races, most notably by Len Heath who won the Scottish Six Day Trials on a Red Hunter in 1933.

Ariel produced many other significant motorcycles throughout its long and storied history and contributed numerous side-valve and OHV cycles to the WW II effort. Sangster sold Ariel to BSA in 1944 and this contributed to parts sharing and similarities to each make, the twin cylinder KG and KH models being pretty close to BSA A-7-10 series, but Ariel did produce another solo hit with BSA, the Leader and Arrow, technologically advanced two stroke motorcycles featuring fully enclosed Leader engines and stamped-steel frames for both models. While never big sellers in the US, the Arrow and Leader were very popular in England where they sold well and helped support the company through 1965.

Ariel let out one last gasp of life when BSA launched another dismal failure, an Ariel branded trike in the early 70s that promptly fell flat and may only deserve mention in noting that motorized Ariels both began and ended with three-wheeled machines.

Fortunately, Ariel is alive and well today thanks to the efforts of enthusiasts worldwide. Here in the states, the AMCNA does much to keep the Ariel tradition alive. Tons of additional information about Ariel history, detailed information on the many models, and considerable technical information and technical reprints are available on the AMCNA web site listed in the beginning of this article. Joining the AMCNA is very easy and information on how to join is also available on its web site.

A real advantage to joining the AMCNA is access to even more technical information, period literature and much more in a special club members' section. In addition to a subscription to the club's full color newsletter

and neat patch, the AMCNA is also developing a tool loan program for its members, a truly valuable asset to anyone who plans to restore or work on Ariel motorcycles.

AMCNA Vice President Shawn Doan, who also does double duty as webmaster, is an extremely avid Ariel rider and has done many long rides on his rigid framed Red Hunter; his brother completing an 1,800 mile tour, proving by deeds that an old Ariel can get one far if set up properly. Shawn also said Ariel did much when it existed to help make restoring them much easier today.

“First, Ariel established a policy of interchangeability so that when parts were re-designed they could be fit to the older machines,” Shawn made known by providing information taken from the club’s resource section. “This obviously doesn't work for all parts, but it does for many. Second, the last two digits of Ariel part numbers signify the year the part entered production: thus 1750-29, 1750-34, 1750-39, 1750-51 and 1750-54 are all single cylinder camshafts produced from 1929 through 1954. Despite the 5 different designs they are all interchangeable (though you need different followers with the last two versions). Third, in addition to a picture and a part number, Ariel parts lists show casting numbers that can be used to identify parts. These qualities make the Ariel parts lists an indispensable resource.” Shawn added Ariel parts lists are also available to members, another good reason for joining the AMCNA.

Shawn was also most helpful in listing some off his Ariel favorites.

“The most desirable Ariels are arguably the Mk II square fours,” Shawn said. “They were the ultimate development of a design process that started about 1930 with an Edward Turner proposal. Well-restored Square Fours demand the highest prices, up to \$25,000 at a Vegas auction, but other desirable bikes include the HS scrambler from the late 1950s, and HT trials bikes from the same era and the Cyclone, a 650 twin that shared many of the

performance parts with the BSA A10 Super Rocket. The most famous Cyclone was owned by Buddy Holly. Other valuable Ariels would include the KHA twins, all alloy 500 twins that were a very close copy of an ISDT winning bike, the VCH which was an all alloy engine competition version of the Red Hunter singles, and early OHC Square Fours.”

Information and human support are invaluable, but without parts most potential restorers are left in the wilderness. Fortunately, this is where long-time Walneck’s advertiser Draganfly Motorcycles comes to the rescue, in addition to offering even more support and technical information both by phone at on its website at <http://draganfly.co.uk>. Calls can be made toll free from the US and Canada at 888 492 8903. Draganfly stocks over 12,000 different parts and is greatly responsible for working with and developing new supplies from its 200 strong manufacturing network. They do caution, however, that sometimes the supply chain is a bit “idiosyncratic,” consequently it’s best to check on supply availability. To order parts efficiently, Draganfly recommends having the year and model of the Ariel in question as well as the engine and frame numbers in addition to specific parts numbers for quick reference.

Ask anyone who has ever restored an old motorcycle, and the most frequent comment made is usually how extremely valuable expert contacts are during the restoration process. Fortunately for Ariel fans today, the human resources exist to see the job is done right and that enjoyment of the finished product is realized. In tribute to those dedicated “Arielists” as they sometimes refer to themselves, we’ll end as we began with words from the Tempest.

How many goodly creatures are there here!
How beauteous mankind is! O brave new world,
That has such people in't!