On the Road: Tubac!

The Weather was ideal and the British car turn-out was huge. Carolyn Arnquist won the top honors among British cars with her 1961 XK150. That's her posing with the car and the hardware (lower left).
February BLAAAAT!

Another gorgeous day in southern Arizona. The BLAT featured West and NW Tucson area scenery, from Gates Pass to Park Link Road to Oracle Junction and lunch.
### Between the Bonnet and the Boot

February 2018 has been a great month as I always enjoy the Winter Olympics... it’s the one time when I have the TV on in the garage so I can keep track of the action without being a total couch potato. During this past week some work on the E-Type has meant I’ve spent more time on my back than a Luge athlete so having Olympic events at hand has been good company. And speaking of events...

Ben and Greg have the year off to a fast start with the opportunities to enjoy your wheels being both frequent and varied. I’ve always been partial to any activity that begins before the sun is up and winter breakfast runs typically fit that description, but if you’re not an early riser then catch us at the mid-day dining events where sunny drives and good food are the norm. There is also a Little Anthony’s car show on March 17th for those who like these events. The motto of the Olympics is “Faster, Higher, Stronger” – ours should be “Drive, Eat, Shine”. Probably sounds better in Latin.

The opening ceremony of the Olympics was spectacular as always. The formation drones, the dancing boxes and teams entering the stadium in their colorful attire. And speaking of colorful attire...

From the fashion house of Mr. Pete comes the new lineup of TBCR Regalia. Here’s a chance to pick up a variety of spring wardrobe items in both casual and dressy-casual styles that will have you looking good at local events and those out-of-town gatherings. Orders are being taken but Pete also has an inventory of selected items ready now so no need to wait if you see what you want.

So whether you’re an Olympic fan or someone who thinks a double Axel was a F1 car by Tyrrell, you can be a part of the TBCR team and find the event that is right for you.

See you on the road... Geo

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### Jim Abbot Receives the Founders Award

![Jim Abbot receiving the Founders Award](image)

That’s Jim Abbot (on the right) accepting the Founders Award at the February 10 annual meeting. Jim has the distinction of having been named on the plaque (as one of our founding members) and is now named on the plaque as a recipient. Congratulations Jim!
TBCR Regalia Report  
by Pete Williams, Regalia Chair

At the Annual TBCR Meeting I made a presentation to the group of the Regalia items on offer to the TBCR Membership. The following is more detail about what we will be offering and how to order.

We will offer a standard stock of TEE Shirts in three colors (Red, Green, Blue) in sizes from L to 2XL ($10 L, XL, $13 2XL). In the Hat department, there are Caps (Red, Green and Blue at $10 each) and white Outback Hats with blue brim trim (at $15 each). We will be carrying a small selection of these items to the many events that I attend. There will be ordering options for Polo, Denim shirts, Sweatshirts, and two weights of Jackets. (Only light weight jackets have a hood.) There are some expanded offerings in some garments. We will now offer short or long sleeves items, ladies sizes in some items, and more colors too.

Orders can be initiated by either of the following methods:
1) Find me (Pete) at an event, place an order and pay him.
2) Go to the TBCR web page https://www.tucsonbritish.com and order there. (Follow the directions on the Regalia page).

Ordering and delivery process:

1. As per the Regalia page directions, send Pete an email at tbctours@aol.com to notify him of the items desired, sizes and colors.
2. Mail your check to the TBCR Treasurer.
3. When our Treasurer, Brenda, receives your check for the order, she will notify Pete who will then change the order status to available to order from pending payment.
4. We will accumulate the orders on a monthly basis and place them with our vendor. From that point it will take about 3 weeks for us to receive the items from the vendor.
5. Since we do not deliver or mail items, we will notify you (via email or phone) when your order is in. We will tell you in the email /phone call where we will be so you may pick up your order.

Our webmaster, Harold, has updated the web page to clarify the process. Many thanks to Harold for the current updates and the future ones as well.
Annual Meeting

TBCR turned out in force for the drive, breakfast and meeting. Treasurer, secretary, regalia, driving, social, newsletter and website activities were covered. A survey form was circulated by Greg. New bylaws were approved (see changes in the February Register). The highlight was the Founders Award (see page 3).

Thanks everyone for attending.
Tech Session

Not a drive, not a car show, but all about cars, this informative and entertaining event was held February 24 at Ben’s home. Fritz held sessions on welding and Jeff conducted a session on Lucas distributors. Over 30 members participated. Fritz’s two welders and Jeff’s Sun distributor tester were all running, much to the interest of all.

Jeff has written distributor articles for the Register: see 12/14, 7/15 and 10/15 issues.
The FVA 1600 F2 racing engine

In 1967 the Formula 2 regulations changed to set a capacity limit of 1600cc, with the only restriction that a production based cylinder block must be used. As stated in part 2, the Ford Cortina sedan was introduced in 1962 using a new 1500cc engine with five main bearings and a reasonably short stroke crank. This Cortina 1500 cc engine was a very attractive basis for a full racing engine and starting point for a new F2 design. Keith Duckworth began on this new F2 design, with the intent of eventually making it a building block for a Grand Prix V8 (DFV) 3000 cc engine (with the new GP Formula that had started in 1966). The new Cosworth F2 1600 cc design used a twin overhead cam design with the cam and valve gear driven from the crankshaft, four valves per cylinder, pent roof shaped combustion chamber and Lucas fuel injection. Duckworth targeted an initial power output of 200bhp. Early in 1966, the new cosworth FVA engine was completed, the initial prototype showed power of over 220bhp on the dynomometer. In 1966, Cosworth started an engine test program, entering Club Circuit Racing with a Brabham BT10 chassis driven by Mike Costin (co-founder of Cosworth), using a special 1500 cc version (FVB) of the FVA. The circuit racing test program was able to demonstrate the FVA’s readiness for the upcoming F2 (1967) season.

After two years of development, the FVA engine was producing 235bhp at 9750 rpm (147 bhp/liter) and dominated the F2 international racing series starting in 1967 through the end of 1971.

A larger capacity version of the FVA was developed (designated the FVC) with 1800cc capacity and was destined for the European sports car racing championship, this engine using a longer stroke crank, but kept the same cylinder bore and cylinder head as the FVA. The FVC engine went on to dominate the European sports car racing series for several years.

The 1600 crossflow (Mk2 Cortina based) engine

In 1967 the new Ford Cortina Mk2 sedan was introduced, with a squarer body design and a new 1600cc cross flow push rod engine, with improved power output over the Mk1 Cortina 1500cc engine. The new Cortina crossflow 1600 engine was soon developed for many forms of rallying and racing. Many UK engine builders supplied special parts and complete engines.

One such offering (1600cc Wilcox unit - shown in photo) often referred to as “clubman’s engines”, remain very popular for UK Club racing where engine development is more restricted.
The BDA Cosworth Engine

Based on the new Mk2 Cortina 1600 cc cross flow engine, Ford asked Cosworth to develop a new high performance 1600cc engine, with many features taken from the successful F2 FVA racing engine. The intent was to develop a new engine suitable for a high performance road car that would also be accepted for FIA international rallying events. The new high performance Ford sedan model was called the Escort RS1600. The new Cosworth engine (for the RS 1600) was called the Ford Cosworth BDA (Belt Drive A-series).

This BDA engine was labeled as a production version of the FVA engine. With twin overhead camshafts, and an inlet tract using two twin-choke weber 40DCOE carbs, the BDA cylinder head design was very close to the FVA, but now with the valve gear driven by a single serpentine toothed belt to the twin overhead cams. The BDA also used the same FVA pent roof combustion chamber in the cylinder head and four valves per cylinder. The cylinder block was taken from the stock 1600 Cortina engine.

The power output was initially 120bhp at 6500rpm (75 bhp/liter). Later BDA 1600 cc fuel injected racing engine versions produced peak power output of 230bhp at 9500rpm (143 bhp/liter).

By 1973, The BDA engine for racing use had achieved very close to the 2000cc capacity limit and produced about 285bhp at 9500 rpm. However, the 1600cc Ford production cast iron block was now limiting the achievable capacity of racing engines to about 1927cc. The larger capacity F2 engines required special constructed iron blocks using oversized cylinder liners (welded into the block) and as a result these stretched capacity F2 engines had limited reliability.

To solve this BDA engine block problem for racing (and rallying), Ford designed a new 1800cc Aluminum block. Used initially in the BDA 1800cc engine for the RS1800 Escort model, this new 1800cc aluminum block had the capability of being bored out to the full 2000cc for racing. This larger BDA engine (designated the BDG) proved to be a very successful racing engine for the F2 2000cc series (1973 to 1979) and also for the European FIA sports car racing and for FIA international Rallying.

Over the years, many different BDA engine versions were produced for road, rallying, circuit racing, and midget racing. These BDA competition engines were built by many different independent UK suppliers, however many of the key internal engine components were still supplied by Cosworth Engineering. The BDA series engines proved to be a significant contribution to the success of Cosworth.
In 1981, Cosworth developed for Ford the BDT turbo engine (design based on the 1800cc BDA), specifically for to use in the production Ford Escort RS200. In 1986 Brian Hart’s company (ex Cosworth engineer) developed a scaled up 2137 cc version of the BDT, designated the BDT-E(Evolution) for the special works Rally Escort RS200E. Producing peak power output of 600 BHP (280bhp/liter), the BDT-E turbo represented the highest ever power output for a BDA based engine.

Next: Ian wraps up the story in part 4, with the arrival of the legendary Grand Prix DFV 3000cc engine.

Board of Directors Changes
Under the new bylaws the board may appoint directors. That was done following the annual meeting with the addition of the regalia chair, newsletter editor and webmaster to the board, along with a new board position: car show director. Mike Morales has volunteered for this job. Thanks Mike!

Upcoming Activities
Please note the Little Anthony’s Car Show (on the left). This is another good way to highlight TBCR to the Tucson car community.

The DM car show flyer is available. As of publication date the club has not committed to participating, but that doesn’t mean you can’t sign up and go. If you need the registration form it is on the TBCR website. Contact the editor or webmaster if you can’t find it.
TBCR members may have a complimentary business card ad on this page

For info contact the editor:
tucsonbritish@gmail.com