



2002

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This month's meeting - 12th December



Once again we are pleased to announce our annual Christmas Quiz, ably prepared by Ed Hicks for our amusement. Following tradition, we hope everyone will be able to bring along some nibblers to share around the table; sandwiches, sausage rolls and mince pies are always favourites!

Last month's meeting



The November meeting was nice and relaxing, watching a video with glass of beer in hand! Alan had managed to reserve the TV-VCR for the evening, so we plugged in the latest Cranfield tape from the Strut library. Before that, however, we were introduced to Neill Hunter of Clubair Transylvania, who was available to chat with anyone interested about flying in Romania. Several members took advantage of this opportunity.

Coming Next Month



In January we will be pleased to welcome Pete Moorehead once again to talk to us about the airspace around Bristol airport, and associated topics. Pete is one of the gallant team of ATCOs who man the Tower and radar room at Bristol International airport, safely guiding a seemingly endless stream of long and short-haul airliners in and out of our area. Both commercial and GA aircraft operate from Bristol, and Pete has many a tale to tell about the vital service he and his colleagues provide.

VISIT TO YEOVILTON 22 FEBRUARY 2003

During the Strut visit to the FAA Museum in Yeovilton we will also have an opportunity to visit the Royal Naval Historic Flight, getting right up close to these fabulous 'live' aircraft. Strut members will each be invited to make a small donation (£2 each) to the Flight in recognition of this rare privilege. The Historic Flight has a limited official budget, and every little helps to keep these fine aeroplanes in the sky for our pleasure. Our guides for the visit to the Flight will include our host, Harrier Pilot Lt. Cdr. Dave MacKay, and the RNHF Manager Bryan Wood.

Please make your reservation with Graham Clark (tel: 01454 618216, e-mail cgraham978@aol.com). The visit to the RNHF will be by advance reservation only, since

we have to submit names in advance for access.

Graham has reported a rather slow response to this visit. So far he has only 6 names on the list, and this will not justify booking a coach. So come on you Strutters - call him today and join in the fun!

It's great to receive articles written by members, this month we have 3 contributions: "Enjoy the War..." from Frank Bond, another in the Local Lights series by John Shufflebottom and the first part of Edwin Shackleton's report on his achievements in gaining yet more experience flying different types of aircraft in 2002.

However...

Edwin prefers to withhold his report from the internet, so we have not reproduced it here. If you are interested in following Edwin's exploits as the world record holder for passenger flying in the greatest number of types, then you know what to do! Come along to our Strut meeting in Bristol and join the Strut for Free in two thousand and Three!

With remembrance day only just behind us, we have received this excellent essay written by Frank Bond describing a visit he and Alison made to the battlefields of Germany, Poland and Holland courtesy of Leger Holidays. The coach tour took a week to complete, and turned out to be an enormously rewarding experience. Read on...

"Enjoy The War, The Peace Is Going To Be Hell"

Aged 7. The girls were reading rather well; the boys too full of boundless energy to ever sit long enough to concentrate on the written word.

Aged 8. The girls were now miles ahead; the boys still at the starting blocks of such things as books.

Aged 9. How many boys choose as their first book the author Paul Brickhill?

The Dam Busters; Reach For The Sky; The Great Escape? Permanently in the memories of youth, the heroes of these stories were ever present through the formative years. As the years passed, the extraordinary events of those books would be etched with a curiosity not present on that first youthful reading.

Aged 50 plus. Proper 'grown up' books might now be on the bedside table, but the events of those first attempts at reading were forever prevalent. The stories told by Paul Brickhill had been re-written by other authors. Television had dissected the evidence of the times, and invariably judged the characters by a more modern dictum.

But how many times had the films been aired over the Christmas seasons in the intervening years?

Just when you think you have finally rid the system of the inquisitiveness of past heroes, an advert appeared in the national papers offering a weeks guided tour of the sights previously mentioned. The Dam Buster raid, Colditz Castle, Stalagluft 3, Dresden, Berlin, Arnheim. All chapters of the air campaign of the Second World War. Although this was at first sight a Boys Own, and maybe even a rather anoraky type of tour, it was to appeal to the wives. And not just the wives, for there were more unaccompanied ladies than single men on the 40 seater bus that set out across the Channel on a mid-October Saturday in 2002.

The guide was a larger than life, ex Royal Engineers Sergeant Major, whose abiding interest was the history of warfare. The first book he had read was 'Enemy Coast Ahead', which although not amongst one of those above mentioned titles (neither was it written by Paul Brickhill), it was about the most daring of raids described in the first referred-to book. And it was written by the grateful nation's hero of that book, Guy Gibson. I cannot recommend the tour more highly. The week was emotive, educational and enormously worthwhile. We looked and wondered at battle sights, towering impregnable prison castles and rebuilt cities; we walked through woods where once there was a freedom seeking tunnel that led only to cold blooded murder. We stood silently, while a short thanksgiving, scribed during an earlier conflict, was read out by the side of a rough cemetery, or a near perfectly manicured war-grave. We instinctively found our fingers intertwined with our own loved one. Silently holding hands speaks volumes. Sons, fathers, husbands? There is a coldness about commemorative headstones upon which the

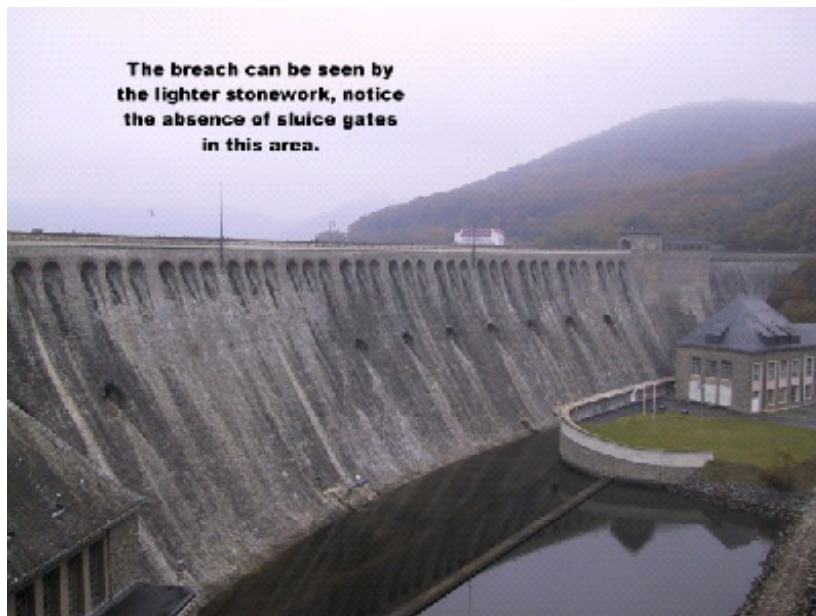
sun's rays cannot create warmth. Not only cold, but lonely in its clean and man-made perpetuity. One of our group had lost a brother, who had baled out from his stricken Lancaster bomber, only to be shot by the Gestapo in an unmarked cobbled court yard somewhere in the Netherlands, pilloried as a terror flier. No trial, no justice - no mercy. Forever 21 years old.



The bus ride to the Mohne and Eider Dam was long; long enough to watch a film of the raid. Two in fact, one made by the Pinewood studios, starring Richard Todd, with the stirring sound track by William Coates; the other made with

interviews by some of the survivors of the raid. I doubt there was a single soul on the bus who had not seen these films many times. But the films set the scene, as did the first of the talks by Bill McQuade, the tour historian and guide. He described the problematic details of the raids, the technical innovations, the undoubted courage of the participants, and the outstanding airmanship and ability of the crews to deliver the bouncing bomb at the pre-determined height, speed and distance from a moon lit target. Pressing the button was the easy bit. The approach over and down the hillside allowed only a mile run-in across the water, which would allow only 15 seconds to get everything right. The pilot would be flying the aeroplane, the engineer controlling the throttles to give the 240 knots, the navigator leaning across the cockpit to view the two spot lights aligned to give the required 60 feet height. The bomb aimer looking through his coat hanger arrangement, set to align with the two dam towers. Usually the bomb aimer would be looking down, but on this particular raid his target was straight ahead of him, so the forward gunner had to have his legs in specially made stirrups to allow the unrestricted view of the fast approaching dam turrets. The aeroplane would be vibrating unnaturally due to the revolving mechanism of the peculiar bomb. Oh, and did I mention that they were under attack? Reservoirs tend to be in valleys, so these approaches were circumspect at the best. The way out similarly hazardous.

There is a steep and winding road down to the Eider Dam, which we drove at a sedate pace, past a castle that is depicted in the film. Those specially modified Avro Lancasters would have been only a few feet



higher than

us, on much the same trajectory. Any pilot looking at the flight path would be staggered at the prospect; yet Squadron Leader Hopwood is reputed to have flown the attack with one engine on fire, thus he was having to cope with the asymmetric problems of the heavy aeroplane as well. He was to lose that battle of flight on the return journey, along with his own life and those of his crew. He was 21 years old. They rest in a cemetery at Rheinberg. Then there are the dams. Huge imposing battlements of stone and mortar to hold back the mountain of water and time. We saw them in the autumn of the year, when the leaves offered a kaleidoscope of colours on the trees masking the steep sided valley side. Beautiful, yes, but what a hell of a dangerous place to go flying an aeroplane. I knew that I would admire their exploits, but I found myself praying for them all. Don't ever let modern day sceptics demean this attack. The propaganda, the uplifting of the British people was overshadowed by the damage done to the industrial might of the third Reich. The British high command were guilty of one great mistake, and that was not returning to disrupt the reconstruction of these dams, which was completed within six months. Conventional bombing of the rebuilding would have delayed the Ruhr's industrial might.



The next day had something of the innocent boarding school element of naughty boys, for we parked under the foreboding and impregnable fortress of Colditz. Impregnable, but not escape proof. The extraordinary exploits and

ingenuity were discussed, along with the competition element of the 'game', called a home run. The wonderful characters were aptly described in the museum, which included the makers of a glider constructed in the roof. All the prisoners were regarded as escapers, so there was no dearth of knowledge available for the escape committee to consider. The French won the score count of Home runs.

What a difference from the austere and cold Stalagluft 3. Now in Poland, Stalagluft 3 has been destroyed and lies under the fresh saplings of a woodland used for Army training. A mile long walk into this wood shows the foundations of the camp buildings. With a little orientation, it soon became clear where the escape tunnel 'Harry' was situated. Even the concrete base of the wood heater was evident. Leading north away from the plinth was a trench, the same width as the original tunnel, and taking the track of that famous excavation. It had been dug by one of the Polish woodsmen, who in that time honoured way, was available for any gratuity being handed out. About a mile away was the sad memorial made by the fellow prisoners to those who had escaped and then murdered by the Gestapo on recapture; on the direct order of Hitler. Poignantly, the fifty names were not in alphabetical order. Significantly, the dates of the war, etched upon the stone plinth bore the date 1939 - 194 . The final number had been left out, for they knew not how long their internment was to be. Remember these prisoners of war were young bucks, in the prime of life; the frustration of incarceration must have been singularly painful. It must have been a dreadful, cold and foreboding place, where the daily rations were a measly 1000 calories of food a day.

Dresden - Berlin; the historian will always talk of "carpet bombing", the rights, the wrongs, and a scapegoat called Bomber Harris. Bomber Command were disassociated by Churchill to the extent that no campaign medal was ever awarded; yet they suffered the

highest attrition rate of any of the armed forces. Only the German U-boat forces lost proportionally more than this immensely courageous and effective arm of the RAF. For many years they had been the only armed force able to take the war to the enemy. The fatalities did not end with the armistice. During the following year in Berlin, there were a reported 10,000 murders and rapes. Law and order ironically was last seen under the Third Reich of Hitler. The inhabitants knew what the future held under the second incursion of Russian occupation, and well understood the sentiments of the title of this little article.

The last days of the journey were westward, through Arnheim. This was another episode of valour by airborne troops and frustrated opportunities. Two young pilots were similarly wounded, yet heroically took their paratroop combatants to that bridge too far. One was awarded the VC, the other grew an extended moustache to cover his dreadful facial burns and damaged cheeks. Jimmy Edwards went on to become a well loved comedian. On the last day we assembled at the civil cemetery in Steenburgen. That school boy hero, Guy Gibson, was laid to rest in this Dutch town alongside his navigator, just a year after he so deservedly won the Victoria Cross. They had crashed into a field in Holland, and were instantly killed. The Dutch arrived at the scene before the German authorities. They soon realised from identification tags who the dead pilot was, and also the propaganda significance of the find. So they buried the two aircrew members secretly in a civilian grave, where they now remain. The War Commission have replaced the headstones with the more familiar white stones that mark not only their comrades' resting places from the extraordinary Dambuster raid, but also all the others that gave their lives throughout the conflict.

It was a wonderful week. Wonderful might seem a rather strange word to choose, but man's ingenuity, courage, tenacity and grace under a duress he could not possibly fully understand, is a light to all our destinies. Should you be interested further, contact Leger Holidays, and request their 'Battlefields' brochure.

Frank

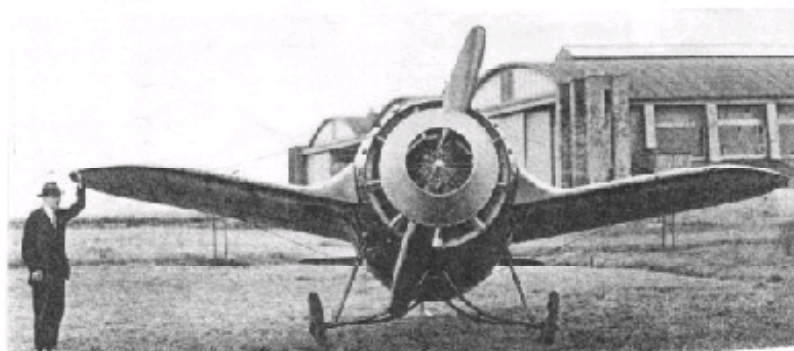
LOCAL LIGHTS

BRISTOL'S BARREL

Reviewed by
John
Shufflebottom

*In the history
of aviation
there are
numerous
examples of
aircraft built,*

accurately forecasting new and innovative ideas that were not immediately successful but were later to become standard fittings. One of these interesting aircraft was the Bristol type 72 Racer designed to promote the company's new Jupiter IV engine.



Designed by W.T.Reid in November 1921, it was considered a most outrageous design by the aircraft industry as a whole, but the fact that all of its breaks with tradition were standard practice by 1939 shows that Bristol's were on the right track.

Construction commenced in January 1922, the design innovations, which so shocked the "experts", included a streamlined monocoque fuselage, cantilever monoplane wings, a totally enclosed engine with ducted cooling, a rudimentary spinner, manually retracting landing gear, and wing root fillets.

Like the later Granville Brothers Gee Bee racers, the fuselage was rather fat,

approximately the shape of a raindrop to accommodate and streamline the large Jupiter IV nine cylinder air-cooled radial engine, which had been specially modified to increase its power from 436hp to 480hp.

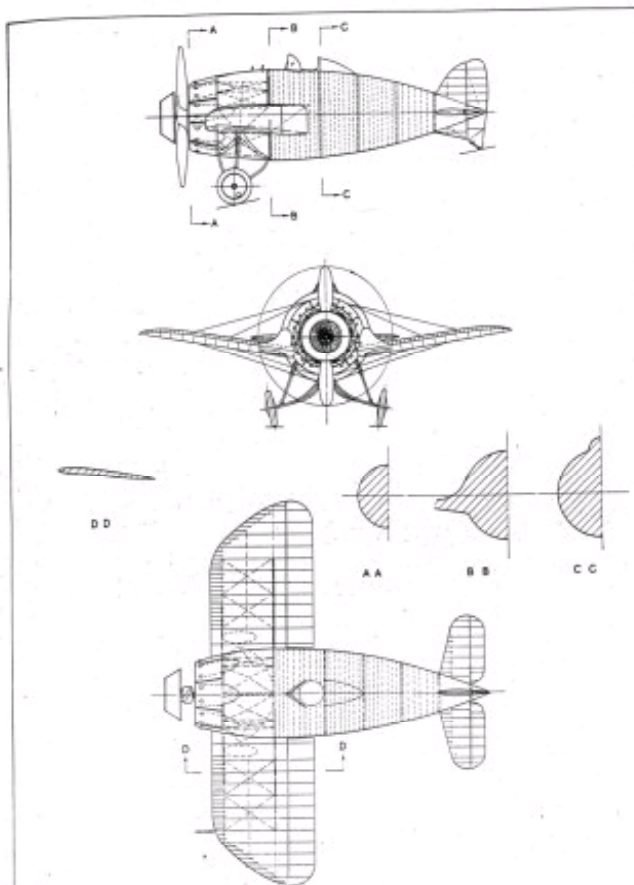
The fuselage was based on two main bulkheads of robust construction incorporating alternative laminations of three ply and steel. The front bulkhead formed the mounting plate and firewall for the engine and incorporated sockets for the stubs of the front wing spar to attach to, and the rear bulkhead had sockets for the rear spar stubs. The rest of the fuselage consisted of light wooden ring formers, braced radially by steel tie rods each ring resembling a bicycle wheel. The whole fuselage was skinned in three layers of tulip wood veneer laid diagonally, and no longerons were employed. Just behind the rear bulkhead was a cut out of minimum size for the pilots cockpit, a proposed enclosed canopy was never fitted due to fears of a build up of exhaust fumes.

The retracting landing gear was operated by a crank and chains and had curved radius rods and axles. It was pivoted on the centre line of the bottom of the



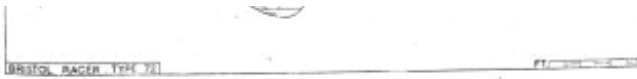
fuselage so that when the shock absorbers were withdrawn into the fuselage the rods fitted flush into grooves in the fuselage surface and the wheels into the wing where they protruded up through and into the root fillets.

The spinner was a nearly full diameter hemisphere leaving only a small gap between itself and the fixed engine cowl, and a small central hole in front of the airscrew boss. Early ground runs confirmed that cooling on the ground was adequate with the spinner left off due to some airscrew vibration problems.



In June the Racer was painted in high gloss red with the registration G-EBDR and its racing number 10 in white, but the spinner installed after further balance checks was left unpainted. The initial flight, made by Captain Cyril Uwins, revealed the fact that the wings were rather too thin and flexible causing control reversal when the ailerons were moved making it almost uncontrollable. However, by using the rudder only and making long flat turns he completed a circuit and landed safely. The wing was modified by adding external bracing in the form of 'Rafwires' which cured the wing flexing.

Captain Uwins took off with confidence for the second



flight. He had just started to climb when there was a terrific crash from the front of the engine; at first

he thought that a cylinder had blown off, but the engine continued to run and the Racer maintained its climb although the fabric of the port wing was ripped and the airspeed indicator was not functioning as the pitot head was missing. Control was still acceptable and he completed yet another careful circuit. The cause of the noise and damage was the spinner bursting when the engine speed was increased; the reason was that too much paint was applied to the previously unpainted spinner, which became unbalanced.

The third flight was made without the spinner and the Racer flew normally except for the high drag of the open engine, which limited the speed attainable, and the fact that the ailerons gave excessive control response.

The Racer was once again modified; a cam was fitted to the control stick, which pressed on rollers on the aileron control



cables, the cam allowed very small movements of the ailerons for small movements of the stick but progressively larger movements as the stick was displaced from the center. It worked well on the ground but in the air the upload on the ailerons lifted the rollers out of contact with the cam so that no aileron control remained. Once again a perilous circuit resulted in a safe landing, and the cam was removed and direct cable connections restored. At the same time the inboard portions of the ailerons were separated and fixed to the wing leaving only 40 per cent of the original effective length.

At this time a new spinner was constructed. A strange truncated cone with a large opening at the front, it was braced inside with wire spokes like a cycle wheel and it had an axle in the center which was fitted to the front of the airscrew boss and allowed to freewheel to act as a stationary fairing. Small vanes were fitted to prevent rotation in flight, and in a further three flights a static condition of the fairing was achieved, although it proved to be totally inadequate as a nose fairing. In all, seven flights were made, and during the last two the retractable landing gear was successfully operated.

After this no further flying was done as the Racer had no prospect of winning any event until the spinner trouble had been sorted out, and Uwins refused to consider it for use as an engine test bed, so it was dismantled and stored until 1924 when it was scrapped to save hangar space.

John

Join Bristol for free in two thousand and three!

Back in December 1903 two cycle engineers in Dayton Ohio constructed a heavier-than-air flying machine and succeeded in flying it under it's own power for the first time in history.

To mark the 100th anniversary of Orville and Wilbur Wright's great achievement, the Bristol Strut decided at their AGM to offer free membership to anyone with a serious interest in aviation around the Bristol area, PFA members, and of course existing Strut members when their subscriptions become due for renewal.

To take advantage of this unprecedented offer, make your way to the BAWA conference centre on Southmead Road any second Thursday until October 2003. If you like what you find, you can sign up for a year's membership completely free of charge!



We wish all our readers a very happy Christmas
and lots of great flying days in the coming New Year



Last month's Newsletter

Click [HERE](#) to open the November "Strutter".

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