

# **TURBULENT G-APNZ PRESERVATION SOCIETY**

## **Chairman's Annual Report**

### **2022**

2021 has been a year of great expectations, disappointment, great frustration and finally some progress. The greatest expectation was to have flown G-APNZ to the LAA Rally in September. This was the 75<sup>th</sup> anniversary of the formation of the LAA and it was hoped that there would be a line up of representative aircraft types covering that history. Clearly Turbulent G-APNZ was one but despite the best efforts of our team, it was not to be: the aircraft was not ready.

The disappointment was of course the death of HRH The Duke of Edinburgh. Naturally we had hoped that he could have seen the aircraft fly. Sadly it was the covid pandemic that imposed an interruption into the restoration program.

Nevertheless we did have some positive TV and radio exposure occasioned by our engine runs and taxi trials as a result of public interest into the life and times of the Duke. As is often the case, the press want to be present at the first flight but we always decline. Test flying is only possible when all of the aspects are covered and one in particular is the weather, notably unpredictable in the UK. Having weighed the complete aircraft (a vital requirement) we found that none of the Derby based potential test pilots were light enough to fly it with an acceptable amount of fuel. Fortunately David Beale of Percival Mew Gull fame agreed to carry out the test flying but he is a busy man and does not live locally and this adds to the practical constraints. David had previously kindly overhauled the engine. As yet the aircraft has not flown.

The frustrations were manifest. Engine testing revealed very high temperatures that had a detrimental effect in the electronic ignition units mounted upon the back of the engine. This caused the intermittent failure of one of the two units. Extra cooling holes were made in the cowling (temperatures were higher when the cowlings were fitted). These helped but the problem remained. The manufacturers of the ignition units no longer support the engine mounted units having had similar experiences on other aircraft unbeknown to us. Their solution was to mount the units remotely actually within the fuselage. Reluctantly a complete new ignition system of this later type was purchased. The installation required crank shaft position sensors to be mounted behind the propeller with the electronic units mounted on the left hand side of the forward fuselage with precious little space to spare. Wiring from the sensors, power feeds and rpm outputs all had to be redone. This was particularly troublesome because of very poor access. HT coils were suspected also. Two new ones were fitted and this caused HT lead problems. It transpired that the HT lead connections to the coils were not fully compatible with each other which gave doubts about their security and conductivity. Surprisingly the correct terminations were not readily available but eventually a local auto

electrical specialist was able to oblige albeit at extra expenditure and these have been fitted.

Other problems were inadequate carburettor heating, reliable rpm indications, oil temperature and altitude instrumentation to mention a few. An electrical fuel pump was installed as a safety back up in case the engine mounted mechanical pump fails. This was all on top of the necessary "permit flight release certificate" from the LAA after their review of all of the supporting technical documentation which had been prepared routinely throughout the restoration program. We also had problems with the brakes, the seat security and a centre fuselage control column connection necessitating a hole which would cause unwelcome draught in a rather private place for the pilot! This is now solved by a very posh stick gaiter.

The extra expenditure for new ignition units, sensors, fuel pump, HT coils, leads with correct terminations, oil temperature sender and a new engine RPM tachometer (incorporates oil temperature readout) come to a total of about £1600. This was not originally expected but does highlight the problem that an aircraft must not fly until all of the components are airworthy.

So on to the progress. We believe that the aircraft is ready to fly needing only a final inspection and the PFRC from the LAA. Some aircraft fight the engineers and some don't, but the Turbulent is definitely one of the former. The fact that we are where we are is down to the continuing efforts of the wonderful volunteers who have made it possible. Three Johns, Sean, Mark, Martin, Ken, William, Peter, George, Ben and Lucy have pulled out all the stops. There may well be others!

I do fervently hope that soon the aircraft will fly especially to be associated with the Platinum Jubilee of Her Majesty the Queen.

Arrangements are in hand to have the Turbulent put on to display for a period of time at the Duxford Air Museum. It should participate there in some of the flying displays. At that venue there will be full exposure to a wide public presence and hence elevate the awareness of the Duke of Edinburgh Awards scheme for young persons in a new locality.

Martin Jones

Chairman of the Turbulent G-APNZ Preservation Society.