

# Joining the 'Cargo Cult' and a mysterious 'snag' affects Twin Pioneers

Another story from the pen of Squadron Leader Ces Crook MBE, RAF (Retd.), a former commander of 209 Squadron, Royal Air Force.

We flew standard routes in Borneo to facilitate search and rescue. The terrain in the Interior was very mountainous, some ranges rising to 2,500 – 3,000 feet. But the maps we used had no relief markings on them. Apart from rivers and the coastline, both of which were accurately presented, the maps were blank so were white all over. From these maps, one wouldn't know where the mountains were, except that they were most likely between the rivers. It was usual for aircrew flying down a route to pinpoint the tops of mountains and mark them on their maps. For example, a Royal Navy helicopter crew christened one peak 'Wiski Drup' because that's what the peak looked like to those RN persons. If you were high enough, it was possible to get the general lie of a range by comparing its direction with the aircraft's heading. Our Navs pooled their map-making efforts onto a master map we kept in our Ops room at Seletar along with our invaluable Strip Book. But it was not until the Army surveyors arrived on the scene that the deficiencies in the Borneo topos began to be addressed. As you can imagine, the mapping task was a huge one; it may still be going on.



'Skelping' along at 90 knots.

It was interesting that when tackling a project for Garuda in the mid 1990s, I asked for copies of the topo maps covering the area to the west of Jakarta. I was not able to get maps later than 1979, and these had been produced in Australia from aerial photos taken by RAAF PR Canberra aircraft. I'm told it's difficult to get good aerial photo cover in the tropics because of the perpetual cloud cover.

It made good sense that our standard routes followed rivers that were well defined on our maps. The strips we used had been constructed close to these rivers to facilitate a safe approach and climb out. Eventually, Borneo Airways and missionaries also used these strips. Borneo Airways and the missionaries served the long house settlements built near rivers that had enabled the Interior peoples to move around the Interior for centuries.

During Confrontation, it was essential for the army to protect the long house settlements and the strips that enabled air support, so fortifications were built near each strip. The weather conditions usually meant fog and mist at dawn getting cloudier by late morning and very bad weather in the afternoon when the clouds had built up and the rains came. Our operation was VMC only below cloud; so the sooner we got off after dawn the easier it was to operate. Flying standard routes also facilitated efficient tasking; for example, to get to Bario, we flew through another strip at Long Semado.

Because there was hardly any wind, flying along at 90 knots IAS meant a ground speed of 1½ nm/minute. The timing down each route was predictable and hardly varied. We liked to be operating

near the coast in the afternoon so we could get back to a main base with an airplane that could be tasked early the next day. No one liked being caught out by low cloud and bad weather at an Interior strip.

When the FATOC (Forward Air Tasking Ops Centre) realised this and that standard routing could be linked to tasking, they tried to put together tasks that helped us to operate productively. The army who were our major customers, benefited because they could anticipate and plan their personnel and mail movements. The army made their bids, the FATOC coordinated them over-night and we were then tasked. 34 Squadron Beverlys dropped the really big loads such as ammunition, corrugated iron, drummed fuel and earth-moving equipment. The larger transport aircraft got more warning of their tasking. All this air activity had to be co-ordinated and the Ops people in the FATOC did it very well. With some heavy loads, we had to refuel at strips with Zwicky pumps from drum stock. When the drum stock fuel passed its 'use-by' date, the locals grabbed it for their use. One day I was on a strip that was being up-graded. I had arrived earlier with a team of army engineers and was with their CO, a major, and the local pengulu.



Brothers in arms - a Twin Pioneer and a Beverly at Seletar.

A Beverly arrived and delivered a bulldozer by parachute. As soon as it landed, it was driven off the DZ (Drop Zone) by an engineer to get it out of the way of a load from a second Beverly, which dropped a wobbly-wheel roller. The amazed pengulu watched all this equipment floating down from the sky and being moved a few minutes after it touched the ground.



A Twin Pioneer drops its load.

He then asked the 'Major Boss' when these machines were going to fly away from his strip because he wanted them. He wanted the parachutes too. The Major told him that he could certainly have the machines when the army had finished with them. He told me that there was no way that they could be retrieved once they were on the ground. The pengulu was very happy. I don't know if he got the parachutes; the soldiers liked those to make para-hammocks. Out-of-date drum stock fuel, Avgas and Avtag, kept these army bulldozers and kerosene fridges going. By the time Confrontation ended, long houses had corrugated iron roofs and kerosene fridges, and serviceable earth-moving equipment had

been left behind all over Eastern Malaysia. Sad, in a way, that the indigenous people there had to advance so quickly over three years.

When I was recollecting how we operated along 'standard routes' at 90 knots IAS in the Borneo Interior, it triggered a memory about some very bad aircraft handling by an inexperienced pilot.

Our remarkable engineer who was in charge of all things technical on 209 (a Flight Lieutenant who was promoted to Squadron Leader because of his expertise) came to tell me that a mysterious 'snag' was affecting the flap and slat mechanisms.



319 undergoing First Line Servicing.

This was occurring on several Twins on their return from action in Borneo to Seletar where we did our own Second Line servicing. The engineers who worked on Second Line on major and other deep inspections, worked shifts 24 hours a day/seven days a week generating the hours so we could meet the task. After such inspections we flew the machines from Seletar mainly on training, but from the engineering perspective, to shake them down and iron out any small snags that emerged. After 50 hours shakedown flying, TEPs were flown to Butterworth, Kuching or Labuan. They stayed there until they had 55 hours left, when they were returned to Seletar. When they arrived back the hours left were controlled carefully so the machines entered Second Line on the date planned. During this 'flydown', our First Line engineers cleaned each aeroplane thoroughly so their buddies on Second Line were able to start their inspections with clean machines. We used the hours available for training and operational tasks such as supply dropping in Johore. We also had to train the army despatchers from 55 Air Despatch Company who lived in the next hangar to us.



'Red Light ON - Green Light GO!  
A day at the office for Army's 55 Air Despatch Company.

Several of our experienced captains had put a couple of Twins U/S because the flaps and slats were not working properly. They were coming out in jerks and sometimes jamming. The 55 Company despatchers had also noticed this through the open door. Investigating these snags, our

remarkable engineer's men discovered that the mechanisms [which included mechanical components such as bicycle chains] had been stretched.

Our remarkable engineer asked me how that could happen. We discussed it with the TEP Flight Commander. He'd noticed from a flying logbook that the flying times of an inexperienced pilot just back from Labuan did not match the standard timings for the routes that had been flown. The route timings were shorter than usual. These timings matched the F700 servicing record.

Bill and Pete went off to do a joint investigation. Soon afterwards a sheepish 'junior pilot' appeared in my adjutant's office. He was shown in and apologised for what he'd been doing. He'd discovered that by flying along just below developing cumulus he could ease the nose down a bit and get 120 knots out of the aeroplane in level flight. He was using the updrafts under the clouds to get extra lift and had found that the Twin 'sailplaned' along very nicely. Instead of 1.5 nm/min he could get 2 nm/min by flying his Twin like a glider. So a task, which normally generated a trip time of 40 mins at 90 knots, took only 30 minutes at 120 knots.

He was chastised and sent off to apologise to the Warrant Officer i/c Second Line for causing extra work by bad flying. He also had to apologise to the aircrew at Met Briefing the next day for bad handling, that is, using the Twin as a 'sailplane'.

A number of readers have asked about the Editor, here is a thumbnail –



With G-APPH  
at Farnborough 1960



Today

Ron Tannock is a former Scottish Aviation Design Apprentice and a graduate of The University of Strathclyde, Glasgow. After completion of his degree in 1962 and with the cessation of production of the Twin Pioneer at Prestwick, he travelled south to Hatfield to join the de Havilland Division of Hawker Siddeley Aviation as a Flight Test Engineer. With the granting of the type certificates of the Trident and the de H 125, Ron travelled further south to join National Airways Corporation in Christchurch, New Zealand as Assistant Technical Superintendent. He worked in a number of positions with NAC – Passenger Services Manager, Technical Services Manager and Quality Manager and, subsequently, after the merger with Air New Zealand in Auckland – Aircraft Maintenance Manager, Chief Engineer and Manager Commercial Services. After working with McDonnell Douglas DC 10, Boeing 737, 767 and 747 aircraft Ron moved to Blenheim as General Manager of SAFE AIR (an Air New Zealand subsidiary), a small cargo airline operating Bristol Freighters and Armstrong-Whitworth Argosy. Returning to Auckland in 1990, Ron spent the last 10 years of his career as Air New Zealand's General Manager – Operations.

Now living back in Blenheim with his wife, Rhondda, to be close to his sons and grandchildren. Ron's days are kept busy with a wide range of activities – documentary making, the Twin Pioneer project, and pottering around with a couple of classic cars.

Ron is a Chartered Engineer and a Fellow of the Royal Aeronautical Society. He is Deputy Chairman of the *Aviation, Tourism and Travel Training Organisation* and a board member of *The Civil Aviation Authority of New Zealand* and of *Aviation Security*.

## Test Flight 'High Jinks'

A letter from Ian Adams an ex employee at SAL writes -

I flew only twice in a Twin and both flights were somewhat unusual. I was working in the ground crew for the prototype, G-ANTP, in the TI hangar as a very green second year apprentice. We all had our names on a list to get a flight on the aircraft and one day the shout went round for me to get into the 'office' to sign a 'blood chit' and get myself on board. I sensed that those in the know in the 'office' were smiling more than usual. I should have suspected something but I boarded the aircraft with no briefing and no hint of what was to come.

We took-off and soon I noticed that although we had been climbing for about five minutes we still were overhead the runway. We eventually levelled off and I noticed the flight test engineer, John Bayne, who was sitting in the co-pilot's seat having a discussion with the pilot and then moving the fuel cock controls. He then turned to me and gave me the thumbs-up; I presume it was supposed to tell me something. It was shortly after that the aircraft started to pitch and roll continuously and I had difficulty in keeping the horizon in view. This seemed to go on for some time and I was aware of John grinning round the bulkhead at me to see how I was getting on.

Suddenly, both engines started to cough and splutter and John quickly reset the fuel cock levers but then there was a deafening silence as both engines quit. I looked out the window and was surprised to see both propellers turning but with no sound. Had I suddenly gone deaf? Then came the answer as both engines burst into life again with the usual din.

We descended quickly and landed and I was quite glad to get out when we stopped outside the hangar.

It was then explained to me that the test had been carried out to determine the unusable fuel level in one of the tanks and it had to be done in conditions that would simulate turbulence. I wondered if I would have gone on the flight had I known this before we took-off. However, I did help to drain off the remaining fuel from the test tank and I seem to remember that it was quite a small amount when it was measured out into a calibrated can.

The next flight, again in G-ANTP, was even more fun. I had the wit to ask what the test schedule would be before I volunteered this time. I was told that it would be maximum gradient climbs to check cylinder head temperatures and some single engine flying. We took-off and climbed out over the Firth of Clyde. I was sitting on one of the few seats near the front of the cabin next to the auto-observer unit and the bank of ice filled thermos flasks with thermocouples installed that provided a temperature datum for the cylinder head temperature measuring system.

I was not wearing a 'headset' and became aware of John, again in the second seat, pointing excitedly down over the nose of the aircraft. From my position in the cabin I could not see anything but suddenly the aircraft stood on one wing tip and we went into a steep descending turn. I dragged myself out of the seat against the G force and looked through the cockpit bulkhead to see what was going on. I was amazed when we levelled out and there in front of the windscreen was the fin and rear fuselage of a large aircraft. We had dived onto the tail of a Neptune flown by "Cap" Capper. He must have been on a long straight approach as the flaps and landing gear were down. The Twin was probably flat out and we were crashing and thumping around in the slipstream of the Neptune. Meanwhile John was going mad with a make-believe machine gun and grinning all over his face. His aim must have been good for both the

engines of the Neptune started to trail smoke. However of course all that was happening was that Capper had opened the throttles, cleaned up, and accelerated away into the distance.

We resumed our test climbs and ended up somewhere over North Ayrshire. We then returned down the A77 flying on one engine and I remember seeing the Kilmarnock to Ayr bus slowly overtaking us. Suddenly there was an almighty thump and the aircraft seemed to stagger to a standstill. I could see some rude gestures in the flight deck and the second engine was started in quick time. I had no idea what had happened and it wasn't until we landed and stopped that John told me that 'Cap' had got his own back and had dived the Neptune across the nose of the Twin at high speed leaving us floundering in his wake.

All good fun at the time but looking back I wonder whether that kind of flying would be allowed now. On a more serious note, we were of course at that time unaware of the inherent weakness in the wing strut attachment and Roy Smith, our pilot that day, was later to lose his life in the Libyan desert along with the "Groupie"



G-ANTP lands after a test flight.