

An abstract graphic at the bottom of the page featuring a dark, wavy background with vibrant, flowing bands of color. The colors transition from deep red and orange on the left, through yellow and green, to bright cyan and blue on the right. The waves appear to be moving across the frame, creating a sense of motion and depth.

ZF 135 5TH SEPT 2007

Jon Dunn



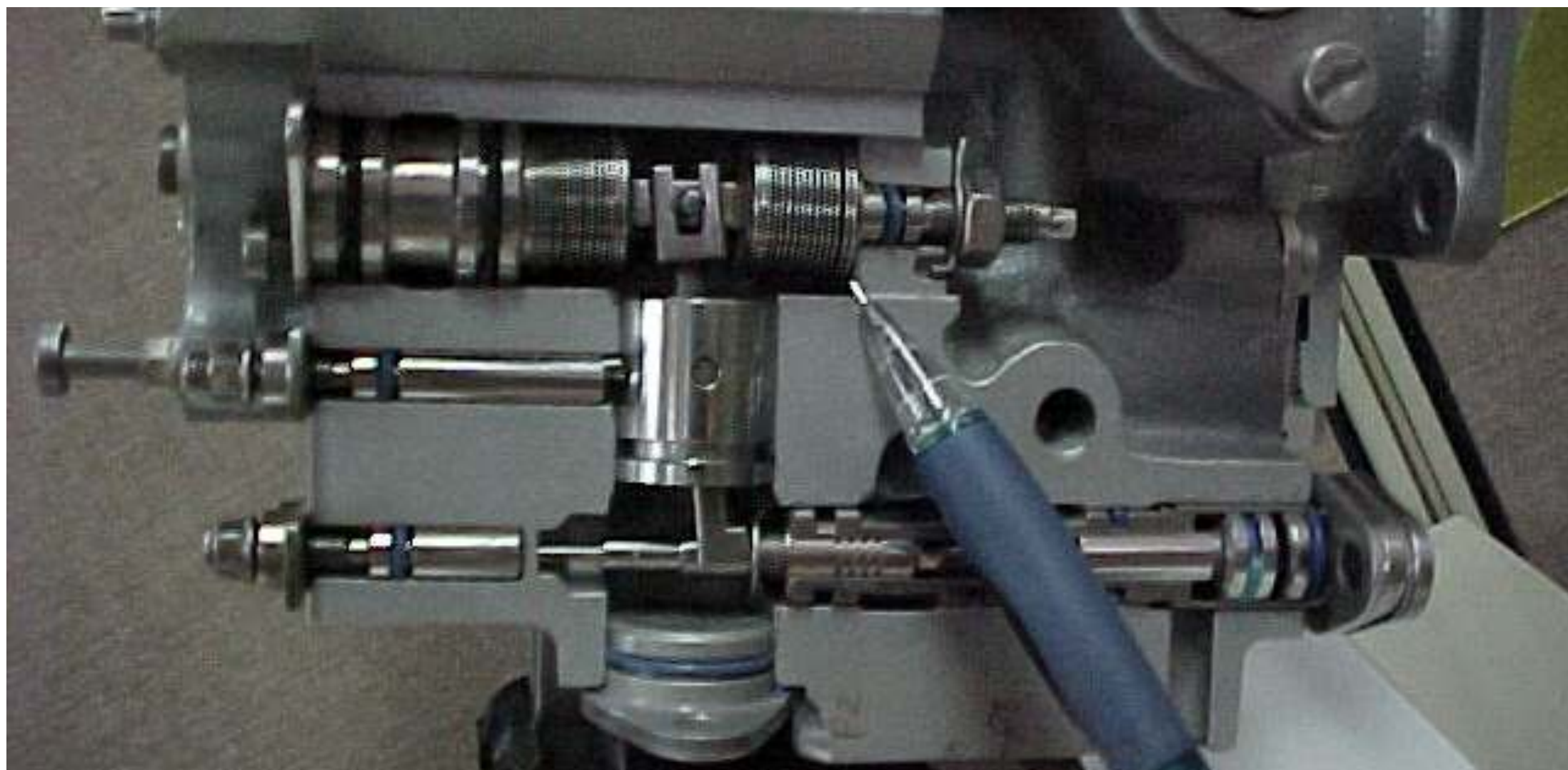
SUMMARY

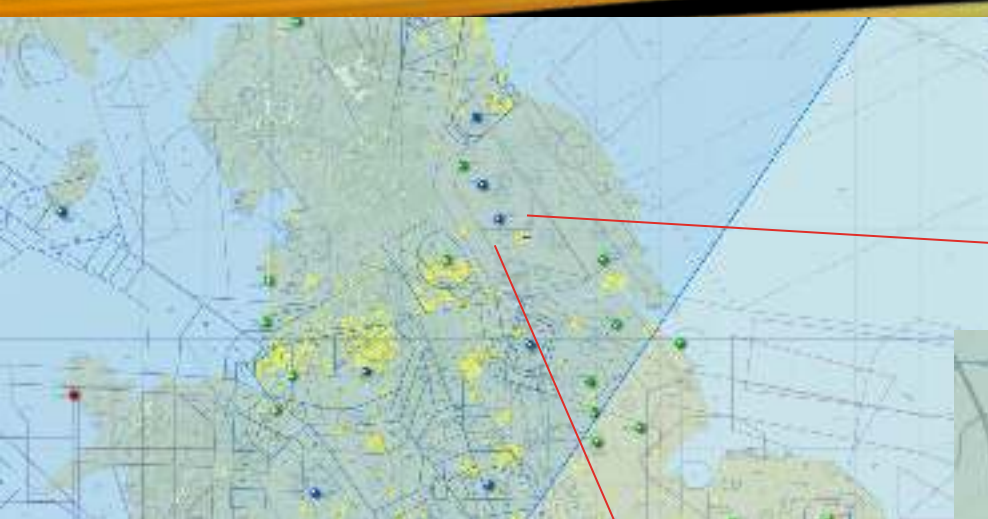
- On 5 Sep 07 a Tucano, being flown from RAF Linton-on-Ouse on a dual instructional sortie, suffered a significant loss of power during the initial climb. Following unsuccessful attempts to restore power, and being unable to glide to Linton, the ac was landed at Rufforth where it overran the runway and came to rest in a field. The crew were uninjured.



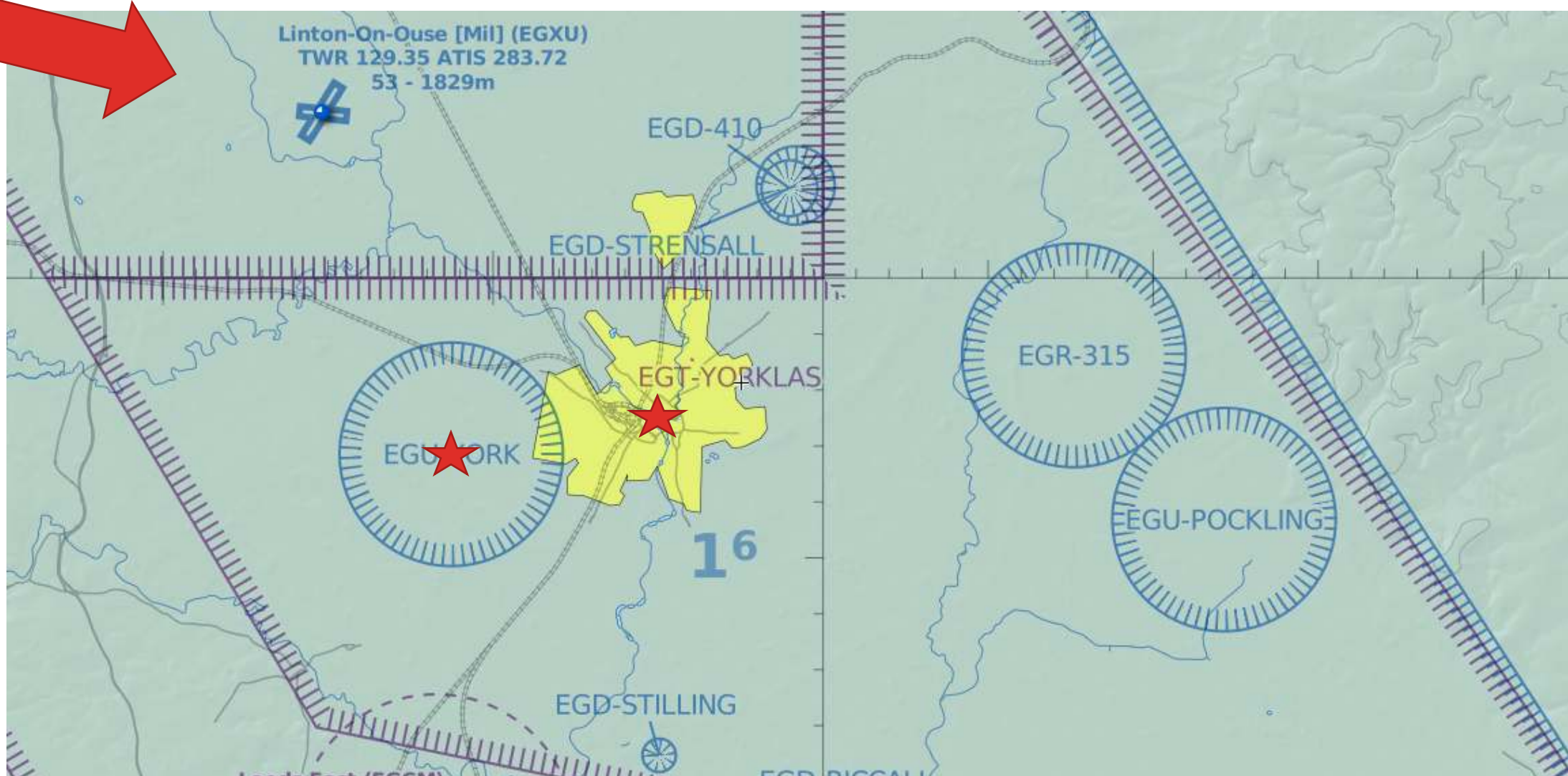
SOME USEFUL BACKGROUND INFORMATION

- The maximum exhaust Gas temperature allowable in the Tucano is 660 deg Celsius.
- For leading formations 600 deg Celsius is used for the climb.
- The Engine Electronic Control (EEC) unit automatically provides over torque and over temperature protection in normal operation.
- The Fuel Control Unit (FCU) provides both mixture control and surge protection through the use of two bellows, one aneroid and one inflated with P3 bleed air.
- The EEC was prone to failure and roll back the available power usually caused by a thermocouple failure.
- The manual mode of throttle operation fed restricted P3 bleed air to the FCU.
 - This provided for limited available torque.
- Gliding speed of Tucano 110 knots IAS
- Simulated engine failure by select 10% Torque (or approximately 1% torque per 10 knots of IAS)





Surface Wind 300/10







HUMAN FACTORS

- Initial assessment of cause:
 - Student poor flying.
 - EEC Failure.
- Poor awareness of position.
- Poor Maintenance of heading.
- Decision to remain with the aircraft vice ejecting.
- Decision to land on Runway despite gliding activity.
 - Village in the undershoot and the trees on the threshold.
 - Inaccurate estimate of landing distance available.
- Poor Aircraft handling in the final turn.
 - Unbriefed decision to abandon aircraft onto glider site.
- Failure to select land Flap.
- Unexpected float in Ground effect.
 - For practice IDLE is selected in the flare.
- Tyre Burst at maximum braking.





