



<b>TITLE</b>	SLOTTED CENTRE SECTION COVER.
<b>CLASSIFICATION</b>	OPTIONAL.
<b>COMPLIANCE</b>	OPTIONAL.
<b>APPLICABILITY</b>	AX2000 (HKS ENGINE).

**INTRODUCTION:**

Tuft testing has revealed that the HKS engine shape causes premature flow separation from the wing root top surface when approaching the stall, power-off. The detached wake causes buffeting of the tailplane and a reduction in elevator effectiveness. This is most noticeable when the aeroplane is operated at forward CG when close to maximum all-up weight.

A new centre section cover has been designed which incorporates two slots. High pressure air taken from the wing undersurface is allowed to escape through the two slots, so re-energising the airflow in the stagnant area behind the engine. The airflow now remains attached to the wing root up to higher angles of attack, so reducing tailplane buffet and improving elevator authority when power-off. A side effect is that the internal pressure in the whole wing rises, reducing the tendency for undercamber to develop. It has also been found that removal of the centre section lower cover reduces noise due to buffet over the top of the cockpit area.

The slotted centre section cover has been found to make no significant difference to any other aspect of performance, stability or control.

**ACTION:**

Fitting is not compulsory but Cyclone Airports recommend it for HKS powered AX2000 aircraft. Remove the original centre section covers, both upper and lower sections. Fit the new cover according to the attached drawing STG-AX2-42A. Ensure the new one-piece cover fits snugly and that all velcro attachments are secure. Ensure that the slot opening limit strap is in place so that 75mm minimum clearance from the exhaust system is maintained when the slot is held fully open.

**INSPECTION:**

A BMAA or Cyclone Airports Inspector and Check Pilot must inspect the aeroplane and check fly it. When satisfied "Cyclone Airports Modification AX291 (slotted centre section cover) installed" must be signed off in the technical log.

Inspect the cover and attachments for condition and security as part of the daily inspection of the aeroplane, and at each Permit Renewal.

<b>ISSUED BY W.G. Brooks</b>	<b>DATE 15/6/99</b>
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Chief Engineer		Date	
Production Director		Date	
Sales Director		Date	
Managing Director		Date	