AD/TPE 331/45 Third Stage Stator Assembly 2/93 TX

Applicability: TPE 331-1,-2,-2UA,-3U,-3UW,-5,5A,-6 and 6A Turboprop and TSE331-3U Turboshaft engines incorporating third stage stator assemblies Part Number 868379-3 repaired at National Flight Services (USA) between 20 Feb 1990 and 6 April 1992 and identified by serial numbers listed in National Flight Services Alert Bulletin NF331-A72-11921 dated 9 November 1992.

Requirement: Replace Third Stage Stator assemblies Part Number 868379-3 repaired at National Flight Services (USA) between 20 Feb 1990 and 6 April 1992 and identified by serial numbers listed in National Flight Services Alert Bulletin NF331-A72-11921 dated 9 November 1992 with serviceable assemblies.

Note: FAA Priority Letter AD 92-26-08 refers.

Compliance: Replace affected Third Stage Stator assemblies with cycles in service since repair by National Flight Services in accordance with the following schedule:

a. 900 or more cycles : replace within 50 cycles from 24 December 1992;

b. 450 to 899 cycles : replace within 150 cycles in service from 24 December 1992 but not to exceed 950 cycles; or

c. Less than 450 cycles: replace before accumulating 600 cycles.

(Cracking of the third stage stator assemblies is related to operating cycles rather than operating hours. If cycles cannot be determined, calculate cycles by multiplying third stage stator assembly hours time in service by 1.5)

Background: The FAA advises of reports that a Hastelloy S material inner seal support in a third stage stator assembly fatigue cracked, moved aft and made contact with the third stage turbine wheel resulting in an uncontained engine failure. In reports of other incidents, several Hastelloy S material inner seal supports exhibited numerous circumferential cracks before achieving approved life limits. An undetermined number out of 283 third stage stator assemblies were repaired with Hastelloy S material instead of the approved Haynes 25 material at National Flight Services between 20 February 1990 and 6 April 1992. The FAA has determined that Hastelloy S has approximately one sixth the expected fatigue life in this application and, if not removed from service, can result in uncontained failure of the third stage turbine wheel.