

GOVERNMENT OF INDIA
DIRECTORATE OF AERONAUTICS
MINISTRY OF DEFENCE

TYPE APPROVAL LETTER NO. 98

ISSUED TO

HINDUSTAN AERONAUTICS LIMITED
BANGALORE DIVISION

This is to certify that flame tubes to part Nos. RK. 42027/A(H), RK.42028A(H) and RK.42029A(H) manufactured by Aero-Engine Factory, Hindustan Aeronautics Limited, Bangalore Division completed a 150 hours special category type test on a Dart Mk.531 engine Sl.No.54080 as per report No.EQ/102-T/1023/72 dated 23rd Nov, 1972 and meets the standards regarding materials, specifications, construction and performance for safe operation as required by the Director of Aeronautics.

2 The Aero-Engine Factory, Hindustan Aeronautics Ltd is hereby approved for the manufacture of flame tubes for Dart Mk.531 engines under Phase II(Extension 3) programme.

3 This approval is subject to the following conditions:-

- i) Quality Control aspects of regular production being cleared by DTD&P(Air), Ministry of Defence.
- ii) Satisfactory completion of production quality test/ dimensional and welding over checks as may be called for from time to time.
- iii) Incorporation of all relevant modification, processes etc. as approved from time to time.
- iv) The test bed results for the series engines featuring HAL manufactured flame tubes being found satisfactory and within the performance scatter band obtained on engines with Rolls-Royce manufactured flame tubes.

4 The engines fitted with HAL manufactured flame tubes are cleared for the same life as the engines with Rolls-Royce manufactured flame tubes, subject to the condition that flame tubes are checked as per Rolls-Royce Dart Service Bulletin No. D-72.264 at mid-life and other instructions as applicable from time to time.


Wg Cdr
By Dir of Aeronautics (R&D)
(BK MUKHERJEE)

Dt: 30 Oct '73

No: AERO(RD-129)/110/2