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AAP 711.23 Vol 2 Pt 2

NENE INSTRUCTION NO 16

APPLICATION: Nene 2 VH
Engines

INSPECTION OF NENE FLAME TUBES AND TURBINE
BLADES AT 200 HOURLY INTERVALS

Introduction

1. A special inspection as detailed in the following paragraphs, is to be carried out on all Nene 2 VH engines on completion of 200 hours running time, to ensure that certain vital sections are in satisfactory state.

Instruction

2. Closely examine recorded life of the engine, paying particular attention to any small characteristics which have been noted by pilots or ground staff during unit operation of the engine.

3. Remove the engine from the airframe and fit to a suitable work stand.

4. Remove exhaust cone, check and record tip clearance, check and record variations in blade length, using 6 o'clock as a datum point. For the purposes of this test, the shortest blade is to be located and used as a standard to determine the longest. Maximum stretch limit for field operation is 0.010". Mark with chalk any blades near or on this limit.

5. Remove shroud ring. Lightly polish the backs of all turbine blades in a longitudinal direction using grade "00" crocus paper. Check for stretch mottling surface effect particularly on blades with longest stretch. Polish each blade with medium grade emery cloth on the trailing edge and for a distance of $\frac{1}{2}$ " from the edge on the convex side, working longitudinally. Polish blades transversely for not more than $\frac{1}{2}$ " from the tip on the convex side. These polished areas must then be carefully inspected with an X5 glass for cracks, particular attention being paid to the tips and edges. The leading edges in particular should also be checked for damage such as sharp nicks which might lead to fatigue failure.

6. Carry out an inspection of the nozzle guide vanes in accordance with Nene Instruction No 3.

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7. Remove all flame tubes and inspect in accordance with Nene Instruction No 2 Issue 2.

8. Remove wire screens from intake and inspect intake and torroidal vanes for damage. Pay particular attention to the large inner vane for cracking starting from the trailing edge. Single line cracks showing no signs of branching are acceptable up to 1" length. More than one crack is permitted if more than 6" apart.

9. Inspect as far as possible rotating guide vanes for excessive damage from foreign matter. Check closely for signs of vane cracking.

10. If the engine is satisfactory to all these special inspections, a "D2" servicing is to be completed, new parts fitted as required, and the engine re-installed for a further period of operation to overhaul life.

References : Files, Department of Air, 69/35/6 and
150/8/1514

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