

GE LM2500 PE SAC Gas Turbine Borescope Inspection Report



Engine Serial Number:	481-724
Model:	GE LM2500 PE SAC
Power turbine:	LM2500 six stage
Time since last overhaul:	2.320 h
Total hours since new:	Unknown
Rated power:	22.5 MW
Operating mode:	Partial load
Project:	4817243220
Performed by:	P. Blass
Inspection date:	14.12.2020

Workscope:

Borescope inspection of engine pre-removal from package.
Inspection performed using a Iris7Pro flex scope and a turning tool.
The engine was not water washed before the borescope inspection.
External engine inspection carried out.
Engine inlet has been inspected.
L&S pump screens and chip detectors Sump TBG/A, B, C, D, AGB checked.

Observation and recommendations:

Compressor dirty, water wash recommended.
L&S pump screens and chip detectors, clean, no findings.
Continue preventive preservation GEK WP50100 until startup.

Conclusion:

Engine is serviceable for continued operation.

Results of Compressor Section:

Inspection Area		Comments
<input checked="" type="checkbox"/>	Inspect stages 1 through 16 blades for cracks, nicks, tears, burrs, dents, missing material, evidence of tip clang, curl or deformation.	
<input checked="" type="checkbox"/>	IGV	
<input checked="" type="checkbox"/>	Stage 1 Blades (Qty 26) & Vanes	Serviceable, salt and deposits
<input checked="" type="checkbox"/>	Stage 2 Blades (Qty 26) & Vanes	Serviceable, salt and deposits
<input checked="" type="checkbox"/>	Stage 3 Blades (Qty 42) & Vanes	Serviceable, salt and deposits
<input checked="" type="checkbox"/>	Stage 4 Blades (Qty 45) & Vanes	Serviceable
<input checked="" type="checkbox"/>	Stage 5 Blades (Qty 48) & Vanes	Serviceable
<input checked="" type="checkbox"/>	Stage 6 Blades (Qty 54) & Vanes	Serviceable
<input checked="" type="checkbox"/>	Stage 7 Blades (Qty 56) & Vanes	Serviceable
<input type="checkbox"/>	Stage 8 Blades (Qty 64) & Vanes	Not inspected
<input type="checkbox"/>	Stage 9 Blades (Qty 66) & Vanes	Not inspected
<input type="checkbox"/>	Stage 10 Blades (Qty 66) & Vanes	Not inspected
<input type="checkbox"/>	Stage 11 Blades (Qty 76) & Vanes	Not inspected
<input checked="" type="checkbox"/>	Stage 12 Blades (Qty 76) & Vanes	Serviceable
<input checked="" type="checkbox"/>	Stage 13 Blades (Qty 76) & Vanes	Serviceable
<input checked="" type="checkbox"/>	Stage 14 Blades (Qty 76) & Vanes	Serviceable
<input checked="" type="checkbox"/>	Stage 15 Blades (Qty 76) & Vanes	Serviceable
<input checked="" type="checkbox"/>	Inspect for erosion, corrosion or deposits.	Serviceable
<input checked="" type="checkbox"/>	Inspect for platform shingling, bowing, distortion or cracks	Serviceable

Pictures:



Picture 1: mid span damper



Picture 2: mid span damper



Picture 3: mid span damper



Picture 4: stage 1 shrouds, deposits



Picture 5: stage 1 shrouds, salt and deposits



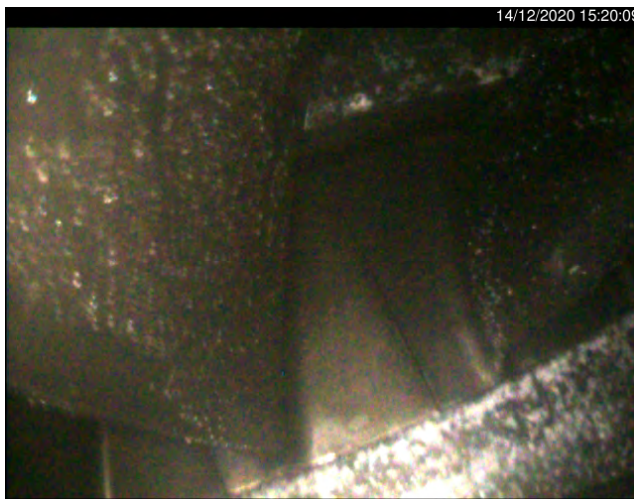
Picture 6: stage 1 shrouds, salt and deposits



Picture 7: stage 1 blades



Picture 8: stage 1 blades



Picture 9: salt and deposits



Picture 10: salt and deposits



Picture 11: salt and deposits

Results of Combustor:

	Inspection Area	Comments
<input checked="" type="checkbox"/>	Inspect combustor and 1st stage HPTN Leading Edge with flex scope for burning, cracks, erosion, discoloration, wear and missing metal.	Serviceable
<input checked="" type="checkbox"/>	Dome Plate	Serviceable
<input checked="" type="checkbox"/>	Heat Shield Face and Wing areas	Serviceable
<input checked="" type="checkbox"/>	Inner/Outer Liners	Serviceable
<input checked="" type="checkbox"/>	Igniter Tube Area	Serviceable
<input checked="" type="checkbox"/>	Fuel Nozzle Shrouds	Serviceable
<input checked="" type="checkbox"/>	Fuel Nozzle Axial Swirler/Venturi	Serviceable
<input checked="" type="checkbox"/>	1st Stage Nozzle	Serviceable
<input checked="" type="checkbox"/>	Igniter Tube Area	Serviceable
<input checked="" type="checkbox"/>	Inspect all visible fuel nozzle tips for contamination or damage.	Serviceable



Picture 12: trumpets / splash plates



Picture 13: trumpets / splash plates



Picture 14: trumpets / splash plates



Picture 15: trumpets / splash plates



Picture 16: trumpets / splash plates



Picture 17: fuel nozzle



Picture 18: dome plate



Picture 19: combustor outer liner



Picture 20: combustor overview



Picture 21: combustor overview



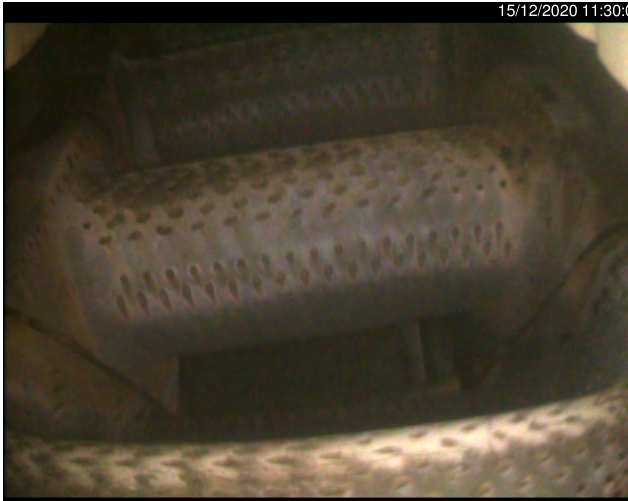
Picture 22: combustor liners, HPT stage 1 nozzle



Picture 23: combustor liners, HPT stage 1 nozzle

Results of HPT:

	Inspection Area	Comments
<input checked="" type="checkbox"/>	Inspect 1st stage HPTN Leading Edge through combustor with flex scope for burning, cracks, erosion, discoloration, wear and missing metal.	Serviceable
<input checked="" type="checkbox"/>	HPT Stage 1 Rotor Blades (Qty 88)	Serviceable
<input checked="" type="checkbox"/>	HPT Stage 2 Nozzle	Serviceable
<input checked="" type="checkbox"/>	HPT Stage 2 Rotor Blades (Qty 90)	Serviceable



Picture 24: HPT stage 1 nozzles



Picture 25: HPT stage 1 nozzles



Picture 26: HPT stage 1 nozzles



Picture 27: HPT stage 1 nozzles



Picture 28: HPT stage 1 blades



Picture 29: HPT stage 1 blades



Picture 30: HPT stage 2 nozzles



Picture 31: HPT stage 2 nozzles



Picture 32: HPT stage 2 blades



Picture 33: HPT stage 2 blades



Picture 34: HPT stage 2 blades



Picture 35: HPT stage 2 blades



Picture 36: HPT stage 2 blades



Picture 37: HPT stage 2 blades



Picture 38: HPT stage 2 blades



Picture 39: HPT stage 2 blades



Picture 40: HPT stage 2 blades



Picture 41: HPT stage 2 blades



Picture 42: LPT stage 1 blades



Picture 43: LPT stage 1 blades



Picture 44: LPT stage 1 blades



Picture 45: LPT stage 1 blades



Picture 51: chip detectors and screens clean. No remarks.



Picture 52: chip detector.