



F-class Enhanced Compressor Inspections and Maintenance

Enhancement Benefits

- The enhanced compressor system provides for increased robustness and damage tolerance
 - Increased design margins/durability – reduced risks from unobserved/unmitigated degradation effects
 - Increased reliability/availability through reduced unplanned and emergent maintenance
 - No intended or resultant performance impacts
- Reduced unplanned maintenance, depending on selected package
 - R0 replacements (inlet jacking/removal)
 - Forward stator replacements (casing/rotor removal)
 - Aft stator replacements/patch ring repairs (casing/rotor removal)
 - R0/R1 tip grinding/blend repairs (casing removal)
 - Degradation/damage repairs (casing removal, sometimes rotor removal/rebuild)
- Reduced emergent work maintenance/operating restrictions, depending on selected package
 - R0 erosion mold inspections (TIL 1603)
 - R0 wet operation restrictions (TIL 1603)
 - R0 erosion blend repairs (TIL 1603)
 - R0/R1 UT inspections (TIL 1638)
 - R0/R1 NDT inspections (TIL 1509)
 - Aft stator recurrent borescope inspections
 - Stator shim migration/pinning (TIL 1562)

Standard Inspections

- Baseline inspections apply to both standard and enhanced compressors
- The baseline standard for compressor inspections is described in GER-3620
 - Visual/borescope inspection (annual for most units)
 - Major inspection (MI) interval inspections/measurements (opening, exposed, closing)
 - Unit-specific or condition-based inspections/maintenance
- Inlet system inspections and compressor inlet visual inspections should be standard practice when accessible. Annual R0 leading edge mold inspections are a best practice to assist the operator in monitoring the effects of the compressor inlet air stream.

Occasional Maintenance	Maintenance Removed				
	Pkg1	Pkg2	Pkg3	Pkg4	Pkg5
RO UT Inspections	—	X	X	X	X
RO LE Mold Inspection†	—	X	X	X	X
RO LE Blending	—	X	X	X	X
RO Replacements	—	X	X	X	X
RO Periodic NDT†	—	X	X	X	X
RO Trip Grinding	—	X	X	X	X
R1 Trip Grinding	—	—	X	X	X
FWD Stator Replacements	—	—	X	X	X
Aft Stator Periodic BI†	—	—	—	X	X
Aft Stator Replacement	—	—	—	X	X
Aft Stator Patch Ring	—	—	—	X	X
R1 UT Inspections	—	—	—	—	X

† Fleet leader inspections may apply.

Fleet Leader Inspections

- Some special inspections beyond the standard shall continue for units undergoing enhancement during the introductory period (approximately the first 30 units receiving packages 2-5)
 - R0 erosion molds at annual intervals up to first CI – no blending requirement, no operational restrictions
 - R0 NDT per TIL 1509 following first year of enhanced operation (12 months) – no blending requirement, no operational restrictions
 - Aft stator borescope inspections for any unit previously experiencing S14-S16 rocking, approximately six months post-enhancement

Validation Fleet Leaders

- 6 engineering-identified units applying pre-/early production enhancement (with or without special instrumentation)
- These units will be subject to additional inspections/testing

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