INCREMENTAL CHANGE

Release Notification Date: 08/28/2023

SPM 70-00-07 REPAIR CODES

DISCLAIMER

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HIGHLIGHTS

HIGHLIGHT REFERENCE	DESCRIPTION OF CHANGE
tk70-00-07-800-001	Technical Change: Added repair code to the Repair Codes table.

TASK 70-00-07-800-001

1. General.

Subtask 70-00-07-800-001

A. This chapter lists the GEAE Repair Codes (symbols) which have been issued primarily for the HPT/LPT Blade, Nozzle, and Shroud hardware to designate the source of the repair and (in some cases) the nature of the repair to these parts.

B. This may not be a complete list of the Repair Symbols found on parts. If other symbols are found, notify your GEAE Representative.

C. Repair Codes in the Engine/Shop Manual take several different forms:

WELD = SOURCE

HPTN ADH = SOURCE + A + No. (1, 2, 3...)

HPTB FULL = SOURCE + No. (1, 2, 3...)

HPTB MINI = M + SOURCE + No. (1, 2, 3...)

Repair Codes - Table 1

Repair Vendor	Repair Code	Description
AIA (ANA IHI Aeroengines)	V	ADH/Weld
Air France	Z or AF	ADH/Weld
AA (American Airlines) Tulsa, OK	F	
AAS (Airfoils Advanced Solutions), Rosult/France	NZ	Welding
Avio Aero CR&O & Assembly Shop, Pomigliano d'Arco/Italy	AAP	Low pressure turbine (LPT) nozzle repairs disassembly/assembly repair
Caledonian	CL	

Celma (Brazil)	B	ADH/Weld
Chromalloy California Old Chromizing Co. Gardena	C (Old code H)	Weld
	CB	CAB (ADH clone)
Chromalloy Nevada Old Chromizing Co Nevada	CN	Weld/CAB
Chromizing Phoenix	CZ	CAB (ADH clone)
Chromalloy Southwest (Phoenix, AZ)	CMT-C	LPT "Z" notch weld Repair
Chromalloy Thailand	CT	Welding
Chromalloy Oklahoma Oklahoma City, OK	CO	Weld
Chromalloy France Old Huerchrome	HC or E	Weld/ADH
Chromalloy Europe Old Turbine Support Europa Tilberg, Netherlands	CH TSE* L* CHL	Weld/ADH/LPPS (LPPS used instead of TDC, not GE approved) Shroud LPPS repaired LPPS CoNiCrAlY flow path repair not GE approved
Cooper Aeromotive (Old Ryder/Old Aviall)	A	Weld
CTL Aerospace	CTL	
DL (Delta Airlines) Atlanta, GA	D	Weld
GEAE - Norway Depot	TNR-XXX	Vane repair - Lot number
GEES Tenn. Ave/Symmes Rd. Cincinnati, OH	T (Old code R, Symmes)	Weld/ADH
GEES Singapore Loyang Way, Singapore	G	Weld/ADH
GEES Strother	STR	
GEEVES Evergreen	EV	Welding/Brazing
GKN Aerospace Engine Systems, El Cajon, CA	GK	
Howmet Tulsa	Symbol Delta*	Weld/ADH
Claremore, OK		(not GE approved)
	H	Weld/ADH/TDC
		(GE approved
		for HPT shrouds only)
	HWc*	Howmet preform (TDC
		clone not GE approved)
	HQ*	Quick strip
		(not GE approved)
P&W Turbine Airfoil Refurb.	HPS GExxxx	Airfoil repair not GE approved
IHI Japan	J	Weld
JAL	PIP 7C-xx	Full repair Internal JAL WO#
JTT (Japan Turbine Tech.) Chiba, Japan	P	Weld/ADH
KLM (Royal Dutch Airlines) Amsterdam, Netherlands	K	Weld
LSTT Luftansa Shannon Turbine Technologies Shannon, Ireland (Old STT)	X	Weld/ADH/TDC
LH (Lufthansa Technique) Hamburg, Germany	LH and L	Weld/ADH/TDC
McAllen Components LP (Old Aviall - Now GE)	A	ADH/Weld
MTU Hannover, Germany	M	Weld/ADH
PAS Technologies, Ireland	PAS	Full repair/PTAL Coating
Praxair Aviation Services	PX-xxx-xxx*	CF34 STG 2 CoNiCrAlY Flow path repair by HVOF not GE approved
SAA (Sweden)	S	
Sabena (Belgium)	Q	Weld
Sifco Ireland (Cork, Ireland)	I	Weld
Sochata (Snecma, France)	N	Weld/TDC
Sochata (Snecma, France)	SH	Weld/ADH
Sochata (Snecma, France)	">" CIRCLED	HPTN T/E Replacement
Taikoo Engine Services Xiamen Ltd. (TEXL)	TXL	
Tinker AFB (OC-ALC) Oklahoma City, OK	OKC	Weld/ADH
Walbar (BF Goodrich) Peabody, MA	W	LPTN only
Airfoils Services SDN BHD (Selangor Darul Ehsan,	AS	Weld

Malaysia)

NOTE: Repair codes marked with an asterisk (*) are non-ge approved repairs.

Repair Codes for Hot Gas Flow Path Components.

1. Repair code does not imply that the repair source is substantiated.
2. Suffix F for HPTN denotes forward flange replaced.
3. Suffix X for HPTN denotes extended repair.
4. Suffix A for HPTN denotes area change.
5. Suffix D for HPTN denotes dehusk operation.
6. Suffix P for HPTN denotes PACH alloy repair.
7. Suffix S for HPTN denotes split vane repair.
8. Suffix T for HPTN denotes T/E replacement.
9. Suffix W for HPTN denotes SWET weld repair.
10. Suffix A for LPTN or LPTB denotes aluminide coated part.
11. Suffix C for LPTN denotes chromide coated part.
12. Suffix V for HPTB denotes Versene cleaned parts.
13. Suffix A for HPTB denotes acid strip when placed after the full repair code.
14. Suffix RP for HPTB denotes stage 2 root plate replacement when placed below the repair code. Old Chromizing Gardena code for root plate replacement is RB + Number (1, 2, 3...).
15. Suffix S for HPTB denotes blades SWET welded (old marking).
16. Suffix P for HPTB denotes platinum aluminide coating.
17. Suffix 8 for HPTB denotes tip SWET welded with R-80 filler.
18. Suffix 2 for HPTB denotes tip SWET welded with R-142 filler.
19. Suffix M for HPTB denotes a mini repaired part, for example, M + Number (1, 2, 3...).
20. Suffix A - Aviall in the past has incorrectly marked only the letter A on some CFM56-2/3 HPT blades for mini.
21. Suffix P for HPT shrouds denotes application of a GE TDC preform; for example, TP + Number (1, 2, 3...).
22. TMT Turbine Metals Technology Research Development, Inc.; PMA shrouds.
23. Suffix L for HPTS denotes LPPS flow path repair by Chromalloy Europe.
24. Suffix R denotes mod up grade for CF6-50 9299M30G10 to G12 for a service exposed blade.
25. Suffix RN denotes mod up grade of a CF6-50 9299M30G10 to G12 for a new part blade.
26. Suffix RX where X = 1 or 2 stands for first or second rejuvenation run for HPT blades.
27. Suffix 5 for HPTB denotes tip SWET welded with R-195 filler.
28. Prefix CX for HPT blade repairs where X = 1 or 2 stands for number of dry abrasive blast cycles used for shank corrosion removal.
29. Suffix C for LPT blade denotes Z-Notch weld repair.
30. Suffix S for LPT blade denotes Knife Edge Seal weld repair.
31. Suffix AW for LPT blade denotes Angel Wing weld repair.
32. Suffix "HQ" howmet quick strip (DER, not GE approved).
33. Suffix "S" chromalloy safe strip on HPT blades (DER, not GE approved).
34. Suffix "R" chromalloy rejuvenation repair (DER, not GE approved) just like GE approved process marking except number 1 or 2.
35. Suffix "U" CF6-all/LM STG 11 HPCV with cuniin wear coating.
36. Suffix "LX" LM5000 STG 1 LPT blade seal lip tig weld repair where x= number of times repaired.
37. Suffix "R" LM series CRF frame repaired by roark.
38. Suffix "RA2" LM nozzle repair at Symmes, repair ADH alloy number 2.
39. Suffix "T" LPT blade "Z" notch repaired with T-800 weld.
40. Suffix "CM" LPT blade "Z" notch repaired with cost metal 64.
41. Number "XX" HPTB with a 2 digit numbering such as: 25 is a time marking which stands for cycles in hundred's. eg. 25 = 2500 cycles. This is applied by the customer not the repair shop both LH and AA, among others routinely do this.
42. Suffix "ARX" denotes HPTN air foil replacement with the "X" indicates number of times done, i.e. 1, 2, 3…(on third party repaired parts, this marking is in front of the full repair code).
43. H-1 to 10 CF6-80E1 LPT rotating vent seal where H-1 thru 10 indicates amount of imbalance.
44. XXYZ HPTN number ""XX"" indicates the number of the repair in the repair manual followed by ""Y"" (repair shop code) followed by ""Z"" (number of times part is repaired, e.g. 51G1 stands for repair 51, repaired at GEASO for the first time.
45. YPCR-X HPTN marking where "Y" is the repair shop code, "PCR" stands for plenium cover removal and "-X" is the number of times the repair is done.
46. Y"F" X-X HPTN marking where "Y" is the repair shop code, "F" is fab repair, "X" number of times the repair was done and "-X" is the shop visit during which the fab repair was done, i.e. GF2-3.

Repair Codes for Fan and Compressor Blades Vanes, Spools, Disc, and Shafts, i.e Cold Section Markings.

1. "E" behind P/N CF6-6/50 STG 1 fan blade - Hot straighten.
2. "Repair No. 5" CF6-6/50 STG 1 fan blade - Midspan interlock repair.
3. "Z" behind P/N CF6-6/50 STG 1 fan blade - EB weld (LE/TE/TIP).
4. "Repair No. 6" CF6-6/50 STG 1 fan blade - EB weld (LE/TE/TIP).
5. "H" behind P/N CF6-6/50/80A/80C2/80E1 STG 1 fan blade - HVOF hardcoat repair.
6. "Z" behind P/N CF6-80A STG 1 fan blade - EB weld (LE/TE/TIP).

7. "Repair No. 11" CF6-80A STG 1 fan blade - EB weld (LE/TE/TIP).
8. "R1" CF6-6 STG 2 fan blade - Dovetail fretting repair.
9. "W" CF6-50/80A/80C2/80E1 STG 2-5 fan blade - Platform widening.
10. "MS" CF6-6/80C2 STG 1 HPCB - Midspan weld.
11. "TR" CF6-6/80A/80C2/80E1 STG 1 HPCB - Tip weld.
12. "RB#", #=NUM CF6 ALL, LM2500/5000/6000 STG 1 HPCB - Carbide pad replacement.
13. "L" CF6-6/80A/80C2/80E1 STG 1 HPCB - Tip corner weld.
14. "R13?", ?=CLASS CF6 ALL, LM2500/5000/6000 STG 1 HPCB - Chord repair.
15. "O" CF6-6/50/80A STG 2 HPCB - Tip weld (heat treat).
16. "O" CF6 ALL STG 3-16 HPCB - Tip weld (heat treat).
17. "R14" CF6-6/50/80A STG 6-14 HPCB - Chord repair.
18. "R12" CF6-80C2/80E1, LM6000 STG 6-14 HPCB - Chord repair.
19. "W" CF6-80A/80C2 STG 3-14 HPCB - Platform widening.
20. "GE" behind P/N CF6-6/50 STG 1-6 HPCV - Tip weld.
21. H-X CF6-50 Coupling nut HVOF repair where H-X (1, 2, 3, ETC. indicates number of repair performed)
22. HPF 0.0XXX CF34-3 STG 2 compressor disc where HPF stands for "high point forward" and 0.0XXX is the run out value in inches.
23. HPF 0.0XXX CF34 compressor rotor spool where HPF stands for "high point forward" and 0.0XXX is the run out value in inches.
24. HPR 0.0XXX CF34-3 compressor rotor spool where HPR stands for "high point rear" and 0.0XXX is the run out value in inches.
25. "O" GE90 STG 2 HPCB - Tip hot form (heat treat).
26. "O" GE90 STG 2 HPCB - Tip weld (heat treat).
27. "P" on plat GE90 STG 3-4 HPCB - Shows SB 72-0553 blades.
28. "O" GE90 STG 5-6 HPCB - Tip weld (heat treat).
29. "O" GE90 STG 4 HPCB - Tip weld (heat treat).
30. "O" GE90 STG 7 HPCB - Tip weld (heat treat).
31. "RP4" GE90 STG 5-8 HPCV - Braze cracks.
32. "RP4-O" GE90 STG 5-8 HPCV - 2nd braze cracks.
32. "RP4" GE90 STG 9 HPCV - Braze cracks.
33. "RP4-O" GE90 STG 9 HPCV - 2nd braze cracks.