

## Engine Listing and Removal Schedule

#	Aircraft	ESN	Month	Year	Lessor	WS type*
1	VQ-BFM	779729	Jan	2017	AERCAP	WS1
2	VP-BNN	575456	March	2017	GECAS	WS7
3	VP-BWG	575707	May	2017	GECAS	WS4
4	VP-BBT	575467	June	2017	AERCAP	WS4
5	VP-BWG	575713	July	2017	GECAS	WS4
6	VQ-BAT	575236	Sept	2017	VTB	WS3
7	VP-BBU	575466	Sept	2017	AERCAP	WS4
8	VP-BWJ	575731	Sept	2017	GECAS	WS4
9	VQ-BAQ	575176	Nov	2017	VTB	WS3
10	VP-BIS	575912	Nov	2017	AERCAP	WS6
11	VP-BWJ	575730	Nov	2017	GECAS	WS4
12	VQ-BAU	575168	Jan	2018	VTB	WS5
13	VP-BBT	575299	Jan	2018	AERCAP	WS4
14	VP-BNB	577597	Feb	2018	GECAS	WS4
15	VQ-BAV	575190	March	2018	VTB	WS1
16	VQ-BFM	779728	Apr	2018	AERCAP	WS1
17	VQ-BAV	575524	May	2018	VTB	WS2
18	VQ-BAQ	575420	May	2018	VTB	WS3
19	VP-BIT	575525	July	2018	VTB	WS2
20	VQ-BAU	575407	July	2018	VTB	WS2
21	VP-BWH	575720	July	2018	GECAS	WS4
22	VP-BWH	575721	Oct	2018	GECAS	WS4
23	VQ-BAR	575510	Sept	2018	VTB	WS5
24	VQ-BAR	575478	Sept	2018	VTB	WS2
25	VP-BIQ	575479	Nov	2018	VTB	WS5
26	VP-BIQ	575511	Nov	2018	VTB	WS2
27	VP-BWI	575751	Jan	2019	GECAS	WS4
28	VP-BWI	575752	Apr	2019	GECAS	WS4

- \*      WS1      - Workscope Type 1  
           WS2      - Workscope Type 2  
           WS3      - Workscope Type 3  
           WS4      - Workscope Type 4  
           WS5      - Workscope Type 5  
           WS6      - Workscope Type 6  
           WS7      - Workscope Type 7

## Engine Worksopce

№	Module Designation	Workscope*			Workscope remarks	Rev
		Min	Perf. Rest.	Full		
00	Engine General				Repair. Perform SB 72-0566_5B if not previously complied with (PCW). Perform SB RA32073-11 if not PCW. Perform rework per 73-0250_5B if not PCW.	00
01	Engine Mounts	X			Minimum WS level. Visually inspect FWD Mount and AFT Mount.	00
02	Fan&Booster (21X Module)	X			Minimum WS level. Visually inspect exposed areas. Remove, clean and inspect Fan Blades per ESM, repair if necessary. CESM 012. Remove module if necessary for core removal.	00
03	№1and №2 bearing (22X Module)	X			Minimum WS level. Visually inspect exposed areas. Remove module if necessary for core removal.	00
04	Fan Frame Assy (23X Module)	X			Minimum WS level. Visually inspect exposed areas. Repair if necessary. Apply SB 72-0865_5B for acoustic panels if not PCW. Replace RDS roller bearing with new, replace outer race of Outer Housing with new race (72-23-05, Repair 001) or install new outer housing.	00
05	IGB (61X Module)	X			Visually inspect exposed areas. Do not remove module.	00
06	HPC Rotor (31X Module)		X		Performance WS level. Keep HPC rotor assembled, apply ESM 72-00-31 inspection for the rotor. Route HPC blades for overhaul.	00
07	HPC Stator (32-33X Module)			X	Full overhaul WS level. Replace Inner bushings, shrouds, outer bushings and washers to be in compliance with SB 72-0906_5B and all concurrent service bulletins required for this accomplishment. Use post SB 72-0395_5B bushings for stage 1. Perform SB 72-0792_5B. Remove rear stator and inspect exposed ares, repair if necessary. Refurbish honeycomb seals.	00
08	Comb. Case (41X Module)			X	Full overhaul WS level. Fuel nozzles cleaning, repair if necessary. Replace honeycomb with a new or refurbished Seal. Visually inspect inside Fuel Manifolds for presence of coke (carbon). Visually inspect exposed areas.	00
09	Comb.Chamber (42X Module)			X	Full overhaul WS level. Overhaul of combustor, replace TBC. Inspect liners and dome for cracks, burn through and missing material. Repair if necessary. Apply SB 72-0656_5B if not PCW.	00
10	HPT Nozzle (51X Module)			X	Full overhaul WS level. Route HPT NGVs for overhaul. Inspect HPT forward Inner Nozzle Support (FINS) repair as necessary.	00
11	HPT Rotor (52X Module)		X		Performance WS level. Keep HPT rotor assembled, apply ESM 72-00-52 for rotor inspection for the rotor. Visually inspect exposed areas. Route HPT blades for overhaul.	00
12	LPT Stg.1 Nos. & HPT Stator (53X Module)			X	Full overhaul WS level. Route LPT stg 1 nozzles and HPT Shrouds for overhaul. Inspect exposed areas. Restore J05 Clearance. Apply SB 72-0719_5B or 72-0851_5B if required for shrouds installed.	00
13	LPT Rotor/Stator (54X Module)			X	Full overhaul WS level. Replace LPT stg 1,2,3,4 disks with 8000 RC parts. Visually inspect exposed areas. Perform SB 72-0706_5B rework of the LPT Case Rail '0' Support Ring and reidentification of the LPT Case. Route LPT blades and NGVs for overhaul.	00
14	LPT Shaft (55X Module)			X	Full overhaul WS level. Replace LPT shaft, conical support with 8000 RC parts. Inspect #4 & #5 brg, repair if necessary. At assembly use post SB 72-0712_5B Nuts. Perform SB 72-0404_5B New O-Rings. Apply SB 72-0854 if not previously done.	00
15	LPT Frame (56X Module)		X		Repair WS level. Inspect Turbine Frame oil Supply and Scavenge Tubes for occurrence of oil coking per ESM, repair if necessary. Perform SB 72-0521 inspection of No.5 Bearing Support Nipple Weld. Inspect Oil tubes for coking. Perform SB 72-0620_5B and AD 2007-0221.	00
16	TGB (62X Module)	X			Minimum WS level. Inspect exposed areas. Remove for access to RDS parts.	00
17	AGB (63X Module)	X			Minimum WS level. Do not remove module. Inspect exposed areas. Perform SB 72-0660_5B.	00

\* This worksopce is based on CFM56-5B Workscope Planning Guide Revision June 2016

### Additional information:

Engine should be inspected externally before induction.

Oleg Pechulis

Engine Group

Engineering Department

Oleg Kashtanov

Head of Engineering Department

**SCRAP RATES FOR SHOP VISIT****WS TYPE 1**

FAN BLADES	0%
FAN OGV DOUBLED	15%
BOOSTER BLADES	0%
BOOSTER VANES	0%
HPC BLADES*	50%
HPC VANES*	30%
HPC VANE SEGMENTS*	10%
HPT NGV	5%
HPT BLADES	0%
HPT SHROUDS	20%
LPT STG 1 NGV	9%
LPT STG 1-4 BLADES*	5%
LPT STG 2-4 NGVs*	5%

**REMARKS:**

\*From the total quantity in a whole set of HPC blades, HPC vanes, HPC segments, LPT blades, LPT Nozzle Guide Vanes installed in HPC, LPT modules.

## Engine Workscope

№	Module Designation	Workscope*			Workscope remarks	Rev
		Min	Perf. Rest.	Full		
00	Engine General				Repair. Perform SB 72-0566_5B if not previously complied with (PCW). Perform SB RA32073-11 if not PCW. Perform rework per 73-0250_5B if not PCW.	00
01	Engine Mounts	X			Minimum WS level. Visually inspect FWD Mount and AFT Mount.	00
02	Fan&Booster (21X Module)	X			Minimum WS level. Visually inspect exposed areas. Remove, clean and inspect Fan Blades per ESM, repair if necessary. CESM 012. Remove module if necessary for core removal.	00
03	№1and №2 bearing (22X Module)	X			Minimum WS level. Visually inspect exposed areas. Remove module if necessary for core removal.	00
04	Fan Frame Assy (23X Module)	X			Minimum WS level. Visually inspect exposed areas. Repair if necessary. Apply SB 72-0865_5B for acoustic panels if not PCW. Replace RDS roller bearing with new, replace outer race of Outer Housing with new race (72-23-05, Repair 001) or install new outer housing.	00
05	IGB (61X Module)	X			Visually inspect exposed areas. Do not remove module.	00
06	HPC Rotor (31X Module)			X	Full overhaul WS level. Replace LLP with 7500 RC. Route HPC blades for overhaul.	00
07	HPC Stator (32-33X Module)	X			Partial disassembly. Module level inspection per ESM 72-00-32, 72-00-33.	00
08	Comb. Case (41X Module)	X			Partial disassembly. Module level inspection per ESM 72-00-41.	00
09	Comb.Chamber (42X Module)	X			Module is not removed. Incoming BSI.	00
10	HPT Nozzle (51X Module)	X			Partial disassembly. Module level inspection per ESM 72-00-51.	00
11	HPT Rotor (52X Module)			X	Full overhaul WS level. Replace LLP with 7500 RC. Visually inspect exposed areas. Route HPT blades for overhaul.	00
12	LPT Stg.1 Nos. & HPT Stator (53X Module)		X		Performance WS level. HPT Shrouds for overhaul. Inspect exposed areas. Restore J05 Clearance. Apply SB 72-0719_5B or 72-0851_5B if required for shrouds installed.	00
13	LPT Rotor/Stator (54X Module)			X	Full overhaul WS level. Replace LPT stg 1,2,3,4 disks with 7500 RC parts. Visually inspect exposed areas. Perform SB 72-0706_5B rework of the LPT Case Rail '0' Support Ring and reidentification of the LPT Case. Route LPT blades and NGVs for overhaul.	00
14	LPT Shaft (55X Module)			X	Overhaul WS level. Replace LPT shaft, conical support with 7500 RC parts. Inspect #4 & #5 brg, repair if necessary. At assembly use post SB 72-0712_5B Nuts. Perform SB 72-0404_5B New O-Rings. Apply SB 72-0854 if not previously done.	00
15	LPT Frame (56X Module)		X		Repair WS level. Inspect Turbine Frame oil Supply and Scavenge Tubes for occurrence of oil coking per ESM, repair if necessary. Perform SB 72-0521 inspection of No.5 Bearing Support Nipple Weld. Inspect Oil tubes for coking. Perform SB 72-0620_5B and AD 2007-0221.	00
16	TGB (62X Module)	X			Minimum WS level. Inspect exposed areas. Remove for access to RDS parts.	00
17	AGB (63X Module)	X			Minimum WS level. Do not remove module. Inspect exposed areas. Perform SB 72-0660_5B.	00

\* This workscope is based on CFM56-5B Workscope Planning Guide Revision June 2016

### Additional information:

Engine should be inspected externally before induction.

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**SCRAP RATES FOR SHOP VISIT****WS TYPE 2**

FAN BLADES	0%
FAN OGV DOUBLED	15%
BOOSTER BLADES	0%
BOOSTER VANES	0%
HPC BLADES*	50%
HPC VANES	0%
HPC VANE SEGMENTS	0%
HPT NGV	0%
HPT BLADES	0%
HPT SHROUDS	20%
LPT STG 1 NGV	9%
LPT STG 1-4 BLADES*	5%
LPT STG 2-4 NGVs*	5%

**REMARKS:**

\*From the total quantity in a whole set of HPC blades, LPT blades, LPT Nozzle Guide Vanes installed in HPC, LPT modules.

## Engine Workscope

№	Module Designation	Workscope*			Workscope remarks	Rev
		Min	Perf. Rest.	Full		
00	Engine General				Repair. Perform SB 72-0566_5B if not previously complied with (PCW). Perform SB RA32073-11 if not PCW. Perform rework per 73-0250_5B if not PCW.	00
01	Engine Mounts	X			Minimum WS level. Visually inspect FWD Mount and AFT Mount.	00
02	Fan&Booster (21X Module)	X			Minimum WS level. Visually inspect exposed areas. Remove, clean and inspect Fan Blades per ESM, repair if necessary. CESM 012. Remove module if necessary for core removal.	00
03	№1and №2 bearing (22X Module)	X			Minimum WS level. Do not remove module. Visually inspect exposed areas. Remove if necessary for core removal.	00
04	Fan Frame Assy (23X Module)	X			Minimum WS level. Visually inspect exposed areas. Repair if necessary. Apply SB 72-0865_5B for acoustic panels if not PCW. Replace RDS roller bearing with new, replace outer race of Outer Housing with new race (72-23-05, Repair 001) or install new outer housing.	00
05	IGB (61X Module)	X			Visually inspect exposed areas. Do not remove module.	00
06	HPC Rotor (31X Module)			X	Full overhaul WS level. Replace LLP with 7500 RC. Route HPC blades for overhaul.	00
07	HPC Stator (32-33X Module)	X			Partial disassembly. Module level inspection per ESM 72-00-32, 72-00-33.	00
08	Comb. Case (41X Module)			X	Full overhaul WS level. Fuel nozzles cleaning, repair if necessary. Replace honeycomb with a new or refurbished Seal. Visually inspect inside Fuel Manifolds for presence of coke (carbon). Visually inspect exposed areas.	00
09	Comb.Chamber (42X Module)			X	Full overhaul WS level. Overhaul of combustor, replace TBC. Inspect liners and dome for cracks, burn through and missing material. Repair if necessary. Apply SB 72-0656_5B if not PCW.	00
10	HPT Nozzle (51X Module)			X	Full overhaul WS level. Route HPT NGVs for overhaul. Inspect HPT forward Inner Nozzle Support (FINS) repair as necessary.	00
11	HPT Rotor (52X Module)			X	Full overhaul WS level. Replace LLP with 7500 RC. Route HPT blades for overhaul.	00
12	LPT Stg.1 Nos. & HPT Stator (53X Module)			X	Full overhaul WS level. Route LPT stg 1 nozzles and HPT Shrouds for overhaul. Inspect exposed areas. Restore J05 Clearance. Apply SB 72-0719_5B or 72-0851_5B if required for shrouds installed.	00
13	LPT Rotor/Stator (54X Module)			X	Full overhaul WS level. Replace LPT disks if less 7500 RC. Route LPT blades and NGVs for overhaul.	00
14	LPT Shaft (55X Module)			X	Full overhaul WS level. Replace LPT shaft, conical support with 7500 RC parts. Inspect #4 & #5 brg, repair if necessary. At assembly use post SB 72-0712_5B Nuts. Perform SB 72-0404_5B New O-Rings. Apply SB 72-0854 if not previously done.	00
15	LPT Frame (56X Module)		X		Repair WS level. Inspect Turbine Frame oil Supply and Scavenge Tubes for occurrence of oil coking per ESM, repair if necessary. Perform SB 72-0521 inspection of No.5 Bearing Support Nipple Weld. Inspect Oil tubes for coking. Perform SB 72-0620_5B and AD 2007-0221.	00
16	TGB (62X Module)	X			Minimum WS level. Inspect exposed areas. Remove for access to RDS parts.	00
17	AGB (63X Module)	X			Minimum WS level. Do not remove module. Inspect exposed areas. Perform SB 72-0660_5B.	00

\* This workscope is based on CFM56-5B Workscope Planning Guide Revision June 2016

### Additional information:

Engine should be inspected externally before induction.

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Oleg Kashtanov

Head of Engineering Department

**SCRAP RATES FOR SHOP VISIT****WS TYPE 3**

FAN BLADES	0%
FAN OGV DOUBLED	15%
BOOSTER BLADES	0%
BOOSTER VANES	0%
HPC BLADES*	50%
HPC VANES	0%
HPC VANE SEGMENTS	0%
HPT NGV	5%
HPT BLADES	0%
HPT SHROUDS	20%
LPT STG 1 NGV	9%
LPT STG 1-4 BLADES*	5%
LPT STG 2-4 NGVs*	5%

**REMARKS:**

\*From the total quantity in a whole set of HPC blades, LPT blades, LPT Nozzle Guide Vanes installed in HPC, LPT modules.

### Engine Worksopce

№	Module Designation	Workscope*			Workscope remarks	Rev
		Min	Perf. Rest.	Full		
00	Engine General				Repair. Perform SB 72-0566_5B if not previously complied with (PCW). Perform SB RA32073-11 if not PCW. Perform rework per 73-0250_5B if not PCW.	00
01	Engine Mounts	X			Minimum WS level. Visually inspect FWD Mount and AFT Mount.	00
02	Fan&Booster (21X Module)	X			Minimum WS level. Visually inspect exposed areas. Remove, clean and inspect Fan Blades per ESM, repair if necessary. CESH 012. Remove module if necessary for core removal.	00
03	No1and No2 bearing (22X Module)	X			Minimum WS level. Do not remove module. Visually inspect exposed areas. Remove if necessary for core removal.	00
04	Fan Frame Assy (23X Module)	X			Minimum WS level. Visually inspect exposed areas. Repair if necessary. Apply SB 72-0865_5B for acoustic panels if not PCW. Replace RDS roller bearing with new, replace outer race of Outer Housing with new race (72-23-05, Repair 001) or install new outer housing.	00
05	IGB (61X Module)	X			Visually inspect exposed areas. Do not remove module.	00
06	HPC Rotor (31X Module)			X	Full overhaul WS level. Replace LLP if less 8000 RC. Route HPC blades for overhaul.	00
07	HPC Stator (32-33X Module)			X	Full overhaul WS level. Replace Inner bushings, shrouds, outer bushings and washers to be in compliance with SB 72-0906_5B and all concurrent service bulletins required for this accomplishment. Use post SB 72-0395_5B bushings for stage 1. Perform SB 72-0792_5B. Remove rear stator and inspect exposed areas, repair if necessary. Refurbish honeycomb seals.	00
08	Comb. Case (41X Module)			X	Full overhaul WS level. Fuel nozzles cleaning, repair if necessary. Replace honeycomb with a new or refurbished Seal. Visually inspect inside Fuel Manifolds for presence of coke (carbon). Visually inspect exposed areas.	00
09	Comb.Chamber (42X Module)			X	Full overhaul WS level. Overhaul of combustor, replace TBC. Inspect liners and dome for cracks, burn through and missing material. Repair if necessary. Apply SB 72-0656_5B if not PCW.	00
10	HPT Nozzle (51X Module)			X	Full overhaul WS level. Route HPT NGVs for overhaul. Inspect HPT forward Inner Nozzle Support (FINS) repair as necessary.	00
11	HPT Rotor (52X Module)			X	Full overhaul WS level. Replace LLP if less 8000 RC. Keep HPT blades as removed until further instructions. No need to perform overhaul on the removed HPT blades.	00
12	LPT Stg.1 Nos. & HPT Stator (53X Module)			X	Full overhaul WS level. Route LPT stg 1 nozzles and HPT Shrouds for overhaul. Inspect exposed areas. Restore J05 Clearance. Apply SB 72-0719_5B or 72-0851_5B if required for shrouds installed.	00
13	LPT Rotor/Stator (54X Module)			X	Full overhaul WS level. Replace LPT stg 1,2,3,4 disks with 8000 RC parts. Visually inspect exposed areas. Perform SB 72-0706_5B rework of the LPT Case Rail '0' Support Ring and reidentification of the LPT Case. Route LPT blades and NGVs for overhaul.	00
14	LPT Shaft (55X Module)			X	Full overhaul WS level. Replace LPT shaft, conical support with 8000 RC parts. Inspect #4 & #5 brg, repair if necessary. At assembly use post SB 72-0712_5B Nuts. Perform SB 72-0404_5B New O-Rings. Apply SB 72-0854 if not previously done.	00
15	LPT Frame (56X Module)		X		Repair WS level. Inspect Turbine Frame oil Supply and Scavenge Tubes for occurrence of oil coking per ESM, repair if necessary. Perform SB 72-0521 inspection of No.5 Bearing Support Nipple Weld. Inspect Oil tubes for coking. Perform SB 72-0620_5B and AD 2007-0221.	00
16	TGB (62X Module)	X			Minimum WS level. Inspect exposed areas. Remove for access to RDS parts.	00
17	AGB (63X Module)	X			Minimum WS level. Do not remove module. Inspect exposed areas. Perform SB 72-0660_5B.	00

\* This worksopce is based on CFM56-5B Worksopce Planning Guide Revision June 2016

#### Additional information:

Engine should be inspected externally before induction.

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Engineering Department

Oleg Kashtanov

Head of Engineering Department



**SCRAP RATES FOR SHOP VISIT****WS TYPE 4**

FAN BLADES	0%
FAN OGV DOUBLED	15%
BOOSTER BLADES	0%
BOOSTER VANES	0%
HPC BLADES*	50%
HPC VANES*	30%
HPC VANE SEGMENTS*	10%
HPT NGV	5%
HPT BLADES	0%
HPT SHROUDS	20%
LPT STG 1 NGV	9%
LPT STG 1-4 BLADES*	5%
LPT STG 2-4 NGVs*	5%

**REMARKS:**

\*From the total quantity in a whole set of HPC blades, HPC vanes, HPC segments, LPT blades, LPT Nozzle Guide Vanes installed in HPC, LPT modules.

## Engine Workscope

№	Module Designation	Workscope*			Workscope remarks	Rev
		Min	Perf. Rest.	Full		
00	Engine General				Repair. Perform SB 72-0566_5B if not previously complied with (PCW). Perform SB RA32073-11 if not PCW. Perform rework per 73-0250_5B if not PCW.	00
01	Engine Mounts	X			Minimum WS level. Visually inspect FWD Mount and AFT Mount.	00
02	Fan&Booster (21X Module)	X			Minimum WS level. Visually inspect exposed areas. Remove, clean and inspect Fan Blades per ESM, repair if necessary. CESM 012. Remove module if necessary for core removal.	00
03	№1and №2 bearing (22X Module)	X			Minimum WS level. Do not remove module. Visually inspect exposed areas. Remove if necessary for core removal.	00
04	Fan Frame Assy (23X Module)	X			Minimum WS level. Visually inspect exposed areas. Repair if necessary. Apply SB 72-0865_5B for acoustic panels if not PCW. Replace RDS roller bearing with new, replace outer race of Outer Housing with new race (72-23-05, Repair 001) or install new outer housing.	00
05	IGB (61X Module)	X			Visually inspect exposed areas. Do not remove module.	00
06	HPC Rotor (31X Module)			X	Full overhaul WS level. Replace LLP if less 7500 RC. Route HPC blades for overhaul.	00
07	HPC Stator (32-33X Module)	X			Partial disassembly. Module level inspection per ESM 72-00-32, 72-00-33.	00
08	Comb. Case (41X Module)	X			Partial disassembly. Module level inspection per ESM 72-00-41.	00
09	Comb.Chamber (42X Module)	X			Module is not removed. Incoming BSI.	00
10	HPT Nozzle (51X Module)	X			Partial disassembly. Module level inspection per ESM 72-00-51.	00
11	HPT Rotor (52X Module)			X	Full overhaul WS level. Replace LLP if less 7500 RC. Keep HPT blades as removed until further instructions. No need to perform overhaul on the removed HPT blades.	00
12	LPT Stg.1 Nos. & HPT Stator (53X Module)			X	Full overhaul WS level. Route LPT stg 1 nozzles and HPT Shrouds for overhaul. Inspect exposed areas. Restore J05 Clearance. Apply SB 72-0719_5B or 72-0851_5B if required for shrouds installed.	00
13	LPT Rotor/Stator (54X Module)			X	Full overhaul WS level. Replace LPT stg 1,2,3,4 disks with 7500 RC parts. Route LPT blades and NGVs for overhaul.	00
14	LPT Shaft (55X Module)			X	Full overhaul WS level. Replace LPT shaft, conical support with 7500 RC parts. Inspect #4 & #5 brg, repair if necessary. At assembly use post SB 72-0712_5B Nuts. Perform SB 72-0404_5B New O-Rings. Apply SB 72-0854 if not previously done.	00
15	LPT Frame (56X Module)		X		Repair WS level. Inspect Turbine Frame oil Supply and Scavenge Tubes for occurrence of oil coking per ESM, repair if necessary. Perform SB 72-0521 inspection of No.5 Bearing Support Nipple Weld. Inspect Oil tubes for coking. Perform SB 72-0620_5B and AD 2007-0221.	00
16	TGB (62X Module)	X			Minimum WS level. Inspect exposed areas. Remove for access to RDS parts.	00
17	AGB (63X Module)	X			Minimum WS level. Do not remove module. Inspect exposed areas. Perform SB 72-0660_5B.	00

\* This workscope is based on CFM56-5B Workscope Planning Guide Revision June 2016

### Additional information:

Engine should be inspected externally before induction.

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Oleg Kashtanov

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**SCRAP RATES FOR SHOP VISIT****WS TYPE 5**

FAN BLADES	0%
FAN OGV DOUBLED	15%
BOOSTER BLADES	0%
BOOSTER VANES	0%
HPC BLADES*	50%
HPC VANES	0%
HPC VANE SEGMENTS	0%
HPT NGV	0%
HPT BLADES	0%
HPT SHROUDS	20%
LPT STG 1 NGV	9%
LPT STG 1-4 BLADES*	5%
LPT STG 2-4 NGVs*	5%

**REMARKS:**

\*From the total quantity in a whole set of HPC blades, LPT blades, LPT Nozzle Guide Vanes installed in HPC, LPT modules.

### Engine Workscope

№	Module Designation	Workscope*			Workscope remarks	Rev
		Min	Perf. Rest.	Full		
00	Engine General				Repair. Perform SB 72-0566_5B if not previously complied with (PCW). Perform SB RA32073-11 if not PCW. Perform rework per 73-0250_5B if not PCW.	00
01	Engine Mounts	X			Minimum WS level. Visually inspect FWD Mount and AFT Mount.	00
02	Fan&Booster (21X Module)			X	Full overhaul WS level. Remove, clean and inspect Fan Blades per ESM, repair if necessary. CESM 012. Remove module if necessary for core removal. Replace LLP if less 8000 RC.	00
03	№1and №2 bearing (22X Module)			X	Full overhaul WS level. Visually inspect exposed areas. Remove module if necessary for core removal. Replace LLP if less 8000 RC.	00
04	Fan Frame Assy (23X Module)	X			Minimum WS level. Visually inspect exposed areas. Repair if necessary. Apply SB 72-0865_5B for acoustic panels if not PCW. Replace RDS roller bearing with new, replace outer race of Outer Housing with new race (72-23-05, Repair 001) or install new outer housing.	00
05	IGB (61X Module)	X			Visually inspect exposed areas. Do not remove module.	00
06	HPC Rotor (31X Module)		X		Performance WS level. Keep HPC rotor assembled, apply ESM 72-00-31 inspection for the rotor. Route HPC blades for overhaul.	00
07	HPC Stator (32-33X Module)			X	Full overhaul WS level. Replace Inner bushings, shrouds, outer bushings and washers to be in compliance with SB 72-0906_5B and all concurrent service bulletins required for this accomplishment. Use post SB 72-0395_5B bushings for stage 1. Perform SB 72-0792_5B. Remove rear stator and inspect exposed areas, repair if necessary. Refurbish honeycomb seals.	00
08	Comb. Case (41X Module)			X	Full overhaul WS level. Route fuel nozzles for overhaul. Replace honeycomb with a new or refurbished Seal. Visually inspect inside Fuel Manifolds for presence of coke (carbon). Visually inspect exposed areas.	00
09	Comb.Chamber (42X Module)			X	Full overhaul WS level. Overhaul of combustor, replace TBC.	00
10	HPT Nozzle (51X Module)			X	Full overhaul WS level. Route HPT NGVs for overhaul. Inspect HPT forward Inner Nozzle Support (FINS) repair as necessary.	00
11	HPT Rotor (52X Module)		X		Performance WS level. Keep HPT rotor assembled, apply ESM 72-00-52 for rotor inspection for the rotor. Visually inspect exposed areas. Route HPT blades for overhaul.	00
12	LPT Stg.1 Nos. & HPT Stator (53X Module)			X	Full overhaul WS level. Route LPT stg 1 nozzles and HPT Shrouds for overhaul. Inspect exposed areas. Restore J05 Clearance. Apply SB 72-0719_5B or 72-0851_5B if required for shrouds installed.	00
13	LPT Rotor/Stator (54X Module)			X	Full overhaul WS level. Replace LPT stg 1,2,3,4 disks with 8000 RC parts. Route LPT blades and NGVs for overhaul.	00
14	LPT Shaft (55X Module)			X	Full overhaul WS level. Replace LPT shaft, conical support with 8000 RC parts. Inspect #4 & #5 brg, repair if necessary. At assembly use post SB 72-0712_5B Nuts. Perform SB 72-0404_5B New O-Rings. Apply SB 72-0854 if not previously done.	00
15	LPT Frame (56X Module)		X		Repair WS level. Inspect Turbine Frame oil Supply and Scavenge Tubes for occurrence of oil coking per ESM, repair if necessary. Perform SB 72-0521 inspection of No.5 Bearing Support Nipple Weld. Inspect Oil tubes for coking. Perform SB 72-0734_5B.	00
16	TGB (62X Module)	X			Minimum WS level. Inspect exposed areas. Remove for access to RDS parts.	00
17	AGB (63X Module)	X			Minimum WS level. Do not remove module. Inspect exposed areas. Perform SB 72-0660_5B.	00

\* This workscope is based on CFM56-5B Workscope Planning Guide Revision June 2016

#### Additional information:

Engine should be inspected externally before induction.

Oleg Pechulis

Engine Group

Engineering Department

Oleg Kashtanov

Head of Engineering Department

**SCRAP RATES FOR SHOP VISIT****WS TYPE 6**

FAN BLADES	0%
FAN OGV DOUBLED	15%
BOOSTER BLADES	0%
BOOSTER VANES	0%
HPC BLADES*	50%
HPC VANES*	30%
HPC VANE SEGMENTS*	10%
HPT NGV	5%
HPT BLADES	0%
HPT SHROUDS	20%
LPT STG 1 NGV	9%
LPT STG 1, 3, 4 BLADES*	5%
LPT STG 2 BLADES	100%
LPT STG 2-4 NGVs*	5%

**REMARKS:**

\*From the total quantity in a whole set of HPC blades, HPC vanes, HPC segments, LPT blades, LPT Nozzle Guide Vanes installed in HPC, LPT modules.

## Engine Workscope

№	Module Designation	Workscope*			Workscope remarks	Rev
		Min	Perf. Rest.	Full		
00	Engine General				Repair. Perform SB 72-0566_5B if not previously complied with (PCW). Perform SB RA32073-11 if not PCW. Perform rework per 73-0250_5B if not PCW.	00
01	Engine Mounts	X			Minimum WS level. Visually inspect FWD Mount and AFT Mount.	00
02	Fan&Booster (21X Module)			X	Full overhaul WS level. Remove, clean and inspect Fan Blades per ESM, repair if necessary. CESM 012. Remove module if necessary for core removal. Replace LLP if less 8500 RC.	00
03	№1and №2 bearing (22X Module)			X	Full overhaul WS level. Visually inspect exposed areas. Remove module if necessary for core removal. Replace LLP if less 8500 RC.	00
04	Fan Frame Assy (23X Module)	X			Minimum WS level. Visually inspect exposed areas. Repair if necessary. Apply SB 72-0865_5B for acoustic panels if not PCW. Replace RDS roller bearing with new, replace outer race of Outer Housing with new race (72-23-05, Repair 001) or install new outer housing.	00
05	IGB (61X Module)	X			Visually inspect exposed areas. Do not remove module.	00
06	HPC Rotor (31X Module)		X		Performance WS level. Keep HPC rotor assembled, apply ESM 72-00-31 inspection for the rotor. Route HPC blades for overhaul.	00
07	HPC Stator (32-33X Module)			X	Full overhaul WS level. Replace Inner bushings, shrouds, outer bushings and washers to be in compliance with SB 72-0906_5B and all concurrent service bulletins required for this accomplishment. Use post SB 72-0395_5B bushings for stage 1. Perform SB 72-0792_5B. Remove rear stator and inspect exposed areas, repair if necessary. Refurbish honeycomb seals.	00
08	Comb. Case (41X Module)			X	Full overhaul WS level. Route fuel nozzles for overhaul. Replace honeycomb with a new or refurbished Seal. Visually inspect inside Fuel Manifolds for presence of coke (carbon). Visually inspect exposed areas.	00
09	Comb.Chamber (42X Module)			X	Full overhaul WS level. Overhaul of combustor, replace TBC.	00
10	HPT Nozzle (51X Module)			X	Full overhaul WS level. Route HPT NGVs for overhaul. Inspect HPT forward Inner Nozzle Support (FINS) repair as necessary.	00
11	HPT Rotor (52X Module)		X		Performance WS level. Keep HPT rotor assembled, apply ESM 72-00-52 for rotor inspection for the rotor. Visually inspect exposed areas. Route HPT blades for overhaul.	00
12	LPT Stg.1 Nos. & HPT Stator (53X Module)			X	Full overhaul WS level. Route LPT stg 1 nozzles and HPT Shrouds for overhaul. Inspect exposed areas. Restore J05 Clearance. Apply SB 72-0719_5B or 72-0851_5B if required for shrouds installed.	00
13	LPT Rotor/Stator (54X Module)			X	Full overhaul WS level. Replace LPT stg 1,2,3,4 disks with 8500 RC parts. Visually inspect exposed areas. Perform SB 72-0706_5B rework of the LPT Case Rail 'O' Support Ring and reidentification of the LPT Case. Route LPT blades and NGVs for overhaul.	00
14	LPT Shaft (55X Module)			X	Full overhaul WS level. Replace LPT shaft, conical support with 8500 RC parts. Inspect #4 & #5 brg, repair if necessary. At assembly use post SB 72-0712_5B Nuts. Perform SB 72-0404_5B New O-Rings. Apply SB 72-0854 if not previously done.	00
15	LPT Frame (56X Module)		X		Repair WS level. Inspect Turbine Frame oil Supply and Scavenge Tubes for occurrence of oil coking per ESM, repair if necessary. Perform SB 72-0521 inspection of No.5 Bearing Support Nipple Weld. Inspect Oil tubes for coking. Perform SB 72-0620_5B and AD 2007-0221.	00
16	TGB (62X Module)	X			Minimum WS level. Inspect exposed areas. Remove for access to RDS parts.	00
17	AGB (63X Module)	X			Minimum WS level. Do not remove module. Inspect exposed areas. Perform SB 72-0660_5B.	00

\* This workscope is based on CFM56-5B Workscope Planning Guide Revision June 2016

### Additional information:

Engine should be inspected externally before induction.

Oleg Pechulis

Engine Group

Engineering Department

Oleg Kashtanov

Head of Engineering Department

**SCRAP RATES FOR SHOP VISIT****WS TYPE 7**

FAN BLADES	0%
FAN OGV DOUBLED	15%
BOOSTER BLADES	0%
BOOSTER VANES	0%
HPC BLADES*	50%
HPC VANES*	30%
HPC VANE SEGMENTS*	10%
HPT NGV	5%
HPT BLADES	0%
HPT SHROUDS	20%
LPT STG 1 NGV	9%
LPT STG 1-4 BLADES*	5%
LPT STG 2-4 NGVs*	5%

**REMARKS:**

\*From the total quantity in a whole set of HPC blades, HPC vanes, HPC segments, LPT blades, LPT Nozzle Guide Vanes installed in HPC, LPT modules.