

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION TYPE CERTIFICATE DATA SHEET E37NE	TCDS NUMBER E37NE			
	REVISION: 12* DATE: April 13, 2012 CFM INTERNATIONAL, S.A. MODELS:			
	CFM56-5B1	CFM56-5B1/P	CFM56-5B1/2P	CFM56-5B2
	CFM56-5B1/3	CFM56-5B2/3	CFM56-5B3/3	CFM56-5B3/3B1
	CFM56-5B2/P	CFM56-5B2/2P	CFM56-5B3/P	CFM56-5B3/P1
	CFM56-5B4/3	CFM56-5B4/3B1	CFM56-5B5/3	CFM56-5B6/3
	CFM56-5B3/2P	CFM56-5B3/2P1	CFM56-5B4	CFM56-5B4/P
	CFM56-5B4/P1	CFM56-5B4/2P	CFM56-5B4/2P1	CFM56-5B5
	CFM56-5B5/P	CFM56-5B6	CFM56-5B6/P	CFM56-5B6/2P
	CFM56-5B7	CFM56-5B7/P	CFM56-5B8/P	CFM56-5B9/P
	CFM56-5B7/3	CFM56-5B8/3	CFM56-5B9/3	CFM56-5B9/2P
	CFM56-5C2	CFM56-5C2/4	CFM56-5C2/F	CFM56-5C2/F4
	CFM56-5C2/G	CFM56-5C2/G4	CFM56-5C2/P	CFM56-5C3/F
	CFM56-5C3/F4	CFM56-5C3/G	CFM56-5C3/G4	CFM56-5C3/P
	CFM56-5C4	CFM56-5C4/P	CFM56-5C4/1	CFM56-5C4/1P

Engines of models described herein conforming with this data sheet (which is part of Type Certificate Number E37NE) and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Federal Aviation Regulations, provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

TYPE CERTIFICATE (TC) HOLDER: CFM International, S.A.
 2 Boulevard du General Martial Valin
 75015 Paris, France

I. MODELS	CFM56-5B1	CFM56-5B1/P	CFM56-5B1/2P	CFM56-5B1/3
TYPE	High bypass turbofan; coaxial front fan/booster driven by multi-stage low pressure turbine, multi-stage compressor with one-stage high pressure turbine and annular combustor. CFM56-5B/2P & -5B/2P1 SERIES ONLY: Double Annular Combustor			
RATINGS (See NOTE 4)				
Takeoff (5 min. see NOTE 16), sea level, static thrust, lb.	30,000/ 13,345 daN	-- --	-- --	-- --
Maximum continuous, sea level static thrust, lb.	29,090/ 12,940 daN	-- --	-- --	-- --
Flat rating	AMBIENT TEMPERATURE			
Takeoff	86°F / 30°C	--	--	--
Maximum continuous	77°F / 25°C	--	--	--
FUEL SYSTEM	See NOTE 7 for approved fuels			

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LEGEND: "--" INDICATES "SAME AS PRECEDING MODEL"
 "---" NOT APPLICABLE
 NOTE: SIGNIFICANT CHANGES ARE BLACK-LINED IN THE LEFT MARGIN.

I. MODELS (CONT.)	CFM56-5B1	CFM56-5B1/P	CFM56-5B1/2P	CFM56-5B1/3
Fuel pump / SNECMA P/N (Combined boost and single element gear-type pump)	301-797-402-0 301-785-503-0	-- ---	-- ---	-- ---
Hydromechanical unit (GE Part Number)	1348M79	--	--	--
Electronic control unit (GE Part Number)	1820M36 1820M89 2042M13 2042M14 2123M55 2123M56	-- -- -- -- -- --	1820M87 1820M88 -- -- -- --	--- --- --- --- --- ---
Identification plugs (SNECMA Part Number)	338-046-002-0 338-046-004-0 338-046-006-0	338-046-004-0 338-125-301-0 338-125-305-0	-- 338-046-090-0 338-046-095-0 338-122-801-0 338-122-805-0 338-125-301-0 338-125-305-0	-- --- --- --- --- --- ---
OIL	Synthetic type conforming to GE Specification D50TF1, Type I and Type II. CFM Service Bulletin CFM56-5B 79-001 list approved brand oils.			
IGNITION SYSTEM	GE PART NUMBER			
Ignition unit Unison	9238M66	--	--	--
Two igniter plugs Unison Champion	1374M12 1374M13	-- --	-- --	-- --
PRINCIPAL DIMENSIONS	INCHES / MILLIMETERS			
Length, (fan case forward flange to LPT frame aft flange)	102.3 / 2599.7	--	--	--
Width, (fan casing forward flange diameter)	75.12 / 1908	--	--	--
Height, (bottom of accessory gearbox to top of fan casing forward flange)	82.87 / 2105	--	--	--
WEIGHT (dry)	Includes basic engine accessories and optional equipment as listed in manufacturers specification, and engine-mounted portions of the condition monitoring instrumentation.			
Pounds	5412.9	--	5512.9	5412.9
Kilograms	2455.2	--	2500.6	2455.2
CENTER OF GRAVITY LOCATIONS	STATION, ENGINE ONLY (REFER TO INSTALLATION DRAWING)			
Inches	204.8 ± 1	--	--	--
Millimeters	5202 ± 25	--	--	--

II. MODELS	CFM56-5B2	CFM56-5B2/P	CFM56-5B2/2P	CFM56-5B2/3
TYPE	High bypass turbofan; coaxial front fan/booster driven by multi-stage low pressure turbine, multi-stage compressor with one-stage high pressure turbine and annular combustor. CFM56-5B/2P & -5B/2P1 SERIES ONLY: Double Annular Combustor			
RATINGS (See NOTE 4)				
Takeoff (5 min. see NOTE 16), sea level, static thrust, lb.	31,000/ 13,789 daN	-- --	-- --	-- --
Maximum continuous, sea level static thrust, lb.	29,090/ 12,940 daN	-- --	-- --	-- --
Flat rating	AMBIENT TEMPERATURE			
Takeoff	86°F / 30°C	--	--	--
Maximum continuous	77°F / 25°C	--	--	--
FUEL SYSTEM	See NOTE 7 for approved fuels			
Fuel pump / SNECMA P/N (Combined boost and single element gear-type pump)	301-797-402-0 301-785-503-0	-- ---	-- ---	-- ---
Hydromechanical unit (GE Part Number)	1348M79	--	--	--
Electronic control unit (GE Part Number)	1820M36 1820M89 2042M13 2042M14	-- -- -- --	1820M87 1820M88 -- --	1820M36 1820M89 -- --
Identification plugs (SNECMA Part Number)	338-046-021-0 338-046-023-0 338-046-026-0	338-046-023-0 338-122-720-0 338-122-725-0 338-128-660-0 338-128-665-0	-- 338-046-080-0 338-122-820-0 338-122-825-0 338-125-320-0 338-125-325-0 338-127-400-0 338-127-405-0	-- --- --- --- --- --- --- ---
OIL	Synthetic type conforming to GE Specification D50TF1, Type I and Type II. CFM Service Bulletin CFM56-5B 79-001 list approved brand oils.			
IGNITION SYSTEM	GE PART NUMBER			
Ignition unit Unison	9238M66	--	--	--
Two igniter plugs Unison Champion	1374M12 1374M13	-- --	-- --	-- --
PRINCIPAL DIMENSIONS	INCHES / MILLIMETERS			
Length, (fan case forward flange to LPT frame aft flange)	102.3 / 2599.7	--	--	--
Width, (fan casing forward flange diameter)	75.12 / 1908	--	--	--
Height, (bottom of accessory gearbox to top of fan casing forward flange)	82.8 / 2105	--	--	--

II. MODELS (CONT.)	CFM56-5B2	CFM56-5B2/P	CFM56-5B2/2P	CFM56-5B2/3
WEIGHT (dry)	Includes basic engine accessories and optional equipment as listed in manufacturers specification, and engine-mounted portions of the condition monitoring instrumentation.			
Pounds	5412.9	--	5512.9	5412.9
Kilograms	2455.2	--	2500.6	2455.2
CENTER OF GRAVITY LOCATIONS	STATION, ENGINE ONLY (REFER TO INSTALLATION DRAWING)			
Inches	204.8 ± 1	--	--	--
Millimeters	5202 ± 25	--	--	--

III. MODELS	CFM56-5B3/P	CFM56-5B3/P1	CFM56-5B3/2P	CFM56-5B3/2P1
TYPE	High bypass turbofan; coaxial front fan/booster driven by multi-stage low pressure turbine, multi-stage compressor with one-stage high pressure turbine and annular combustor. CFM56-5B/2P & -5B/2P1 SERIES ONLY: Double Annular Combustor			
RATINGS (See NOTE 4)				
Takeoff (5 min. see NOTE 16), sea level, static thrust, lb.	32,000/ 14,234 daN	-- --	-- --	-- --
Maximum continuous, sea level static thrust, lb.	29,090/ 12,940 daN	-- --	-- --	-- --
Flat rating	AMBIENT TEMPERATURE			
Takeoff	86°F / 30°C	--	--	--
Maximum continuous	77°F / 25°C	--	--	--
FUEL SYSTEM	See NOTE 7 for approved fuels			
Fuel pump / SNECMA P/N (Combined boost and single element gear-type pump)	301-797-402-0	--	--	--
Hydromechanical unit (GE Part Number)	1348M79	--	--	--
Electronic control unit (GE Part Number)	1820M36	--	1820M87	--
	1820M89	--	1820M88	--
	2042M13	--	--	--
	2042M14	--	--	--
	2123M55	--	--	--
	2123M56	--	--	--
Identification plugs (SNECMA Part Number)	338-122-730-0	338-122-733-0	338-122-732-0	338-122-733-0
	338-122-732-0	---	338-122-830-0	---
	338-122-735-0	---	338-122-835-0	---
	338-128-670-0	---	338-128-300-0	---
	338-128-675-0	---	338-128-305-0	---
			338-128-310-0	---
			338-128-315-0	---
			338-128-320-0	---
			338-128-325-0	---
OIL	Synthetic type conforming to GE Specification D50TF1, Type I and Type II. CFM Service Bulletin CFM56-5B 79-001 list approved brand oils.			

III. MODELS (CONT.)	CFM56-5B3/P	CFM56-5B3/P1	CFM56-5B3/2P	CFM56-5B3/2P1
IGNITION SYSTEM	GE PART NUMBER			
Ignition unit Unison	9238M66	--	--	--
Two igniter plugs Unison Champion	1374M12 1374M13	-- --	-- --	-- --
PRINCIPAL DIMENSIONS	INCHES / MILLIMETERS			
Length, (fan case forward flange to LPT frame aft flange)	102.3 / 2599.7	--	--	--
Width, (fan casing forward flange diameter)	75.12 / 1908	--	--	--
Height, (bottom of accessory gearbox to top of fan casing forward flange)	82.87 / 2105	--	--	--
WEIGHT (dry)	Includes basic engine accessories and optional equipment as listed in manufacturers specification, and engine-mounted portions of the condition monitoring instrumentation			
Pounds	5412.9	--	5512.9	--
Kilograms	2455.2	--	2500.6	--
CENTER OF GRAVITY LOCATIONS	STATION, ENGINE ONLY (REFER TO INSTALLATION DRAWING)			
Inches	204.8 ± 1	--	--	--
Millimeters	5202 ± 25	--	--	--

IV. MODELS	CFM56-5B4	CFM56-5B4/P	CFM56-5B4/P1	CFM56-5B4/2P
TYPE	High bypass turbofan; coaxial front fan/booster driven by multi-stage low pressure turbine, multi-stage compressor with one-stage high pressure turbine and annular combustor. CFM56-5B/2P & -5B/2P1 SERIES ONLY: Double Annular Combustor			
RATINGS (See NOTE 4)				
Takeoff (5 min. see NOTE 16), sea level, static thrust, lb.	27,000/ 12,010 daN	-- --	-- --	-- --
Maximum continuous, sea level static thrust, lb.	24,370/ 10,840 daN	-- --	-- --	-- --
Flat rating	AMBIENT TEMPERATURE			
Takeoff	113°F / 45°C	--	122°F / 50°C	113°F / 45°C
Maximum continuous	77°F / 25°C	--	--	--
FUEL SYSTEM	See NOTE 7 for approved fuels			
Fuel pump / SNECMA P/N (Combined boost and single element gear-type pump)	301-797-402-0 301-785-503-0	-- ---	-- ---	-- ---
Hydromechanical unit (GE Part Number)	1348M79	--	--	--

IV. MODELS (CONT.)	CFM56-5B4	CFM56-5B4/P	CFM56-5B4/P1	CFM56-5B4/2P
Electronic control unit (GE Part Number)	1820M36 1820M89 2042M13 2042M14 2123M55 2123M56	-- -- -- -- -- --	-- -- -- -- -- --	1820M87 1820M88 -- -- -- --
Identification plugs (SNECMA Part Number)	338-046-041-0 338-046-043-0 338-046-046-0	338-046-043-0 338-122-740-0 338-122-745-0 338-128-680-0 338-128-685-0	338-046-044-0 --- --- --- ---	338-046-043-0 338-122-840-0 338-122-845-0 338-125-340-0 338-125-345-0 338-128-410-0 338-128-415-0
OIL	Synthetic type conforming to GE Specification D50TF1, Type I and Type II. CFM Service Bulletin CFM56-5B 79-001 list approved brand oils.			
IGNITION SYSTEM	GE PART NUMBER			
Ignition unit Unison	9238M66	--	--	--
Two igniter plugs Unison Champion	1374M12 1374M13	-- --	-- --	-- --
PRINCIPAL DIMENSIONS	INCHES / MILLIMETERS			
Length, (fan case forward flange to LPT frame aft flange)	102.3 / 2599.7	--	--	--
Width, (fan casing forward flange diameter)	75.12 / 1908	--	--	--
Height, (bottom of accessory gearbox to top of fan casing forward flange)	82.87 / 2105	--	--	--
WEIGHT (dry)	Includes basic engine accessories and optional equipment as listed in manufacturers specification, and engine-mounted portions of the condition monitoring instrumentation			
Pounds	5412.9	--	--	5512.9
Kilograms	2455.2	--	--	2500.6
CENTER OF GRAVITY LOCATIONS	STATION, ENGINE ONLY (REFER TO INSTALLATION DRAWING)			
Inches	204.8 ± 1	--	--	--
Millimeters	5202 ± 25	--	--	--

V. MODELS	CFM56-5B3/3	CFM56-5B3/3B1	CFM56-5B4/3B1	CFM56-5B4/3
TYPE	High bypass turbofan; coaxial front fan/booster driven by multi-stage low pressure turbine, multi-stage compressor with one-stage high pressure turbine and annular combustor. CFM56-5B/2P & -5B/2P1 SERIES ONLY: Double Annular Combustor			
RATINGS (See NOTE 4)				
Takeoff (5 min. see NOTE 16), sea level, static thrust, lb.	32,000/ 14,234 daN	-- --	27,000/ 12,010 daN	-- --
Maximum continuous, sea level static thrust, lb.	29,090/ 12,940 daN	-- --	24,370/ 10,840 daN	-- --

V. MODELS (CONT.)	CFM56-5B3/3	CFM56-5B3/3B1	CFM56-5B4/3B1	CFM56-5B4/3
Flat rating	AMBIENT TEMPERATURE			
Takeoff	86°F / 30°C	--	122°F / 50°C	113°F / 45°C
Maximum continuous	77°F / 25°C	--	--	--
FUEL SYSTEM	See NOTE 7 for approved fuels			
Fuel pump / SNECMA P/N (Combined boost and single element gear-type pump)	301-797-402-0	--	--	--
Hydromechanical unit (GE Part Number)	1348M79	--	--	--
Electronic control unit (GE Part Number)	2123M55 2123M56	-- --	-- --	-- --
Identification plugs (SNECMA Part Number)	338-122-732-0	338-122-733-0	338-046-044-0	338-046-043-0
OIL	Synthetic type conforming to GE Specification D50TF1, Type I and Type II. CFM Service Bulletin CFM56-5B 79-001 list approved brand oils.			
IGNITION SYSTEM	GE PART NUMBER			
Ignition unit Unison	9238M66	--	--	--
Two igniter plugs Unison Champion	1374M12 1374M13	-- --	-- --	-- --
PRINCIPAL DIMENSIONS	INCHES / MILLIMETERS			
Length, (fan case forward flange to LPT frame aft flange)	102.3 / 2599.7	--	--	--
Width, (fan casing forward flange diameter)	75.12 / 1908	--	--	--
Height, (bottom of accessory gearbox to top of fan casing forward flange)	82.87 / 2105	--	--	--
WEIGHT (dry)	Includes basic engine accessories and optional equipment as listed in manufacturers specification, and engine-mounted portions of the condition monitoring instrumentation			
Pounds	5412.9	--	--	--
Kilograms	2455.2	--	--	--
CENTER OF GRAVITY LOCATIONS	STATION, ENGINE ONLY (REFER TO INSTALLATION DRAWING)			
Inches	204.8 ± 1	--	--	--
Millimeters	5202 ± 25	--	--	--

VI. MODELS	CFM56-5B4/2P1	CFM56-5B5	CFM56-5B5/P	CFM56-5B5/3
TYPE	High bypass turbofan; coaxial front fan/booster driven by multi-stage low pressure turbine, multi-stage compressor with one-stage high pressure turbine and annular combustor. CFM56-5B/2P & -5B/2P1 SERIES ONLY: Double Annular Combustor			
RATINGS (See NOTE 4)				
Takeoff (5 min. see NOTE 16), sea level, static thrust, lb.	27,000/ 12,010 daN	22,000/ 9,786 daN	-- --	-- --
Maximum continuous, sea level static thrust, lb.	24,370/ 10,840 daN	20,250/ 9,008 daN	-- --	-- --

VI. MODELS (CONT.)	CFM56-5B4/2P1	CFM56-5B5	CFM56-5B5/P	CFM56-5B5/3
Flat rating	AMBIENT TEMPERATURE			
Takeoff	122°F / 50°C	113°F / 45°C	--	--
Maximum continuous	77°F / 25°C	--	--	--
FUEL SYSTEM	See NOTE 7 for approved fuels			
Fuel pump / SNECMA P/N (Combined boost and single element gear-type pump)	301-797-402-0	-- 301-785-503-0	-- ---	-- ---
Hydromechanical unit (GE Part Number)	1348M79	--	--	--
Electronic control unit (GE Part Number)	1820M87 1820M88 2042M13 2042M14 2123M55 2123M56	1820M36 1820M89 -- -- -- --	-- -- -- -- -- --	--- --- --- --- -- --
Identification plugs (SNECMA Part Number)	338-046-044-0	338-046-050-0 338-046-052-0 338-046-055-0	338-046-052-0 338-122-750-0 338-122-755-0 338-128-690-0 338-128-695-0	-- --- --- --- ---
OIL	Synthetic type conforming to GE Specification D50TF1, Type I and Type II. CFM Service Bulletin CFM56-5B 79-001 list approved brand oils.			
IGNITION SYSTEM	GE PART NUMBER			
Ignition unit Unison	9238M66	--	--	--
Two igniter plugs Unison Champion	1374M12 1374M13	-- --	-- --	-- --
PRINCIPAL DIMENSIONS	INCHES / MILLIMETERS			
Length, (fan case forward flange to LPT frame aft flange)	102.3 / 2599.7	--	--	--
Width, (fan casing forward flange diameter)	75.12 / 1908	--	--	--
Height, (bottom of accessory gearbox to top of fan casing forward flange)	82.87 / 2105	--	--	--
WEIGHT (dry)	Includes basic engine accessories and optional equipment as listed in manufacturers specification, and engine-mounted portions of the condition monitoring instrumentation.			
Pounds	5512.9	5412.9	--	--
Kilograms	2500.6	2455.2	--	--
CENTER OF GRAVITY LOCATIONS	STATION, ENGINE ONLY (REFER TO INSTALLATION DRAWING)			
Inches	204.8 ± 1	--	--	--
Millimeters	5202 ± 25	--	--	--

VII. MODELS	CFM56-5B6	CFM56-5B6/P	CFM56-5B6/3	CFM56-5B6/2P
TYPE	High bypass turbofan; coaxial front fan/booster driven by multi-stage low pressure turbine, multi-stage compressor with one-stage high pressure turbine and annular combustor. CFM56-5B/2P & -5B/2P1 SERIES ONLY: Double Annular Combustor			
RATINGS (See NOTE 4)				
Takeoff (5 min. see NOTE 16), sea level, static thrust, lb.	23,500/ 10,453 daN	-- --	-- --	-- --
Maximum continuous, sea level static thrust, lb.	20,250/ 9,008 daN	-- --	-- --	-- --
Flat rating	AMBIENT TEMPERATURE			
Takeoff	113°F / 45°C	--	--	--
Maximum continuous	77°F / 25°C	--	--	--
FUEL SYSTEM	See NOTE 7 for approved fuels			
Fuel pump / SNECMA P/N (Combined boost and single element gear-type pump)	301-797-402-0 301-785-503-0	-- ---	-- ---	-- ---
Hydromechanical unit (GE Part Number)	1348M79	--	--	--
Electronic control unit (GE Part Number)	1820M36 1820M89 2042M13 2042M14 2123M55 2123M56	-- -- -- -- -- --	--- --- --- --- -- --	1820M87 1820M88 2042M13 2042M14 -- --
Identification plugs (SNECMA Part Number)	338-046-060-0 338-046-062-0 338-046-065-0	338-046-062-0 338-122-760-0 338-122-765-0 338-129-700-0 338-129-705-0	-- --- --- --- ---	-- 338-122-860-0 338-122-865-0 338-125-360-0 338-125-365-0 338-128-430-0 338-128-435-0
OIL	Synthetic type conforming to GE Specification D50TF1, Type I and Type II. CFM Service Bulletin CFM56-5B 79-001 list approved brand oils.			
IGNITION SYSTEM	GE PART NUMBER			
Two ignition units Unison	9238M66	--	--	--
Two igniter plugs Unison Champion	1374M12 1374M13	-- --	-- --	-- --
PRINCIPAL DIMENSIONS	INCHES / MILLIMETERS			
Length, (fan case forward flange to LPT frame aft flange)	102.3 / 2599.7	--	--	--
Width, (fan casing forward Flange diameter)	75.12 / 1908	--	--	--
Height, (bottom of accessory gearbox to top of fan casing forward flange)	82.87 / 2105	--	--	--

VII. MODELS (CONT.)	CFM56-5B6	CFM56-5B6/P	CFM56-5B6/3	CFM56-5B6/2P
WEIGHT (dry)	Includes basic engine accessories and optional equipment as listed in manufacturers specification, and engine-mounted portions of the condition monitoring instrumentation.			
Pounds	5412.9	--	--	5512.9
Kilograms	2455.2	--	--	2500.6
CENTER OF GRAVITY LOCATIONS	STATION, ENGINE ONLY (REFER TO INSTALLATION DRAWING)			
Inches	204.8 ± 1	--	--	--
Millimeters	5202 ± 25	--	--	--

VIII. MODELS	CFM56-5B7	CFM56-5B7/P	CFM56-5B7/3	CFM56-5B8/P
TYPE	High bypass turbofan; coaxial front fan/booster driven by multi-stage low pressure turbine, multi-stage compressor with one-stage high pressure turbine and annular combustor. CFM56-5B/2P & -5B/2P1 SERIES ONLY: Double Annular Combustor			
RATINGS (See NOTE 4)				
Takeoff (5 min. see NOTE 16), sea level, static thrust, lb.	27,000/ 12,010 daN	-- --	-- --	21,600/ 9,608 daN
Maximum continuous, sea level static thrust, lb.	24,370/ 10,840 daN	-- --	-- --	19,060/ 8,478 daN
Flat rating	AMBIENT TEMPERATURE			
Takeoff	113°F / 45°C	--	--	--
Maximum continuous	77°F / 25°C	--	--	--
FUEL SYSTEM	See NOTE 7 for approved fuels			
Fuel pump / SNECMA P/N (Combined boost and single element gear-type pump)	301-797-402-0	--	--	--
Hydromechanical unit (GE Part Number)	1348M79	--	--	--
Electronic control unit (GE Part Number)	1820M36 1820M89 2042M13 2042M14 2123M55 2123M56	-- -- -- -- -- --	--- --- --- --- --- ---	1820M36 1820M89 2042M13 2042M14 -- --
Identification plugs (SNECMA Part Number)	338-126-941-0 338-128-440-0 338-128-445-0	-- 338-128-450-0 338-128-455-0 338-128-470-0 338-128-475-0	-- --- --- --- ---	338-130-001-0 --- --- --- ---
OIL	Synthetic type conforming to GE Specification D50TF1, Type I and Type II. CFM Service Bulletin CFM56-5B 79-001 list approved brand oils.			
IGNITION SYSTEM	GE PART NUMBER			
Ignition unit Unison	9238M66	--	--	--
Two igniter plugs Unison Champion	1374M12 1374M13	-- --	-- --	-- --

VIII. MODELS (CONT.)	CFM56-5B7	CFM56-5B7/P	CFM56-5B7/3	CFM56-5B8/P
PRINCIPAL DIMENSIONS	INCHES / MILLIMETERS			
Length, (fan case forward flange to LPT frame aft flange)	102.3 / 2599.7	--	--	--
Width, (fan casing forward flange diameter)	75.12 / 1908	--	--	--
Height, (bottom of accessory gearbox to top of fan casing forward flange)	82.87 / 2105	--	--	--
WEIGHT (dry)	Includes basic engine accessories and optional equipment as listed in manufacturers specification, and engine-mounted portions of the condition monitoring instrumentation.			
Pounds	5412.9	--	--	--
Kilograms	2455.2	--	--	--
CENTER OF GRAVITY LOCATIONS	STATION, ENGINE ONLY (REFER TO INSTALLATION DRAWING)			
Inches	204.8 ± 1	--	--	--
Millimeters	5202 ± 25	--	--	--

IX. MODELS	CFM56-5B8/3	CFM56-5B9/P	CFM56-5B9/2P	CFM56-5B9/3
TYPE	High bypass turbofan; coaxial front fan/booster driven by multi-stage low pressure turbine, multi-stage compressor with one-stage high pressure turbine and annular combustor. CFM56-5B/2P & -5B/2P1 SERIES ONLY: Double Annular Combustor.			
RATINGS (See NOTE 4)				
Takeoff (5 min., see NOTE 16), sea level, static thrust, lb.	21,600/ 9,608 daN	23,300/ 10,364 daN	-- --	-- --
Maximum continuous, sea level static thrust, lb.	19,060/ 8,478 daN	20,250/ 9,008 daN	-- --	-- --
Flat rating	AMBIENT TEMPERATURE			
Takeoff	113°F / 45°C	--	--	--
Maximum continuous	77°F / 25°C	--	--	--
FUEL SYSTEM	See NOTE 7 for approved fuels			
Fuel pump / SNECMA P/N (Combined boost and single element gear-type pump)	301-797-402-0	--	--	--
	1348M79	--	--	--
Hydromechanical unit (GE Part Number)	2123M55	2042M13	--	---
Electronic control unit (GE Part Number)	2123M56	2042M14	--	---
		2123M55	--	--
		2123M56	--	--
Identification plugs (SNECMA Part Number)	338-130-001-0	338-130-010-0	--	--
OIL	Synthetic type conforming to GE Specification D50TF1, Type 1 and Type 11. CFM Service Bulletin CFM56-5B 79-001 lists approved brand oils.			
IGNITION SYSTEM	GE PART NUMBER			
Ignition unit Unison	9238M66	--	--	--
Two igniter plugs Unison	1374M12	--	--	--
Champion	1374M13	--	--	--

IX.MODELS (CONT.)	CFM56-5B8/3	CFM56-5B9/P	CFM56-5B9/2P	CFM56-5B9/3
PRINCIPAL DIMENSIONS	INCHES / MILLIMETERS			
Length, (fan case forward flange to LPT frame aft flange)	102.3 / 2599.7	--	--	--
Width, (fan casing forward flange diameter)	75.12 / 1908	--	--	--
Height, (bottom of accessory gearbox to top of fan casing forward flange)	82.87 / 2105	--	--	--
WEIGHT (dry)	Includes basic engine accessories and optional equipment as listed in manufacturers specification, and engine-mounted portions of the condition monitoring instrumentation.			
Pounds	5412.9	--	5512.9	5412.9
Kilograms	2455.2	--	2500.6	2455.2
CENTER OF GRAVITY LOCATIONS	STATION, ENGINE ONLY (REFER TO INSTALLATION DRAWING)			
Inches	204.8 ± 1	--	--	--
Millimeters	5202 ± 25	--	--	--

X. MODELS	CFM56-5C2	CFM56-5C2/4	CFM56-5C2/F	CFM56-5C2/F4
TYPE	High bypass turbofan; coaxial front fan/booster driven by multi-stage low pressure turbine, multi-stage compressor with one-stage high pressure turbine and annular combustor. Long duct mixed flow exhaust system. Thrust reverser.			
RATINGS (See NOTE 4)				
Takeoff (5 min. see NOTE 16), sea level, static thrust, lb.	31,200/ 13,878 daN	-- --	-- --	-- --
Maximum continuous, sea level static thrust, lb.	28,300/ 12,588 daN	-- --	-- --	-- --
Flat rating	AMBIENT TEMPERATURE			
Takeoff	86°F / 30°C	--	--	--
Maximum continuous	77°F / 25°C	--	--	--
FUEL SYSTEM	See NOTE 7 for approved fuels			
Fuel pump / SNECMA P/N (Combined boost and single element gear-type pump)	301-785-503-0 301-797-402-0	-- --	-- --	-- --
Hydromechanical unit (GE Part Number)	1348M79	--	--	--
Electronic control unit (GE Part Number)	1754M93 1799M97 1799M98 1851M41 1851M42 1851M43 1960M55 1960M56 1960M82 1960M83	-- -- -- -- -- -- -- -- -- --	-- -- -- -- -- -- -- -- -- --	-- -- -- -- -- -- -- -- -- --
Identification plugs (SNECMA Part Number)	337-151-901-0 337-151-905-0	337-151-941-0 337-151-951-0	337-180-401-0 337-180-411-0	337-180-441-0 337-180-451-0

X. MODELS (CONT.)	CFM56-5C2	CFM56-5C2/4	CFM56-5C2/F	CFM56-5C2/F4
OIL	Synthetic type conforming to GE Specification D50TF1, Type I and Type II. CFM Service Bulletin CFM56-5C 79-001 list approved brand oils.			
IGNITION SYSTEM	GE PART NUMBER			
Ignition unit Unison	9238M66	--	--	--
Two igniter plugs Unison Champion	1374M12 1374M13	-- --	-- --	-- --
PRINCIPAL DIMENSIONS	INCHES / MILLIMETERS			
Length, (fan case forward flange to LPT frame aft flange)	103.2 / 2622	--	--	--
Width, (fan casing forward flange diameter)	76.61 / 1946	--	--	--
Height, (bottom of accessory gearbox to top of fan casing forward flange)	88.58 / 2250	--	--	--
WEIGHT (dry)	Includes basic engine accessories and optional equipment as listed in manufacturers specification, and engine-mounted portions of the condition monitoring instrumentation			
Pounds	5830	--	--	--
Kilograms	2644.4	--	--	--
CENTER OF GRAVITY LOCATIONS	STATION, ENGINE ONLY (REFER TO INSTALLATION DRAWING)			
Inches	206.0 ± 1.0	--	--	--
Millimeters	5232.4 ± 25.4	--	--	--

XI. MODELS	CFM56-5C2/G	CFM56-5C2/G4	CFM56-5C2/P	CFM56-5C3/F
TYPE	High bypass turbofan; coaxial front fan/booster driven by multi-stage low pressure turbine, multi-stage compressor with one-stage high pressure turbine and annular combustor. Long duct mixed flow exhaust system. Thrust reverser.			
RATINGS (See NOTE 4)				
Takeoff (5 min. see NOTE 16), sea level, static thrust, lb.	31,200/ 13,878 daN	-- --	-- --	32,500/ 14,457 daN
Maximum continuous, sea level static thrust, lb.	28,300/ 12,588 daN	-- --	-- --	29,400/ 13,078daN
Flat rating	AMBIENT TEMPERATURE			
Takeoff	86°F / 30°C	--	--	--
Maximum continuous	77°F / 25°C	--	--	--
FUEL SYSTEM	See NOTE 7 for approved fuels			
Fuel pump / SNECMA P/N (Combined boost and single element gear-type pump)	301-785-503-0 301-797-402-0	-- --	-- --	301-785-503-0 --
Hydromechanical unit (GE Part Number)	1348M79	--	--	--

XI. MODELS (CONT.)	CFM56-5C2/G	CFM56-5C2/G4	CFM56-5C2/P	CFM56-5C3/F
Electronic control unit (GE Part Number)	1754M93 1799M97 1799M98 1851M41 1851M42 1851M43 1960M55 1960M56 1960M82 1960M83	-- -- -- -- -- -- -- -- -- --	-- -- -- -- -- -- -- -- -- --	-- -- -- -- -- -- -- -- -- --
Identification plugs (SNECMA Part Number)	337-183-601-0 337-183-611-0	337-183-641-0 337-183-651-0	-- --	337-180-421-0 337-180-431-0
OIL	Synthetic type conforming to GE Specification D50TF1, Type I and Type II. CFM Service Bulletin CFM56-5C 79-001 list approved brand oils.			
IGNITION SYSTEM	GE PART NUMBER			
Two ignition units Unison	9238M66	--	--	--
Two igniter plugs Unison Champion	1374M12 1374M13	-- --	-- --	-- --
PRINCIPAL DIMENSIONS	INCHES / MILLIMETERS			
Length, (fan case forward flange to LPT frame aft flange)	103.2 / 2622	--	--	--
Width, (fan casing forward flange diameter)	76.61 / 1946	--	--	--
Height, (bottom of accessory gearbox to top of fan casing forward flange)	88.58 / 2250	--	--	--
WEIGHT (dry)	Includes basic engine accessories and optional equipment as listed in manufacturers specification, and engine-mounted portions of the condition monitoring instrumentation.			
Pounds	5830	--	--	--
Kilograms	2644.4	--	--	--
CENTER OF GRAVITY LOCATIONS	STATION, ENGINE ONLY (REFER TO INSTALLATION DRAWING)			
Inches	206.0 ± 1.0	--	--	--
Millimeters	5232.4 ± 25.4	--	--	--

XII. MODELS	CFM56-5C3/F4	CFM56-5C3/G	CFM56-5C3/G4	CFM56-5C3/P
TYPE	High bypass turbofan; coaxial front/fan/booster driven by multi-stage low pressure turbine, multi-stage compressor with one-stage high pressure turbine and annular combustor. Long duct mixed flow exhaust system. Thrust reverser.			
RATINGS (See NOTE 4)				
Takeoff (5 min. see NOTE 16), sea level, static thrust, lb.	32,500/ 14,457 daN	-- --	-- --	-- --
Maximum continuous, sea level static thrust, lb.	29,400/ 13,078 daN	-- --	-- --	-- --
Flat rating	AMBIENT TEMPERATURE			
Takeoff	86°F / 30°C	--	--	--
Maximum continuous	77°F / 25°C	--	--	--
FUEL SYSTEM	See NOTE 7 for approved fuels			

XII. MODELS (CONT.)	CFM56-5C3/F4	CFM56-5C3/G	CFM56-5C3/G4	CFM56-5C3/P
Fuel pump / SNECMA P/N (Combined boost and single element gear-type pump)	301-785-503-0 301-797-402-0	-- --	-- --	--- --
Hydromechanical unit (GE Part Number)	1348M79	--	--	--
Electronic control unit (GE Part Number)	1754M93 1799M97 1799M98 1851M41 1851M42 1851M43 1960M82 1960M83 1960M55 1960M56	-- -- -- -- -- -- -- -- -- --	-- -- -- -- -- -- -- -- -- --	-- -- -- -- -- -- -- -- -- --
Identification plugs (SNECMA Part Number)	337-180-461-0 337-180-471-0	337-183-621-0 337-183-631-0	337-183-661-0 337-183-671-0	-- --
OIL	Synthetic type conforming to GE Specification D50TF1, Type I and Type II. CFM Service Bulletin CFM56-5C 79-001 list approved brand oils.			
IGNITION SYSTEM	GE PART NUMBER			
Two ignition units Unison	9238M66	--	--	--
Two igniter plugs Unison Champion	1374M12 1374M13	-- --	-- --	-- --
PRINCIPAL DIMENSIONS	INCHES / MILLIMETERS			
Length, (fan case forward flange to LPT frame aft flange)	103.2 / 2622	--	--	--
Width, (fan casing forward flange diameter)	76.61 / 1946	--	--	--
Height, (bottom of accessory gearbox to top of fan casing forward flange)	88.58 / 2250	--	--	--
WEIGHT (dry)	Includes basic engine accessories and optional equipment as listed in manufacturers specification, and engine-mounted portions of the condition monitoring instrumentation.			
Pounds	5830	--	--	--
Kilograms	2644.4	--	--	--
CENTER OF GRAVITY LOCATIONS	STATION, ENGINE ONLY (REFER TO INSTALLATION DRAWING)			
Inches	206.0 ± 1.0	--	--	--
Millimeters	5232.4 ± 25.4	--	--	--

XIII. MODELS	CFM56-5C4	CFM56-5C4/P	CFM56-5C4/1	CFM56-5C4/1P
TYPE	High bypass turbofan; coaxial front/fan/booster driven by multi-stage low pressure turbine, multi-stage compressor with one-stage high pressure turbine and annular combustor. Long duct mixed flow exhaust system. Thrust reverser.			
RATINGS (See NOTE 4)				
Takeoff (5 min. see NOTE 16), sea level, static thrust, lb.	34,000/ 15,124 daN	-- --	-- --	-- --
Maximum continuous, sea level static thrust, lb.	30,060/ 13,371 daN	-- --	-- --	-- --

XIII. MODELS (CONT.)	CFM56-5C4	CFM56-5C4/P	CFM56-5C4/1	CFM56-5C4/1P
Flat rating	AMBIENT TEMPERATURE			
Takeoff	86°F / 30°C	--	--	--
Maximum continuous	77°F / 25°C	--	--	--
FUEL SYSTEM	See NOTE 7 for approved fuels			
Fuel pump / SNECMA P/N (Combined boost and single element gear-type pump)	301-797-402-0	--	--	--
Hydromechanical unit (GE Part Number)	1348M79	--	--	--
Electronic control unit (GE Part Number)	1754M93	--	--	--
	1799M97	--	--	--
	1799M98	--	--	--
	1851M41	--	--	--
	1851M42	--	--	--
	1851M43	--	--	--
	1960M55	--	--	--
	1960M56	--	--	--
	1960M82	--	--	--
	1960M83	--	--	--
Identification plugs (SNECMA Part Number)	337-183-801-0	--	337-183-821-0	--
	337-183-811-0	--	337-183-831-0	--
OIL	Synthetic type conforming to GE Specification D50TF1, Type I and Type II. CFM Service Bulletin CFM56-5C 79-001 list approved brand oils.			
IGNITION SYSTEM	GE PART NUMBER			
Two ignition units Unison	9238M66	--	--	--
Two igniter plugs Unison	1374M12	--	--	--
Champion	1374M13	--	--	--
PRINCIPAL DIMENSIONS	INCHES / MILLIMETERS			
Length, (fan case forward flange to LPT frame aft flange)	103.2 / 2622	--	--	--
Width, (fan casing forward flange diameter)	76.61 / 1946	--	--	--
Height, (bottom of accessory gearbox to top of fan casing forward flange)	88.58 / 2250	--	--	--
WEIGHT (dry)	Includes basic engine accessories and optional equipment as listed in manufacturers specification, and engine-mounted portions of the condition monitoring instrumentation.			
Pounds	5830	--	--	--
Kilograms	2644.4	--	--	--
CENTER OF GRAVITY LOCATIONS	STATION, ENGINE ONLY (REFER TO INSTALLATION DRAWING)			
Inches	206.0 ± 1.0	--	--	--
Millimeters	5232.4 ± 25.4	--	--	--

CERTIFICATION BASIS

1. 14 CFR Part 33, effective February 1, 1965, with Amendments 33-1 through 33-11 thereto.

2. See NOTE 21 for emissions certification basis.

NOTE: CFM56-5B1/2, -5B2/2, -5B4/2, and -5B6/2 have been removed from this type data sheet since they have been either converted to another CFM56 model rating or are out of service.

MODEL	APPLICATION DATE	TYPE CERTIFICATE ISSUED/AMENDED	TYPE CERTIFICATE WITHDRAWN
CFM56-5C2	12/15/88	12/31/91	
CFM56-5C3	12/15/88	12/31/91	05/24/93
CFM56-5C2/F	04/03/92	03/01/93	
CFM56-5C3/F	04/03/92	03/01/93	
CFM56-5B2	08/30/90	05/28/93	
CFM56-5B1	08/30/90	02/02/94	
CFM56-5B4	06/08/92	02/02/94	
CFM56-5B1/2	12/01/92	07/27/94	07/25/02
CFM56-5B2/2	12/01/92	07/27/94	07/25/02
CFM56-5B4/2	12/01/92	07/27/94	07/25/02
CFM56-5C2/G	02/26/93	10/27/94	
CFM56-5C3/G	02/26/93	10/27/94	
CFM56-5C4	02/26/93	10/27/94	
CFM56-5B6/2	04/19/94	10/30/95	07/25/02
CFM56-5B5	04/19/94	03/11/96	
CFM56-5B6	04/19/94	03/11/96	
CFM56-5C2/4	06/14/95	04/17/96	
CFM56-5C2/F4	06/14/95	04/17/96	
CFM56-5C2/G4	06/14/95	04/17/96	
CFM56-5C3/F4	06/14/95	04/17/96	
CFM56-5C3/G4	06/14/95	04/17/96	
CFM56-5C4/1	06/21/95	04/17/96	
CFM56-5B1/P	02/21/95	06/20/96	
CFM56-5B1/2P	02/21/95	06/20/96	
CFM56-5B2/P	02/21/95	06/20/96	
CFM56-5B2/2P	02/21/95	06/20/96	
CFM56-5B3/2P	02/21/95	06/20/96	
CFM56-5B4/P	02/21/95	06/20/96	
CFM56-5B4/2P	02/21/95	06/20/96	
CFM56-5B5/P	02/21/95	06/20/96	
CFM56-5B6/P	02/21/95	06/20/96	
CFM56-5B6/2P	02/21/95	06/20/96	
CFM56-5B3/P	02/21/95	09/10/96	
CFM56-5B7	12/03/97	06/07/99	
CFM56-5B7/P	12/03/97	11/03/99	
CFM56-5B8/P	04/23/01	07/25/02	
CFM56-5B9/P	04/23/01	07/25/02	
CFM56-5B9/2P	04/23/01	07/25/02	
CFM56-5C2/P	12/14/00	08/06/03	
CFM56-5C3/P	12/14/00	08/06/03	
CFM56-5C4/P	12/14/00	08/06/03	
CFM56-5C4/1P	12/14/00	08/06/03	
CFM56-5B3/P1	01/25/02	10/25/04	
CFM56-5B3/2P1	01/25/02	10/25/04	
CFM56-5B4/P1	01/25/02	10/25/04	
CFM56-5B4/2P1	01/25/02	10/25/04	
CFM56-5B1/3	04/23/05	09/15/06	
CFM56-5B2/3	04/23/05	09/15/06	
CFM56-5B3/3	04/23/05	09/15/06	
CFM56-5B3/3B1	04/23/05	09/15/06	
CFM56-5B4/3	04/23/05	09/15/06	
CFM56-5B4/3B1	04/23/05	09/15/06	
CFM56-5B5/3	04/23/05	09/15/06	

**CERTIFICATION BASIS
(CONT.)**

MODEL	APPLICATION DATE	TYPE CERTIFICATE ISSUED/AMENDED	TYPE CERTIFICATE WITHDRAWN
CFM56-5B6/3	04/23/05	09/15/06	
CFM56-5B7/3	04/23/05	09/15/06	
CFM56-5B8/3	04/23/05	09/15/06	
CFM56-5B9/3	04/23/05	09/15/06	

PRODUCTION BASIS

Production Certification No. 108 for engines produced in the United States by General Electric under license from CFM International, S.A. (See NOTE 10).

IMPORT REQUIREMENTS

See NOTE 10.

NOTES

NOTE 1.
TURBINE EXHAUST GAS
 (T495) (See NOTE 17)

 Takeoff (5 min.)
 Maximum continuous
 Starting
 CFM56-5B/2 In-flight
 Time temperature envelope
 Refer to model's S.O.I.
FUEL PUMP INLET**OIL SUPPLY**
 Continuous operation
 Transient (15 minutes)

MAXIMUM PERMISSIBLE TEMPERATURES		
CFM56-5B SAC COMBUSTOR SERIES	CFM56-5B/2P AND - 5B/2P1 SERIES	ALL CFM56-5C ENGINE MODELS
As measured by a harness of nine thermocouples located at the second stage low pressure turbine vane:		
950°C	--	--
915°C	--	--
725°C	--	--
---	850°C	---
CFM-TP.OI.13	--	CFM-TP.OI.12
REFER TO THE APPROPRIATE INSTALLATION MANUAL		
140°C/284°F	--	--
155°C/311°F	--	--

NOTE 2.

Fuel limits

Oil limits

FUEL AND OIL PRESSURE LIMITS

Operation and air/ground starting pressure limits with the aircraft boost pump operative extend from a minimum fuel pressure of not less than 5.5 psia (37.9 kPa absolute) above the true fuel vapor pressure to a maximum of 50 psig (344.8 kPa gauge), relative to atmosphere, with vapor/liquid ratio of zero at all conditions. See Installation Manual, Part A, Section 5, Figures A2 and A4. For limits with the aircraft boost pump inoperative, see Installation Manual, Part A, Section 5, Figures A3 and A5.

The minimum pressure limit at idle is 13 psid (89.6 kPa differential) and varies up to 45 psid (310.2 kPa differential) at cruise thrust. The maximum pressure limit during cold starts is 300 psid (2069 kPa differential), limited by a pressure-relief valve. See NOTE 13.

NOTE 3.**ELECTRICAL**
 Rotation (1)
 Speed ratio to core
 Pad Rating (kW)
 Shear Torque (in-lb)
 Maximum overhung moment
 (in-lb)
HYDRAULIC PUMP
 Rotation (1)
 Speed ratio to core
 Pad Rating (in-lb)
 Shear Torque (in-lb)
 Maximum overhung moment
 (in-lb)

ACCESSORY DRIVE PROVISIONS		
	CFM56-5B ENGINE MODELS	CFM56-5C ENGINE MODELS
	CCW	--
	0.5947	--
	135	--
	9,492	--
	1,000	--
	CCW	--
	0.256	--
	1,500	--
	4,400	--
	160	183
(1)	CW = CLOCKWISE / CCW = COUNTERCLOCKWISE	

NOTE 4.

Engine ratings are based on calibrated stand performance under the following conditions:

Takeoff thrust is nominally independent of ambient temperature (flat rated) up to ambient temperature of:

Std + 15°C (30°C, 86°F): CFM56-5B1, -5B1/P, -5B1/2P, -5B1/3, -5B2, -5B2/P, -5B2/2P, -5B2/3, -5B3/3, -5B3/3B1, -5B3/P, -5B3/P1, -5B3/2P, -5B3/2P1, -5C2, -5C2/4, -5C2/F, -5C2/F4, -5C2/G, -5C2/G4, -5C2/P, -5C3/F, -5C3/F4, -5C3/G, -5C3/G4, -5C3/P, -5C4, -5C4/P, -5C4/1, -5C4/1P.

Std + 30°C (45°C, 113°F): CFM56-5B4, -5B4/P, -5B4/2P, -5B4/3, -5B5, -5B5/P, -5B5/3, -5B6, -5B6/P, -5B6/2P, -5B6/3, -5B7, -5B7/P, -5B7/3, -5B8/P, -5B8/3, -5B9/P, -5B9/2P, -5B9/3.

Std + 35°C (50°C, 122°F): CFM56-5B4/P1, -5B4/2P1, -5B4/3B1.

Maximum continuous is nominally independent of ambient temperature (flat rated) up to ambient temperature of Std. + 10°C (25°C, 77°F) for all models.

Zero customer bleed and horsepower extraction.

No scrubbing drags.

100% inlet recovery.

Based on CFM International referee separate flow exhaust system with primary (core) exhaust nozzle and fan nozzle for all CFM56-5B engine models.

Based on CFM International long duct mixed flow flight exhaust system for all CFM56-5C engine models.

NOTE 5.

MAXIMUM PERMISSIBLE ENGINE ROTOR SPEEDS (See NOTE 18)						
CFM56-5C2, -5C2/F, -5C3/F, -5C2/G, -5C3/G, -5C2/4, -5C2/F4, -5C2/G4, -5C3/F4, -5C3/G4		ALL CFM56-5B ENGINE MODELS		CFM56-5C4, -5C4/1, -5C2/P, -5C3/P, -5C4/P, -5C4/1P		
RPM	%	RPM	%	RPM	%	
Low pressure rotor (N1)	4,800	100.3	5,200	104.0	4,985	104.2
High pressure rotor (N2)	15,183	105.0	--	--	--	--

NOTE 6.**LOCATION**

Fan Discharge

HPC Stage 5 only

Compressor discharge only

HPC Stage 5 and
compressor discharge
combined

MAXIMUM PERMISSIBLE AIR BLEED EXTRACTION (ALL MODELS)	
FAN CORRECTED SPEED	FLOW LIMIT
All speeds above minimum idle	2% fan airflow
All speeds above minimum idle	10% core airflow
Minimum idle to 61% N1K 61% to 82.5% N1K Above 82.5% N1K	14% core airflow Linear variation from 14% to 7% core airflow 7% core airflow
Minimum idle to 61% N1K 61% to 82.5% N1K Above 82.5% N1K	14% core airflow Linear variation from 14% to 10% core airflow 10% core airflow

- NOTE 7.** Approved fuel conforming to GE Specification D50TF2. MIL-T-5624, Grades JP-4 or JP-5, ASTM D 1655, Jet A, A1 and B are consistent with this General Electric Specification. Primary fuel is Jet A, with other fuels listed being acceptable alternates. No fuel control adjustment is required when changing from primary to alternate fuels. Use of aviation gasoline is not authorized. Consult Specific Operating Instructions for additive usage.
- NOTE 8.** Life limits established for critical rotating and static components are published in Chapter 5 of the CFM56-5B Shop Manual, CFMI-TP-SM.9, for the CFM56-5B engine models, and the CFM56-5C Shop Manual, CFMI-TP-SM.8, for the CFM56-5C engine models.
- NOTE 9.** Power setting, power checks and control of engine thrust output in all operations are to be based on CFM International engine charts referring to fan speed. Fan speed sensors are included in the engine assembly for this purpose.
- NOTE 10.** The type certificate holder, CFM International, S.A., is a company established and jointly owned by Snecma of France and the General Electric Company for the certification, sale, and support of CFM56 series engines. With respect to the benefits of type certification for production, General Electric and Snecma function as licensees of CFM International, S.A.
- This type certificate applies only to engines produced in the United States to Type Certification No. E37NE. Engines of the same model designation produced in France to Type Certificate No. E38NE are identical to and fully interchangeable with engines produced to this type certificate.
- Modules, assemblies, or parts produced in France are eligible for use in engines produced to this type certificate provided an airworthiness approval certificate (EASA Form 1 – Authorized Release Certificate or JAA Form 1) issued by Snecma under authority of European Aviation Safety Agency (EASA) Production Certificate No. FR.21G.0007 is attached to the item or invoice covering shipment of items (Ref. 14 CFR § 21.502).
- CFM56-5B Engine Models:
These engines, when produced by General Electric, are identified by serial number prefix "778", "574", "576", "696", "698", "644" or "646". CFM56-5B engines produced by Snecma are identified by the prefix "779", "575", "577", "697", "699", "643" or "645". The sequence of serial number prefixes since initial production is as listed here.
- CFM56-5C Engine Models:
These engines, when produced by General Electric, are identified by serial number prefix "740" and "566". CFM56-5C engines produced by Snecma are identified by the prefix "741" and "567". The sequence of serial number prefixes since initial production is as listed here.
- NOTE 11.** The engine manufacturer supplies the nacelle system and attachment fittings NS-CFM56-5G01, the total exhaust system ES-CFM56-5G01, and the engine-assembled EBU 736L699, which have been approved for installation on all CFM56-5C engine models in accordance with 14 CFR § 33.
- NOTE 12.** The minimum permissible idle in flight corresponds to N2=58.8% (8,500 rpm) which is a non-adjustable limit, preset into the ECU Control schedule.
- NOTE 13.** During negative -g operation only, it is permissible to operate below minimum oil pressure (13 psid) for a maximum of 10 seconds. See Specific Operating Instruction, Section 6.

NOTE 14.

The models shown on this TCDS have the following general characteristics:

MODEL	CHARACTERISTICS
CFM56-5B1	Similar to CFM56-5C2, except for new fan and booster and CFM56-5 LP turbine and revised thrust ratings.
CFM56-5B1/P	Same as CFM56-5B1, except for redesigned high pressure compressor, high pressure turbine, and low pressure turbine.
CFM56-5B1/3	Same as CFM56-5B1/P, except for redesigned high pressure compressor, high pressure turbine, and combustor.
CFM56-5B1/2P	Same as CFM56-5B1/2, except for redesigned high pressure compressor, high pressure turbine, and low pressure turbine. Note, the CFM56-5B1/2 was similar to the CFM56-5B1 except the CFM56-5B1/2 had a dual annual combustor.
CFM56-5B2	Same as CFM56-5B1, except for increased thrust ratings.
CFM56-5B2/P	Same as CFM56-5B2, except for redesigned high pressure compressor, high pressure turbine, and low pressure turbine.
CFM56-5B2/3	Same as CFM56-5B2/P, except for redesigned high pressure compressor, high pressure turbine, and combustor.
CFM56-5B2/2P	Same as CFM56-5B2/2, except for redesigned high pressure compressor, high pressure turbine, and low pressure turbine. Note, the CFM56-5B2/2 was similar to the CFM56-5B1 but with a dual annual combustor and increased thrust rating.
CFM56-5B3/P	Same as CFM56-5B1, except for increased thrust rating and redesigned high pressure compressor, high pressure turbine, and low pressure turbine.
CFM56-5B3/3	Same as CFM56-5B3/P, except for redesigned high pressure compressor, high pressure turbine, and combustor.
CFM56-5B3/P1	Same as CFM56-5B3/P, except for a manually-activated takeoff thrust bump (within the certified standard day rating) for ambient temperatures above corner point.
CFM56-5B3/3B1	Same as CFM56-5B3/3P1, except for redesigned high pressure compressor, high pressure turbine, and combustor.
CFM56-5B3/2P	Same as CFM56-5B1, except for increased thrust rating and redesigned high pressure compressor, high pressure turbine, and low pressure turbine. CFM56-5B3/2P has a dual annular combustor.
CFM56-5B3/2P1	Same as CFM56-5B3/2P, except for a manually-activated takeoff thrust bump (within the certified standard day rating) for ambient temperatures above corner point.
CFM56-5B4	Same as CFM56-5B1, except for decreased thrust ratings.
CFM56-5B4/P	Same as CFM56-5B4, except for redesigned high pressure compressor, high pressure turbine, and low pressure turbine.
CFM56-5B4/3	Same as CFM56-5B4/P, except for redesigned high pressure compressor, high pressure turbine, and combustor.

NOTE 14. (CONT.)	CFM56-5B4/P1	Same as CFM56-5B4/P, except for increased flat rating ambient temperature (corner point), and a manually-activated takeoff thrust bump (within the certified standard day rating) for ambient temperatures above corner point.
	CFM56-5B4/3B1	Same as CFM56-5B4/P1, except for redesigned high pressure compressor, high pressure turbine, and combustor.
	CFM56-5B4/2P	Same as CFM56-5B4/2, except for redesigned high pressure compressor, high pressure turbine, and low pressure turbine. Note, the CFM56-5B4/2 was similar to the CFM56-5B1 but with a dual annual combustor and decreased thrust rating.
	CFM56-5B4/2P1	Same as CFM56-5B4/2P, except for increased flat rating ambient temperature (corner point), and a manually-activated takeoff thrust bump (within the certified standard day rating) for ambient temperatures above corner point.
	CFM56-5B5	Same as CFM56-5B1, except for decreased thrust ratings.
	CFM56-5B5/P	Same as CFM56-5B5, except for redesigned high pressure compressor, high pressure turbine, and low pressure turbine.
	CFM56-5B5/3	Same as CFM56-5B5/P, except for redesigned high pressure compressor, high pressure turbine, and combustor.
	CFM56-5B6	Same as CFM56-5B1, except for decreased thrust ratings.
	CFM56-5B6/P	Same as CFM56-5B6, except for redesigned high pressure compressor, high pressure turbine, and low pressure turbine.
	CFM56-5B6/3	Same as CFM56-5B6/P, except for redesigned high pressure compressor, high pressure turbine, and combustor.
	CFM56-5B6/2P	Same as CFM56-5B6/2, except for redesigned high pressure compressor, high pressure turbine, and low pressure turbine. Note, the CFM56-5B6/2 was similar to the CFM56-5B1 but with a dual annual combustor and decreased thrust rating.
	CFM56-5B7	Same as CFM56-5B1, except for decreased thrust ratings.
	CFM56-5B7/P	Same as CFM56-5B7, except for redesigned high pressure compressor, high pressure turbine, and low pressure turbine.
	CFM56-5B7/3	Same as CFM56-5B7/P, except for redesigned high pressure compressor, high pressure turbine, and combustor.
	CFM56-5B8/P	Same as CFM56-5B1/P, except for reduced thrust rating.
	CFM56-5B8/3	Same as CFM56-5B8/P, except for redesigned high pressure compressor, high pressure turbine, and combustor.
	CFM56-5B9/P	Same as CFM56-5B1/P, except for reduced thrust rating.
	CFM56-5B9/3	Same as CFM56-5B9/P, except for redesigned high pressure compressor, high pressure turbine, and combustor.
	CFM56-5B9/2P	Same as CFM56-5B1/2P, except for reduced thrust rating.

NOTE 14. (CONT.)

CFM56-5C2	Basic model.
CFM56-5C2/4	Similar to CFM56-5C2, except for N1 limit increase through introduction of CFM56-5C4 redesigned fan stage airfoils.
CFM56-5C2/F	Similar to CFM56-5C2, except EGT limit increase through introduction of hot section modifications.
CFM56-5C2/F4	Similar to CFM56-5C2/F, except for N1 limit increase through introduction of CFM56-5C4 redesigned fan stage airfoils.
CFM56-5C2/G	Similar to CFM56-5C2, except EGT limit increase through introduction of hot section modifications.
CFM56-5C2/G4	Similar to CFM56-5C2/G, except for N1 limit increase through introduction of CFM56-5C4 redesigned fan stage airfoils.
CFM56-5C2/P	Same as CFM56-5C2/G4, except for redesigned high pressure compressor and high pressure turbine.
CFM56-5C3/F	Same as CFM56-5C2/F, except for increased thrust ratings.
CFM56-5C3/F4	Similar to CFM56-5C3/F, except for N1 limit increase through introduction of CFM56-5C4 redesigned fan stage airfoils.
CFM56-5C3/G	Same as CFM56-5C2/G, except for increased thrust ratings
CFM56-5C3/G4	Similar to CFM56-5C3/G, except for N1 limit increase through introduction of CFM56-5C4 redesigned fan stage airfoils.
CFM56-5C3/P	Same as CFM56-5C3/G4, except for redesigned high pressure compressor and high pressure turbine.
CFM56-5C4	Same as CFM56-5C2/G, except for redesigned fan stage airfoils and increased thrust ratings.
CFM56-5C4/P	Same as CFM56-5C4, except for redesigned high pressure compressor and high pressure turbine.
CFM56-5C4/1	Same as CFM56-5C4, except for introduction of takeoff thrust bump as a function of mach number.
CFM56-5C4/1P	Same as CFM56-5C4/1, except for redesigned high pressure compressor and high pressure turbine.

- NOTE 15.** All CFM56-5B and CFM56-5C FADEC series engines have been approved to operate with certain faults present in the control system based on satisfaction of 14 CFR § 33 requirements and appropriate engine control system reliability requirements. FAA approved criteria pertaining to dispatch and maintenance requirements for the engine control system are specified in General Electric Document No. GEK 103085 (-5B family) and GEK 100741 (-5C family). These documents define the dispatchable configurations and maximum operating intervals.
- A control system reliability monitoring program has been established with CFM, as a contingency of the dispatch criteria approval, to ensure that overall engine control system and specific component failure rates do not exceed the maximum values permitted by the reliability analysis.
- NOTE 16.** The normal 5 minute takeoff rating may be extended to 10 minutes for engine out contingency.
- NOTE 17.** For the CFM56-5B/P, -5B/P1, -5B/2P, -5B/2P1, -5B/3 and -5B/3B1 series engines, the actual maximum permissible turbine exhaust gas temperature (EGT) is 10°C lower than the indicated EGT. An indicated EGT of 950°C corresponds to an actual EGT of 940°C, and an indicated EGT of 915°C corresponds to an actual EGT of 905°C.
- For CFM56-5C2/F, -5C2/F4, -5C3/F, and -5C3/F4 engines, the actual maximum permissible turbine EGT is 15°C higher than the indicated EGT. An indicated EGT of 950°C corresponds to an actual EGT of 965°C, and an indicated EGT of 915°C corresponds to an actual EGT of 930°C.
- For CFM56-5C2/G, -5C2/G4, -5C2/P, -5C3/G, -5C3/G4, -5C3/P, -5C4, -5C4/P, -5C4/1, and -5C4/1P engines, the actual permissible EGT is 25°C higher than the indicated EGT. An indicated EGT of 950°C corresponds to an actual EGT of 975°C, and an indicated EGT of 915°C corresponds to an actual EGT of 940°C.
- NOTE 18.** For CFM56-5C2/4, -5C2/F4, -5C2/G4, -5C2/P, -5C3/F4, -5C3/G4 and -5C3/P engines, the actual maximum permissible N1 rotor speed is higher than the indicated N1. An indicated N1 of 4,800 RPM (100.3%) corresponds to an actual N1 of 4,985 RPM (104.2%).
- NOTE 19.**
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|-------------------------------|--|
| CFM56-5B series includes: | CFM56-5B1, -5B2, -5B4, -5B5, -5B6, -5B7 |
| CFM56-5B/P series includes: | CFM56-5B1/P, -5B2/P, -5B3/P, -5B4/P, -5B5/P,
-5B6/P, -5B7/P, -5B8/P, -5B9/P |
| CFM56-5B/3 series includes: | CFM56-5B1/3, -5B2/3, -5B3/3, -5B4/3, -5B5/3,
-5B6/3, -5B7/3, -5B8/3, -5B9/3 |
| CFM56-5B/2P series includes: | CFM56-5B1/2P, -5B2/2P, -5B3/2P, -5B4/2P, -5B6/2P,
-5B9/2P |
| CFM56-5B/P1 series includes: | CFM56-5B3/P1, -5B4/P1 |
| CFM56-5B/2P1 series includes: | CFM56-5B3/2P1, -5B4/2P1 |
| CFM56-5B/3B1 series includes: | CFM56-5B3/3B1, -5B4/3B1 |
- NOTE 20.** Installation Manuals, Specific Operating Instructions, Service Bulletins, Overhaul and Maintenance Manuals, Repair Manuals, Vendor Manuals, and Design Changes which contain a statement that the document is EASA approved or approved under authority of DOA No. EASA.21J.086 or for approvals made before September 28, 2003 by DGAC are accepted by the FAA and considered FAA approved. Repair data and related instructions are considered FAA approved or accepted as applicable. These approvals pertain to the type design only.
- NOTE 21.** CFM56-5C2 is in compliance with the emissions requirements of Special Federal Aviation Regulations No. 27-5. All other engine models are in compliance with the emissions requirements in 14 CFR Part 34, effective September 10, 1990, as amended by 34-1 through 34-3. In addition, the CFM56-5B/3 and -5B/3B1 series engines are in compliance with 40 CFR Part 87, effective December 19, 2005 until such time as 14 CFR Part 34 is amended to include such requirements.

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