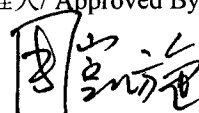


中国民用航空局
CIVIL AVIATION ADMINISTRATION OF CHINA

编号/No.: VTC0202E
修订/Rev.: 1
型号/Type: M601F
批准人/ Approved By:

日期/Date: 2009-4-8

型号认可证数据单编号: VTC0202E
Validation Type Certificate Data Sheet No. VTC0202E

本数据单是型号认可证（编号: VTC0202E）的一部分，它规定了一些条件和限制，在此条件和限制下，获得本型号认可证的产品满足下述“认可审定基础”段落给出的适航要求。

This data sheet which is a part of Validation Type Certificate (No. VTC0202E) prescribes conditions and limitations under which the product for which the Validation Type Certificate was issued meets the airworthiness requirements indicated in “Validation Basis” paragraph.

型号合格证持有人: GE Aviation Czech s.r.o .
Beranovych 65,199 02 Praha-Letnany
捷克共和国

Type Certificate Holder: GE Aviation Czech s.r.o
Beranovych 65,199 02 Praha-Letnany
Czech Republic

EASA型号合格证E 070、数据单第03版，批准日期：2008年08月25日，

Type CertificateE.070, Data Sheet Revision 03, Approved by EASA on 25 August., 2008

M601F发动机，捷克CAA于2003年05月30日批准，CAAC于2007年12月14日认可
Model M601F Engine Approved May 30, 2003 by CAA CZ, Validated December 14, 2007 by CAAC

Page No.	1	2	3	4	5	6	7	8	9	10
Revision No.	1	1	1	1	1	1	1	1	1	1

型号合格证持有人: W ALTER a.s.
150 07, Jinonická 329, Praha 5
捷克共和国

Type Certificate Holder: WALTER a.s.
150 07, Jinonická 329, Praha 5
Czech Republic

型号 双转子, 自由涡轮, 有螺旋桨减速箱的涡轮螺旋桨发动机
Type Two rotor, free turbine, turboprop with propeller reduction gearbox

状态 型号
M601F M601FS

最大连续功率	[kW]	580
起飞功率	[kW]	580
有喷水的起飞功率	[kW]	580
最大起飞功率	[kW]	580

Ratings Model
M601F M601FS

Max. continuous power	[kW]	580
Take-off power	[kW]	580
Take off with water injection power	[kW]	580
Take off with water injection power	[kW]	580
Max. take-off power	[kW]	580

附件 型号
M601F M601FS

燃油控制装置 LUN 6590.04-8

燃油泵 LUN 6290.04-8

Fuel Control Unit LUN 6590.04-8

Fuel Pump LUN 6290.04-8

附件 型号
M601FS

螺旋桨调节器 LUN 7817

螺旋桨超速限制器 LUN 7818

	Model
	M601FS
Propeller governor	LUN 7817
propeller overspeed governor	LUN 781

规范:

燃油: 在使用说明书中表明的所批准燃油

滑油: 在使用说明书中表明的所批准滑油

在滑油系统中总的滑油量	10.8升
在滑油箱中的滑油量	最小5.5升至最大7升

Specifications:

Fuel: Approved fuels shown in the Operation Manual

Oil: Approved oils shown in the Operation Manual

Total oil quantity	
in the oil system	10.8 l
quantity of oil in the tank	min. 5.5 l to max. 7 l

尺寸:	长	1675 mm
	高	650 mm
	宽	590mm (拆下排气喷管)

Dimensions:	Length	1675 mm
	Height	650 mm
	Width	590 mm (exhaust nozzles removed)

重量 (干) [kg]:

M601F, M601F-22, M601F-32	203 ± 2 %
---------------------------	-----------

重量包括随发动机交付的标准设备但不包括排气喷管和交流电机齿轮箱。

M601FS	208 ± 2 %
--------	-----------

重量包括随发动机、螺旋桨调节器、螺旋桨超速限制器 交付的标准设备但不包括排气喷管和交流电机齿轮箱。

Weight (dry) [kg]

M601F, M601F-22, M601F-32	203 ± 2 %
---------------------------	-----------

The weight includes standard equipment delivered with the engine but without exhaust nozzles and alternator gearbox.

M601FS	208 ± 2 %
--------	-----------

The weight includes standard equipment delivered with the engine, Propeller governor and propeller overspeed governor but without exhaust nozzles and alternator gearbox.

重心位置: 在发动机中心线上, 安装座向前 86mm
C.G. location: On the engine center line forward of mount pad plane 86 mm

审定基础: FAR 33, 包括修正案 33-12
Certification Basis: FAR 33, including Amendment 33-12

认可审定基础: FAR-33 (包括修正案33-1至33-12)
Validation Certification Basis: FAR-33 (including Amendment 33-1 to 33-12)

注

NOTES

注 1

- a) 发动机状态是基于国际标准大气条件、海平面、静态, 不考虑安装损失, 没有空气放气, 没有外部附件的载荷。安装了压气机防护进口网罩。
- b) M601F/M601FS发动机起飞功率在101.325 kPa时平功率状态至23℃, 有喷水的起飞功率在97.325 kPa时平功率状态至33℃, 最大起飞功率(没有喷水)在101.325 kPa时平功率状态至38℃, 最大连续功率在101.325 kPa时平功率状态至28℃。
- c) M601F-22/M601F-32发动机起飞功率在101.325 kPa时平功率状态至25.2℃, 最大连续功率在101.325 kPa时平功率状态至21℃。

Note 1.

- a) Engine ratings are based on ISA conditions, sea level, static conditions, no installation losses, no air bleed, no external accessory loads. Compressor protective intake screen installed.
- b) For the M601F/M601FS the take-off power is flat rated to 23℃ at 101.325 kPa. The take-off power with water injection is flat rated to 33℃ at 97.325 kPa. Max. take-off power (without water injection) is flat rated to 38℃ at 101.325 kPa. Max. continuous power is flat rated to 28℃ at 101.325 kPa.
- c) For the M601F-22/M601F-32 engines the take-off power is flat rated to 25.2℃ at 101.325 kPa. Max. continuous power is flat rated to 21℃ at 101.325 kPa.

注 2 转速限制

100%的燃气发生器转速为36660 rpm

状态	型号			
	M601F	M601FS	M601F-22	M601F-32
最大连续				
燃气发生器转速 [%]最大	100.5		97	97

螺旋桨转速	[rpm]最大	2080	1900	1900
起飞				
燃气发生器转速	[%]最大	100	100	100
螺旋桨转速	[rpm]最大	2080	2080	2080
有喷水起飞				
燃气发生器转速	[%]最大	100	-	-
螺旋桨转速	[rpm]最大	2080	-	-
最大起飞				
燃气发生器转速	[%]最大	102	-	-
螺旋桨转速	[rpm]最大	2080	-	-

对于最大允许的转速过调量，参考使用手册。

Note 2. Rotational Speed Limitations

100% gas generator speed equals to 36 660 rpm

Ratings	Model			
	M601F	M601FS	M601F-22	M601F-32
Max. continuous				
Gas generator speed [%] max	100.5		97	97
Propeller speed[rpm] max	2080		1900	1900
Take-off				
Gas generator speed [%] max	100		100	100
Propeller speed[rpm] max	2080		2080	2080
Take-off with water injection				
Gas generator speed [%] max	100		-	-
Propeller speed[rpm] max	2080		-	-
Max. take-off				
Gas generator speed [%] max	102		-	-
Propeller speed[rpm] max	2080		-	-

For max. permitted overshoots refer to Operation Manual

注 3 涡轮间温度 (ITT) 限制

状态	型号			
	M601F	M601FS	M601F-22	M601F-32
最大连续				
ITT	[°C]最大	760	710	710

起飞				
ITT	[°C]最大	735	735	735
有喷水起飞				
ITT	[°C]最大	735	-	-
最大起飞				
ITT	[°C]最大	780	-	-

Note 3. Interturbine Temperature (ITT) Limitations

Ratings		Model			
		M601F	M601FS	M601F-22	M601F-32
Max. continuous					
ITT	[°C] max	760		710	710
Take-off					
ITT	[°C] max	735		735	735
Take-off with water injection					
ITT	[°C]max	735		-	-
Max. take-off					
ITT	[°C] max	780		-	-

注 4 扭矩限制

状态		型号			
		M601F	M601FS	M601F-22	M601F-32
最大连续					
扭矩	[N.m]最大	2665		2570	2570
起飞					
扭矩	[N.m]最大	2825		2720	2720
有喷水起飞					
扭矩	[N.m]最大	2825		-	-
最大起飞					
扭矩	[N.m]最大	2825		-	-

Note 4. Torque Limitations

Ratings		Model		
		M601F M601FS	M601F-22	M601F-32
Max. continuous				
Torque	[N.m] max	2665	2570	2570
Take-off				
Torque	[N.m] max	2825	2720	2720
Take-off with water injection				
Torque	[N.m] max	2825	-	-
Max. take-off				
Torque	[N.m] max	2825	-	-

注 5 燃油和滑油限制

燃油	在主油滤进口处的燃油压力必须在安装说明书注明的范围内。 在燃油泵进口处的燃油温度必须最大值为60℃。		
滑油	在燃气发生器转速为80 to 100 %时压力： 最小0.18 至最大0.27 MPa		
	在燃气发生器转速低于80 %时压力： 最小0.12 MPa		
	滑油温度低于0℃时压力： 最大0.35 MPa		
	温度： 最大+85℃ 最小-20℃		

Note 5. Fuel and Oil Limitations

Fuel:	Fuel pressure at the main fuel filter inlet must be in the range as referenced in the Installation Manual. Fuel temperature at the fuel pump inlet must be max. + 60℃.		
Oil:	Pressure at the gas generator speed of 80 to 100 %: min. 0.18 to max. 0.27 MPa		
	Pressure at the gas generator speed below 80 %: min. 0.12 MPa		
	Pressure at oil temperature below 0℃: max. 0.35 MPa		
	Temperature: max. + 85 °C min. - 20 °C		

注 6 附件传动限制

附件齿轮箱 --- 100%的燃气发生器转速等于36660 rpm

传动	转动方向	速比	最大连续扭矩 [N.m]	最大悬臂扭矩 [N.m]
起动机/发电机	CW	0.2899	11.2	21
附件传动 (液压泵)	CCW	0.1974	5.8	40
附件传动 (发动机驱动 交流发电机)	CCW	0.1145	11.5	40
转速传感器	CW	0.1145	0.5	4

减速齿轮箱 --- 100%的螺旋桨转速等于2080 rpm

传动	转动方向	速比	最大连续扭矩 [N.m]	最大悬臂扭矩 [N.m]
M601F, M601F-22, M601F-32				
螺旋桨转速调节器	CCW	2028	5.7	7
转速传感器	CCW	2028	0.5	4
M601FS				
螺旋桨调节器	CCW	2028	5.7	7
螺旋桨超速限制器	CCW	2028	0.5	4

Note 6. Accessory Drive Limitations

On the accessory gearbox - 100% gas generator speed equals to 36 660 rpm

Drive	Sense of rotation	Speed ratio	Max.continuous torque [N.m]	Max. overhang [N.m]
Starter/generator	CW	0.2899	11.2	21
Spare Drive (hydraulic pump)	CCW	0.1974	5.8	40
Spare Drive (engine turning-alternator)	CCW	0.1145	11.5	40
Speed transmitter	CW	0.1145	0.5	4

On the reduction gearbox - 100% propeller speed equals to 2080 rpm

Drive	Sense of Rotation	Speed ratio	Max. continuous torque [N.m]	Max. overhang [N.m]
M601F, M601F-22, M601F-32				
Propeller speed governor	CCW	2028	5.7	7
Speed transmitter	CCW	2028	0.5	4

M601FS

Propeller governor	CCW	2028	5.7	7
Propeller overspeed governor	CCW	2028	0.5	4

注 7 径向压气机空气放气

在 M601F 发动机上，可以使用高压放气(HPBS)和低压放气(LPBS)系统。高压放气(HPBS) 是一个标准的发动机系统，低压放气(LPBS)系统是一个选装的系统。在发动机铭牌上名称 BC01 表示这种构型。

放气限制:

	最大放气		高度		真空速	
	g/sec	lb/min	m	ft	km/hr	kt
HPBS	62	8.2	4200	13,780	400	216
LPBS	100	13.2	4200	13,780	400	216

放气系统不能同时使用于座舱增压和加热。如果使用了低压放气(LPBS)，则从高压放气(HPBS)中放出的有限定量的放气只能用于除冰的目的。详细的情况可参考安装手册。

有限定量的放气允许用于起飞功率状态。在这种情况下，来自高压放气的 25 g/sec (3.3 lb/min) 空气，只能用于除冰的目的。详细的情况可参考安装手册。

污染物不超过下列值:

- 一氧化碳: 五万分之一
- 氮氧化物: 三十万分之一

Note 7. Air Bleed from Radial Compressor

On the M601F engines both high pressure bleed system (HPBS) and low pressure bleed system (LPBS) can be utilized. The HPBS is used as standard engine system. As optional the LPBS can be fitted. Then additional designation BC01 on the Engine Identification Plate indicates this build configuration.

Airbleed Limits:

	Max. Airbleed		Flight Altitude		True Air Speed	
	g/sec	lb/min	m	ft	km/hr	kt
HPBS	62	8.2	4200	13,780	400	216
LPBS	100	13.2	4200	13,780	400	216

The airbleed systems must not be used simultaneously for cabin pressurization/heating. If LPBS is utilized then limited airflow from the BPBS can be bled for de-icing purposes only. For details refer to Installation Manual.

Limited airbleed is allowed for takeoff power settings. In this circumstance 25 g/sec (3.3 lb/min) of air from the HPBS can be bled for de-icing purposes only. For details refer to Installation Manual.

Contamination does not exceed the following values for

- carbon monoxide: one part per 50,000 parts
- nitrogen oxide: one part per 300,000 parts

注 8 型号描述

M601F 双转子，有反向空气/燃气流动布置的自由涡轮涡轮螺旋桨发动机，燃气发生器由单级轴流涡轮驱动的混合压气机（两级轴向和一级经向）、安装有喷嘴环的环形燃烧室和附件齿轮箱组成。动力部分由单级动力涡轮、排气系统和两级减速箱组成。

M601FS 和M601F类似，用于单动式螺旋桨运行，安装有螺旋桨调节器和螺旋桨超速限制器。

M601F-22 和M601F类似，没有水喷射。
最大工作高度至8000 m。没有最大起飞功率。

M601F-32 和M601F类似，没有水喷射。
最大工作高度至8000 m。没有最大起飞功率。

偏离 对于M601E/M601E-21和M601F-22/M601F-32发动机，燃油滤和应急使用旁通信号装置是飞机安装的一部分。（FAR 33.67 b）

Note 8. Model Description

M601F Two rotor, free turbine turbopropeller engine with reverse air/gas flow layout. Gas generator consists of mixed compressor (two axial and one centrifugal stage) driven by single stage axial turbine, annular combustion chamber fitted with spray ring, and accessory gearbox. Power section consists of single stage power turbine, exhaust system and two stage reduction gearbox.

M601FS Similar to M601F. Determined for operation with single-acting propeller. Propeller governor and propeller overspeed governor added.

M601F-22 Similar to M601F. No water injection.
Max. operating altitude up to 8000 m. No max. take-off power available.

M601F-32 Similar to M601F. No water injection.
Max. operating altitude of up to 8000 m. No max. take-off power available.

Deviations: For M601E/M601E-21 and M601F-22/M601F-32 the fuel filter and impending bypass signaller are parts of the airframe installation.
(FAR 33.67 b))

注 9

发动机M601F序列号S/N 924001和S/N 924002是按照豁免号No. Ji-M601-V8072制造的，TBO分别为2000小时和2250飞行循环。

Note. 9

Engines version M601F S/N 924001 and S/N 924002 have been manufactured in accordance with exemption No. Ji-M601-8072 with TBO 2000 hours and 2250 flight cycles.