

型号认可证数据单
THE VALIDATION DATA SHEET

编号/No.: VTC0219E

版次/Revision: 3

型号/Type:

250-C30, 250-C30P

250-C30S, 250-C40B

250-C47B, 250-C47M

250-C47B/8, 250-C47E/4

批准人/Approved By: Xu Chaoqun

职务/Title: Director General of CAAC-AAD

日期/Date: 2019 年 1 月 8 日

本数据单是型号认可证（编号 VTC0219E）的组成部分，它规定了符合中国民用航空局的适航要求所颁发此型号认可证的产品状态和限制。

This data sheet, which is a part of Validation Type Certificate (No: VTC0219E), prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Chinese Civil Aviation Regulation.

型号认可证持有人/Validation of Type Certificate Holder:

Rolls-Royce Corporation
450 South Meridian Street
Indianapolis, Indiana 46255-1103, USA

有效页清单/List of effective pages :

页数/ Pages	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
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第1部分 概述

SECTION 1 GENERAL

1. CAAC认可数据单和型号合格证数据单/CAAC Validation Data Sheet and Type Certificate Data Sheet

	中国民用航空局认可数据单号、版次和颁发日期 CAAC Validation Data Sheet Number, Revision and issuance date	型号合格证数据单号、版次和颁发日期 Type Certificate Data Sheet Number, Revision and issuance date
当前 Current	No.VTC0219E, 第 3 版, 2019 年 1 月 8 日 No.VTC0219E, Revision 3, January 8, 2019	No. E1GL, 第 30 版, 2016 年 10 月 31 日颁发 No. E1GL, Revision 30, October 31, 2016
历史 History	No.VTC0219E, 第 0 版, 2000 年 3 月 15 日颁发 No.VTC0219E; Revision 0; March 15, 2000	No. E1GL, 版本: 15, 1998 年 4 月 9 日颁发 No. E1GL, Revision 15, April 9, 1998
	No.VTC0219E, 第 1 版, 2009 年 2 月 4 日颁发 No.VTC0219E; Revision 1; February 4, 2009	No. E1GL, 版本: 23, 2007 年 4 月 18 日颁发 No. E1GL, Revision 23, April 18, 2007
	No.VTC0219E, 第 2 版, 2014 年 4 月 1 日颁发 No.VTC0219E; Revision 2; April 1, 2014-4-1	No. E1GL, 第 26 版, 2013 年 11 月 15 日颁发 No. E1GL, Revision 26, November 15, 2013

2. 类别/Category:

航空发动机/Aeroengine

3. 认可当局/Validation Authority:

中国民用航空局/CAAC

审定当局/Certifying Authority:

美国联邦航空局/FAA

4. 型号合格证持有人/Type Certificate Holder:

Rolls-Royce Corporation
450 South Meridian Street
Indianapolis, Indiana 46255-1103, USA

5. CAAC专用要求/CAAC Special Requirements:

满足中国3号燃油 (GB6537-2006) 的要求
Compliance with requirement of P.R. China JET Fuel
No.3 (GB6537-2006)

第2部分

SECTION 2

	250-C30 250-C30S	250-C30P
类型/Type	自由涡轮涡轮轴和单级离心式压气机，两级燃气发生器涡轮，两级动力涡轮和带预燃烧室的单管燃烧室/ Free turbine turboshaft with single stage centrifugal flow compressor, two-stage gas producer turbine, two-stage power turbine and single combustion chamber with pre-chamber	
轴压比/ Shaft ratio	5.09:1	--
额定功率/ Ratings	见注4/ See NOTE 4	
最大连续/ Maximum continuous		
海平面轴马力/ SHP at sea level	650	600
燃气发生器转速（估计值） Gas producer rpm (estimated)	50340	49130
输出轴转速/ Output shaft rpm	6016	--
额定燃气温度/ Measured rated gas temp	1368°F (742°C)	1295°F (701°C)
起飞，5分钟/ Takeoff, 5 minute:		
海平面轴马力/ SHP at sea level	650	--
燃气发生器转速（估计值）/ Gas producer rpm (estimated)	50340	50330
输出轴转速/ Output shaft rpm	6016	--
额定燃气温度/ Measured rated gas temp	1368°F (742°C)	1337°F (725°C)
30分钟OEI/ 30 minute OEI:		
海平面轴马力/ SHP at sea level	650	--
燃气发生器转速（估计值）/ Gas producer rpm (estimated)	50340	--
输出轴转速/ Output shaft rpm	6016	--
额定燃气温度/ Measured rated gas temp	1368°F (742°C)	--
2 1/2分钟OEI/ 2 1/2 minute OEI:		
海平面轴马力/ SHP at sea level	700	--
燃气发生器转速（估计值）/ Gas producer rpm (estimated)	51550	--
输出轴转速/ Output shaft rpm	6016	--
额定燃气温度/ Measured rated gas temp	1424°F (773°C)	--
输出轴/ Output shaft	内花键/ Internal spline	--
控制系统/ Control system:	液压-机械式燃油控制/ Hydro-mechanical fuel control	
燃油泵/ Fuel pump	带引射器的单个燃油泵单元 Single element fuel pump with jet inducer	单个燃油泵单元 Single element fuel pump
燃油/ Fuel	每个型号的可用燃油见OMM手册。适用的OMM手册见注24。（其	

	他燃油信息和限制见注10)。 Fuels allowed for use are provided in the Operation and Maintenance Manual for each model. See NOTE 24 for applicable Operation and Maintenance Manual publications. (For other fuel info and limitations, see NOTE	
滑油/ Lubricating oil	每个型号的可用滑油见OMM手册。适用的OMM手册见注24。 Oils allowed for use are provided in the Operation and Maintenance Manual for each model. See NOTE 24 for applicable Operation and Maintenance Manual publications.	
点火系统/ Ignition system	见注12/ See NOTE 12	
激励器/ Exciter	低电压电容放电激励器。批准的件号见注24确定的部件清单。 Low Tension Capacitor Discharge Exciter. See Parts List identified in NOTE 24 for approved part numbers.	
点火器/ Igniter	分流式表面火花点火器。批准的件号见注24确定的部件清单。 Shunted surface spark igniter. See Parts List identified in NOTE 24 for approved part numbers.	
主要尺寸/Principal dimensions:		
总长度, 英寸/Length, overall, in.	43.198	--
宽, 英寸/Width, in.	21.996	--
高, 英寸/Height, in.	25.480	24.855
重心位置, 侧安装中心线后, 英寸 C.G. Location, aft of side mount centerline, in.	5.70	--
重心位置, 侧安装中心线上, 英寸 C.G. Location, above side mount centerline, in.	3.28	--
重心位置, 向前看时发动机中心线左边或右边, 英寸 C.G. Location, left or right side of engine centerline looking forward, in.	0.00	--
重量 (干重), 磅 包括基本发动机, 燃油泵, 点火系统, 燃油控制系统和燃油电子监控系统 (如果适用) Weight (dry), lb. Includes basic engine, fuel pump, ignition, fuel control system and supervisory electronic fuel control, if applicable	253.75 252.75	247.75

	250-C40B	250-C47B 250-C47B/8	250-C47M
类型/Type	自由涡轮涡轮轴和单级离心式压气机，两级燃气发生器涡轮，两级动力涡轮和带预燃烧室的单管燃烧室 Free turbine turboshaft with single stage centrifugal flow compressor, two-stage gas producer turbine, two-stage power turbine and single combustion chamber with pre-chamber		
轴压比/ Shaft ratio	3.22:1	-5.09:1	--
额定功率/ Ratings	见注4/ See NOTE 4		
最大连续/ Maximum continuous			
海平面轴马力/ SHP at sea level	613	600	--
燃气发生器转速（估计值）/ Gas producer rpm (estimated)	48488	48258 48460	48348
输出轴转速/ Output shaft rpm	9598	6317	6016
额定燃气温度/ Measured rated gas temp	1263°F (684°C)	1253°F (678°C) 1208°F (653°C)	--
起飞，5分钟/ Takeoff, 5 minute:			
海平面轴马力/ SHP at sea level	715	650	--
燃气发生器转速（估计值） Gas producer rpm (estimated)	49791	48863 49014	48965
输出轴转速/ Output shaft rpm	9598	6317	6016
额定燃气温度/ Measured rated gas temp	1356°F (736°C)	1296°F (702°C) 1245°F (674°C)	1298°F (703°C)
中间值，30分钟 Intermediate, 30 minute :	—	—	—
海平面轴马力/ SHP at sea level			
燃气发生器转速（估计值） Gas producer rpm (estimated)			
输出轴转速/ Output shaft rpm			
额定燃气温度/ Measured rated gas temp			
连续OEI/ Continuous OEI:		—	—
海平面轴马力/ SHP at sea level	715		
燃气发生器转速（估计值） Gas producer rpm (estimated)	49791		
输出轴转速/ Output shaft rpm	9598		
额定燃气温度/ Measured rated gas temp	1356°F (736°C)		
30分钟OEI/ 30 minutes OEI:		—	—
海平面轴马力/ SHP at sea level	715		
燃气发生器转速（估计值） Gas producer rpm (estimated)	49791		
输出轴转速/ Output shaft rpm	9598		
额定燃气温度/ Measured rated gas temp	1356°F (736°C)		
2分钟OEI/ 2 minutes OEI:		—	—

海平面轴马力/ SHP at sea level	770		
燃气发生器转速 (估计值) Gas producer rpm (estimated)	50553		
输出轴转速/ Output shaft rpm	9598		
额定燃气温度/ Measured rated gas temp	1400°F (760°C)		
30秒OEI/ 30 seconds OEI:		—	—
海平面轴马力/ SHP at sea level	820		
燃气发生器转速 (估计值) Gas producer rpm (estimated)	51323		
输出轴转速/ Output shaft rpm	9598		
额定燃气温度/ Measured rated gas temp	1447°F (786°C)		
输出轴/ Output shaft	法兰驱动 Flanged drive	内花键 Internal spline	--
控制系统/ Control system:	带液压-机械单元的全权式数字电子控制系统 / Digital FADAC system with Hydro-mechanical Unit (HMU)	带液压-机械单元的全权式数字电子控制系统 / Digital FADAC system with Hydro-mechanical Unit (HMU)	带液压-机械单元的全权式数字电子控制系统 / Digital FADAC system with Hydro-mechanical Unit (HMU)
燃油泵/ Fuel pump	两级吸力泵, 是HMU的一部分		
燃油/ Fuel	每个型号的可用燃油见OMM手册。适用的OMM手册见注24。(其他燃油信息和限制见注10)。/ Fuels allowed for use are provided in the Operation and Maintenance Manual for each model. See NOTE 24 for applicable Operation and Maintenance Manual publications. (For other fuel info and limitations, see NOTE		
滑油/ Lubricating oil	每个型号的可用滑油见OMM手册。适用的OMM手册见注24。/ Oils allowed for use are provided in the Operation and Maintenance Manual for each model. See NOTE 24 for applicable Operation and Maintenance Manual publications.		
点火系统/ Ignition system	见注12。/ See NOTE 12		
激励器/ Exciter	固态高能激励单元。批准的件号见注24确定的部件清单。/ Solid state, high energy exciter unit. See Parts List identified in NOTE 24 for approved part numbers.		
点火器/ Igniter	分流式表面火花点火器。批准的件号见注24确定的部件清单。/ Shunted surface spark igniter. See Parts List identified in NOTE 24 for approved part numbers.		
主要尺寸/Principal dimensions:			
总长度, 英寸/Length, overall, in.	43.198	--	--
宽, 英寸/Width, in.	21.996	--	--
高, 英寸/Height, in.	25.715	25.130	25.715
重心位置, 侧安装中心线后, 英寸 C.G. Location, aft of side mount centerline, in.	5.44	5.86	--

重心位置，侧安装中心线上，英寸/ C.G. Location, above side mount centerline, in.	2.46	2.95	--
重心位置，向前看时发动机中心线左边 或右边，英寸/ C.G. Location, left or right side of engine centerline looking forward, in.	0.14 (右/right)	0.13 (右/right)	--
重量（干重），磅 包括基本发动机，燃油泵，点火系统， 燃油控制系统和燃油电子监控系统（如 果适用）/ Weight (dry), lb. Includes basic engine, fuel pump, ignition, fuel control system and supervisory electronic fuel control, if applicable	280	278.5 (不包括和ECU的连 接导线/does not include inter-ECU harness)	--

	250-C47E/4
类型/Type	自由涡轮涡轮轴和单级离心式压气机，两级燃气发生器涡轮，两级动力涡轮和带预燃烧室的单管燃烧室 Free turbine turboshaft with single stage centrifugal flow compressor, two-stage gas producer turbine, two-stage power turbine and single combustion chamber with pre-chamber
轴压比/ Shaft ratio	5.09:1
额定功率/ Ratings	见注4/ See NOTE 4
最大连续/ Maximum continuous	
海平面轴马力/ SHP at sea level	600
燃气发生器转速（估计值）/ Gas producer rpm (estimated)	48460
输出轴转速/ Output shaft rpm	6317
额定燃气温度/ Measured rated gas temp	1208°F (653°C)
起飞，5分钟/ Takeoff, 5 minute:	
海平面轴马力/ SHP at sea level	650
燃气发生器转速（估计值）/ Gas producer rpm (estimated)	49014
输出轴转速/ Output shaft rpm	6317
额定燃气温度/ Measured rated gas temp	1245°F (674°C)
中间值，30分钟/ Intermediate, 30 minute :	—
海平面轴马力/ SHP at sea level	
燃气发生器转速（估计值）/ Gas producer rpm (estimated)	
输出轴转速/ Output shaft rpm	
额定燃气温度/ Measured rated gas temp	
连续OEI/ Continuous OEI:	—
海平面轴马力/ SHP at sea level	
燃气发生器转速（估计值）/ Gas producer rpm (estimated)	
输出轴转速/ Output shaft rpm	
额定燃气温度/ Measured rated gas temp	
30分钟OEI/ 30 minutes OEI:	—
海平面轴马力/ SHP at sea level	
燃气发生器转速（估计值）/ Gas producer rpm (estimated)	
输出轴转速/ Output shaft rpm	
额定燃气温度/ Measured rated gas temp	
2分钟OEI/ 2 minutes OEI:	—
海平面轴马力/ SHP at sea level	

燃气发生器转速（估计值）/ Gas producer rpm (estimated)	
输出轴转速/ Output shaft rpm	
额定燃气温度/ Measured rated gas temp	
30秒OEI/ 30 seconds OEI:	—
海平面轴马力/ SHP at sea level	
燃气发生器转速（估计值）/ Gas producer rpm (estimated)	
输出轴转速/ Output shaft rpm	
额定燃气温度/ Measured rated gas temp	
输出轴/ Output shaft	内花键/ Internal spline
控制系统/ Control system:	带燃油计量装置的全权式数字电子控制系统 Digital FADAC system with Fuel Metering Unit (FMU)
燃油泵/ Fuel pump	带喷射增压级的齿轮泵，是FPPU的一部分 Gear pump with an ejector boost stage integral to FPPU
燃油/ Fuel	每个型号的可用燃油见OMM手册。适用的OMM手册见注24。（其他燃油信息和限制见注10）。 Fuels allowed for use are provided in the Operation and Maintenance Manual for each model. See NOTE 24 for applicable Operation and Maintenance Manual publications. (For other fuel info and limitations, see NOTE 10).
滑油/ Lubricating oil	每个型号的可用滑油见OMM手册。适用的OMM手册见注24。 Oils allowed for use are provided in the Operation and Maintenance Manual for each model. See NOTE 24 for applicable Operation and Maintenance Manual publications.
点火系统/ Ignition system	见注12。/ See NOTE 12
激励器/ Exciter	固态高能激励单元。批准的件号见注24确定的部件清单。 Solid state, high energy exciter unit. See Parts List identified in NOTE 24 for approved part numbers.
点火器/ Igniter	分流式表面火花点火器。批准的件号见注24确定的部件清单。 Shunted surface spark igniter. See Parts List identified in NOTE 24 for approved part numbers.
主要尺寸/Principal dimensions:	
总长度，英寸/Length, overall, in.	43.198
宽，英寸/Width, in.	21.996
高，英寸/Height, in.	25.715
重心位置，侧安装中心线后，英寸/ C.G. Location, aft of side mount centerline, in.	5.73
重心位置，侧安装中心线上，英寸/ C.G. Location, above side mount centerline, in.	2.51
重心位置，向前看时发动机中心线左边	0.49（右/right）

或右边，英寸 C.G. Location, left or right side of engine centreline looking forward, in.	
重量（干重），磅 包括基本发动机，燃油泵，点火系统， 燃油控制系统和燃油电子监控系统（如 果适用） Weight (dry), lb. Includes basic engine, fuel pump, ignition, fuel control system and supervisory electronic fuel control, if applicable	290

"- "表示同前

"- " indicates same as preceding model.

"—" 表示不适用。

"—" indicates does not apply.

审定基础/

CERTIFICATION BASIS

1965年2月1日生效的联邦航空规章第33部，第33-2，33-3，33-4修正案及关于FAR33-69条的豁免No.2087B，管理文件No.13294于1975年2月24日颁发，修正后的管理文件No.26072于1991年12月10日颁发。1973年10月2日递交型号合格证申请，1976年4月28日最初颁发，编号为E1GL，250-C30 于1978年3月28日加入。250-C30P于1981年9月15日加入。250-C30S于1982年6月15日加入。250-C47B于1996年1月19日加入。250-C40B于1996年2月22日加入。250-C40B的审定基础包含1995年11月16日制订的专用条件SC-95-04-NE和2000年7月28日通过ACE-115C给ANE-110的备忘录确定的批准对燃气发生器涡轮的试验速度参数的改变来对33.7条和33.87条款符合性的等效安全和2001年5月11日批准燃气发生器涡轮的试验速度对33.87条款符合性的等效安全。250-C47M于1997年5月14日加入。250-C47B/8于2013年11月15日加入。250-C47E/4于2016年10月31日加入。其他的审定基础的详细说明见注17。

Part 33 effective February 1, 1965 and Amendments 33-2, 33-3, 33-4 and Exemption No. 2087B from FAR 33.69, Regulatory Docket No. 13294 issued February 24, 1975 and amended December 10, 1991, (Docket No. 26072). Application for Type Certificate dated October 2, 1973. Type Certificate No. E1GL for 250-C28 issued April 28, 1976. Model 250-C30 added March 28, 1978. Model 250-C30P added September 15, 1981. Model 250-C30S added June 15, 1982. Model 250-C47B added January 19, 1996. Model 250-C40B added February 22, 1996. The certification basis for the model 250-C40B includes Special Conditions SC-95-04-NE dated November 16, 1995 and the Equivalent Level of Safety (ELOS) finding identified in Memorandum to ANE-110 from ACE-115C, dated July 28, 2000, approving a modified gas generator test speed parameter for 33.7 and 33.87 compliance and ELOS finding 8040-8-1-001 dated May 11, 2001, approving gas generator test speeds for 33.87 compliance. Model 250-C47M added May 14, 1997. Model

250-C47B/8 added November 15, 2013. Model 250-C47E/4 added October 31, 2016. See NOTE 17 for additional Certification Basis details.

C47E/4发动机满足后来的CFR 33 部条款的修正水平	修正案33-6/Amendment 33-6 33.14
The CFR Part 33 paragraphs meet later Amendment levels for Model C47E/4.	33.62 33.77 33.88
	修正案33-9/Amendment 33-9 33.4
	修正案33-10/Amendment 33-10 33.15 33.17 33.25 33.27 33.66 33.68 33.89 33.94
	修正案33-18/Amendment 33-18 33.85
	修正案33-21/Amendment 33-21 33.90
	修正案33-24/Amendment 33-24 33.75
	修正案33-26/Amendment 33-26 33.5 33.28 33.29 33.67
	修正案33-27/Amendment 33-27 33.71-除了滑油过滤器没有包含在回油泵前面/33.71 – except oil strainers are not incorporated ahead of scavenge pump 33.91
	修正案33-28/Amendment 33-28 33.19
	修正案33-30/Amendment 33-30 33.7

**CAAC 认可审定基础/ CAAC
VALIDATION BASIS** 接受 FAA 的审定基础作为认可审定基础。
Accept FAA certification basis as validation basis.

**生产基础/
PRODUCTION BASIS** 生产许可证 No. 310。
Production Certificate No. 108

注释/ NOTE

注 1/ NOTE 1

最大许用温度/ Maximum allowable temperatures:

	250-C30 250-C30S	250-C30P
测量的排气温度 Measured gas temperature		
2 1/2 分钟 OEI 2 1/2 minute OEI	1518°F (826°C)	--
30 分钟 OEI 30 minute OEI	1468°F (798°C)	--
起飞, 5 分钟 Take off, 5 minute	1414°F (768°C)	--
最大连续 Maximum continuous	1414°F (768°C)	1320°F (716°C)
最大瞬时 Maximum transient	1518°F (826°C) to 1662°F (906°C) (不超过 12 秒/ not to exceed 12 seconds)	1414°F (768°C) to 1600°F (871°C) (不超过 12 秒/ not to exceed 12 seconds)
启动 (不超过 10 秒) Starting (not to exceed 10 seconds)	1518°F (826°C) to 1700°F (927°C)	--
启动 (不超过 1 秒的峰值) Starting (momentary peak of one second maximum)	1700°F (927°C)	--
滑油进口温度 Oil inlet temperature	-65°F (-54°C) to 225°F (107°C)	--

	250-C40B	250-C47B 250-C47B/8	250-C47M
测量的排气温度 Measured gas temperature			
30 秒 OEI/ 30 second OEI	1600°F (871°C)	—	—
2 分钟 OEI/2 minute OEI	1521°F (827°C)	—	—
30 分钟 OEI/30 minute OEI	1468°F (798°C)	—	—
中间值, 30 分钟 Intermediate, 30 minute	—	—	—
连续 OEI/ Continuous OEI	1435°F (779°C)	—	—
起飞, 5 分钟 Take off, 5 minute	1435°F (779°C)	--	--
最大连续 Maximum continuous	1340°F (727°C)	--	--
最大瞬时 Maximum transient	1468°F (798°C) to 1662°F (906°C) (不超过 12 秒/ not to exceed 12 seconds)	1435°F (779°C) to 1662°F (906°C) (不超过 12 秒/ not to exceed 12 seconds)	--

启动 (不超过 10 秒) / Starting (not to exceed 10 seconds)	1550°F (843°C) to 1700°F (927°C)	--	--
启动 (不超过 1 秒的峰值) / Starting (momentary peak of one second maximum)	1700°F (927°C)	--	--
滑油进口温度/ Oil inlet temperature	-65°F (-54°C) to 225°F (107°C)	--	--

	250-C47E/4
测量的排气温度/Measured gas temperature	
30 秒 OEI/ 30 second OEI	—
2 分钟 OEI/2 minute OEI	—
30 分钟 OEI/30 minute OEI	—
中间值, 30 分钟/Intermediate, 30 minute	—
连续 OEI/ Continuous OEI	—
起飞, 5 分钟/Take off, 5 minute	1435°F (779°C)
最大连续/Maximum continuous	1340°F (727°C)
最大瞬时/Maximum transient	1435°F (779°C) to 1662°F (906°C) (不超过 12 秒/ not to exceed 12 seconds)
启动 (不超过 10 秒)/Starting (not to exceed 10 seconds)	1550°F (843°C) to 1700°F (927°C)
启动 (不超过 1 秒的峰值)/Starting (momentary peak of one second maximum)	1700°F (927°C)
滑油进口温度/Oil inlet temperature	-40°F (-40°C) to 240°F (116°C)

注 2/ NOTE 2
燃油进口和滑油压力限制/ Fuel inlet and oil pressure limits

(a) 燃油进口压力 (适用的安装设计手册见注 24) / **Fuel inlet pressure** (See Note 24 for applicable Installation Design Manual):

	连接发动机的燃油进口的最小压力/ Minimum pressure at fuel inlet connection to the engine					最大燃油进口压力/ Maximum fuel inlet pressure
	海平面 /sea level	6000ft	10000ft	15000ft	20000ft	
250-C30P	Ambient minus 9 in Hg	Ambient minus 5.5 in Hg	Ambient minus 3.5 in Hg	Ambient minus 1.0 in Hg	Ambient plus 1.5 in Hg	25 psig
250-C30,-C30S,-C40B,-C47B,-C47B/8,-C47M	最小许用的燃油进口压力随着燃油类型, 燃油温度和高度不同而变化。安装设计手册上有确定最小燃油压力的表格、曲线和方法: 每个发动机适用的安装设计手册见注 24./ *Minimum allowable fuel inlet pressure varies as a function of fuel type, fuel temperature and altitude. Tables, curves and methods for determining the minimum fuel pressure are included in the Installation Design Manuals: See NOTE 24 for applicable Installation Design Manual for each engine.					25 psig

250-C47E/4		50 psig
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*采用操纵和维修手册中所列的航空汽油时燃油进口压力不允许下降（见注 24）。/No fuel inlet depression allowed with aviation gasoline fuel specified in the Operation and Maintenance Manual (See NOTE 24).

(b) 可用滑油测量压力/Operating oil gauge pressures:

	可用滑油测量压力/Operating oil gauge pressures (psig)			最小滑油泵进口压力/ Minimum oil pump inlet pressure
	燃气发生器涡轮速度大于 等于 47940 转 (94%) / 47,940 rpm (94%) gas generator speed and above	燃气发生器涡轮速度从 40290 转 (79.0%) 到 47940 转/40,290 rpm (79.0%) gas generator speed to 47,940 rpm	燃气发生器涡轮速度 小于 40290 转 (79.0%) /Below 40,290 rpm (79.0%) gas generator speed	
250-C30 Series 250-C40B and 250-C47 Series	115 to 130	90 to 130	50 to 130	5 in Hg absolute

注 3/ NOTE 3

下列驱动安装附件可用/ The following accessory drive mounting provisions are available: 250-C30 系列, 250-C40B 和 250-C47 系列/250-C30 Series, 250-C40B and 250-C47 Series

	转动方向/ Direction of rotation *	和涡轮的转速 比 值 /Speed ratio to turbine	最大轴 功率 /Max shaft torque (in-lb)		最大附件基座 悬臂力矩/Max accessory pad overhung moment (in-lb)
			连 续 /Continuous	静态/Static	
燃气发生器涡轮驱动 /Driven by gas producer turbine:					
转速计/Tachometer	CC	0.0825	7	50	4
起动机-发电机 Starter-generator	C	0.2351	550**	1100	150
备用/Spare	CC	0.2351	550****	1100	150
动力涡轮驱动 Driven by power turbine:					
转速计/ Tachometer	CC	0.1370	7	50	4
转速计（只有 250-C40B） Tachometer (250- C40B only)	CC	0.2168	4	32	4
起飞功率	C	0.1963	7524***	10000	100

Power take-off					
起飞功率(只有 250-C40B) /Power take-off (250-C40B only):					
前驱(30 秒 OEI 最大限制值) /Front drive (30 second OEI limit maximum)	CC	0.3105	5544*****	6443	380*****
前驱(30 分 OEI 最大限制值) /Front drive (30 minute OEI limit maximum)	CC	0.3105	5184*****	6443	380*****
后驱/Rear drive	C	0.3105	330*****	330	10
起飞功率(只有 250-C47B,-C47B/8,-C47E 系列) /Power take-off (250-C47B,-C47B/8,-C47E series only):					
前驱/Front drive	CC	0.1963	7524***	10000	969
后驱/Rear drive	C	0.1963	7524***	10000	100
起飞功率(只有 250-C47M) / Power take-off (250-C47M only):					
前驱/Front drive	CC	0.1963	7524*****	10000	100
后驱/Rear drive	C	0.1963	7524*****	10000	100
备用(250-C30P, -C47E/4) /Spare (250-C30P,-C47E/4)	C	0.3925	79	395	150

* C-看传动装置时是顺时针/C - Clockwise viewing drive pad

CC-逆时针/CC - Counterclockwise

** 发电机最大负载是12马力/The maximum generator load is 12 horsepower.

***前驱和后驱起飞的扭矩和不能超过注7中的扭矩值。上表中给出的2½分钟OEI的最大扭矩值的和适用于250-C30, -C30S /
The sum of the torques extracted in any combination from the front and rear power take-off drives shall not exceed the torque values specified in NOTE 7. The value given in the above table represents the 2½-minute OEI limited maximum total torque applicable to Models 250-C30, -C30S.

****最大附加负载是6马力。 / The maximum accessory load is 6 horsepower.

*****前驱和后驱起飞的扭矩和不能超过注7中的扭矩值。

The sum of the torques extracted in any combination from the front and rear power take-off drives shall not exceed the torque values specified in NOTE 7.

***** 对于 250-C40B, 最大的悬臂力矩适用于轴法兰而不是底座。

The max overhung moment applies to the shaft flange, not the pad, for -C40B.

注 4/ NOTE 4

发动机额定功率, 如果不是特殊说明, 指标准海平面条件下的功率。压气机进口空气(干的)为59°F, 29.92 in Hg。安装压气机进气锥(250 -C30, -C40 and -C47 系列)用以提供适用的进气条件。无其他外部附加负载和放气。

The engine ratings, unless otherwise specified, are based on static sea level standard conditions. Compressor inlet air (dry) 59°F, 29.92

in Hg. Compressor inlet bell attached (250 -C30, -C40 and -C47 Series) to provide suitable air approach conditions. No external accessory loads and no bleed air offtake.

测量的额定燃气温度是 4 个燃气温度热电偶的平均值。/

Measured rated gas temperature is indicated by the average of the 4 gas temperature thermocouples.

注 5/ NOTE 5

型号描述/ Model Descriptions

250-C30	除了压气机和涡轮的改型其他都等同于C28C，这导致了额定功率的提高 Similar to C28C except compressor and turbine changes, which result in an increased power rating.
250-C30(HU)	对 250-C30 的该改型是用来适应燃油控制系统的 284pph 的最大燃油流量的设置。这包括为了提改善加速喘振边界而对排气阀门蓄压器和涡轮喷口进行的更改。 This variant of the Model 250-C30 incorporates a new 284 pph max fuel flow setting on the fuel control. This also incorporates the bleed valve accumulator and turbine nozzle flow area modifications for improved acceleration surge margin.
250-C30P	除了燃油泵不同和较低的最大连续功率，其他都等同于 C30。 Similar to C30 except for a different fuel pump and a lower Max Cont rating.
250-C30P(BO)	对 250-C30P 的该改型只是对管子的微小改动，包括燃油控制系统的 379pph 的最大燃油流量的设置。/This variant of the Model 250-C30P has minor tubing changes to the fuel and compressor and incorporates a fuel control with a new 379 pph max fuel flow setting.
250-C30P(WO)	对 250-C30P 的该改型没有燃油控制加热装置。 This variant of the Model 250-C30P does not include the fuel control heater kit.
250-C30S	除了导致新的或翻修过的发动机 5%的性能提升的压气机制造方法的改变，其他都等同于 C30。/ Similar to C30 except compressor production changes, which result in 5 percent new or overhaul performance margin.
250-C40B	其他都等同与 C30G/2，除了当达到 100%功率涡轮转速达到 30908 转/分时，输出轴转速为 9598 转/分，没有 2 1/2 分钟 OEI 功率，但是有 30 秒 OEI 和 2 分钟 OEI 功率并且增加了带人工备份的单通道 FADEC，并且有和 C30R/1 同样的气流通道改变。 Similar to C30G/2 but with 9598 rpm output shaft speed at 100% power turbine speed of 30,908 rpm, no 2½ min. OEI rating, but 30 sec OEI and 2 min OEI ratings added and single channel Full Authority Digital Electronic Control (FADEC) system with manual backup and C30R/1 flow path changes.
250-C47B	其他都等同与 C30P，除了当达到 100%功率涡轮转速达到 32183 转/分时，输出轴转速为 6317 转/分，有和 C30R/1 同样的气流通道改变。并且增加了和 250-C40B 同样的带人工备份的单通道 FADEC。 Similar to C30P but with 6317 rpm output shaft speed at 100% power turbine speed of 32,183 rpm and C30R/1 flow path changes. Single channel FADEC system with manual backup similar to the 250-C40B.
250-C47B/8	等同于 C47B 但是有功率增强装置。/Similar to C47B but includes power enhancement kit
250-C47M	等同于 C47B 但是当达到 100%功率涡轮转速达到 30650 转/分时，输出轴转速为 6016 转/分。 Similar to C47B but with 6016 rpm output shaft speed at 100% power turbine speed of 30,650 rpm
250-C47E/4	等同于 C47B/8 但是当商用时包含双余度全权限发动机电子控制器。 Similar to C47B/8 but includes Dual Channel FADEC and is for commercial use.

对某一特定的发动机型号可能有许多不同的改型（通过不同的件号来区分），包含为适应特定飞机而对发动机做到微小更改。

There may be a number of variants of a given engine Model (distinguished by different part numbers), which incorporate minor modifications to tailor the engine for particular airframe applications.

注 7/ NOTE 7

扭矩传感器测量的低于标准进气温度和/或其他条件下的最大许用扭矩如下所示/ The maximum allowable torque as measured by the torquemeter for below standard inlet air temperature and/or ram conditions are as follows:

	最大功率/Maximum torque (lb-ft)									
	2 秒/ For 2 sec	10 秒/ For 10 sec	16 秒/ For 16 sec	30 秒 OEI 功 率/At 30 sec OEI power	2 分钟 OEI 功 率/At 2 min OEI power	2½分钟 OEI 功 率/At 2½ min OEI power	30 分钟 OEI/ 中 间 功 率 /At 30 min OEI /Intern power	连 续 OEI 功 率 /At Con OEI power	起 飞 功 率/At Takeoff power	最大连 续 功 率 /At Max Con power
250-C30, -C30S	—	—	877	—	—	627	590	—	590	590
250-C30P	686	637	—	—	—	627	590	—	590	524
250-C47B, -C47B/8, -C47M	686	637	—	—	—	—	—	—	590	524
250-C40B	—	—	521	462	444	—	432	409	409	308

注 8/ NOTE 8

最大最小涡轮转子转速/ Maximum and minimum turbine rotor speeds

	输出轴转速/Output shaft speed				燃气发生器涡轮转速/ Gas producer speed	
	最 大 瞬 时 (不超过 15 秒) /Max transient (up to 15 sec)	最大持续/ Maximum sustained	最 小 瞬 时 (不超过 15 秒) /Min transient (up to 15 sec)	最小持续/ Minimum sustained	最 大 瞬 时 (不超过 10 秒) /Max transient (up to 10 sec)	最大持续/ Maximum sustained
250-C30,-C30P,-C30S,-C47M: 100%输出轴转速 6016rpm 100%燃气发生器涡轮转速 51000rpm/ 100% output shaft speed = 6016 rpm 100% gas producer speed = 51000 rpm	119.0% (7159 rpm)	107.1% (6443 rpm)	71.8% (4319 rpm)	91.5% (5505 rpm)	106%	105%
250-C40B: 100%输出轴转速 9598rpm 100%燃气发生器涡轮转速 51000rpm/ 100% output shaft speed = 9598 rpm 100% gas producer speed = 51000 rpm	118.0% (11326rpm)	106.3% (10194rpm)	71.2% (6834rpm)	90.7% (8715 rpm)	106%	105%
250-C47B,-C47B/8,-C47E/4:	113.3%	102.1%	68.4%	87.1%	106%	105%

100%输出轴转速 6317rpm 100%燃气发生器涡轮转速 51000rpm/ 100% output shaft speed = 6317 rpm 100% gas producer speed = 51000 rpm	(7519 rpm)	(6449 rpm)	(4319 rpm)	(5505 rpm)		
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注 9/ NOTE 9

对于 250-C30 系列、250-C40 系列和 250-C47 系列，外部排气不得超过 4.5%。/

External air bleed may not exceed 4.5 percent for the Models 250-C30 Series, 250-C40 Series and 250-C47 Series.

注 10/ NOTE 10

每型 250 发动机经批准的应急燃油见操作和维修手册（见注 24）。250-C30P 型发动机的应急燃油量不得超过在大修过程中发动机开车不超过 6 小时的燃油量。/

Approved emergency fuels for each of the 250 engine models are provided in the Operation and Maintenance manuals (See Note 24). The Model 250-C30P are limited to the amount of fuel required to operate the engine for not over 6 hours during any overhaul period. 在大修期间，250-C30 和-C30S 型发动机在飞机燃油泵可用并打开时，最多可以应急使用航空汽油 6 小时。/

Emergency use of aviation gasoline is permitted in Models 250-C30, -C30S for a maximum of 6 hours during any overhaul period provided aircraft boost pumps are available and turned on.

在大修期间，250-C40B,-C47B,-C47B/8,-C47M和-C47E/4型发动机最多可以应急使用航空汽油6小时。在加注不同种类燃油时，不需要将不可用燃油吸出。当更换燃油种类时，不需要改变燃油控制程序。

Emergency use of aviation gasoline is permitted in Model 250-C40B, -C47B, -C47B/8, -C47M, C47E4 for a maximum of 6 hours during any overhaul period. It is not necessary to purge the unused fuel from the system before refueling with different type fuels. No fuel control adjustment is required when switching fuels.

不得使用含有Tri-Cresyl-Phosphate添加剂的燃油。每型发动机经批准的防冰添加剂见操作和维修手册（见注24）。/

Fuels containing Tri-Cresyl-Phosphate additives shall not be used. The approved anti-icing additives are provided in the Operation and Maintenance Manual for each engine model (See Note 24).

注 11/ NOTE 11

除了电控的250-C40B, -C47B, -C47B/8, -C47M型发动机，安装其他发动机的特定旋翼机的旋翼系统可以兼容充气蓄压器，双检阀或其他衰减设备。

Pneumatic accumulator(s), double check valve(s) or other attenuating devices can be incorporated for compatibility with the rotor system of the particular model rotorcraft in which the engine is to be installed, except for electronically controlled Model 250-C40B, -C47B, -C47B/8, -C47M.

注 12/ NOTE 12

250-C30, -C30S型发动机装有双套点火系统。其他型号只有单点火系统。1991年12月10日的豁免2087B（从33.69条款），批准了该数据单上获得型号合格证的装有单点火系统的发动机可以安装在所有旋翼机上，无论该旋翼机是按照27部还是29部进行审定的，无论该旋翼机是A类还是B类。

Model 250-C30, -C30S engines are equipped with dual ignition. The all other models have a single ignition system. Exemption No. 2087B (from Part 33.69), dated December 10, 1991, permits the type certification of the engines on this type certificate data sheet with single ignition for use in all rotorcraft, regardless of whether the rotorcraft is certificated under Part 6 or Part 7 of the CAR, or Part 27 or Part 29 of the FAR and regardless of whether the rotorcraft is designated as Category A or Category B.

注 13/ NOTE 13

关键旋转部件的寿命限制见相应的RR操作与维修手册。经销商信息信函（DIL）190和202分别表明了可接受的维修后可以再次服役的一级和二级涡轮盘的裂纹限制。

Life limits established for critical rotating components are published in the corresponding Rolls-Royce Operation and Maintenance Manual. Distributor Information Letters (DIL) 190 and 202 establish acceptable crack limits suitable for return to service of first stage and second stage turbine wheels, respectively, in time continued (repaired) engines.

注 14/ NOTE 14

按照本型号合格证生产的发动机被批准和按照FAA AC33-1B中外物吸入I组和II组进行试验的无保护的进气口一起使用。

Engines produced under this type certificate are approved for operation with unprotected inlets having been tested in accordance with Group I and Group II Foreign Objects Ingestion criteria of FAA Advisory Circular AC 33-1B.

注 15/ NOTE 15

要求安装一个对N2超速控制系统进行按压测试的指示灯。

A press-to-test indicator lamp for the N2 overspeed control system is an installation requirement.

注 16/ NOTE 16

要求安装一个滑油磁堵（碎屑探测）的指示灯。

A magnetic oil drain plug (chip detector) indicator lamp is an installation requirement.

注 17/ NOTE 17

250-C30, -C30S, -C40B, -C47B, -C47B/8, -C47M发动机除了在每个滑油回油泵前没有安装油滤以外，符合33-6修正案的33.17(b),33.67(a),(b), 33.68(a),(b)和33.71(a),(b)。还有，250-C40B发动机符合33-12修正案涉及连续OEI超转的条款：33.7和33.87。250-C40B, -C47B, -C47B/8, -C47M发动机符合33-15修正案涉及FADEC的条款33.28。250-C40B, -C47B, -C47B/8, -C47M发动机符合33-15修正案适用的条款：33.27,33.75,33.89和33.91。

Model 250-C30, -C30S, -C40B, -C47B, -C47B/8, -C47M engines comply with the following sections of Part 33-6: 33.17(b), 33.67(a), (b) 33.68(a), (b) and 33.71(a), (b) except that oil strainers are not incorporated ahead of each scavenge pump. In addition, Model 250-C40B engine comply with the following sections of Part 33-12 related to the Continuous OEI rating: 33.7 and 33.87. Model 250-C40B, -C47B, -C47B/8, -C47M engines comply with section 33.28 of Part 33-15 as related to the Full Authority Digital Electronic Control (FADEC) system. Model 250-C40B, -C47B, -C47B/8, -C47M engines comply with the applicable sections of 33.27, 33.75, 33.89 and 33.91 of Part 33-15.

注 18/ NOTE 18

对于250-C30P发动机，要求符合RR商用发动机紧急服务通告CEB-A-73-3018（解除N2电子超速控制系统）和FAA批准的后续版本。

Compliance with Rolls-Royce Alert Commercial Engine Bulletin CEB-A-73-3018 (Disarm N2 Electronic Overspeed Control System) and any subsequent FAA approved revisions are an installation requirement for the Model 250-C30P engine.

注 19/ NOTE 19**燃油控制最大燃油流量停止设置/ Fuel Control maximum fuel flow stop settings**

	最大燃油流量停止设置/ Maximum fuel flow stop setting (pph)	外场可用的最大燃油流量停止设置/ Available maximum fuel flow stop setting for field use (pph)
250-C30 系列	440	284, 313, 353 and 379

250-C40B,-C47B,-C47B/8,-C47M,-C47E/4	500	—
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注20/ NOTE 20

所有的250-C30系列发动机都有一个#1盘内部能量吸收环，无论是初始制造时安装还是后来更改时安装。

All Model 250-C30 Series engines incorporate an overspeed #1 wheel internal energy absorbing ring, either by initial production or by retrofit.

注21/ NOTE 21

适用于250-C40B和-C47M发动机：外场不允许应用在线软件装载装置。

Applicable to the Model 250-C40B and -C47M engines: Operational use of the on-line software loader in the field is prohibited.

适用于250-C47B，-C47B/8发动机：外场允许应用在线软件装载装置装载软件版本为5.201或后续按照适用的FAA批准的CEB中包含的FAA批准的软件版本。

Applicable to the Model 250-C47B, -C47B/8 engine: Operational use of the on-line loader in the field is approved for Software Version 5.201 or later FAA approved Software Version per applicable FAA approved Commercial Engine Bulletin.

注23/ NOTE 23

适用于安装有EMC-35R控制系统的250-C47B，-C47B/8和-C47M发动机：ECU中一个通道不能复位在维修前可放行150飞行小时。在特定情况下，其他故障可以允许进行一次调机飞行。发动机操作和维修手册中说明了适用的措施。（见注24）。

Applicable to the Model 250-C47B, -C47B/8 and -C47M engines fitted with the EMC-35R control system: Dispatch with an inoperative ECU reversionary channel is approved for up to 150 flight hours before maintenance action is required. A one-time ferry flight with other faults is permitted under certain conditions. See each engine's Operation and Maintenance Manual for applicable instructions (See Note 24).

注24/ NOTE 24**适用文件表/ Applicable Documents Table**

适用文件表/ Applicable Documents Table			
MODEL 250	PARTS LIST	OMM	IDM
C30	4260	14W2	14W5
C30(BO)	Same as 4275 except incorporates Installation Bulletin 3011	14W2	14W5P
C30(HU)	4260	14W2	14W5
C30(WO)	4275	14W2	14W5P
C30P	4275	14W2	14W5P
C30S	4277	14W2	14W5+Suppl A
C40B	4310	CSP21000	CSP24001
C47B	4311	CSP21001	CSP24002
C47B/8	10071	CSP21001	CSP24002
C47M	4313	CSP21004	CSP24003
C47E/4	10084	CSP21017	CSP24040

.... END....