



达索公司的2000S

畅销的猎鹰系列最新变型机“傲视群雄”

作者: Mark Huber

Dassault's 2000S: the latest variant of the popular Falcon

by Mark Huber

自1996年推出猎鹰2000型以来, 达索公司又陆续推出了多种变型机, 这要归功于它的致胜法宝: 将宽敞的机舱、一流的燃油经济性和航程、愉悦的飞行体验和高额的销售价值完美融合。2004年, 这家法国飞机制造商推出了航电系统强化和机舱增压系统升级的2000EX。2007年, 配备新一代EASy数字化驾驶舱的DX震撼面世。2009年面市的LX(装有标准翼梢小翼)不仅突破3000万美元的价格点, 而且能完成航程4000 nm(7400 km)的不间断飞行, 例如从北京飞往阿拉伯湾的阿布扎比。

虽然2000是全球公认的第一架超中型公务机, 但它的实际尺寸还是略显庞大。它的机舱采用了与外形更大的900型和7X型三引擎喷气机一样的机身截面, 而且仅比湾流公司G450型的大型机舱宽10 in(25 cm)、高2 in(5 cm)。所以2000并非真正的超中型公务机, 它的价格(1996年为1810万美元)也体现了这点。当油箱加满并搭载八位乘客时, 其航程可达3400 miles(6300 km)。

继猎鹰2000推出后, 湾流公司的G200和庞巴迪公司的挑战者300先后面市。巴西航空于2002年开始交付莱格赛600。豪客比奇公司也在历经十年研发之后, 于2006年获得了豪客4000的产品合格认证。这些公务机都是各有优缺点的主流机型, 但在平衡性能和经济性方面, 它们都不是2000的对手。

猎鹰2000不仅以其出色的耐久性享誉世界, 而且已通过实际飞行赢得那些需要频繁飞行的企业用户们的青睐。客户能定制自己的机舱, 最多可容纳10人就座。虽然内饰的高度可定制化使整体价格水涨船高, 但这丝毫不影响客户的购买热情, 因为猎鹰品牌的价值主张已深入人心。

而现在却时过境迁。作为进军超中型市场的新机型, 达索公司最近宣布推出升级的2000S型。这种总价2500万美元的

公务机将于2013年投入商业运营, 与总价3210万美元的2000LX相比, 它不仅航程更短(3350 nm 或6,200 km), 而且只采用标准内饰。

据达索公司介绍, “2000S是一种机舱更宽敞的公务机, 而且与其他更小的中型机相比, 它的油耗和运营成本更低。”但2000S绝非精简版和航程缩短的2000LX。这种新型飞机能在2000系列的其他型号此前无法进入的机场顺利起降。原因是机身重量减轻(取消了机身油箱)并增加了内侧缝翼, 这样它就能以更高的飞行高度逼近更短的跑道。缝翼是机翼前缘能慢速展开的可延长部分, 当与自动刹车系统组合使用时, 它能使飞机的进场速度降至108 knots(200 km/h)。

在缩短爬升时间的同时, 飞机在高温条件和高海拔机场起降的性能也得到显著提升。它采用了普拉特·惠特尼加拿大公司制造的PW308C发动机(配备新型Talon II燃烧室), 能减少最多40%的废气排放。据达索公司介绍, 这种先进的发动机搭配2000LX的翼梢小翼时, 其油耗能比其他小型飞机(外形小20%)的降低10%。

2000S的标准内饰采用三种不同的颜色/织物/材料组合和一种座位配置: 10位乘客。前部机舱设有传统的“双人面

性能参数	
价格(2011年):	2500万美元
乘客:	10 人
航程*	3,350 nm (6,200 km)
高速巡航速度	470 knots (870 km/h)
机舱	宽度 7.8 ft (2.33 m)
	高度 6.2 ft (1.88 m)
	长度 26 ft 2 in (7.98 m)

*两名机组人员, 六位体重200磅(81千克)的乘客时。
资料来源: 达索公司



猎鹰2000S的全新驾驶舱将配备达索公司最新研制的EASyII数字航电系统, 它以霍尼韦尔的Primus Epic系统为基础。

The Falcon 2000S is set to enter service next year with a price tag of \$25 million and shorter range than the \$32.1 million Falcon 2000LX. The Falcon 2000S's new cockpit will be fitted with Dassault's latest EASyII digital avionics, which are built on the Honeywell Primus Epic system.

Since the Falcon 2000's introduction in 1996, Dassault has debuted several variants that built on its winning formula of combining a good-sized cabin, attractive fuel economy and range, plus pleasant flying qualities and strong resale value. In 2004, the French manufacturer unveiled the 2000EX, which featured enhanced avionics and a better cabin pressurization system. The DX followed in 2007 with the updated EASy digital cockpit. The LX came in 2009, with standard winglets, and pushed the model past the \$30 million price point while delivering 4,000 nm (7,400 km) of range-enough for a non-stop trip from, for example, Beijing to Abu Dhabi in the Arabian Gulf.

While the 2000 is widely recognized as the first super-midsize business jet, it was really in a niche slightly larger than that. Its cabin, which uses the same fuselage cross section as the company's

AT A GLANCE	
Price (2011)	\$25 million
Passengers:	10
Range*	3,350 nm (6,200 km)
High-speed cruise	470 knots (870 km/h)
Cabin	Width: 7 ft 8 in (2.33 m)
	Height: 6 ft 2 in (1.88 m)
	Length: 26 ft 2 in (7.98 m)

*With two crew, six passengers at 200 pounds (81 kg) per person.
Source: Dassault

larger Model 900 and 7X three-engined jets, is just over 10 inches (25 cm) wider and two inches (5 cm) taller than the tube of a large-cabin Gulfstream G450. In this regard, the 2000 was really more than a super-midsize model and its price (\$18.1 million in 1996) reflected this. Fill it with fuel, load eight passengers in back and you can fly 3,400 miles (6,300 km).

The 2000 was followed into the market by the Gulfstream G200 and Bombardier Challenger 300. Embraer began delivering the Legacy 600 in 2002. After a decade of development, Hawker Beechcraft received certification for the Hawker 4000 in 2006. These are all fine aircraft with differing strengths and weaknesses, but none boast quite the balance of performance and economy that the 2000 offers.

The 2000 also has a reputation for durability and has proven itself with high-use fractional and corporate operators. Customers could custom-order its cabins, which can seat up to 10 passengers. The highly individualized interiors helped to drive up the price, but buyers didn't seem to mind because of the brand's value proposition.

However, times have changed. The 2000S is Dassault's recently announced, value-added entry into the super-midsize market. Slated for service in 2013, the \$25 million model has shorter range

(3,350 nm or 6,200 km) than the \$32.1 million Falcon 2000LX. And unlike the 2000LX, it has standardized interiors.

Dassault claims the 2000S “is a large-cabin aircraft with fuel economy and operating costs that are much less than smaller aircraft in the mid-sized business jet category.” However, the 2000S is more than just a stripped-down and shorter-legged 2000LX. The new aircraft can access airports not previously available to other models in the 2000 series, thanks to its lighter weight—a fuselage fuel tank was removed—and the addition of inboard wing slats that allow it to fly steeper approaches into shorter runways. The slats—extendable portions of the wing's leading edge that can be deployed at slower speeds—combined with standard autobrake cut the approach speed to 108 knots (200 km/h).

Performance on hot days at high-altitude airports also improves, as does time-to-climb performance. The Pratt & Whitney Canada PW308C engines feature new Talon II combustors that cut emissions by up to 40 percent. The tweaked engines, along with the 2000LX's winglets, help the 2000S to burn “10 percent less fuel than aircraft that are 20 percent smaller,” according to Dassault.

The 2000S's interior was standardized into three distinct color/fabric/material combinations and one seating configuration: 10 passengers. The forward cabin features a traditional executive “club 4” seat grouping followed by six smaller single executive seats arrayed in a conference grouping around a table. Dassault claims this is the most popular seating configuration.

Dassault developed the 2000S cabin and modernistic, streamlined cockpit in collaboration with BMW Group DesignworksUSA, the same firm that fashioned highly creative interiors for the Embraer Phenoms and the new optional

interiors for the Falcon 7X long-range aircraft. Dassault and BMW came up with three initial interior designs: Alpine, Sedona and Havana. Alpine contrasts white with dark stone tones, Sedona is a collection of “earthy beige” colors and Havana uses warm browns.

Creative lighting and color contrasts give the illusion that the cabin is even larger than it is. According to the BMW designers, they leveraged their work from the 7X and employed influences from the European furniture and kitchen industry to give the interior a thoroughly modern look. Their biggest challenge was fashioning a solution that cut costs while keeping the premium look and feel of a Falcon.

At first blush, it appears they have succeeded, not just aesthetically but functionally. The new-look passenger seats appear more stylish than those on the previous model and they offer better comfort. The Falcon HD cabin-management system is based on Rockwell Collins' Venue system with all the latest conveniences and features, including Blu-ray, Iridium satellite communications, widescreen HD monitors and the ability to control it all through a passenger's wireless mobile device.

The restyled cockpit will be fitted with Dassault's latest EASyII digital avionics, which are built on the Honeywell Primus Epic system. The equipment includes SmartView synthetic vision, satellite-based augmentation system with precision GPS approach capability, runway navigation display and electronic navigation charts.

The 2000S represents a serious challenge to the super-midsize market. In addition, it is the first aircraft to benefit from design and build efficiencies that could make Dassault's future offerings very price competitive. The design of the fuselage tube on the 2000S may be old but the thinking inside of it definitely is not. □

BUSINESS JET TRAVELER HELPS PASSENGERS MAKE THE MOST OF PRIVATE AIR TRAVEL

This article first appeared in *Business Jet Traveler* magazine—part of the AIN group, which also produces **ABACE Convention News** and many other daily editions at leading air shows around the world, as well as the monthly editions of **Aviation International News**.

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猎鹰2000S的客户可选择三种基本内饰设计方案, 但机舱只提供10人的座位配置。

Falcon 2000S customers can choose between three basic interior designs but in all cases the cabin will seat up to 10 passengers.

对面”座椅区, 然后是六套稍小的单人座椅围绕桌子构成的会议区。达索公司介绍说, 这是目前最流行的座位配置。

达索公司与宝马集团美国设计工作室携手合作, 共同研发了2000S的机舱和现代化的高级驾驶舱。后者还为巴西航空的飞鸿系列以及达索公司的猎鹰7X远程系列公务机设计了极富创意的内饰和最新的可选内饰。达索公司与宝马公司共同提出了三种内饰设计方案: 阿尔卑斯风格、塞多纳风格和哈瓦那风格。阿尔卑斯风格采用黑白对比的石质色调, 塞多纳风格以“土黄色”为主, 哈瓦那风格采用了暖棕色。

乍一看, 他们的目标似乎已经实现。无论从审美角度, 还是在功能性方面都是如此。与旧型号上采用的座椅相比, 拥有全新外观的座椅不仅风格前卫, 而且更舒适。猎鹰高分辨率机舱管理系统以罗克韦尔·柯林斯(Rockwell Collins)公司最新的Venue系统为原型, 包括: 蓝光播放器、铱星通信、宽屏高清显示器, 乘客仅需通过无线移动装置就能控制所有功能。

焕然一新的驾驶舱将配备达索公司最新研制的EASyII数字航电系统, 它以霍尼韦尔公司的Primus Epic系统为基础。全套设备包括SmartView视觉系统、基于卫星且具有GPS精密导航功能的增稳系统、跑道导航显示器和电子导航图。

2000S是超中型市场面临的一个严峻挑战。此外, 它还是第一款得益于达索公司超凡设计和一流生产效率的机型, 而这也会让达索公司未来的产品价格更具竞争力。2000S的机身焊管设计也许略显过时, 但其内含的设计理念绝非如此。

《商务航空旅游》杂志是您私人航空旅行的专业顾问

本文最早刊登于《商务航空旅游》杂志—它是AIN集团旗下的公司, 该集团还出版**《ABACE展会新闻》**, 并提供全球各地知名航空展览的每日简讯, 以及按月发行的**《国际航空新闻》**。

在本届上海举办的亚洲商用航空会议暨展览会(ABACE)上, 您可以选择迄今为止第一本中文版《商务航空旅游》杂志提供的年度购买指南。它旨在为中国的私人飞机用户提供最全面的购买指南, 便于其了解目前市场上最知名的商务机。目前尚无其他私人航空杂志以如此客观、独立的视角提供如此详尽的航空资讯。

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