Dassault Falcon 2000LX

API winglets promise 4,000-nm range at 0.80 Mach with six passengers.

By Fred George

Dassault Aviation is positioning its Falcon 2000LX as a twin turbofan airplane having the cabin comfort, cruise speed and long range to compete head-to-head with large cabin aircraft made by Bombardier and Gulfstream. Until the big twin from Bordeaux was certified in late April, the Falcon 900-series trijets were Dassault's prime competitors in this market segment.

The Falcon 2000LX's 1,000-plus-cubic-foot cabin volume indeed qualifies it as a large-cabin business aircraft, providing up to eight travelers with plenty of comfort on long missions. Assuming Dassault's spec 23,465-pound BOW, it also can fly six passengers 4,000 nm while cruising at 0.80 Mach indicated number (0.79 Mach true) and land with NBAA IFR reserves. That also makes it the least-expensive business aircraft in our 2009 Purchase Planning Handbook that can carry this payload this distance at this speed.

The Falcon 2000LX essentially is a Falcon 2000EX fitted with specially designed Aviation Partners Inc. (API) blended winglets engineered in cooperation with Dassault Aviation's design office that increase range up to 5 percent at normal cruise speeds. Range is boosted up to 7.3 percent at long-range cruise, depending upon the length of the mission. The winglets essentially give the 2000LX cruising at 0.79 Mach the same range as the 2000EX in long-range cruise. They also increase yaw stability, but they don't reduce the aircraft's 35-knot demonstrated crosswind controllability.

Its higher cruise speed enables the Falcon 2000LX to shave almost an hour off the longest trips compared to a Falcon 2000EX flown at long-range cruise over the same distances. As a result, the Falcon 2000LX can fly eight passengers nonstop from Paris to New York, six passengers from Chicago to Genoa or four passengers from London to Mumbai while cruising at 453 KTAS. With optional high-density seating, it even can fly 10 people from Savannah to São Paulo at that speed.

The new model, certified in April 2009, replaces the Falcon 2000EX in Dassault Aviation's product line. It retains the Falcon 2000EX's engines, systems and avionics, along with its type certificate. Dassault Aviation installs the winglets at its Bordeaux-Merignac factory in accordance with two factory modifications bulletins and renames the aircraft

Falcon 2000LX for marketing purposes. API sells retrofit kits for existing Falcon 2000/2000EX aircraft, and these can be installed locally. The current installed price for the kit is $595,000.

Both forward-fit and retrofit winglet kits include an upper wing reinforcing strap to help handle increased torsion and bending loads, hard points on the wingtips for attaching the airfoils, new LED wingtip nav/anti-collision lights and modified slat actuation geometry to prevent binding under loads. The ailerons are drooped 1.5 degrees to improve outboard wing aerodynamics, and slimmer aileron power control actuators are fitted to increase internal wing clearance near the added spar strap. The force laws in the pitch artificial control feel unit are modified to compensate for a change in the aerodynamic center of pressure resulting from installation of the winglets.

The entire winglet kit adds just 250 to 275 pounds to aircraft empty weight, so the Falcon 2000LX remains the lightest weight large-cabin aircraft capable of such speed and range. Lower weight results in lower fuel burns. Having a takeoff weight that is up to 40 percent lower than some competitors, it can save up to 40 percent on fuel bills compared to some large-cabin aircraft.

The winglets have negligible impact on maintenance burden. Scheduled inspection intervals remain unchanged and there only are minor changes to inspection procedures. The Configuration Deviation List in the Airplane Flight Manual has been updated to permit ferry flight to a repair station with a missing winglet in case a damaged winglet must be removed as a result of a mishap.

In mid-July, we had the opportunity to fly the Falcon 2000LX across the North Atlantic from Dassault Aviation's Bordeaux-Merignac factory to its Little Rock completion center, with a refueling stop in Gander, Newfoundland. Here's what we learned on the trip.

Cockpit and Airframe Changes

Prior to flying the Falcon 2000LX, we stopped by FlightSafety International's impressive Paris-Le Bourget learning center, which, in addition to the full line of Falcon Jet simulators and training devices, offers sim instruction on the Citation V/II, Dash 8, Embraer 120, 135/145, 170/190 and the King Air 200. We spent three-plus hours getting reacquainted with the Dassault EASy cockpit, along with Falcon 2000 systems and flight procedures. We started with a review in FlightSafety's Matrix graphical flight simulator and progressed to a Level D full-motion flight simulator, enabling us to rehearse all checklist items from APU start to engine stop.

The EASy familiarization at FlightSafety was especially valuable. The user interface of Dassault's flight deck system is not instantly discoverable for many steam-gauge cockpit veterans. But after we reviewed the design logic and had an opportunity to rehearse programming functions at FlightSafety, it felt very comfortable. Just as importantly, our training session convinced us that once pilots are proficient with EASy, programming task times are shorter than those required in more conventional cockpit designs.

When EASy was first introduced in 2005, though, it fell short of its full potential. Dassault now is upgrading EASy with Phase II hardware and software improvements that will add features and functionality. Pilots will appreciate having the takeoff/go-around flight guidance mode enabled. Automatic Dependent Surveillance — Contract (ADS-C) and Controller to Pilot Data Link Communications (CPDLC) will enable pilots to take advantage of trans-oceanic FANS functions. VHF Mode 2 data link and ACARS also are included to bring up the Falcon Jet family to U.S. and European next-generation air traffic management operability standards.

Phase II also will include WAAS/SBAS GPS receivers that will enable the aircraft to fly LPV and RNP 0.1 approaches. The E-GPWS is being upgraded with Honeywell's runway awareness and advisory system (RAAS) and the autopilot is getting an automatic emergency descent function.

EASy Phase II options will include synthetic vision for the PFDs, data-link weather graphics and electronic charts, among other features. In addition, Dassault is teaming with Rockwell Collins and CMC Electronics to develop an infrared enhanced vision option for the optional head-up guidance system.

FlightSafety also provided us with a complete package of courseware materials, enabling us to learn the aircraft in detail before we first flew it. The courseware is top notch and was used extensively while preparing this report.

From the cockpit, Falcon 2000LX pilots will notice only minor changes from the Falcon 2000EX equipped with EASy. The winglets increase wing span by 3.4 feet per side so flight crews won't notice much difference when maneuvering on airport surfaces. There are no changes in maximum weight limits and airframe systems remain essentially unchanged. The 370 KIAS V_{MO}, 0.862 M_{MO}, flap and gear speed and loading envelopes also are the same as those of the Falcon 2000EX.

The winglets do not have leading-edge ice protection, but test flights demonstrated no loss of stability or control in icing conditions. The only downside is a very slight increase in drag in icing conditions.

To expedite the flight test program and to keep down development costs, Dassault and API opted not to recertify the 2000LX's FAR Part 25 takeoff performance. Landing distances, though, are slightly longer than those of the Falcon 2000EX because of the more than 1 percent increase in aircraft empty weight due to the winglets. Dassault and API

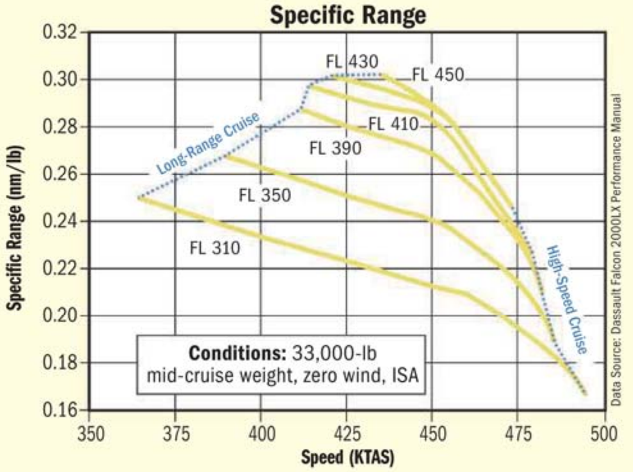
Dassault Falcon Jet 2000XL

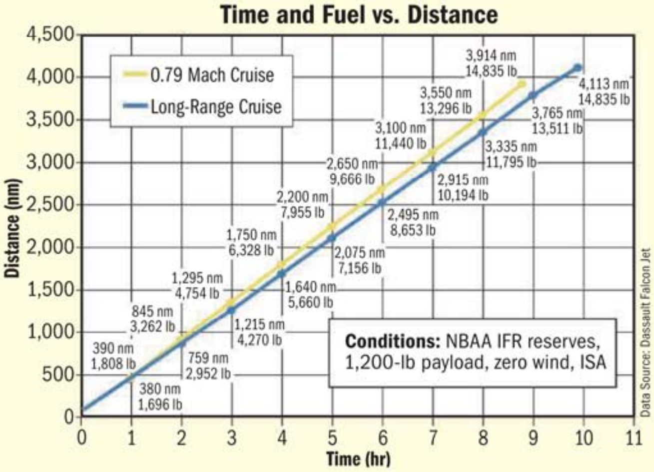
These graphs are designed to illustrate the performance of the Dassault Falcon 2000LX under a variety of range, payload, speed and density altitude conditions. Dassault Falcon Jet's sales engineers provided the data for the Range/Payload Profile. Data for the specific range chart were extracted from the Dassault Falcon 2000LX Performance Manual. Do not use these data for flight-planning purposes because they do not take into account ATC delays, and less than optimum routings and altitudes, along with other factors that can alter actual aircraft performance.

Time and Fuel vs. Distance – This graph shows the relationship distance flown, block time and fuel consumption for a typically equipped aircraft having a 24,275-pound BOW and carrying six passengers. The fuel and distance points were individually computed by Dassault Falcon Jet for each hourly mission. Normal cruise speed is 0.80 Mach indicated (0.80 MI), equivalent to 0.789 true Mach when corrected for instrument error. Long-range cruise speed varies depending upon cruise altitude and actual aircraft weight. It averages 0.738 true Mach for the longest missions. The Falcon 2000LX can fly 199 nm farther at long-range cruise than 0.80 indicated Mach. Dassault believes that most operators will cruise the aircraft at 0.80 MI or higher on all but the longest-range missions.

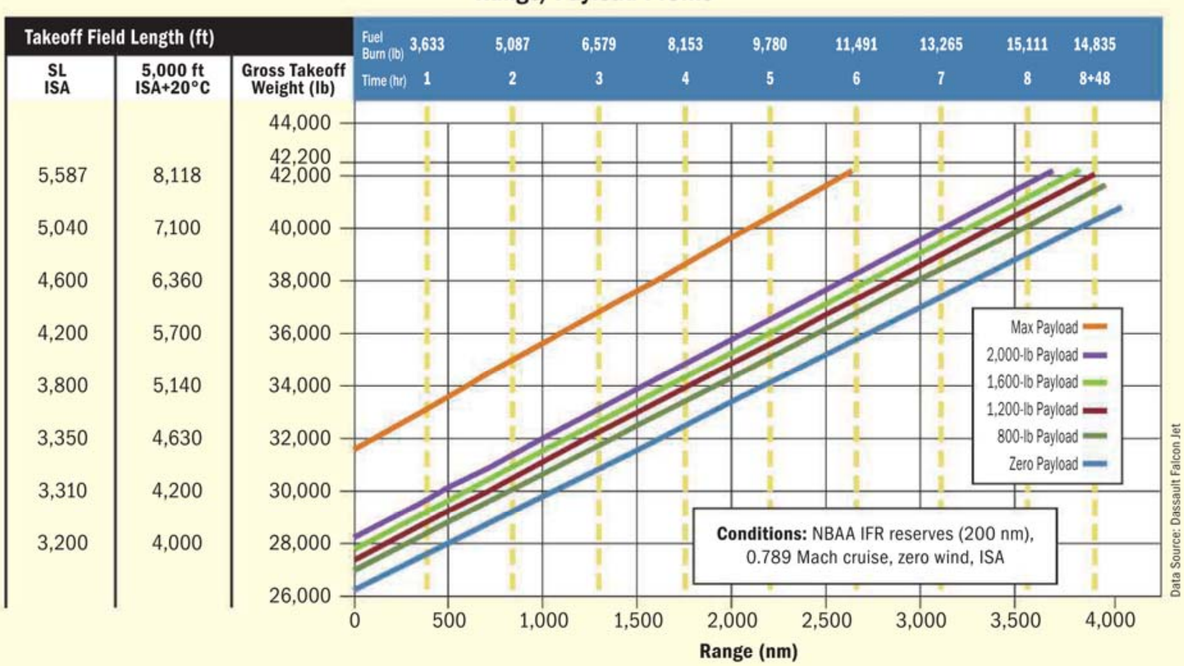
Specific Range (Mid-Range Weight, ISA) – This graph shows the relationship between cruise speed and fuel consumption for the Falcon 2000LX at representative cruise altitudes for a 33,000-pound, mid-weight aircraft, based upon data published in Dassault's Falcon 2000LX Performance Manual DGT 115001. The data indicate that FL 450 is the optimum for fuel efficiency at 0.80 indicated Mach at this weight. During our two evaluation flights we found these data to be accurate, if not slightly conservative at higher cruise weights. Fitted with API winglets, the Dassault Falcon LX provides up to 5 percent better fuel efficiency at 0.80 MI [0.789 true Mach] than the Falcon 2000EX and 7-plus percent better fuel efficiency at long-range cruise.

Range/Payload Profile – The purpose of this graph is to provide simulations of various trips under a variety of payload and two airport density altitude conditions, with the goal of flying the longest distance at 0.80 MI (0.789 true Mach) cruise. Each of the six payload/range lines simply was plotted from beginning and ending data points provided by Bill Miller, chief sales engineer at Dassault Falcon Jet. Do not use these for flight planning as they are gross approximations of actual aircraft performance. The dashed hourly cruise lines were computed individually for each hourly mission and they assume a six-passenger (1,200 pound) payload. Each of the takeoff field lengths assumes a slats plus 20 degrees flaps configuration. When departing BCA's 5,000-foot elevation, ISA+20°C airport, the maximum allowable takeoff weight permitted by the one-engine-inoperative climb requirements is 41,620 pounds. However, this only reduces maximum range with four passengers by 35 miles because the aircraft has a 5,000-foot head start on the climb from the airport to cruise altitude.





Range/Payload Profile



Flying From Bordeaux to Gander to Little Rock

We strapped into the left seat of serial number 201 accompanied by Daniel Acton as pilot-in-command in the right seat and Olivier Perriaud as safety pilot. Bound for Dassault's Little Rock completion center, the aircraft had no exterior paint and no interior furnishings, save insulation, air distribution ducts and floor boards. As a result, the BOW was 22,995 pounds, or 1,280 pounds lighter than a typically equipped aircraft.

We started the APU and manually switched together the left- and right-side electrical buses to power all electrical equipment except for galley power. Acton demonstrated how quickly a proficient pilot can program the FMS using the EASy flight management window graphic user interface. He entered payload, slats plus flaps 10 degrees high-lift configuration, OAT, wind and assigned runway. The FMS combined those data with the BOW and indicated fuel quantity to compute takeoff data. At a weight of 39,340 pounds, the computed takeoff field length was 5,697 feet with 127 KIAS for V_1, 134 KIAS for rotation and 136 KIAS for the V_2 takeoff safety speed. Flap retraction speed was 146 KIAS at the 560-foot msl (400 foot agl) takeoff safety altitude.

He also entered the entire flight plan, including the named fixes and assigned lat/long waypoints for the transatlantic segment. All data were entered in less than five minutes.

Then we ran through the pre-start systems checks, closed the main cabin door and started first the right engine, then the left engine using APU bleed air. Boost pump activation was automatic. The FADECs assured safe and sure engine starts. After that, we shut down the APU and ran through the remainder of the pre-taxi checks.

EASy automates some tasks thereby reducing workload, but doesn't have an interactive checklist function. Thus, if the crew elects to use the electronic checklist, virtually every item must be checked off to confirm that all tasks have been completed in the cockpit.

With ample residual thrust at idle, it took very little additional thrust to move the aircraft out of the chocks. Therefore, we needed to use the brakes frequently to check taxi speed en route to 10,000-foot-long Runway 23. The digital nosewheel steering, controlled by the left-side tiller wheel, was precise and smooth. So was the action of the brake-by-wire system with its carbon multi-disc wheel brakes.

The aft shift in center of pressure resulting from installation of the winglets results in more nose-down pitch force than on the Falcon 2000EX. To compensate, Acton recommended setting the pitch trim close to the nose-up limit for takeoff. When cleared for takeoff, we released the brakes and pushed up the throttles to the takeoff position. Reflecting the aircraft's 2.8:1 weight-to-thrust ratio, acceleration was more stately than searing.

We rotated at 127, lifted off, retracted the gear and "cleaned the wing" at 150 KIAS at 400 feet. We accelerated to 200 KIAS for the climb out of the Class D airspace. We also pulled back the throttles to the max climb detent and engaged the auto-throttles. The A/T system substantially reduces pilot workload, especially after level-off where it precisely maintains the desired high-altitude cruise speed.

Hand-flying the aircraft during the initial climb-out reminded us that Dassault sets the highest standards for handling qualities. Control forces were light and speed proportionate, well harmonized in all three axes. Configuration changes produced very little pitch force change. There was

Dassault Falcon Jet 2000XL Specifications

BCA Equipped Price	$30,765,000
Characteristics	
Wing Loading	80.0
Power Loading	3.01
Noise (EPNdB)	80.7
Seating	2+8/19
Dimensions (ft/m)	
External	
Length	66.3/20.2
Height	23.2/7.1
Span	70.2/21.4
Internal	
Length	26.3/8.0
Height	6.2/1.9
Width (maximum)	7.7/2.3
Width (floor)	6.3/1.9
Thrust	
Engine	2 PWC PW308C
Output (lb each)	6,998
Flat Rating OAT°C	ISA+15°C
TBO	7,000 hrs.
Weights (lb/kg)	
Max Ramp	42,400/19,233
Max Takeoff	42,200/19,142
Max Landing	39,300/17,826
Zero Fuel	29,700/13,472c
BOW	24,275/11,011
Max Payload	5,425/2,461
Useful Load	18,125/8,221
Executive Payload	1,600/726
Max Fuel	16,660/7,557
Payload with Max Fuel	1,465/665
Fuel with Max Payload	12,700/5,761
Fuel with Executive Payload	16,525/7,496
Limits	
MMO	0.862
FL/VMO	FL 250/370
PSI	9.3
Climb	
Time to FL 250	15 min
FAR 23 CC OEI rate (fpm)	490/149 mpm
FAR 23 CC OEI gradient (ft/nm)	216/36m/km
Ceilings (ft/m)	
Certificated	47,000/14,326
All-Engine Service	43,700/13,320
Engine-Out Service	26,150/7,971
Sea Level Cabin	25,300/7,711
Certification	FAR Part 25, 2003/2009

Our recent experience in the Falcon 2000LX reminded us that Dassault business aircraft have impeccable handling manners. The aircraft makes average pilots look like top pros.

virtually no on-center stiction in the control linkages and the airplane was stable though agile. It's readily apparent that Falcon Jets do share family DNA with Dassault's Mach II-class fighters.

There was no opportunity to perform a full range of stability and control checks on the flight, but we briefly explored the Falcon 2000LX's roll response and yaw stability characteristics with its new winglets. The aircraft has lost virtually none of the exceptional handling traits of the Falcon 2000EX.

Notably, during previous evaluation flights in large-cabin Falcon Jets having the same wing contours as the Falcon 2000LX plus similar aerodynamic characteristics, we've both dived an experimental-use, factory test aircraft to 0.99 MI and flown S-turns in it while in a full stall. The aircraft exhibited no loss of composure at any time, leading us to conclude that Dassault's published flight envelope chart has very forgiving high- and low-speed limits.

Above 10,000 feet, we engaged the autopilot and let the flight guidance system fly the aircraft up to FL 380, using the normal 260 KIAS/0.75 MI climb schedule. There were numerous ATC-directed intermediate level-offs, so we couldn't accurately measure the difference in climb performance between the Falcon 2000LX and its predecessor.

After cruising at FL 380 for six minutes, we were cleared to FL 400. Once stable at that altitude, we checked actual true airspeed and fuel flow against book predictions. At a weight of 35,600 pounds, the aircraft burned 1,770 pph while cruising at 0.80 MI, equivalent to 457 KTAS at ISA+6°C. In contrast, the Falcon 2000LX Performance Manual predicted a fuel burn of 1,818 pph under the same conditions. Acton commented that production aircraft at heavy weights appear to perform slightly better than book predictions. At light weights, he said actual performance mirrors book values.

Fifty minutes after takeoff, we climbed to FL 430 for the transatlantic crossing. That put us on top of RVSM airspace and above the North Atlantic Track (NAT) routes published daily by Shanwick and Gander oceanic control centers.

Acton taught us a useful situational awareness lesson with the FMS. From Gander, our destination airport, Action programmed a very circuitous secondary flight plan to Halifax, our alternate airport, using all the waypoints published that day for the NATs. When the secondary route appeared on the EASy MFD, it showed us our proximity to the NATs, just in case we had to descend through them and divert to an emergency airfield.

Three hours into the flight over the mid-Atlantic, we again checked speed vs. fuel flow. Actual aircraft performance was a virtual dead match for book performance. While cruising at 0.80 MI at a weight of 33,000 pounds in ISA-11°C conditions, actual fuel flow was 1,525 pph. The performance book predicted 1,540 pph under the same speed, weight, altitude and temperature conditions.

Approaching the east coast of Newfoundland, we began our descent. We switched off the autopilot to hand-fly the aircraft for the approach. During the descent, we checked the action of the spoilers. The first position, extending the center of three panels on each wing, produces mild buffet. The second position, deploying all six panels, produces moderate buffet. That bears attention because the winglets substantially increase glide ratio, so the flight crew must carefully plan the descent to make altitude crossing restrictions.

Meanwhile, Acton completed the approach checklist. At a landing weight of 29,500 pounds and based upon using the SF3 high-lift configuration (slats plus flaps 40 degrees), the EASy performance computer pegged VREF at 119 KIAS and predicted a landing distance of 2,944 feet.

Cleared to land on Runway 21, we slowed the aircraft to 200 KIAS to extend slats and flaps 10 degrees. At 190 KIAS, we extended the landing gear at VLO. The exposed wheel wells produced significant wind noise. Acton said it's better to decelerate below 160 KIAS to minimize noise in the cockpit and cabin. Five miles out, we extended the flaps to 20 degrees and began to slow to final approach speed. At 140 KIAS, we extended flaps 40 degrees and slowed to Vref about two miles from the threshold.

After flying the Gulfstream II and BBJ fitted with after-market Aviation Partners winglets, we were wary of the potential float in ground effect caused by their additional lift. So, crossing the threshold at 50 feet, we briskly reduced thrust to idle and let the aircraft decelerate. Even so, there was plenty of residual lift to cushion the touchdown at VREF -10 knots. Falcon 2000LX may have straight-leg main struts, but it landed as though it had long-travel, trailing-link landing gear.

We landed in Gander five hours, 34 minutes after departing Bordeaux, covering the 2,476-nm equivalent still air distance at an average speed of 437 KTAS.

After a quick top-off at Avitat and resisting the temptation to indulge at the FBO's complimentary ice cream counter, we hopped aboard s.n. 201 for the second leg to Little Rock. With central Arkansas less than five hours away, we added 700 gallons of fuel, bringing the tanks to 11,000 pounds. Under ideal conditions, the lightweight, "green" aircraft could have flown Bordeaux to Little Rock nonstop.

The Falcon 2000LX has a rather airliner-like 3.01:1 weight-to-thrust ratio at MTOW. But its takeoff weight was only 33,900 pounds as we rolled onto Gander's Runway 21. That weight endowed it with a Learjet-like 2.4:1 weight-to-thrust ratio. After rotation, we pulled up the nose to 20 degrees, popped up above the Class

D airspace and settled into a 5,000-plus fpm climb at 250 KIAS. Thirteen minutes after leaving Gander, we were level at FL 430.

On this leg, we requested FL 470 from ATC once the aircraft weight decreased to 30,300 pounds. While climbing to this altitude certainly gives one bragging rights over more matronly performing large-cabin aircraft, it yields little or nothing in fuel efficiency improvement compared to flying at FL 450. However, Acton commented that the extra 2,000 feet of altitude capability may enable an operator to experience more favorable winds. Such was not the case the day we flew this aircraft. The headwinds were virtually the same from FL 430 to FL 470.

Four hours, 45 minutes after departing Gander, we landed at Little Rock.

The Falcon 2000LX can carry seven passenger with full fuel.

Price, Performance and Value

The accompanying Comparison Profile tells much about the relative performance characteristics and capabilities of the Falcon 2000LX. The Falcon's cross section is slightly above average for a large-cabin aircraft, but the overall length is 6.6-feet shorter than the mean of the five aircraft in the sample.

The Falcon 2000LX can carry seven passengers with full fuel. The composite average can tote eight in the cabin, plus 105 pounds of extra baggage. Independent of price, the chart indicates that its main strengths are its structural efficiency, its high-altitude cruise capability and its fuel economy.

But when the Falcon 2000LX's 4-percent price advantage is considered, it comes into a class of its own. Relative to the price index line, the aircraft excels in all but three areas.

In addition, the Comparison Profile doesn't examine many other factors, particularly those revealed when flying the aircraft. Our recent experience in the Falcon 2000LX reminded us that Dassault business aircraft have impeccable handling manners, ones that we and others believe are unmatched in the business aircraft industry. The aircraft makes average pilots look like top pros.

Composite averages notwithstanding, potential new airplane buyers also want to know how the Falcon 2000LX fares head to head against archrival Bombardier 605, especially as the French-built jet, when comparably equipped at about $30.765 million, is about $2 million more expensive than its Canadian competitor.

The Challenger 605's cabin is six inches wider and has a considerably wider floor. The Falcon 2000LX, though, has one foot more net cabin length. The Bordeaux twin-jet also has a 9.8-percent lighter BOW than its Montreal rival, a more-efficient wing, a 6,000-foot higher maximum cruising altitude and considerably better fuel efficiency on the longest trips.

However, that doesn't make the Falcon 2000LX a clear winner vs. the Challenger 605 in a speed/payload/range contest. As shown on the accompany charts, the Falcon 2000LX can carry six passengers 3,914 nm while cruising at 0.79 Mach. Bombardier claims its Challenger 605 can carry the same 1,200-pound payload an equal distance at 0.77 Mach. That slim 11.5-knot cruise speed difference means the Challenger 605 will arrive less than 20 minutes behind the Falcon 2000LX.

Such long-range mission comparisons assume both aircraft fly ideal vertical profiles and lateral routes, optimized for the shortest equivalent still air distance considering the winds. In the real world, the advantage goes to the Falcon 2000LX. Crossing the North Atlantic, it can climb above RVSM airspace and the NAT lanes even on warm days, so transatlantic flight plans can be tailored for best routing and shortest time.

The Challenger 605, in contrast, has a 38,250-foot service ceiling on a standard day and on warm days it cannot initially climb above the mid-thirties. In addition,

The Challenger 605's cabin is six inches wider and has a considerably wider floor than the Falcon 2000LX (above). However, the Falcon 2000LX has one foot more net cabin length.

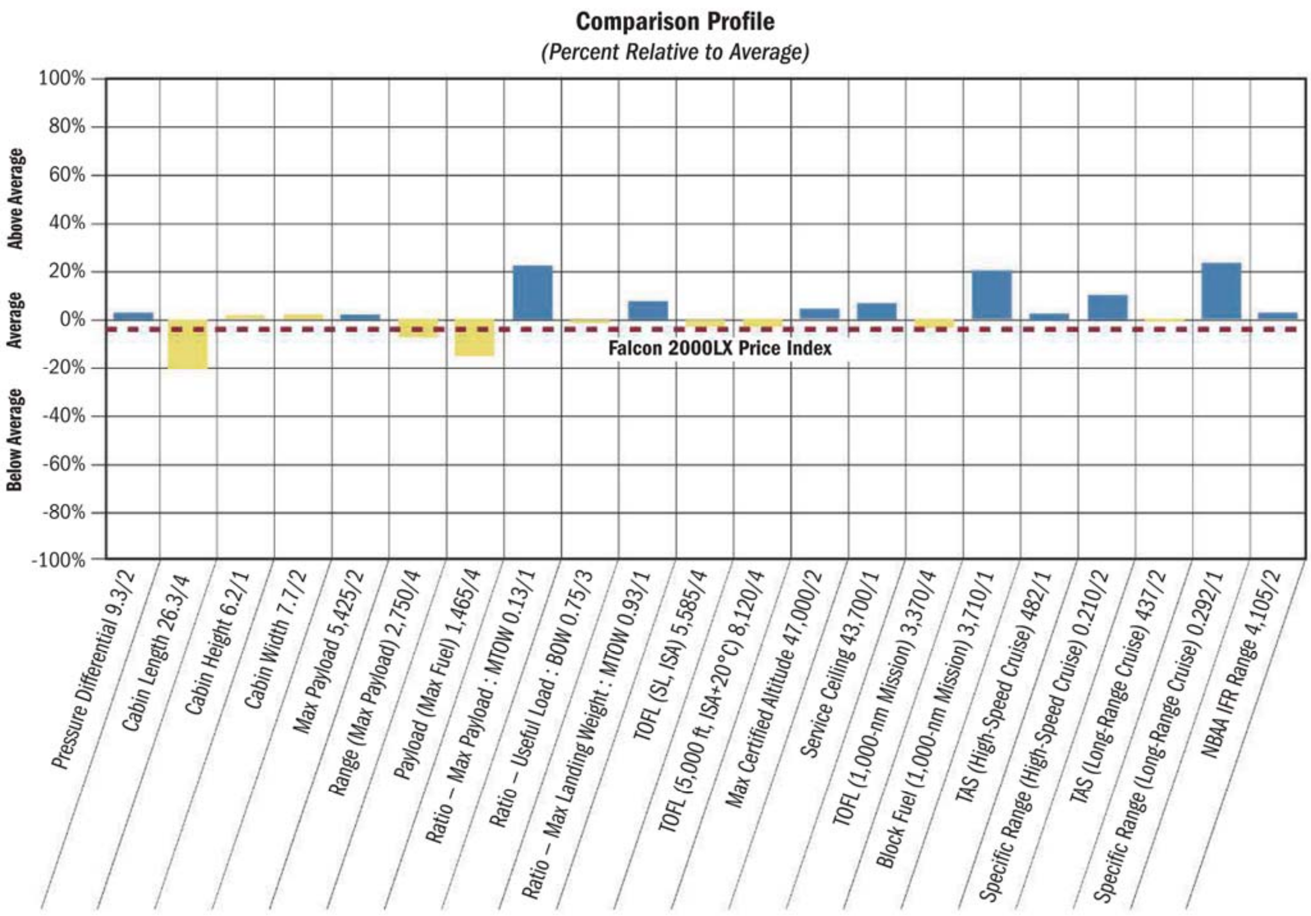
its maximum certified altitude is 41,000 feet. That confines it to RVSM airspace and, most often, the NAT lanes when it's flying between North America and Europe.

The ride at FL 450 and above usually is a lot smoother than it is at FL 410 and below when flying between North America and Europe based upon our experience. But that's a subjective observation.

The Falcon 2000LX and Challenger 605 also have different airport and climb performance capabilities, plus a spread in fuel efficiency. While the Challenger 605 needs only slightly more runway than the Falcon 2000LX when departing a sea-level, standard-day airport, the Falcon 2000LX's better wing aerodynamics and better performing engines produce a tangible advantage as airport density altitude increases. Taking off from our 5,000-foot elevation, ISA+20°C airport, for instance, the Falcon 2000LX has an 8,120-foot TOFL while the Challenger 605 needs 9,165 feet of runway.

Operators, though, fly a variety of mission profiles, some long and several short. The Challenger 605 has earned a reputation as an efficient short-range mission performer. Under ideal conditions, the Falcon 2000LX can fly faster and burn less fuel on our 300-, 600- and 1,000-nm four-passenger missions. However, if ATC restricts climb and cruise altitudes, the speed and fuel burn differences between the two aircraft shrink considerably.

Dassault is betting that customers will perceive that the Falcon 2000LX is a better value than other large-cabin aircraft because of its blend of airport, climb, speed and payload performance, along with its cabin comfort and fuel efficiency. Metrics alone indicate that the aircraft will be a strong contender in the large-cabin class, as shown by the accompanying charts. More subjectively, though, the handling manners and fighter heritage of the Falcon 2000LX have the appeal of a prime vintage Premier Grand Cru St. Emilion. By either measure, the Bordeaux blue blood should be a formidable competitor in its class. ■



Designers attempt to give exceptional capabilities in all areas, including price, but the laws of physics, thermodynamics and aerodynamics do not allow one aircraft to do all missions with equal efficiency. Trade-offs are a reality of aircraft design.

In order to obtain a feeling for the strengths and compromises of a particular aircraft, BCA compares the subject aircraft's specifications and performance attributes to the composite characteristics of other aircraft in its class. We average parameters of interest for the aircraft that are most likely to be considered as competitive with the subject of our report, and then we compute the percentage differences between the parameters of the subject aircraft and the composite numbers for the competitive group as a whole. Those differences are presented in bar graph form along with the absolute value of the specific parameter for the subject aircraft and its ranking relative to others in the composite group.

For the Falcon 2000LX Comparison Profile, we compared the aircraft to a composite group of four aircraft including the Bombardier Challenger 605, Embraer Legacy 600, Falcon 900DX and Gulfstream 450. Please note that the Comparison Profile is meant to illustrate the relative strengths and compromises of the subject aircraft, rather than being a means of comparing specific aircraft models to each other.