Business & commercial Aviation
PILOT REPORT

Analysis: Learjet 60

The largest Learjet lives up to the performance legacy of its much smaller ancestors.

By FRED GEORGE

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The 12-year wait finally is over. Business aircraft operators have been chomping at the bit for more than a decade, awaiting the arrival of a large cabin Learjet that would measure up to the performance legacy of its muscular predecessors. The Learjet 60 finally is here, with performance, cabin size and fuel efficiency that was well worth the wait.

Why so long a delay? Learjet simply did not have the money to develop an airplane to succeed the Model 55C, which had been the firm's roomiest business airplane. Lean times caused the large Learjet development program to be postponed during the 1980s.

Changes started to happen rapidly, however, in spring 1990 when Montreal transportation equipment conglomerate Bombardier bought Learjet Incorporated. Well before the ink was dry on the acquisition agreement, Learjet launched the ambitious $100 million Learjet 60 development program, with the goal of certifying it by January of this year.

The development delay had major unanticipated benefits, since it allowed Learjet engineers to take advantage of new technology aerodynamic design tools along with next-generation turbofan engines and avionics.

The result? The new Learjet 60 is markedly superior to the Model 55C. For example, when loaded to maximum takeoff weight (MTOW), the Learjet 60 will climb directly to FL 430 in less than 14 minutes. This is not the result of simply bolting huge engines onto a stretched Model 55C airframe. The Learjet 60's performance results from a balanced blend of more thrust—especially at cruise altitude—better specific fuel consumption and more refined aerodynamics when compared with the Model 55C.

No business jet with a competitively sized cabin can beat the Learjet 60 at the fuel pump; its block-to-block fuel consumption almost equals that of the notoriously fuel-miserly Learjet 35A/36A business airplanes. Compared with the Model 55C, some operators are chalking up 10 to 12 percent lower fuel consumption numbers, according to Learjet.

Just as importantly, the Learjet 60's longer cabin, now comfortably seating six or more people, makes the airplane a real contender in the highly competitive midsize business jet class.

EVOLUTIONARY, BUT SUBSTANTIVE PHYSICAL CHANGES

The newest Learjets sport one additional cabin window on each side of the aircraft, as compared to the Learjet 55. That is a byproduct of stretching the fuselage 28 inches forward of the wing. To balance the airplane, the aft fuselage was lengthened 15 inches.

The cabin door was moved forward more than eight inches, but that change is tough to notice without a tape measure—at least until passengers board the airplane. Together with the fuselage stretch, the repositioned cabin door makes a big difference in cabin comfort.

The size of the vertical and horizontal stabilizers is identical to the Learjet 55's. To preserve the same nose-down pitching moment, the area of the ventrally mounted anhedral "delta fins" was increased 20 percent. The Learjet 60 has a slightly narrower c.g. envelope than its predecessor, but its higher basic operating weight actually makes it easier to load the airplane within the weight and balance envelope. While remaining within the c.g. limits, the airplane can carry full fuel and six passengers or virtually any combination of fuel and payload.

Larger delta fins also help improve the directional stability of the Learjet 60 compared to the Learjet 55C, which itself has earned high marks for docile handling. Overall, the Learjet 60 is more stable than the Model 55C, according to the firm's flight test engineers.

The Learjet 60 retains the basic airframe structure of the Model 55, but it was the first business aircraft to have its shape honed by using the NASA/Boeing Tranair computational fluid dynamics (CFD) software. Modelling aircraft transonic airflow, the Tranair CFD program identifies the local Mach number at any point on the airframe. That allows designers to spot excessively strong local shock waves that cause excessive drag.

Starting in September 1990, Learjet invested in 50 hours of NASA Ames computer time that slashed overall cost and time from the development program. Among other things, the computer indicated that a small cusp had to be added to the leading edge section of the wing root in order to reshape the upper wing surface. The wing-to-fuselage fairing was also modified to lower interference drag. Ogee-shaped trailing edge extensions were added to the winglets near the root sections partially to decamber the winglet airfoil. Modifications also were made to the shape of the engine pylons.

Changes yielded almost four percent less drag in cruise, allowing the aircraft to climb to a higher initial cruise altitude and burn less fuel.

NEW GENERATION TURBOFANS

The Pratt & Whitney Canada PW305A engines, having a substantially larger nacelle diameter than the AlliedSignal TFE731-3AR-2B turbofans on the Learjet 55C, produce significantly more drag. To preserve the same wing and fuselage clearances as on the Learjet 55, the nacelles have been moved up and out, thereby preventing an increase in interference drag.

The engines enclosed within those nacelles represent a new generation of turbofan powerplants designed for business aircraft. The PW305As have a wide chord fan with improved aerodynamics, a fan-to-core bypass ratio of more than 4.5:1 and a core compression ratio of almost 18:1. The engine has a standard-day output of 5,225 pounds-thrust, but each is flat-rated to 4,600 pounds-thrust in the Learjet 60. Rohr target-type, hydraulically actuated thrust reversers are standard equipment, but certification is not scheduled to be completed before August.

The engines' conservatively flat thrust rating assures excellent hot-high airport performance, an initial TBO of 4,500 hours and, according to Learjet engineers, helps make possible the quietest FAR Part 36 takeoff noise signature of any business jet yet certified. (The final Part 36 noise levels are significantly improved over the preliminary levels shown in B/CA's *1993 Planning & Purchasing Handbook*.)

Full Authority Digital Engine Controls, or FADECs, control the engines. These electronic engine computers use a dual channel, control-by-wire design. The thrust levers are electrically, not mechanically, linked to the engines, and they send electrical signals to the FADECs. In turn, the FADECs control all engine functions.

The thrust levers have gated detents for idle cutoff, idle, maximum cruise thrust, maximum continuous thrust, takeoff thrust and automatic power reserve thrust. Auxiliary power reserve (APR) does not increase the PW305A's thrust output, but it makes the full 4,600 pounds available at higher ambient temperatures.

As we explained in the September 1992 issue of B/CA,the FADECs slash pilot workload from setting takeoff power amounts to simply pushing the thrust levers forward into the detent marked "Takeoff." After departure, the thrust levers are pulled back one notch into the maximum continuous thrust detent for climb-out. During the climb, the engine computers handle all aspects of engine management. The pilot needs only to pull the thrust levers back to an appropriate intermediate cruise thrust setting after reaching level-off altitude.

SYSTEMS AND ERGONOMIC IMPROVEMENTS

Pilots of early Learjets, especially the 20-series models, are accustomed to a rather quaint, seemingly "designed by expedience" array of cockpit controls and gauges.

The Learjet 60's cockpit, along with that of the Learjet 31A, offers a refreshingly modern contrast now that functional layout and easy access have become top design priorities. Customers had plenty of input before any cockpit metal was cut for the Model 60. Much less cockpit clutter is the result.

The instrument panel is dominated by four large-format electronic displays that replace a dozen and a half separate indicators, including the radar display. A pair of radio tuning units control all the comm/nav/ident avionics, except the HF that has its own control head in the console. As with all previous Learjets, there is no overhead panel.

Similar to previous models, the Learjet 60 has round, two-inch analog display engine instruments, but the new design gauges have digital innards for reliability and secondary digital displays for precision readability. To alert the crew to emergency and abnormal conditions, red Master Warning lights and amber Master Caution lights are included in the annunciator panel.

The system controls and circuit breakers are grouped together in functional sections that are outlined and labeled by name. On the console, the fuel system control panel uses a schematic graphic design that has dark face annunciators. They illuminate only when needed to alert the pilots to an other-than-normal condition or transient function. A digital wings/fuselage tank/total fuel quantity indicator is mounted in the instrument panel.

Many other controls and indicators also have been updated, including a composite electrical system indicator that replaces the array of gauges found in the Model 55C.

Overall, the layout of left- and right-side controls puts them within easy reach of the pilot and copilot, according to duty assignments. All major systems controls and indicators are close enough to the center so that both pilots can monitor them.

The systems themselves also have been upgraded, and here are some examples: The wheel brakes on the dual wheel main landing gear are more powerful, and they use improved alloy steel disks that dissipate heat better and are not subject to warping or cupping. A full-time, speed-proportionate steer-by-wire nosewheel steering system helps to make the airplane easy to handle on the ground. The stall warning system has been replaced by a true angle-of-attack reference system that is fully compensated for configuration changes. The spoilers now can be deployed in small increments, rather than being either fully extended or retracted.

An added rudder boost system yields a two-fold benefit. Compared to the Model 55, the system reduces the rudder pedal pressure by up to 75 pounds, and it slightly increases the rudder authority.

The cabin environment now is easier to control. A new, fully automatic AlliedSignal digital cabin pressurization system requires only one input: destination airport elevation. The Freon air conditioning system has been made more efficient by increasing the ambient air flow through the tailcone, where the condenser is located. Defogging of the windshields is accomplished by electric heating rather than by defog air.

Learjet is developing an auxiliary power unit installation as part of an FAA contract for two special configuration Learjet 60 airplanes that will be delivered in 1995. No firm date or price has been set regarding the availability of an APU for regular production airplanes. However, Learjet engineers would like to persuade Williams Research to develop the new APU because it looks like a lighter, more efficient candidate than existing APUs that might otherwise be installed in the Learjet 60.

COLLINS PRO LINE 4 AVIONICS

The Learjet 60's integrated Pro Line 4 avionics system is based on a hub-and-spoke design. An Integrated Avionics Processing System (IAPS) box forms the hub, and ARINC 429 interfaces comprise most of the spokes leading out to various components, controls and displays.

Among other components, the central IAPS computer box contains flight guidance components and an FMS. The Collins FMS uses DME for short-range navigation and a VLF/Omega sensor as the standard long-range navaid.

The standard package contains dual attitude-heading reference systems (AHRS), dual digital air data computers, dual comm/nav/ident radios (including an AlliedSignal HF comm transceiver), a single Collins FMS with a Canadian Marconi VLF/Omega sensor, a radio altimeter and a solid-state weather radar. Optional components are, among others, a Canadian Marconi combination VLF/GPS sensor, Collins TCAS, a TWR-850 solid-state Doppler turbulence detection weather radar and various second system backups.

The Collins FMS is well-suited to long-range en route navigation, but not terminal area and approach navigation tasks. The FMS has no vertical navigation mode, contains no SIDs or STARs and has no holding pattern, roll-steering command guidance mode. A second Collins FMS is available as a $101,700 option. Upgrades to the Collins FMS are under study.

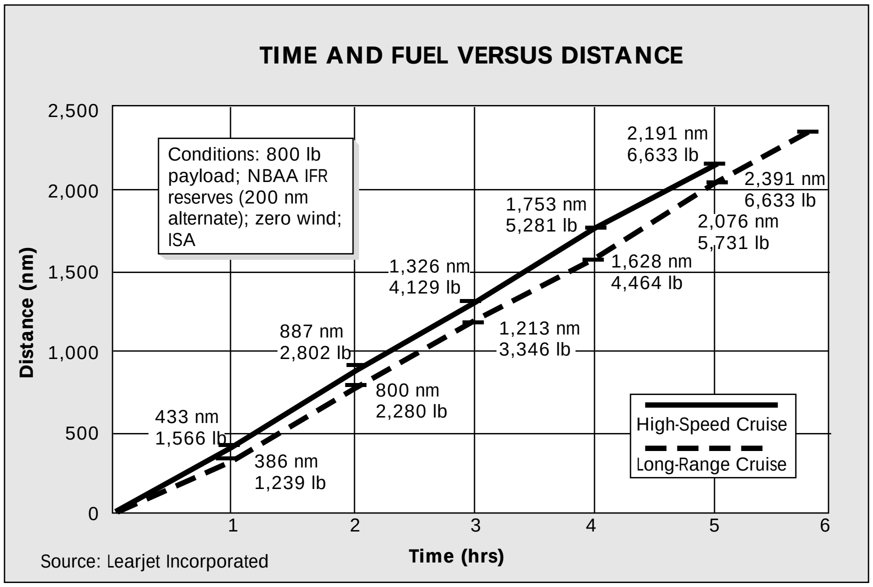
Learjet will offer dual Universal Navigation UNS-1B FMS boxes starting with serial number 17 for an additional $167,400 in October. The UNS-1B also will be offered as a retrofit package. The UNS-1B, in contrast to the Collins FMS, is a full-function system that offers SIDs, STARs, multiple waypoint vertical navigation and holding pattern guidance among its range of features.

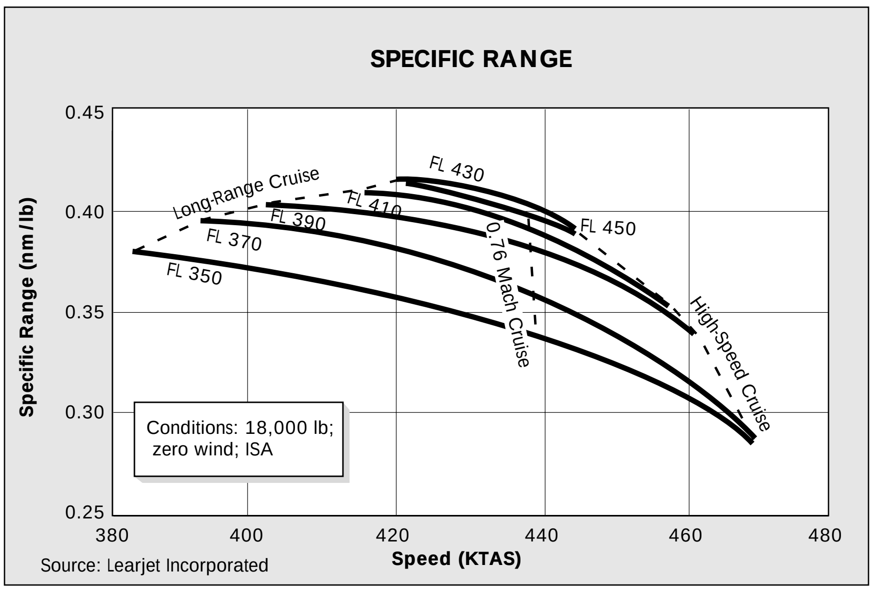
Largely because of the human factors design features of the large format CRT displays, the Learjet 60 is easier to fly than the Model 55. The Primary Flight Displays—incorporating airspeed, attitude, altitude and course guidance functions—make effective use of color and pattern visual cues. The rolling drum type airspeed scale, for example, has a magenta trend vector bar that shows if the airplane is accelerating or decelerating. In our opinion, the airspeed trend vector is the next best thing to auto throttles because it makes it easy to spot small deviations in speed.

The altitude scale also uses a rolling drum type display, but it has an expanded scale that makes it easy to spot small deviations. Color bars and graphs alert the pilot when the airplane is approaching a preset baro altitude or flight level and when the aircraft nears a preset altitude-above-terrain on the radio altimeter.

The Navigation and Multi-Function Displays graphically show weather radar, moving map and waypoint information as well as alphanumeric data. Everything that appears on the electronic displays is easily interpreted, easing the transition for pilots who are new to the Learjet 60.

It takes time, though, to learn how to program the electronic displays since it is first necessary to master the nuances of the console-mounted AMS-850 Control





Learjet 60

These graphs present range, fuel and payload information that is designed to show the capabilities of the Learjet 60. Do not use these data for flight-planning purposes.

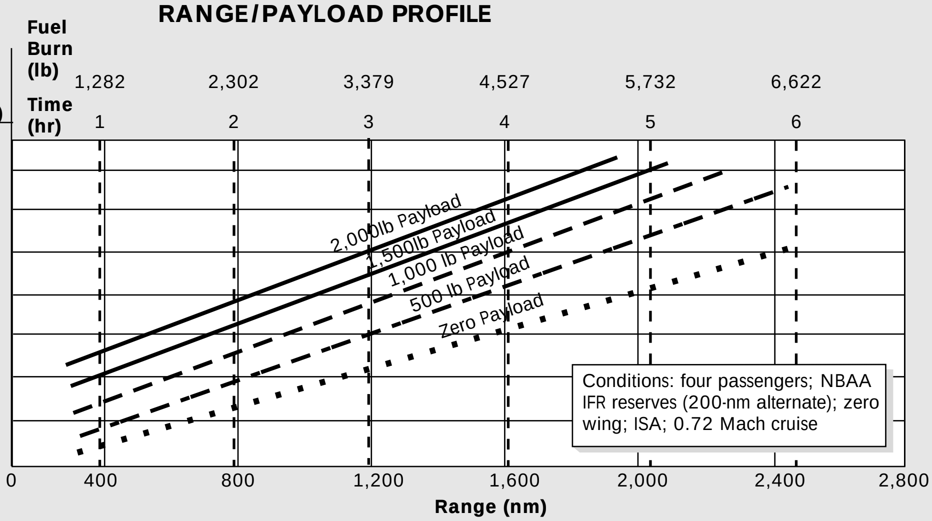
Time and Fuel Versus Distance—This graph shows the plot of two missions: the first flown at high-speed cruise and the second at long-range cruise. The numbers at the hour lines indicate cumulative miles and fuel burned for each of the two profiles. While the intermediate points on these lines are accurate only for the full trip, they can provide the user with a rough idea of the time and fuel required for trips of intermediate length.

Specific Range—The specific range of an aircraft, a measure of its fuel efficiency, is the ratio of nautical miles flown to pounds of fuel burned (nm/lb). Higher specific fuel consumption (SFC) numbers indicate better fuel efficiency. This graph shows SFC values at six altitudes for the Learjet 60 at an intermediate 18,000-pound cruise weight. For example, while flying at FL 350 the specific fuel consumption at high-speed cruise is 0.281 nm/lb and at long-range cruise it is 0.383 nm/lb. A close look at the charts reveals that fuel efficiency actually drops above FL 430, which in part indicates that flight at higher altitudes should be attempted at lower weights, if fuel efficiency is the goal. The Learjet 60 at 18,000 pounds achieves a long-range SFC of 0.410 nm/lb at FL 430, for example, but only 0.404 nm/lb at FL 450.

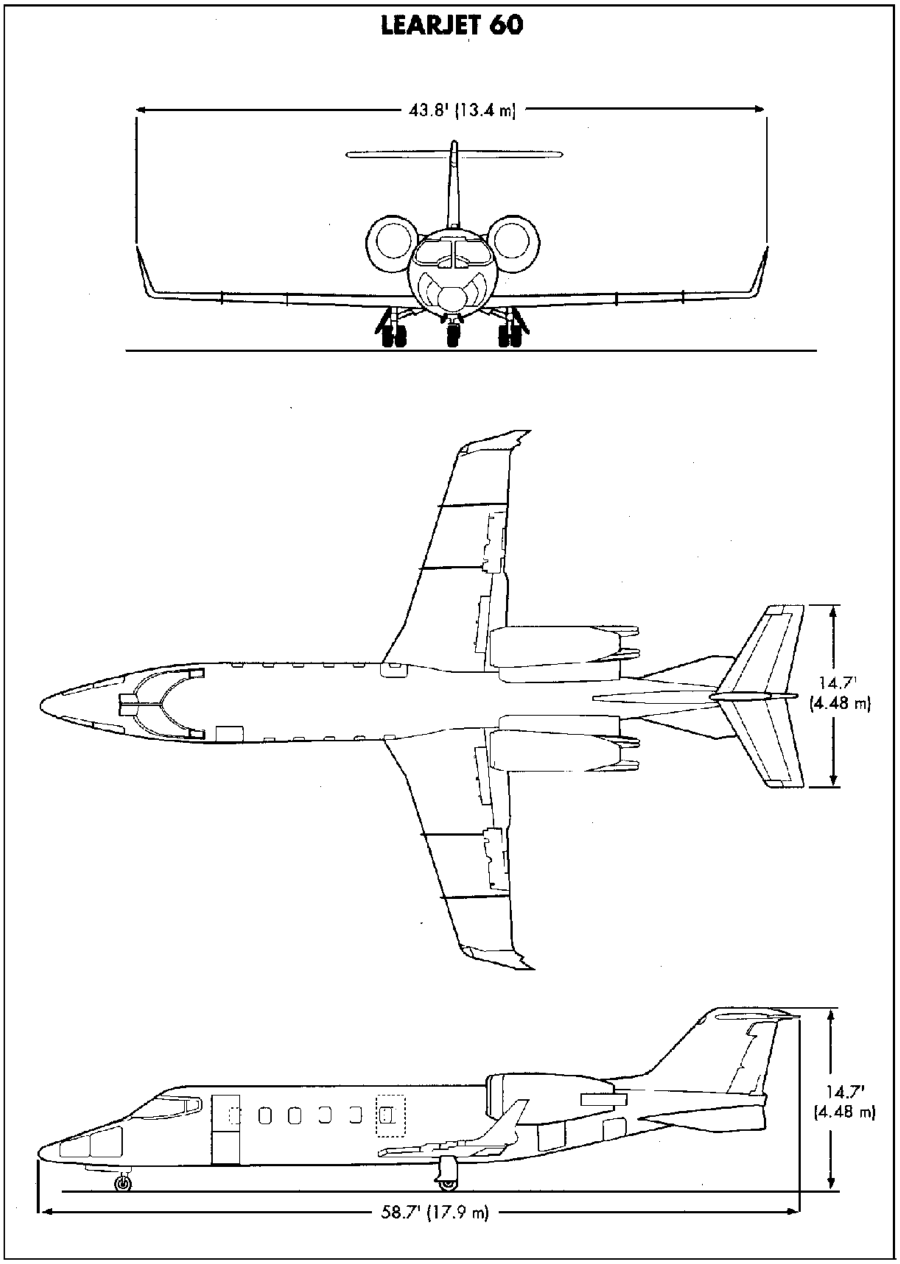
Range/Payload Profile—This graph is intended to provide rough simulations of trips under a variety of payload and airport density altitude conditions, with the goal of flying the longest distance. For the Learjet 60, we use a relatively constant angle-of-attack, maximum range profile that causes the long-range cruise speed to vary with altitude and aircraft weight. The payload lines—intended only for gross evaluation purposes—are each generated from a dozen or more points. Time and fuel burns, shown at the top of the chart, only are plotted for the longest mission. Keeping these limitations in mind, it is possible to get a "feel" for the airplane's capability. If, for example, you want to simulate a 2,200 mile trip (slightly more than the distance from Los Angeles to New York) with a five passenger, 1,000-pound payload, the graph indicates that the time required is 5+20, the fuel burn would be about 6,150 pounds and the sea level, standard day takeoff field length would be about 5,100 feet.

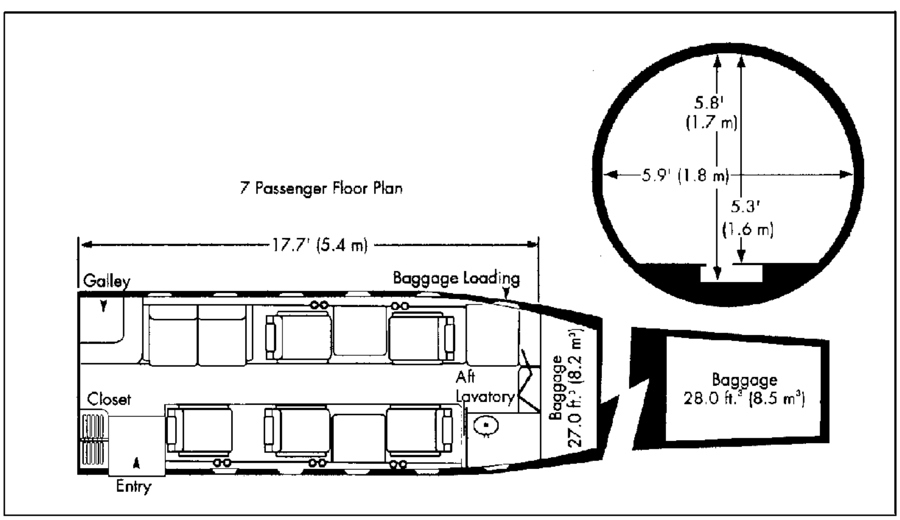
RANGE/PAYLOAD PROFILE

Balanced Field Length SL ISA	Balanced Field Length 5,000 ft ISA+20°C	Gross Takeoff Weight (lb)
5,350	8,475	23,000
4,840	7,544	22,000
4,402	6,744	21,000
4,023	6,068	20,000
3,674	5,435	19,000
3,354	4,890	18,000
3,154	4,652	17,000
2,995	4,436	16,000



Source: Learjet Incorporated





Display Units. The CDUs are used to control and program many avionics subsystems, such as the EFIS, weather radar, flight management system and also the radios, backing up the panel-mounted radio tuning units. In essence, the design causes a separation between many hand/eye functions that takes a while to overcome. Learjet flight test pilots told us that with a little practice, using the AMS-850 to program the subsystems becomes quite easy.

PASSENGER ACCOMMODATIONS

The Learjet 60 is delivered as a finished aircraft, including a six-place interior. The repositioned cabin door and lengthened fuselage increase left-side passenger legroom by more than a yard, compared with the Model 55. Although the aircraft optionally may be configured for up to 10 passengers, we feel the interior is better suited to a maximum of seven for long-range trips.

The fit and finish of the interior of the LR60-005 that B/CA flew was superb. Standard in the passenger cabin are two forward-facing seats ahead of an aft club section of four seats. Business-related carry-on luggage can be easily accommodated by the slim clothes closet forward of the refreshment center, briefcase stowage behind the seat backs and a 27-cubic-foot, 260-pound capacity inflight-accessible compartment aft of the lavatory. The Model 55's capacious 44-cubic-foot, 500-pound capacity luggage compartment failed to make the cut because of new engine rotor burst containment rules and the need for a larger fuselage fuel tank.

On the Learjet 60, the 5.5-cubic-foot forward external luggage compartment of the Model 55 has been eliminated. The aft external luggage compartment holds 28 cubic feet of gear (versus 17 cubic feet in the Model 55). The result is that the Learjet 60 has a total luggage capacity of about 10 cubic feet less than its predecessor.

Hot and cold water and an externally serviced flush potty are provided in a full-width lavatory located in the aft cabin. The emergency exit door is located in the lavatory area, on the aft right side of the airplane. The door swings up and out, providing the crew with ready access to the aft cabin luggage compartment during ground operations. This feature allows the lavatory door to remain closed while luggage is loaded or unloaded from the aft cabin compartment, thus protecting any passengers on board from the weather. (The high-density seating versions eliminate the aft lavatory in favor of a three-place aft divan. A pull-out lavatory is positioned forward in such configurations.)

The passenger cabin is designed for work as much as comfort. Chairs are well-shaped and padded for transcontinental flights, the fold-out tables are amply sized, and a radiotelephone is included as standard equipment. A fax machine, microwave oven and drip coffee-maker are available options.

Learjet could not supply B/CA with Learjet 60 interior noise measurements, but, subjectively, the airplane seems at least as quiet as a Model 55.

FLYING THE LEARJET 60

Walking around the airplane, we made some notes regarding servicing. A single-point refueling system is located on the right side of the aircraft, aft of the wing. The airplane also may be fueled over the wing. If pressure refueling is not available, the Learjet 60 has a 5,012-pound fuselage tank that can be filled by transferring fuel from the wings.

The engine oil level may be checked by looking at sight gauges visible through slots in the nacelles. Adding oil, though, requires access to a ladder. Most other systems, including oxygen and hydraulics, may be serviced from ground level.

Landing lights are located on the main landing gear, so they are only functional on final approach and when taxiing. A high intensity recognition light is mounted in the vertical fin, thus providing enhanced see-and-avoid visibility in high traffic density areas when a pilot is flying with the landing gear retracted.

Quite possibly, the Learjet 60 has the lowest workload of any Learjet the firm has yet built. Many pre-start checks have been automated. Pilots should plan on spending about half as much time doing checklist items prior to takeoff, according to Learjet engineers.

For example, the FADECs set the N_1 bugs on the fan speed tachometers. If the computer-programmed N_1 bugs on the left and right gauges concur within one percent, there is no need to look up a takeoff power setting in the flight manual.

The FADECs are so sophisticated that the engine could be started at the touch of a button, if long-standing Learjet cockpit design conventions could be set aside, such as the start-off-generator switches that still require three separate switch movements during start.

Once the engines are started, it takes a healthy push on the thrust levers to start taxiing. Our basic operating weight was 14,028 pounds. A safety pilot and 3,440 pounds of fuel brought the total taxi weight to 17,640 pounds.

Up to 24 degrees of nosewheel steering are available at low speed by moving the rudder pedals gently to the stops. Pressure transducers sense when the pedals are pushed against the stops, causing the nosewheel to move up to 60 degrees, proportionate to pedal pressure. The net effect is smooth, precise control during taxi.

The wing flaps are normally set to 20 degrees for takeoff, but eight- degree flaps may be used for hot/high departures if FAR Part 25 second segment, one-engine-inoperative (OEI) climb performance is a prime consideration. We opted for 20 degrees flaps for our departure from Napa, California at 17,500 pounds, resulting in a Part 25 scheduled takeoff field length of 3,325 feet. We set the V_1 decision speed bug at 112 KIAS, rotation speed was pegged at 124, and the V_1 takeoff safety speed was set for 133 KIAS.

Pushing the thrust levers to the takeoff detent left no doubt that the airplane is very much a Learjet. Our light takeoff weight yielded a 1.9:1 weight-to-thrust ratio on the day of our flight.

The pitch force at rotation was moderate, but notable, reflecting our forward c.g. A typical long-range mission with full fuselage fuel and passengers would result in a more aft c.g., with correspondingly lighter pitch forces.

The lightly loaded airplane climbed to FL 430 in 16 minutes, burning 690 pounds of fuel from the start of the takeoff roll, in spite of three intermediate level offs for ATC. At that altitude, the airplane that now weighed slightly less than 17,000 pounds stabilized at 432 KTAS, burning 1,090 pph.

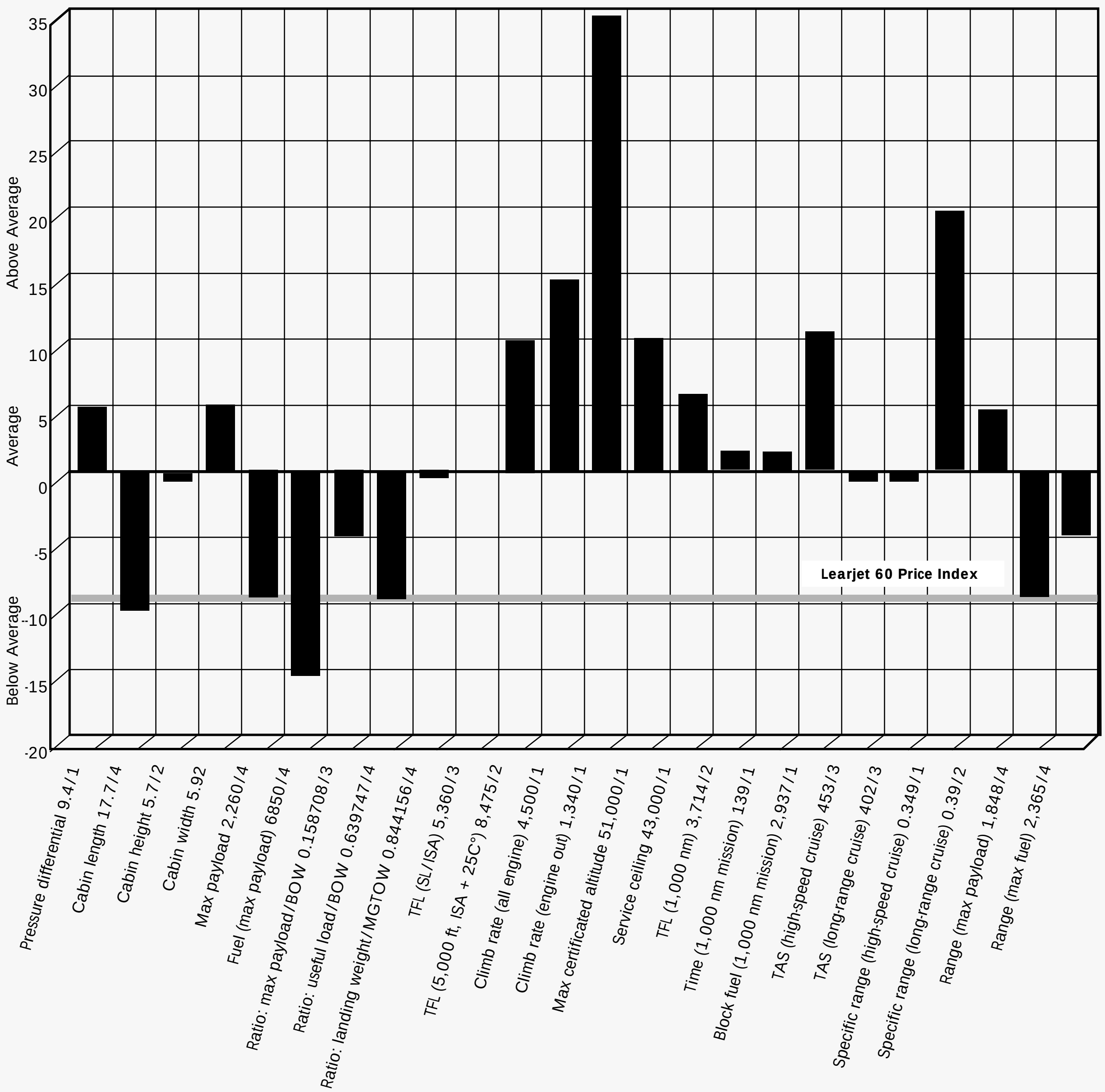
Because of the aircraft's low drag, Learjet 60 crews can plan on starting the descent for the approach to the destination airport sooner than they would in a Model 55. The descent profile specifics were not available in time for this report, however.

We continued to explore the airplane's handling characteristics, after leveling off at 12,000 feet. The airplane is well damped in all three axes, particularly in the long period pitch mode. The natural aerodynamic Dutch roll damping makes it possible to fly the airplane at all altitudes without a yaw damper, but passengers, in our opinion, would be uncomfortable if the stability augmentation system were inoperative.

The Learjet 60 has a crisp roll rate in both clean and flaps-down configurations. Spoilerons augment the roll control authority when the flaps are extended beyond 25 degrees.

Pilot Report

B/CA COMPARISON PROFILE®
(% Relative to Average)



Designers attempt to give aircraft exceptional capabilities in all areas, including price, but the laws of physics 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, B/CA compares the subject aircraft's performance to the composite characteristics of 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 analysis, and then we compute the percent differences between the parameters of the subject aircraft and the composite numbers for the competitive group as a whole. Those differences are presented above in bar-graph form, and the absolute value of the parameter under consideration, along with its rank with respect to the composite, are given.

For this Comparison Profile®, we present selected parameters of the Learjet 60 in relation to a competitive group consisting of the BAe 125-800, BAe 125-1000, Cessna Citation VII and IAI 1125. It should be understood that this Comparison Profile® is meant to illustrate relative strengths and compromises of the subject aircraft; it is not a means of comparing specific aircraft to each other.

Specifications - Learjet 60

B/CA equipped price	$8,886,000
Seating	2+6/10
Engines	
Model	2 PW305A
Power	4,600 lbs ea
TBO	4,500 hrs
Dimensions	(See three-views)
Weights (lbs/kgs)	
Max ramp	23,350/10,591
Max takeoff	23,100/10,478
Max landing	19,500/8,845
Max ZFW	16,500/7,484
BOW	14,240/6,459
Max payload	2,260/1,025
Useful load	9,110/4,132
Max fuel	7,910/3,588
Payload w/max fuel	1,200/544
Fuel w/max payload	6,850/3,107
Limits	
M_{MO}	0.810
V_{MO}	340 KIAS
V_{FE} (app.)	250 KIAS
Pressurization	9.4 psi
Performance	
Climb	
All-engine (fpm/mpm)	4,500/1,575
Engine-out (fpm/mpm)	1,340/469
Gradient (ft/nm, m/km)	340/56
Ceilings	
Certificated (ft/m)	51,000/17,850
Service (ft/m)	43,000/15,050
Engine-out (ft/m)	5,000/8,750
Sea level cabin (ft/m)	25,700/8,995
FAR Part 36 noise levels (TO/Land)	70.8/87.7 EPNdB
Airport performance	(See charts)
Range performance	(See charts)

The delta fins tame the Learjet 60's stall characteristics, as they have on the Learjet 31/31A and 55C. We held full aft yoke, with the yaw damper off, in both clean and dirty configuration, during full aerodynamic stalls. The nose mushed over at the stall, and the airplane's roll attitude easily could be maintained by using roll control inputs. Exiting the stall amounts to reducing the AOA and shoving the thrust levers forward into the takeoff detent until the airplane recovers.

Such docile handling should give crews confidence that the published approach speeds may be flown without extra padding. Our V_{REF} landing reference speeds varied from 124 to 127 KIAS. V_{REF} at the maximum landing weight of 19,500 pounds is 139 KIAS.

The approach and landing characteristics of the Learjet 60 are quite similar to those of the Model 55, which may be chalked up as a plus for the new airplane. It is quite stable on approach, and it is easy to make precise corrections to keep the aircraft on course. The landing flare is flat, requiring small adjustments to the nose attitude for smooth touchdowns.

Simulated OEI operations require less effort in the Learjet 60 compared to the Model 55, because of the aforementioned rudder boost system. We found that, compared to the Learjet 55, it is much less tiring to fly the new airplane during simulated OEI operations.

PERFORMANCE, PASSENGER SPACE AND PRICE

Learjets have always been designed for distinct market niches, especially those in which high performance is a major advantage. The Learjet 60 continues this tradition. Other midsize business jets have larger cabins and some competitors have longer range, but when time to climb, initial cruise altitude, operating economy and reliability are prime factors, the Learjet 60 has few equals.

It will climb directly to low- to mid-40 cruise altitudes at maximum takeoff weight, while the passengers enjoy a 6,000- to 7,000-foot cabin altitude. It has nonstop U.S. transcontinental range except against unseasonably strong headwinds. Its hefty wing loading makes for a comfortable ride, especially in turbulent air. Its low noise signature surely will make it a good neighbor at noise-sensitive airports.

Ample new technology in the Learjet 60's design will keep it fresh for many years. No midsize business jet in production has more advanced engines. The avionics suite, when configured with the optional dual Universal FMS and other additions, is unsurpassed for capability by comparably sized competitors. The Learjet 60's airframe systems have been substantially improved and updated, making them more reliable and easier to use.

The flagship Learjet 60 may not be-come an instant classic as did the Learjet 24, but it is destined to mark an important turning point in the history of the company. It unmistakably identifies Learjet Incorporated's renewed commitment to designing new technology aircraft—those that have power and range, reliability and economy, comfort and capacity—to carry forward the business jet legacy of company founder William P. Lear, Sr.

And traditional Learjet customers seem to agree. Learjet Incorporated now has more than 25 firm orders for the Learjet 60, more than enough to create a backlog through most of 1994. That's fairly clear evidence of a company making a healthy recovery after languishing for so many years in the 1980s. **B/CA**