1882

a 30min engine change. On the prototypes only the ailerons are powered, but consideration is being given to three-axis hydraulic actuation. Structural limits on the clean aircraft are +7-5/—3-9g. At maximum take-off weight (12,3501b) with external stores the limits are + 5-5/-2-4g.
In Ejercito del Aire service the C.101 will be used for all-through jet training. Students will move to the Aviojet from piston-engined T-34s and T-6s, and from the C.101 to operational conversion on SF-5Bs and two-seat Mirages. On internal fuel only the C.101 has a maximum range of 2,055 n.m. and an endurance of 7hr. At a normal take-off weight of 10,3501b the Aviojet carries 2,5501b of fuel, enough for two one-hour training sorties without refuelling.
Up to 4,7701b of weapons can be carried on six wing hardpoints and in the fuselage weapons bay. The inner-most pylon on each wing can carry up to 1,0001b, the centre pylon 7501b and the outer pylon 5001b. Two 12-7mm machine guns or one 30mm cannon can be fitted in the fuselage. The bay can also accept photographic-reconnais-sance or electronic countermeasures equipment. On a hi-lo-hi interdiction mission, carrying two 5001b bombs and a 30mm gun, the C.101 has a radius of action of 450 n.m. On a lo-lo-lo mission, carrying four 5001b bombs, two rocket pods and a 30mm gun, the radius of action is 100
n.m.

This diagram of the C.iOl cockpit shows the amount of downward visibility offered by the new generation of jet trainers

FLIGHT International, 18 November 1978

tional by February 1979, and the Dornier production line will maintain a maximum rate of six aircraft a month until the end of 1981, when production is due to finish. Belgium will have received all 33 Alpha Jets on order by April 1980, when the Belgian assembly line will be closed down. The main line will be in France, where output will reach 13 aircraft a month by the end of 1979. To cope with export orders the French assembly line can produce 15 aircraft a month if necessary.
The three sources do not duplicate manufacture of any parts. Dassault-Breguet produces the front and centre fuselage; Dornier builds the wing, tail and rear fuselage; and Sabca manufactures the nose and flaps. Dassault-Breguet is also responsible for assembling the fuselage. At around $4 • 5 million a copy the Alpha Jet is possibly the most expensive of the second-generation trainers. It is certainly one of the most capable, performing the advanced training role in the French Air Force and close air-support in the Luftwaffe. As a result, the Alpha Jet is more complex than its competitors, needing seven main-tenance man-hours per flying hour. Powered controls are used in all three axes. Fatigue life is 10,000hr.
In French Air Force service the Alpha Jet will replace T-33s and Mystere IVAs, used for advanced and weapons training respectively. In the projected syllabus the student would spend 70hr on a new primary trainer and 70hr on Magisters before graduating to the Alpha Jet. Belgium operates the SF.260 Primary /basic trainer, and the student would move straight from this to the Alpha Jet. In the training role the low-altitude endurance on internal fuel (423gal) is 2hr 30min. Under similar conditions the high-altitude endurance is 3hr 30min. The corresponding radii of action are 230 n.m. and 600 n.m.

Almost 5,0001b of ordnance can be carried on one fuselage and four wing hardpoints. As on the Hawk, the centreline station normally carries a 30mm gun pod (27mm on the German aircraft). Luftwaffe aircraft carry a full navigation and attack system. On a typical hi-lo-hi mission, with a 30mm gun and unspecified external loads, the radius of action is 280 n.m. Under similar conditions the lo-lo-lo radius of action is 190 n.m.

Dassault-Breguet/Dornier Alpha Jet After a long battle the Alpha Jet has won the Egyptian order, an agreement covering licence production of 160 aircraft having been signed on September 17. Alpha Jet orders now total 634. France and Germany have each ordered 200, Belgium 33, Morocco 24, Ivory Coast 12 and Togo 5. All but the Egyptian aircraft will be built by the three collaborating nations, France, Germany and Belgium.

The first of four prototypes flew on October 26, 1973, and after protracted development the Alpha Jet is now entering production, the first series aircraft having flown on November 4, 1977. The first aircraft for the Luftwaffe flew on April 12 this year, followed by the first Belgian aircraft on June 20.

The first Luftwaffe Alpha Jet unit is due to be opera-

E2, the second French Air Force Alpha Jet, flew on May 19 this year

Mitsubishi T-2 Designed to meet Japan Air Self-Defence Force requirements, the T-2 is the first supersonic aircraft to be developed by the Japanese aerospace industry. The first XT-2 prototype flew on July 20, 1971, and was followed by a second prototype and two pre-production aircraft. Two of the 59 T-2s ordered by the JASDF were converted to F-l prototypes, and 29 were equipped with a single 20mm Vulcan cannon mounted on the fuselage below the cockpit. These aircraft were redesignated T-2As and are used for combat training.
Bearing more than a passing resemblance to the two-seat Jaguar, the T-2 is the only truly supersonic aircraft covered by this survey. Maximum level speed is Mach 1-5 at 30,000ft, and maximum range with external tanks is 1,550 n.m. In service with the JASDF the T-2 has replaced F-86Fs used for advanced training. Pilots now graduate from the T-33A to the T-2, spending 60hr on advanced training and 80hr on weapons training.

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