

11-96-300 begins flight tests

The Ilyushin 11-96-300 has begun flight tests, becoming the first, and largest, of three new Soviet airliners now under development to fly.

The first flight was delayed several months by longer-than-anticipated systems testing required by the airliner's new fly-by-wire flight controls and electronic cockpit.

The 300-seat 11-96-300 is expected to enter Aeroflot service in 1990, replacing the long-range 11-62, and between 60 and 70 examples are scheduled to be built in the 1990-95 five-year plan.

The 6,000 n.m.-range 11-96 shares a common fuselage section with the 350-seat, 2,500 n.m.-range 11-86, but with a new, larger wing. Its fuselage is some 16ft shorter, but wingspan is some 30ft greater, sweep is reduced, and the 11-96 has winglets.

While the 11-86 is powered (some say underpowered) by four 28,660lb-thrust Kuznetsov NK-86 low-bypass turbofans, the 11-96 has four 35,300lb-

thrust Soloviev D-90A high-bypass turbofans. Engine certification is scheduled for early 1989.

Developed by the Ilyushin design bureau, the 11-96-300 is being built by the Voronezh aircraft production association which is currently manufacturing 11-86s for Aeroflot.

The picture at top left shows the first aircraft, which is loaded with flight-test instrumentation, being prepared for its maiden flight.

The remaining photographs show what appear to be mock-ups of the 11-96-300's cockpit and cabin. The cockpit shot (top right) shows the six large colour displays which dominate (and declutter) the instrument panel. Each pilot appears to have a primary flight display outboard and a navigation display inboard, while between them are the two displays of the engine instrument and crew alerting system. Despite having triply redundant digital fly-by-wire controls, the 11-96 retains traditional control yokes—and a

flight engineer, reports suggest.

The cabin mockup shots (lower pair) show the bow passenger cabin (left) of the 11-96-300 in a six-abreast, 22-seat, first-class layout, with video projector and screen, and the nine-abreast, 173-seat, tourist-class rear passenger cabin (right). There is also an eight-abreast, 40-seat, business-class centre cabin.

The 11-86, on which this aircraft is based, has a lower deck, reached via integral air stairs, on which passengers place their carry-on baggage before ascending via fixed staircases to the upper deck. According to Ilyushin (Flight, July 9), the carry-on baggage system allows the 11-86's 350 passengers to deplane within 10-15min. Passengers will board the 11-96-300, however, through doors on the upper deck.

The 11-96-300 is the largest of three new Soviet airliners now under development. The others are the 60-passenger Ilyushin 11-114, a twin-turboprop similar

to the British Aerospace ATP, and the Tupolev Tu-204, a 214-seat twin-jet resembling the Boeing 757. Development of a 150-seat airliner to replace Aeroflot's Tu-134s and Yak-42s starting in 1995 is also planned.

with both Tupolev and Yakovlev offering rival designs, possibly propfan-powered.

Intended as a replacement for the Tu-154, the Tu-204 is

expected to fly shortly. The 2,500 n.m.-range aircraft is powered by two of the 11-96-300's Soloviev D-90A high-bypass turbofans, and, like the larger Soviet aircraft, the Tu-204 has digital fly-by-wire flight controls and a six-display electronic flight instrumentation system.

The wingletted Tu-204 is expected to enter Aeroflot service in 1990, with 80-90 examples to be produced during the 1990-95 five-year plan.

Powered by two 2,500 s.h.p. turboprops, the short-haul Tu-114 has also yet to fly. The low-wing twin-turboprop is intended to replace the An-24.