ACCEPTANCE TRIALS FOR IL-76MD-90A

Ilyushin and Russian defense ministry have commenced "joint flight test and certification" program on the Il-76MD-90A four-engine air lifter, with the first flight in frame of that program taking place on 18 March 2013, using the first operable airframe that took to the air for the first time in September 2012. In early February this airplane was ferried from the Aviastar manufacturing plant in Ulianovsk where it was built to LII, Gromov's Flight Test and Research Institute, in Zhukovsky near Moscow. To enable the joint program to start, Ilyushin installed additional testing equipment, checked for flaws in onboard systems and conducted testing for integrity and frequency compliancy on the avionics and electrical systems. The first phase of the joint program calls for 22 test missions. Speaking to media earlier this month, Ilyushin general director Victor Livanov, who also holds the post of general designer for Russian air force air lifters, said that the advent of the Il-76MD-90A "means restoration of our in-country skills to design and manufacture air lifters. This was something we lost after the Soviet Union had collapsed, since the Il-76 was in production in Uzbekistan... While Antonov is now a Ukrainian company, and none of their air lifter designs is in series production right now. In plain words, we had to start from a zero point in 2006, when we recommended re-launching into production a redeveloped Il-76, the initiative supported by the Russian government in December 2006. Aviastar was ordered to undertake production". Livanov further said that in 2006 Aviastar had only ten computers, and Ilyushin design house with workforce of 2,600 only a little more. In addition to purchase and mastering of the computer aided design technologies, Aviastar has restored 500 machine tools and modernized them with new re-programmable units in frame of the Il-76MD-90A effort. Redevelopment of the Il-76 commenced in earnest in 2008, with simultaneous digitizing of the old drawings. The new wing was modeled from that of the Il-96 and now features very long structural members, lower weight and higher lifetime. "About 70% of the original onboard systems were replaced by new ones", Livanov said, adding that only hydraulics largely remained unchanged. Almost all vendor items for the Il-76 were out of production and have been replaced with newer analogues available in the market. Lamps gave way to LED lights throughout the airplane. The Il-76MD-90A received a new avionics set and a digital flight control system. "In the end, we have redeveloped the whole airplane", Livanov insisted. "Any new airplane requires 6-8 years to be developed, and certain western jets actually required 10-12 years due to extensive use of brand-new technologies whose mastering requires more time". Livanov insisted that Aviastar is on track to hand over the Russian air force a first pair of deliverable aircraft as planned in 2014 under the contract for 39 Il-76MD-90As worth Rouble 140 billion placed in October last year. Aviastar shall gradually gear up production rate until it reaches 20 aircraft annually. The Russian air force operates nearly a hundred of Il-76s, and various special mission aircraft on its platform raise the number by over fifty. "We will need to replace them all at some point in time, some will be withdrawn by 2020, while the remaining ones will undergo modernization for 15-20-year lifetime extension", Livanov said. "There

is rule in aviation. If the airframe is good, make the longest possible use of it, and you can change engine and systems", he added. The Il-76MD-90A is made capable of carrying and air dropping the BDM-4 infantry fighting vehicle, a newly developed replacement to lighter and more compact BMD-3 now equipping the Russian paratrooper units.

The baseline four-engine quad had its maiden flight in 1971 and entry-into-service three years later. It was built in nearly a thousand copies. Among other nations, the type continues in service with the Russian air force (over 250 examples including special versions), Indian air force (16 Il-76MD air lifters, 6 Il-78MKI tankers and three AI flying radars), Pakistan (four Il-78 tankers acquired from Ukraine after overhaul) and China (about fifteen aircraft) as well as Algeria.

Presumably, by placing the large order for the Il-76MD-90A, Moscow meant to convey a signal to potential customers in China and India. These countries already operate a number of "classic" Il-76 quads on which the Il-76MD-90A design is based. Beijing and New Delhi have long been targeted as primary foreign buyers of the newer airlifter able to transport a 114,500-lb payload over a range of 2,700 nm.

Russian air force Il-76MD

The launch order for the Il-76MD-90A was placed on 3 October, when Vladimir Putin visited Aviastar-SP plant in Ulianovsk. After witnessing a demonstration flight by the type's first operable prototype, the Russian president said that the Rouble 140 billion ($4.5 billion) contract [or $115 million per aircraft] is expected to be followed by foreign sales. He especially mentioned China as a potential client for the renewed Il-76. "Some six years ago we were talking to our partners in the Asian countries, including the People's Republic of China. They were ready to buy form us some 50 airplanes. I am sure this new airplane will be in demand both in Russia and our potential partners abroad", Putin said.

Vladimir Karnozov

IL-76MD-90A