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EQUIPMENT. Messier-Dowty has begun deliveries of the first landing gear sets for the innovative Boeing 787 Dreamliner. The contract, won in 2004, marked Messier-Dowty's first selection on a Boeing commercial airplane.

DEDICATED TO BOEING 787 LANDINGS

With the recent deliveries of the first nose and main production gears, Messier-Dowty's involvement in the 787 program is entering into full swing, and marks a significant milestone for the company's first commercial contract with Boeing. Prior to the 787, Boeing had design responsibility on all of the landing

gear on its planes and outsourced the manufacturing activities. Messier-Dowty's selection on the 787 is the first time that Boeing has delegated design responsibility to a partner. In other words, Messier-Dowty is the first company to design, develop, manufacture and install the nose and main landing gear on a Boeing Commercial aircraft.

Messier-Dowty was selected back in March 2004, based on a very innovative proposal. "We offered major technological advances, such as titanium inner cylinders on the main gear and composite struts, which will be introduced on the final version of the landing gear," explains Jean-Pierre Serey, Vice President Engineering at Messier-Dowty. The strut is the part that transmits the lateral loads from the landing gear to the airframe. "By using composite materials, we save weight and increase corrosion resistance," adds Serey.

Reducing weight

This quest for weight savings reflects one of Boeing's main goals on the 787. "Boeing is seeking to maximize performance on the 787, which means we have to help to reduce the aircraft's overall weight as much as possible," notes Grant Skinner, vice president and head of the Boeing & Military business unit at Messier-Dowty. The airframe makes extensive use of composites, which account for fully half of the total weight of the 787. For Boeing, the goal is to build the most economical aircraft possible,

and therefore the most competitive.

The use of struts machined out of a composite material is brand new, as Jean-Pierre Serey explains: "It's a world first for such a highly-loaded structural part." This technology breakthrough harbors even greater potential, since composite materials also reduce maintenance costs: they are corrosion free, and don't have to be protected by anti-corrosive coatings. At the same time, they boast excellent mechanical strength and are highly insensitive to shocks (birds, tire debris, etc.). Furthermore, titanium and composites are friendlier to the environment, since, as Grant Skinner notes: "They allow us to reduce the use of anti-corrosion materials such as chromium and cadmium."

However, the use of composite materials demands a high level of specific skills and expertise. "The introduction of this part is the result of several years of work," says Jean-Pierre Serey. We



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The first landing gear produced by Messier-Dowty for the 787.

leveraged synergies throughout Safran, in particular calling on the expertise of Snecma and Aircelle. "In the final analysis," adds Skinner, "it really demonstrates the Group's technological skills base."

The lessons learned and technologies developed through this major Boeing program show promising potential for future applications. Because these composites offer good fatigue resistance and other qualities, they can be used on many different parts of the aircraft, including engines, nacelles, and airframes.

Throughout the development process, Boeing backed Messier-Dowty all the way. "We benefited from extensive support from Boeing, and it has been truly a team effort," Serey notes. "Now we hope that our achievements on the 787 will provide the Safran group with new opportunities to support future programs." ■

A. PAPEGUAY

VIEWPOINT



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**GRANT SKINNER
VICE PRESIDENT, BOEING &
MILITARY BUSINESS UNIT,
MESSIER-DOWTY**

This marks Messier-Dowty's first selection by Boeing as landing gear supplier on a commercial airplane. What does Messier-Dowty bring to the table in this market?

Messier-Dowty is the world leader in landing gear design, production and support. Our systems are used on some 19,500 aircraft, which make 35,000 landings per day. We supply 33 different aircraft manufacturers, and support some 2,000 operators, both military and civil. We have worked for many years with major airframers, including Airbus, Bombardier and Dassault Aviation.

How about your experience with Boeing?

We go back a long way with Boeing as well. For instance, we worked with McDonnell Douglas (which merged with Boeing in 1997) on their military aircraft for some 30 years.

In particular, we provide the landing gear for the F/A-18 and AV-8B fighter-bombers, the T-45 trainer and the V-22 tiltrotor. We also worked with Boeing on their proposal for the JSF (Joint Strike Fighter) program.

But the 787 is the first time we've been involved in one of Boeing's commercial programs. Our work throughout the 1990s on military aircraft clearly helped us demonstrate our broad expertise and made us a credible contender for the 787 program. We submitted our proposal to Boeing in November 2003, and were selected in March 2004.

This contract for the Boeing 787 also bolsters the Safran Group's market position. What are the prospects for the Group from this point of view?

You just don't get that many opportunities on a program as vast as the 787, so it was critical for Messier-Dowty to win the contract, which secures maybe 20 years of work for us. We're already an established partner with most of the world's major aircraft constructors. It was very important to be chosen by Boeing as well, in order to provide a balanced business portfolio and maintain our leadership.

The Boeing 787 is today's fastest selling commercial airplane. Messier-Dowty will provide product support in conjunction with Boeing – also the first time that Boeing has shared this responsibility with a landing gear partner. Our in-service support experience on many other programs is obviously an advantage here. The Boeing 787 contract places us in an excellent position going forward, with the aim of being Boeing's preferred landing gear partner.