



U.S. DoD photo/Staff Sgt. Andy M. Kin



U.S. Navy photo/MC2 James R. Evans



F/A-18 SUSTAINMENT SERVICES



U.S. Navy photo/MC3 Wilyanna Harper

Moog Inc. is a worldwide designer, manufacturer, and integrator of precision motion control products and systems. Over the past 60 years, we have developed a reputation for delivering innovative solutions for the most challenging motion control applications. As a result, we have become a key supplier to the world's leading aircraft manufacturers and are positioned on virtually every platform in the marketplace – supplying reliable actuation systems that are highly supportable and add significant value for our customers.

A key element of our success has been our customer focus. Moog delivers quality product and support services, all while being flexible and responsive to customer needs. Our superior products and services directly reflect the creativity, work ethic and remarkable attention to purpose of our people. We exhibit our commitment by supporting our products throughout the life cycle of a platform, from idea conception and design of original parts, to aftermarket support and service.

With Moog, you will find a wide spectrum of products, services and support from a dedicated and trustworthy organization. Our culture, coupled with our commitment to our customers, process control and product innovation, will continue to drive the success of our company and yours.

As the F/A-18 EF Super Hornet transitions from End of Production to full sustainment, Moog's Product and Reliability Engineering Team, in collaboration with the US Navy Fleet Support Team, is committed to meeting the long term sustainment needs and health of the fleet.

SUPPORTING WORLDWIDE READINESS

Moog provides motion control systems to the world's most advanced aircraft, including the F/A-18 Leading Edge Flap Actuation System and Wingfold Mechanical Drive Group. We maintain our leadership position in the repair, overhaul and modification of the F/A-18 LEFAS and Wingfold Systems by providing the highest quality product support available.

LEADING EDGE FLAP DRIVE SYSTEM (LEFDS) – TECHNICAL DESCRIPTION

The function of the leading edge flap mechanical drive group system is to position the leading edge flap panels in accordance with commands from the aircraft flight controls electronics set (FCES). The starboard and port systems operate independent of each other. With all hydraulic and electrical systems operating, the brake in the hydraulic drive unit (HDU) is disengaged. The FCES will signal the electrohydraulic servovalve (EHSV) to direct hydraulic power to the proper motor port, depending on the desired panel deflection direction. The hydraulic motor drives the HDU gearbox and all of the system torque transmission members to position the leading edge flaps. The flap transmissions act as both an actuator and a hinge. Position sensors in the HDU and asymmetry control unit indicate to the FCES when the panel has reached the desired position, and the FCES commands the EHSV to close. This cycle is repeated as frequently as necessary to achieve proper scheduling of the leading edge flaps.

WINGFOLD TRANSMISSION UPGRADE PROGRAM

As a land and sea - based weapons system, the F/A-18 is deployed in a variety of challenging environmental and operational conditions. The current F/A-18A-D wingfold transmission has experienced corrosion in the lug bores and adjacent areas used for attachment to the inner and outer wing panels. Dissimilar metal contact wears away the protective cadmium plating in and around the lug bores.

Utilizing a more damage tolerant proprietary Low Hydrogen Embrittlement Cadmium electro-plating process and the installation of stainless steel bushings in all 76 lug bores, the Upgrade Program provides a transmission that is more tolerant to the operating environment (improved corrosion protection and wear resistance); has enhanced reliability, and will result in less frequent removal actions.



U.S. Navy photo/EP- Jonathan Chandler















U.S. Navy photo/Peter Gronemann

THE F/A-18
LEADING EDGE
FLAP DRIVE SYSTEM
AND WINGFOLD
MECHANICAL DRIVE
GROUP



U.S. Navy Photographer/Liz Goettee

1		Hydraulic Drive Unit
2		Torque Bar
3		Inboard Transmission Unit
4		Torque Limiter/Stop Module Retrofit
5		Torque Tube
6		Bearing Support Unit

7		Geared Universal Joint
8		Outboard Transmission Unit
9		Assemetry Control Unit
10		Wingfold Transmission
11		Torque Shaft
12		Electric Drive Unit

*F variant shown.

■ Wingfold Mechanical Drive Group Hardware

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