SERVICE BULLETIN

WINGS - REPLACEMENT OF OUTER WINGS

1. **PLANNING INFORMATION**

A. EFFECTIVITY

This Service Bulletin is applicable to all model 382, 382B, 382E, 382F, and 382G series FAA Certificated Hercules aircraft (excluding 382J series aircraft).

B. REASON

(1) The 14 CFR Part 26, Subpart C Aging Aircraft Safety - Widespread Fatigue Damage rule became effective on January 14, 2011. In compliance with this rule, Lockheed Martin Aeronautics Company established a Limit of Validity (LOV) for 382 series aircraft that is published in Section VII of customer specific Service Manual Publication (SMP) 515-C Inspection Programs. 14 CFR Part 121 or Part 129 operators must have incorporated the LOV into their maintenance program by July 14, 2013 to comply with FAR §121.1115 or §129.115. This Service Bulletin presents a maintenance action required for the outer wing to safeguard the aircraft against widespread fatigue damage up to the LOV.

(2) Widespread Fatigue Damage (WFD) is general degradation of large areas of structure with fatigue cracks manifesting and growing simultaneously at similar structural details and stress levels. Fatigue damage is increasingly likely as the aircraft is operated and aged, and without intervention, WFD is likely to compromise the structural integrity of the aircraft. Structural fatigue characteristics of airplanes are understood only up to the point where analyses and testing of the structure are valid. The purpose of this action is to replace the outer wings currently installed on the affected aircraft with an outer wing of new manufacture prior to the on-set of WFD in the outer wing structure.

(3) It is recommended that the following compliance timeline be followed for aircraft with outer wing serial numbers 3946 through 4541 or MEP 14Y type replacement outer wings (Part No. 388021-9/-10) installed (indicated on the outer wing identification placard located on the rear beam web near OWS 180):

(a) For aircraft with less than 30,000 flight hours on the outer wing, the outer wing shall be replaced prior to the accumulation of 30,000 flight hours.

(b) For aircraft with greater than 30,000 flight hours on the outer wing, the aircraft shall be grounded until the outer wing is replaced.

(4) In accordance with 14 CFR § 26.21, the Limit of Validity (LOV) for all 382 Series aircraft is 58,000 Flight Cycles or 75,000 Flight Hours whichever comes first. The outer wing is subject to the 75,000 flight hour life limit of the LOV. Although Lockheed Martin does not consider the outer wing to be a rotable component, it is understood that 382 Series outer wings are interchangeable (with minimal systems modifications) between aircraft.

EXPORT CONTROLLED INFORMATION

WARNING - This document contains data whose export is restricted by the Arms Export Control Act (Title 22, U.S.C., Sec 2751, et seq.) as amended, or the Export Administration Act (Title 50, U.S.C., App 2401 et seq.) as amended. Violations of these export laws are subject to severe criminal and civil penalties.

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Therefore, it is recommended that the following compliance timeline be followed for aircraft with outer wing serial numbers 4542 and up or all MEP replacement outer wings except the 14Y (Part No. 388021-9/-10) installed (indicated on the outer wing identification placard located on the rear beam web near OWS180):

(a) For aircraft with less than 75,000 flight hours on the outer wing, the outer wing shall be replaced with an outer wing that has less than 75,000 flight hours prior to the accumulation of 75,000 flight hours on the subject outer wing.

(b) For aircraft with greater than 75,000 flight hours on the outer wing, the aircraft shall be grounded until the outer wing is replaced with an outer wing that has less than 75,000 flight hours.

All flight hour tracking and interchangeability concerns are the responsibility of the operator.

NOTE: Instructions described in Paragraph 2., Accomplishment Instructions, are not applicable to Outer Wing Serial Numbers 4542 and up, or MEP replacement outer wings except MEP 14Y (P/N 388021-9/-10.) Contact Lockheed Martin for replacement instructions.

NOTE: The replacement times indicated in this service bulletin do not apply to military operators of 382, 382B, 382E, 382F, and 382G aircraft. Contact Lockheed Martin for an Operational Usage Evaluation/Service Life Assessment to determine an appropriate replacement schedule.

NOTE: For commercial operators of aircraft with outer wings that have had previous military usage, contact Lockheed Martin for adjusted compliance times.

NOTE: Lockheed Martin recommends replacement of the outer wing with one of new construction. Contact Lockheed Martin Aeronautics Company for part availability. Contact information can be found in Paragraph 1.F.

NOTE: Installation and check-out of plumbing, fuel, electrical, hydraulic, flight control components, and system components are the responsibility of the owner/operator. Limited salvage information can be found in the applicable customer Maintenance Manual or Illustrated Parts Catalog.

NOTE: These work instructions refer to methods, techniques, and practices described in other Lockheed Martin Aeronautics Company documents. When the words "refer to" are used and the operator has other acceptable methods, techniques, and practices (including tools, equipment, and test equipment) those procedures may be used to complete the work. When the words "in accordance with" are included in the instruction, the methods, techniques, and practices (including tools, equipment, and test equipment) specified in the Lockheed Martin Aeronautics Company document must be used.

C. DESCRIPTION

This Service Bulletin provides instructions for replacing the outer wing structure on affected aircraft.

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D. APPROVAL

(1) The aircraft owner/operator will make an appropriate entry in the aircraft log records upon compliance with this Service Bulletin.

(2) After the work has been completed on each affected aircraft, please complete and mail or fax (770-494-5682) a Notice of Service Bulletin Compliance; or notify Lockheed Martin Aeronautics Company of compliance with this Service Bulletin at website address: http://www.lockheedmartin.com/eoc and log into Data Library.

(3) This Service Bulletin has been approved by the FAA as complying with applicable Federal Aviation Regulations.

E. MANPOWER

The work prescribed in this Service Bulletin has not been performed at the Lockheed Martin facility. Therefore, the manpower estimates provided have not been validated, and should not be construed as being acceptable for use in making fixed price quotes for accomplishment of the work. These estimates are provided only as a convenience for customer planning purposes. It is estimated that approximately 1,500 manhours (a crew of 11 men) will be required to accomplish the work described herein on each affected aircraft. This will take approximately one month elapsed time while the aircraft is out of service.

NOTE: This Service Bulletin is based upon the configuration of the aircraft as it was delivered from Lockheed Martin Aeronautics Company. Previous service bulletins issued by Lockheed Martin Aeronautics Company have been considered in the preparation of this Service Bulletin, but no consideration has been given to peculiar changes made to the aircraft by the owner/operator since its delivery.

F. MATERIAL - COST AND AVAILABILITY

(1) Requests for kits 3366500-1/-3 and/or -2/-4 listed in Paragraph 3, required for each affected aircraft, should be made to Lockheed Martin Aeronautics Company. Parts bearing Lockheed Martin Aeronautics Company part numbers are considered proprietary and shall be purchased from Lockheed Martin Aeronautics Company unless methods of fabrication are shown in this publication. Inquiries concerning current prices, applicability, and availability of kits may be directed to the following:

MAIL: Lockheed Martin Aeronautics Company
C-130 Commercial Contracts
Department F532
Zone 0195
86 South Cobb Drive
Marietta, GA 30063-0195, USA

TELEPHONE: (770) 494-5165

FAX: (817) 655-9700

(2) Additional bulk materials, not included in the kit, will be supplied by the aircraft owner/operator.

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G. TOOLING - PRICE AND AVAILABILITY

The following tooling is required and will be obtained through the applicable supply source:

Quantity	Part Number	Nomenclature
1	341206-51	Sling Assembly (or equivalent)

H. WEIGHT AND BALANCE

Due to the nature of the outer wing replacement, the actual weight and balance changes, resulting from the instructions herein, cannot be accurately determined. Therefore, the aircraft must be weighed in accordance with the applicable aircraft Weight & Balance Manual.

I. REFERENCES

Hercules Maintenance Manual, SMP 581
Lockheed Martin Aeronautics Company Drawings 3366500

J. OTHER PUBLICATIONS AFFECTED

Hercules Corrosion Prevention and Control Manual
Hercules Illustrated Parts Catalog
Hercules Structural Repair Manual
Hercules Wiring Diagram Manual
Hercules Airfreighter Series Inspection Program, SMP 515-C

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2. **ACCOMPLISHMENT INSTRUCTIONS**

This Bulletin identifies the action, designates the aircraft affected, provides applicable planning information, and identifies the parts, materials, and drawings required for installation. This modification will be accomplished in accordance with Lockheed Martin Aeronautics Company Top Kit Drawing 3366500.

WARNING: OBSERVE ALL APPLICABLE SAFETY PRECAUTIONS WHILE ACCOMPLISHING THIS MODIFICATION. ENSURE THAT ALL ELECTRICAL AND HYDRAULIC POWER SOURCES ARE OFF, THE BATTERY AND EXTERNAL ELECTRICAL POWER DISCONNECTED, AND HYDRAULIC SYSTEMS DEPRESSURIZED BEFORE STARTING THE WORK. FAILURE TO COMPLY MAY RESULT IN SERIOUS INJURY OR DEATH.

NOTE: In case of any discrepancy between these instructions and Installation Procedures drawings, the actual drawings shall take precedence.

A. Unload replacement outer wing.

B. Prepare aircraft for maintenance.

C. Remove outer wing. Refer to SMP 581, Chapter 57, or other approved maintenance procedures. Salvage wing tips, plumbing, wiring, and all removed components until completion of replacement outer wing installation.

D. Install components of 3366500-1 or 3366500-2 Outer Wing Replacement Top Kit onto replacement outer wing structure per 3366500-1 or 3366500-2.

E. Transfer salvaged components to replacement 3366500-3 or 3366500-4 Outer Wing Structure.

F. Install replacement outer wing in accordance with 3366506-1 or 3366506-2. Refer to SMP581, Chapter 57, or other approved maintenance procedures.

G. Check for gap condition between the outer wing upper and lower trailing edge mating angles and the center wing trailing edge rib. The gap must not exceed 0.030 inches. Shim as required. Refer to SMP 581, Chapter 57 or other approved maintenance procedures.

H. Perform operational checks of disturbed equipment. Refer to applicable Hercules Maintenance Manual (or equivalent approved operator procedures) for instructions.

I. Perform functional check flight of modified aircraft.

J. Restore aircraft to service.

NOTE: If assistance is needed, contact your local Lockheed Martin Aeronautics Company Representative, or the Enterprise Operations Center - Technical Support in Marietta, Georgia, USA, as follows:

TELEPHONE: (770) 494-9131

FAX: (770) 494-9122

E-MAIL: hercules.support@lmco.com

MAIL: Lockheed Martin Aeronautics Company
86 South Cobb Drive
Dept. 3E1M, Zone 0591
Marietta, GA 30063, USA

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3. **MATERIAL INFORMATION**

NOTE: Lockheed Martin Aeronautics Company Top Kit Drawing Installations 3366500-1 or -2 will detail aircraft modifications required to facilitate replacement of aircraft outer wing and structure.

A. The following kits will be provided by the aircraft owner/operator and are required to modify FAA-Certificated aircraft listed in Paragraph 1.A. Kits may be obtained from Lockheed Martin in accordance with Paragraph 1.F.

(1) For left outer wing:

PART NUMBER	QUANTITY	KEY WORD	INSTRUCTIONS/ DISPOSITION
3366500-1	1	Top Kit - Outer Wing Replacement, FAA	Note 1
3366500-3	1	Top Kit - Wing Box Structure	Note 1

(2) For right outer wing:

PART NUMBER	QUANTITY	KEY WORD	INSTRUCTIONS/ DISPOSITION
3366500-2	1	Top Kit - Outer Wing Replacement, FAA	Note 1
3366500-4	1	Top Kit - Wing Box Structure	Note 1

B. The following parts will be removed in compliance with this Service Bulletin:

(1) For left outer wing:

PART NUMBER	QUANTITY	KEY WORD	INSTRUCTIONS/ DISPOSITION
392521-1	1	Outer Wing Assembly	Notes 2 and 3
392521-7	1	Outer Wing Assembly	Notes 2 and 4
392521-11	1	Outer Wing Assembly	Notes 2 and 5
392521-17	1	Outer Wing Assembly	Notes 2 and 6
392521-23	1	Outer Wing Assembly	Notes 2 and 7
388021-9	1	Outer Wing Assembly, 14Y	Notes 2 and 8

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(2) For right outer wing:

PART NUMBER	QUANTITY	KEY WORD	INSTRUCTIONS/ DISPOSITION
392521-2	1	Outer Wing Assembly	Notes 2 and 3
392521-8	1	Outer Wing Assembly	Notes 2 and 4
392521-12	1	Outer Wing Assembly	Notes 2 and 5
392521-18	1	Outer Wing Assembly	Notes 2 and 6
392521-24	1	Outer Wing Assembly	Notes 2 and 7
388021-10	1	Outer Wing Assembly, 14Y	Notes 2 and 8

NOTE:

1. Part may be obtained from Lockheed Martin Aeronautics Company in accordance with Paragraph 1.F.
2. Scrap old part.
3. Applies to outer wings originally installed on Serials 3946 through 4147.
4. Applies to outer wings originally installed on Serial 4208.
5. Applies to outer wings originally installed on Serial 4248.
6. Applies to outer wings originally installed on Serials 4299 through 4388.
7. Applies to outer wings originally installed on Serials 4472 and 4578.
8. Applies to 14Y replacement outer wings.

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