DEPARTMENT OF THE AIR FORCE
309TH CMXG 533RD SQUADRON
HILL AIR FORCE BASE

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309 Commodities Maintenance Group (CMXG)

533 CMMXS

F-16 Wing Skin Milling

Statement of Work

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F-16 Wing Skin Milling

309 CMXG 533 CMMXS

Hill AFB, UT 84056

1.0 – Introduction and Background

The F-16 Fighting Falcon undergoes a major overhaul process after a specific number of flight hours. As part of the overhaul process performed at Hill AFB, the wings are removed from the aircraft and sent to the wing maintenance facility. If a skin warrants replacement, it is removed from the wing box and used as a template to match drill the existing hole patterns in a new skin.

The lower skin tapers in thickness and has a staggered inner mold line (IML), which prevents it from sitting cleanly against the new skin. Thus, in order to accommodate the match drilling process, the IML of the old skin must be milled flat and parallel to its outer mold line (OML). This is to ensure a uniform thickness throughout the skin and allow it to be held against the OML of the new skin for match drilling. The skin milling is done to create a drill template to complete the new skin fastener hole drilling In Accordance With (IAW) 16W9-9-3 Section 5.3.3 and 16W9-13-3 Section 5.4.10

2.0 – Scope of Work

The scope of this service entails the modification of F-16 lower wing skins by milling the inner surface in order to create a uniform thickness throughout each skin. The skin is contoured and therefore must be fixed flat during the milling process. Shipping between Hill AFB and the contracting facility is to be included in the service.

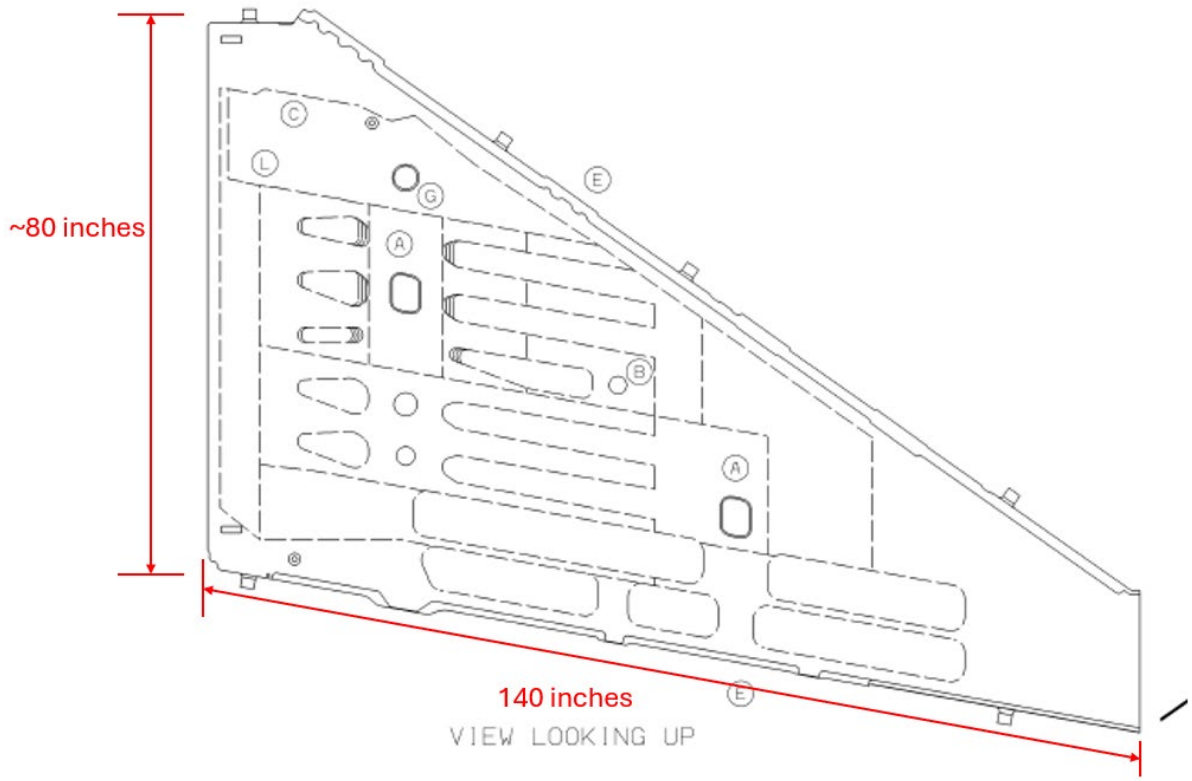

Figure 1: F-16 Wing Skin Size

3.0 – Technical Requirements

3.1 Skin Specifications

3.1.1 The general dimensions of the skin are shown in Figure 1.

3.1.2 The skin thickness tapers from approximately 0.75 inches at the wing root (left of Figure 1) to 0.25 inches at the wing tip (right of Figure 1).

3.1.3 The skin material is aluminum alloy 7475-T7351.

3.1.4 The skin is slightly contoured, and elastically deformed when flattened.

3.2 Machining Requirements

3.2.1 The IML shall be milled to leave a thickness of 0.25 inches ± 0.12 inches throughout the skin.

3.2.1.1 The OML shall not be milled.

3.2.2 The IML shall be distinguished from the OML through the following characteristics:

3.2.2.1 Geometry: The IML features relief cutouts whereas the OML is a smooth, continuous surface.

3.2.2.2 Surface Condition: The IML may exhibit black sealant residue whereas the OML is free of residue.

3.2.3 The skin shall be held flat during milling using any of the following methods:

3.2.3.1 Custom fixturing may be developed by the contractor.

3.2.3.2 A pair of fixture plates developed by Hill AFB (Figures 3 & 4) may be provided. Modification of the plates is permitted.

3.2.4 The skin may be modified to facilitate the milling process, subject to Hill AFB process engineering (PE) approval.

3.2.5 The critical hole pattern (Figure 2) shall remain intact. Any modification to a skin shall have at least 0.5 inches of clearance from a critical hole.

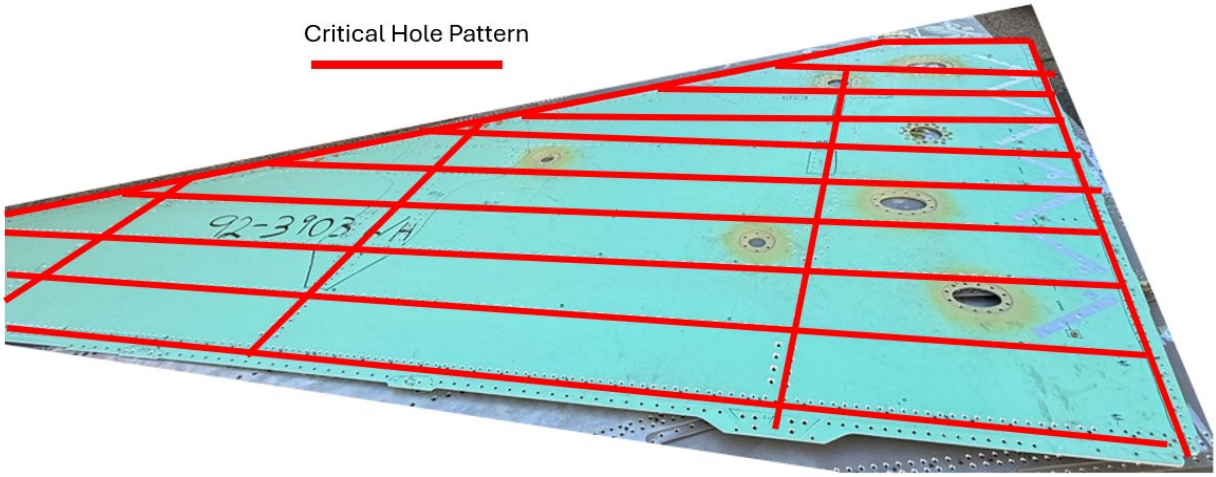

Figure 2: Critical Hole Pattern

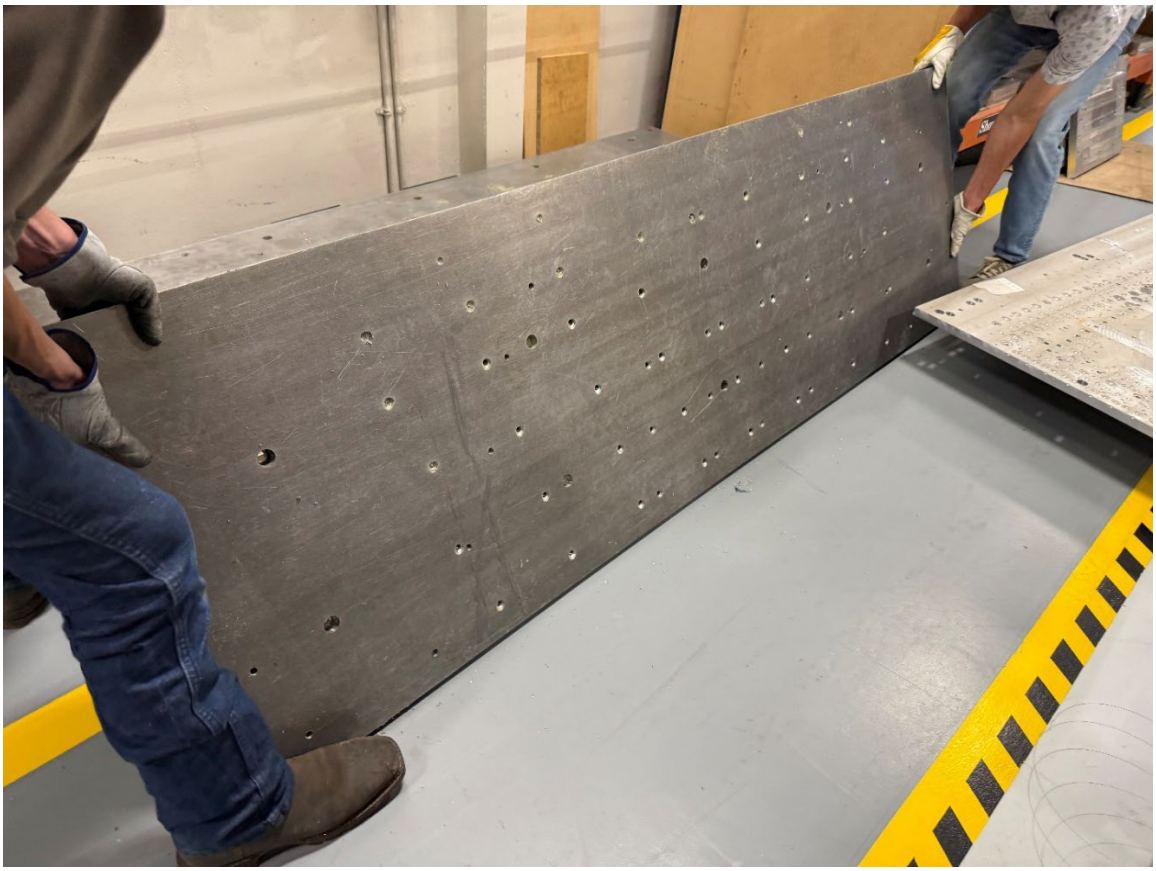

Figure 3: Fixture Plates

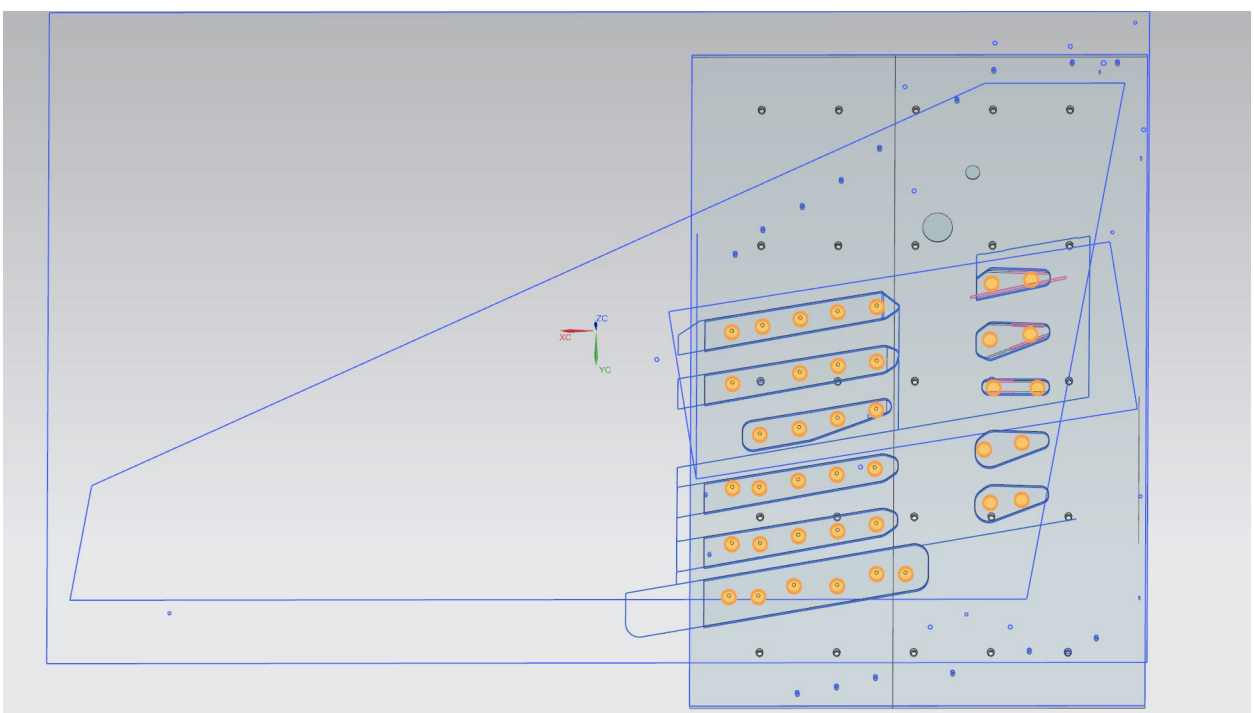

Figure 4: Fixture Plate Positioning (blue)

4.0 – General Requirements

4.1 Hill AFB will notify the contractor at least 5 business days prior to the expected pick-up date with quantity of items to be shipped. Upon notification the contractor shall have 14 business days to pick up, mill, and return to Hill AFB. The contractor will notify the Government Production Supervisor or PE at least two business days prior to return delivery with necessary details to ensure proper transportation and custody of skins.

4.2 The contractor shall demonstrate the milling operation to Hill AFB PE within one month of contract award. Hill AFB PE will provide contractor an email acceptance of first article acceptance within 7 business days.

4.3 No minimum or maximum order quantity will be specified.

4.4 The contractor shall ensure the aircraft tail number is clearly visible when returned to Hill AFB.

4.5 Skins shall be secured to pallets during shipping. The contractor shall provide secure storage and return the skins on original shipping pallets to Hill AFB. The contractor is responsible for the skins while in their possession.

4.6 If Hill AFB fixture plates are requested, Hill AFB will handle delivery of the plates.

4.7 Skins may be accepted in damaged or out of tolerance conditions with prior approval from the government PE.

5.0 – Government Furnished Property (GFP)

5.1 All assets are considered GFP and will be identified at the call level by aircraft tail number. The contractor shall be responsible for managing and safeguarding all GFP in their possession.

6.0 – Security

6.1 The contractor shall ensure the pass and identification items required for contract performance on Hill AFB are obtained for employees and non-Government owned vehicles. The contractor will provide the Program manager (PM) with the required documentation to obtain Defense Biometric Identification System (DBIDS) to ensure Hill AFB access. Contractor employees requiring escorted access will coordinate with the government PE.

7.0 – Contact/Shipping Information

7.1 Process Engineering/F-16 Wing Shop
DODAAC- F2DCDH
309 CMXG/MXDED
5840 Engine Lane
Bldg. 265
HAFB UT 84056

7.2 Hours of Operation
The 309th CMXG current work schedule is Monday through Friday, 0600-1500, except Federal Holidays. No access will be provided to Government facilities on federal holidays: New Year's Day, Martin Luther King, Jr.'s Birthday, Presidents' Day, Memorial Day, Juneteenth, Independence Day, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day, and Christmas Day. If the holiday falls on a Saturday, it is observed the day prior, on Friday. If the holiday falls on a Sunday, it is observed the day after, on Monday.