

*** QUALITY ASSURANCE PROVISIONS**

C-321: SPECIFICATIONS:

NSN: 1615-00-457-9799 P/N:(78286) 65112-07003-042

NOMENCLATURE: Sleeve Assy., Rotary Rudder

Articles to be furnished hereunder shall be manufactured, tested and inspected in accordance with drawing number (78286) 65112-07003-042 REV. "AR" and all details and specifications referenced therein.

Forging(s) P/N: (78286) 65112-07003-006 shall be procured from Ladish Co. Tri-Clover Div. 9201 Wilmot Rd., Kenosha, WI 53140

Adhesive P/N: EC 1751 shall be procured from 3M /3M Center (FSCM: 76381), Bldg. 224-55-04, St.. Paul, MN 55144-1000.

Adhesive P/N: FM 1000 American Cyanamid Co. (FSCM: 07542) Industrial Chemical & Plastics Div., 1300 Revolution St.. Havre De Grace, MD 21078.

I. QUALITY/INSPECTION REQUIREMENTS

- A. MIL-I-45208 or ISO 9000 Equivalent applies:**
- B. First Article Testing applies:**
- C. Production Lot Testing applies:**
- D. Mandatory Inspection applies:**

II. SUPPLEMENTAL REQUIREMENTS

- A. Additionally, para. 3.1, 3.5, 5.1, 5.2, 6.1, 6.2 of MIL-Q-9858 or ISO 9000 equivalent applies.**
- B. The contractor shall include on the detailed process operation sheets developed, a tracking method that is traceable to the contract, all in-house manufacturing processes and the identity of all manufacturing sources performing process/operations outside of their facilities. These sheets shall not be revised or altered after the successful completion of FIRST ARTICLE OR PRODUCTION LOT TESTING without the approval from the basic design engineering activity via the P.C.O..**

- C. The inspection method sheets which list the characteristics of each item produced under the contract shall have serial number traceability to the raw material, casting, or forging. The tracking method used on the inspection/method sheets shall be traceable to the contract. In addition, the contractor is responsible for providing completed inspection method sheets showing the actual dimensions taken of all critical characteristics.
- D. Markings should be I/A/W MIL-STD-130 REV."K" para 5.3.3(a),(b),(c),(g). Method and location shall be I/A/W the drawing.

III. MANDATORY INSPECTION REQUIREMENTS:

During production, mandatory inspection is required to be accomplished by the contractor as follows:

A. LEVEL OF INSPECTION (L.O.I.)

- 1) Critical Characteristics: 100% inspection and documentation of dimensions taken shall apply
- 2) Major and Minor Characteristics: L.O.I. shall be I/A/W a sampling plan acceptable to the Q.A.R..

B. CRITICAL CHARACTERISTICS FOR:

See attached Sheets

C. MAJOR AND MINOR CHARACTERISTICS:

- 1) Shall be defined by the contractor subject to Q.A.R. concurrence, unless defined on applicable drawings and associated specifications.

IV. Unless expressly provided for elsewhere in this clause, equipment such as **FIXTURES, JIGS, DIES, PATTERNS, TEMPLATES, MYLARS, SPECIAL TOOLING, TEST EQUIPMENT**, or any other manufacturing aid required for the manufacture and/or testing of the subject item will not be provided by the government or any other source and is the sole responsibility of the contractor. The foregoing applies notwithstanding any reference to such equipment or the furnishing thereof that may be contained in any drawing or referenced specification.

CRITICAL CHARACTERISTICS FOR P/N:(78286) 65112-07003-042/-103

1.) Zone 1-F

REAM .2483 / .2493 DIA .230 / .260 DEEP

2.) Zone 3-F

5.2505 / 5.2495

3.) Zone 4-F

4.356 / 4.354 DIA is to be concentric with DIA "E" within .002 TIR

4.) Zone 4-D

REAM .3733 / .3743 DIA .230 / .260 DEEP

5.) Zone 5-C

4.3313 / 4.3301 DIA

6.) Zone 5-D

Lower Surface of Flange is to be perpendicular with Surface "C" within .002.

7.) Zone 6-E

4.500-16 UN-3B THD
Spec MIL-S-7742

8.) Zone 6-H

4.606 / 4.604 DIA to be concentric with "D" within .002 TIR

9.) Zone 7-D

.375 / .374

CRITICAL CHARACTERISTICS FOR P/N: 65112-07003-042 (cond)

10.) Zone 7-D

.375 / .374 Wide Ear to be Symmetrical with Datum "A" within .002 regardless of feature size.

11.) Zone 7-D

3.501 / 3.500

12) Zone 5-E

4.3659/4.3645 Dia Before Shot Peen shall be concentric with Datum "D" within .003 TI R

13) Zone 5-E

4.3667/4.3647 Dia After Shot Peen

CRITICAL CHARACTERISTICS FOR P/N: (78286) 65112-07011-102

1.) NONE

I-961 FIRST ARTICLE TEST REQUIRED (GOVERNMENT TESTING)

I. First Article Inspection/Test Criteria:

The tests to be performed under the contract approval clause of the contract are:

- A.** Dimensional Check 100%
- B.** Form/Fit
- C.** Identification
- D.** NDI
- E.** Material Analysis
- F.** Visual: Verification of the overall workmanship
- G.** Compliance with drawing, (78286) 65112-07003-042 REV."AR ", and associated drawings, latest revisions, and specifications referenced therein.
- H.** Packaging and Preservation: Verification that the parts have been preserved and packaged per the requirements of the contract.
- I.** Review documentation as provided under DD 1423 requirements.

In addition to the above tests, the First Articles are to be delivered hereunder shall also be subjected to those tests which will demonstrate that the articles comply with contract requirements.

The contractor shall be responsible for providing necessary parts and repair of the First Article Samples during testing.

II. Samples to be submitted for testing: Quantity: Two (2)

- A.** Estimated cost: TBD
- B.** Waiver of First Article Testing Requirements may be granted for:
(78286) Sikorsky Aircraft
(1S023) Bridean Machine & Tool Co.

III. Testing shall be performed at the Government Designated facility listed below:

NADEP Cherry Point (N65923)
F.A.T. Control Center
Attn: Annie Thomas, Code: 6.1.523
MCAS Cherry Point, NC 28533

IV. Special Instructions:

- A.** Contractor shall provide Two samples, one sample is to be painted and one sample shall be unpainted. The unpainted sample shall be disassembled and the assembled sample shall be painted per the drawing. Corrosive areas are to be coated with a light preservative.
- B.** Samples may be considered as production items under the contract provided that the samples can be refurbished to ready for issue (**RFI**) condition and that the samples have inspection approval of the cognizant **Q.A.R.** Samples may be shipped as production items only after all other units required under the contract have been produced and are ready for shipment.
- C.** Waiver of the destruction of the First Article test piece may be granted if the contractor provides a test coupon with certifications that the test coupon is from the same forging, heat treat lot and has undergone the same special processes as the F.A.T. test piece.
- D.** Corrosive areas are to be coated with a light preservative.
- E.** Samples will be returned to the contractor if not destroyed in testing
- F.** Estimated Production Lead-Time Schedule:
 - 1. Submission of the First Article samples by the contractor: 180 days
 - 2. Analysis of FAT report and notification to contractor: 90 days
 - 3. Production delivery after First Article acceptance: 90 days
 - 4. Total accumulated calendar days 360 days

NOTIFICATION OF SHIPMENT OF MATERIAL FOR GOVERNMENT TESTING

Fourteen (14) days prior to shipment of First Article Samples, the contractor shall notify the designated test facility, in writing of the anticipated shipping date, with an information copy to the P.C.O.. The contractor shall also arrange for preliminary inspection of test samples by the CAO/QAR.

Upon shipment of First Article Samples, two (2) copies of the Material Inspection and Receiving Report (DD Form 250), bearing the QAR's signature and indication of preliminary inspection, shall be forwarded to the designated test facility. The envelopes shall be clearly marked. **"DO NOT OPEN IN MAILROOM"**.

Within 90 days after receipt of the samples, the test site shall complete testing/evaluation and submit two (2) copies of their test report with conclusions and recommendations to the P.C.O..

Disposition instruction must be provided to NADEP Cherry Point First Article Coordinator.

C-330 PRODUCTION LOT TESTING REQUIREMENTS (GOVERNMENT TESTING)

The material produced under contract shall be accepted by the cognizant CAO/QAR contingent upon the successful completion of these requirements.

I. Production Lot Test Sampling Requirements:

- A.** The cognizant CAO/QAR shall select two (2) items at random from the first production lot produced. In addition the QAR shall select one (1) item at random from each successive lot or portion thereof.
- B.** Production Lot Testing to be completed during production after First Article approval.
- C.** First Production Lot samples, 2 ea.; one sample is to be unassembled and unpainted and one sample shall be assembled and painted. Samples shall have corrosive areas coated with a light preservative. Each successive Production Lot samples shall be assembled and painted, corrosive areas shall be coated with a light preservative.

II. The tests to be performed under the Production Lot Sample testing provisions of the contract are:

- A.** Compliance with drawing, (78286) 65112-07003-042 REV. " AR " and associated drawings, latest revisions, and specifications referenced therein.
- B.** Form/Fit
- C.** Dimensional Check 100%
- D.** Function
- E.** Visual: Verification of the overall workmanship
- F.** NDI
- G.** Material Analysis
- H.** Packaging and Preservation: Verification that the parts have been preserved and packaged per the requirements of the contract.
- I.** Review of documentation as provided under CDRL, DD1423

In addition to the above tests, the Production Lot Samples to be delivered hereunder shall also be subjected to those tests which will demonstrate that the samples comply with contract requirements.

III. Testing Location, Cost and Estimated Lead-time:

- A. Ship samples/Data to NADEP, Cherry Point, POC: Annie Thomas, Code: 6.1.523
- B. Shipping container marking: **NON RFI**
- C. Estimated Cost for Inspection/Test is TBD.
- D. Estimated Lead-time for Inspection/Test is TBD.

Within fifteen days of completion of Production Lot Testing, the CAO/QAR shall prepare and submit two copies of the test report with conclusions and recommendations to the contracting officer.

IV. Shipment and Distribution of Samples:

- A. Fourteen (14) days prior to shipment of production lot samples, the contractor shall notify the designated test facility, in writing, of the anticipated shipping date, with an information copy to the P.C.O. . The contractor shall also arrange for preliminary inspection of the test samples by the CAO/QAR.
- B. Upon shipment of Production Lot Samples, two (2) copies of the Material Inspection and Receiving Report (DD Form 250), bearing the QAR'S signature and indication of preliminary inspection, shall be forwarded to P.C.O. and to the designated test facility. The envelope shall be clearly marked. **"DO NOT OPEN IN MAILROOM"**.
- C. Samples may be considered as production items under the contract provided the samples can be refurbished to Ready For Issue (R.F.I.) condition and provided the samples have inspection approval of the cognizant CAO/QAR. Samples may be shipped as production items only after all other units required under the contract have been produced and are ready for shipment.
- D. Samples will be returned to the contractor. Disposition instructions must be provided to NADEP Cherry Point First Article Coordinator.
- E. The designated test facility and the contracting officer shall be notified as to all shipping data applicable to the samples, such as bill of lading number, method of shipment, etc... 14 days prior to shipment.

CONTRACT DATA REQUIREMENTS LIST

Form Approved
OMB NO. 0704-0188

Public reporting burden for this collection of information is estimated to average 440 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send completed form to the Government Issuing Contracting Officer for the Contract/PR No. listed in Block E.

A. CONTRACT LINE ITEM NO.		B. EXHIBIT	C. CATEGORY TDP _____ TM _____ OTHER _____		
D. SYSTEM/ITEM 9G 1615-00-457-9799			E. CONTRACT/PR NO.		F. CONTRACTOR
1. DATA ITEM NO. 1	2. TITLE OF DATA ITEM CERTIFICATION DATA REPORT			3. SUBTITLE COMPLETE PROCESS OP SHEETS	
4. AUTHORITY (Data Acquisition Document No.) DI-MISC-80678/T1			5. CONTRACT REFERENCE		6. REQUIRING OFFICE DSC RICHMOND
7. DD 250 REQ LT	9. DIST STATEMENT REQUIRED	10. FREQUENCY AS REQ	12. DATE OF FIRST SUBMISSION SEE BLOCK #16		
8. APP CODE A		11. AS OF DATE AS REQ	13. DATE OF SUBSEQUENT SUBMISSION SEE BLOCK #16	DISTRIBUTION	
				a. ADDRESSEE	b. COPIES
			Draft		FINAL
				Reg	Repro
16. REMARKS PARA. 10.1, 10.2, 10.2.2, 10.2.4, 10.2.5 SHALL APPLY * UPON SUBMISSION OF FIRST ARTICLE/PRODUCTION LOT TEST SAMPLE(S) ** IF PROCESS OPERATION SHEETS CHANGE AFTER SUCCESSFUL COMPLETION OF FAT/PLT.			CAO/QAR	*	1/0
			NADEP/CHRPT	**	1/0
			CODE:6.1.523		
			15. TOTAL		2/0
1. DATA ITEM NO. 2		2. TITLE OF DATA ITEM CERTIFICATION DATA REPORT		3. SUBTITLE COMPLETE INSPECTION METHOD SHEETS	
4. AUTHORITY (Data Acquisition Document No.) DI-MISC-80678/T2			5. CONTRACT REFERENCE		6. REQUIRING OFFICE DSC RICHMOND
7. DD 250 REQ LT	9. DIST STATEMENT REQUIRED	10. FREQUENCY AS REQ	12. DATE OF FIRST SUBMISSION SEE BLOCK #16		
8. APP CODE A		11. AS OF DATE AS REQ	13. DATE OF SUBSEQUENT SUBMISSION SEE BLOCK #16	DISTRIBUTION	
				a. ADDRESSEE	b. COPIES
			Draft		FINAL
				Reg	Repro
16. REMARKS PARA. 10.1, 10.2, 10.2.1, 10.2.2, 10.2.4, 10.5 SHALL APPLY * UPON SUBMISSION OF FIRST ARTICLE/PRODUCTION LOT TEST SAMPLE(S) ** AT TIME OF CONTRACT COMPLETION.			CAO/QAR	*	1/0
			NADEP/CHRPT	**	1/0
			CODE:6.1.523		
			15. TOTAL		2/0
1. DATA ITEM NO. 3	2. TITLE OF DATA ITEM REQUEST FOR WAIVER			3. SUBTITLE	
4. AUTHORITY (Data Acquisition Document No.) DI-CMAN-80640B			5. CONTRACT REFERENCE		6. REQUIRING OFFICE DSC RICHMOND
7. DD 250 REQ LT	9. DIST STATEMENT REQUIRED	10. FREQUENCY AS REQ	12. DATE OF FIRST SUBMISSION		
8. APP CODE		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBMISSION	DISTRIBUTION	
				a. ADDRESSEE	b. COPIES
			Draft		FINAL
				Reg	Repro
16. REMARKS			DCMC/ACO		1/0
			DCMC/QAR		1/0
			PCO		1/0
			15. TOTAL		3/0
1. DATA ITEM NO. 4	2. TITLE OF DATA ITEM REQUEST FOR DEVIATION			3. SUBTITLE	
4. AUTHORITY (Data Acquisition Document No.) DI-CMAN-80641B			5. CONTRACT REFERENCE		6. REQUIRING OFFICE DSC RICHMOND
7. DD 250 REQ LT	9. DIST STATEMENT REQUIRED	10. FREQUENCY AS REQ	12. DATE OF FIRST SUBMISSION		
8. APP CODE		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBMISSION	DISTRIBUTION	
				a. ADDRESSEE	b. COPIES
			Draft		FINAL
				Reg	Repro
16. REMARKS			DCMC/ACO		1/0
			DCMC/QAR		1/0
			PCO		1/0
			15. TOTAL		3/0
G. PREPARED BY TIMOTHY J. MOSSER			H. DATE	I. APPROVED BY	
				J. DATE	

CONTRACT DATA REQUIREMENTS LIST
(1 Data Item)

Form Approved
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Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. Please DO NOT RETURN your form to either of

A. CONTRACT LINE ITEM NO. 9G1615-00-457-9799	B. EXHIBIT	C. CATEGORY: TOP _____ TM _____ OTHER _____
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D. SYSTEM/ITEM	E. CONTRACT/PR NO.	F. CONTRACTOR
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1. DATA ITEM NO. 3	2. TITLE OF DATA ITEM CERTIFICATION DATA / REPORTS	3. SUBTITLE
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4. AUTHORITY (Data Acquisition Document No.) DI-MISC-80678/T3	5. CONTRACT REFERENCE	6. REQUIRING OFFICE NADEP/CHRYPT
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7. DD 250 REQ LT	9. DIST STATEMENT REQUIRED	10. FREQUENCY AS REQ	12. DATE OF FIRST SUBMISSION SEE BLOCK 16*	14. DISTRIBUTION
8. APP CODE A		11. AS OF DATE	13. DATE IF SUBSEQUENT SUBMISSION SEE BLOCK 16*	a. ADDRESSEE
				b. COPIES
				Draft
				Final
				Reg
				Repro

Nomen: Pin, P/N:(78286) S6110-21002-001/ & -003
Material Certifications for the following:
Material 4130 Cond "D" Per SAE AMS-S-6758,
Alternate Material: See Note "5" of Dwg.

Certifications for the Following:
-Cadmium Plate Per QQ-P-416
-Magnetic Particle Insp. Per SS 8805

NOMEN: Plate Rigging, P/N:(78286) 65112-07011-102
Material Certifications for the following:
Photo Sensitive Al Per GG-P-00455 GR "A"

Certifications for The Following:
-Application of Adhesive Per SS 8642
-Manufacture Plate I/A/W SS 9048

NOMEN: Sleeve Assy, P/N:(78286) 64111-07303-102
Material Certifications for the following: Steel, Corrosion Res. Per AMS 5518J

Certifications for the Following:
-Pentran Insp Per SS8806
-Passivate Per SS 8435

G. PREPARED BY Timothy J. Mosser 0731.18	H. DATE	I. APPROVED BY	J. DATE
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17. PRICE GROUP
18. ESTIMATED TOTAL PRICE