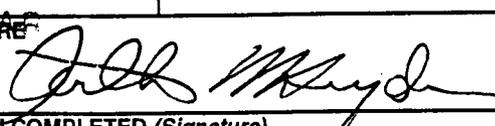


NOTICE OF REVISION (NOR)		1. DATE (YYMMDD) 000202	<i>Form Approved</i> OMB No. 0704-0188
THIS REVISION DESCRIBED BELOW HAS BEEN AUTHORIZED FOR THE DOCUMENT LISTED.			
<small>Public reporting burden for this collection of information is estimated to average 2 hours per response, including the time for 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.</small> PLEASE DO NOT RETURN YOUR COMPLETED FORM TO EITHER OF THESE ADDRESSES. RETURN COMPLETED FORM TO THE GOVERNMENT ISSUING CONTRACTING OFFICER FOR THE CONTRACT/PROCURING ACTIVITY NUMBER LISTED IN ITEM 2 OF THIS FORM.		2. PROCURING ACTIVITY NO. LOA2002	
		3. DODAAC	
4. ORIGINATOR	b. ADDRESS (Street, City, State, Zip Code)	5. CAGE CODE	6. NOR NO.
a. TYPED NAME (First, Middle Initial, Last) AMSTA-AR-FSA-T	US ARMY ARDEC PICATINNY ARSENAL NJ 07806 - 5000	19200	001
		7. CAGE CODE 19200	8. DOCUMENT NO. F12909073
9. TITLE OF DOCUMENT PUMP , HYDRAULIC	10. REVISION LETTER		11. ECP NO.
	a. CURRENT B	b. NEW C	LOA2002
12. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES HOWITZER , 155MM , MEDIUM , TOWED , M198			
13. DESCRIPTION OF REVISION			
<p>ZONE C - 4 DELETE SUGGESTED SOURCE OF SUPPLY BOX AND CONTENTS</p> <p>ZONE C - 6 , 7 DELETE REPAIR PARTS ONLY BOX AND CONTENTS</p> <p>ZONE F - 8 NOTE 2 - A CHANGE FROM : PUMP SHALL MEET THE DIMENSIONAL REQUIREMENTS OF THIS DRAWING AND OTHERWISE SHALL CONFORM TO AN 6248-3 AND SPEC MIL - P - 5515 CHANGE TO : PUMP SHALL MEET THE REQUIREMENTS OF THIS DRAWING AND OTHERWISE SHALL CONFORM TO AN 6248-3 AND SPEC MIL - P - 5515 NOTE 2 - B CHANGE FROM : OPERATION AT -65 F IS ESSENTIAL CHANGE TO : OPERATION AT -50 F AND +160 F IS ESSENTIAL USING MIL - H - 6083 HYDR . FLUID ADD NOTE 2 - G THE PUMPS SHALL WITHSTAND 10,000 CYCLES AT SPECIFIED CONDITIONS WITHOUT SERVICING ADD NOTE 2 - H COLD PRIMING AND COLD SOAK TEST AT NOT LESS THAN -50 F ADD NOTE 2 - I COLD CYCLING OPERATION WITH THE PUMP AND FLUID HELD AT -40 F TO -50 F</p> <p>ZONE A - 3 DELETE : SOURCE CONTROL DRAWING ADD : SPECIFICATION CONTROL DRAWING</p> <p>ZONE E - 8 , D - 8 DELETE NOTE 4 DELETE NOTE 6</p>			
14. THIS SECTION FOR GOVERNMENT USE ONLY			
a. (X one)	<input type="checkbox"/> (1) Existing document supplemented by this NOR may be used in manufacture. <input type="checkbox"/> (2) Revised document must be received before manufacturer may incorporate this change. <input type="checkbox"/> (3) Custodian of master document shall make above revision and furnish revised document.		
b. ACTIVITY AUTHORIZED TO APPROVE CHANGE FOR GOVERNMENT TACOM-ARDEC, AMSTA-AR-FSA-R		c. TYPED NAME (First, Middle Initial, Last)	
d. TITLE ARTHUR J. HEYDERMAN Chief, FSAC Prod & Log Eng Spt Team	e. SIGNATURE 		f. DATE SIGNED (YYMMDD) 2000 0322
15.a. ACTIVITY ACCOMPLISHING REVISION	b. REVISION COMPLETED (Signature)	c. DATE SIGNED (YYMMDD)	

NOTICE OF REVISION (NOR)		1. DATE (YYMMDD)	Form Approved
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Public reporting burden for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing the collection of information. Send comments regarding this burden estimate or any other aspect of this information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate of 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.			2. PROCURING ACTIVITY NO.
PLEASE DO NOT RETURN YOUR COMPLETED FORM TO EITHER OF THESE ADDRESSES. RETURN COMPLETED FORM TO THE GOVERNMENT ISSUING CONTRACTING OFFICER FOR THE CONTRACT / PROCURING ACTIVITY NUMBER LISTED IN ITEM 2 OF THIS FORM.			3. DODAAC
4. ORIGINATOR	b. ADDRESS (Street, City, State, Zip Code)	5. CAGE CODE	6. NOR NO.
a. TYPED NAME (First, Middle Initial, Last)	US ARMY ARDEC AMSTA-AR-QAA-R PICATINNY ARSENAL, NJ	19200	2 OF 2
RAYMOND V. MESEIKA		7. CAGE CODE	8. DOCUMENT NO.
		19200	SQ12909073
9. TITLE OF DOCUMENT	10. REVISION LETTER		11. ECP NO.
QUALITY ASSURANCE PROVISION FOR HYDRAULIC PUMP	a. CURRENT	b. NEW	
	-	A	L0A2002
12. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES			Sheet 1 of 1
M198 TOWED HOWITZER, 155MMM			
13. DESCRIPTION OF REVISION			
<p>NOR CONTINUATION SHEET 1</p> <p>NOR CONTINUATION SHEETS 2-6 ORIGINAL SQ12909073</p> <p>NOR CONTINUATION SHEETS 7-14 DRAFT REVISED SQ12909073</p>			
14. THIS SECTION FOR GOVERNMENT USE ONLY			
a. (X one)	<input type="checkbox"/> (1.) Existing document supplemented by this NOR may be used in manufacture. <input type="checkbox"/> (2.) Revised document must be received before manufacture may incorporate this change. <input type="checkbox"/> (3.) Custodian of master document shall make above revision and furnish revised document.		
b. AUTHORITY AUTHORIZED TO APPROVE CHANGE FOR GOVERNMENT		c. TYPED NAME (First, Middle Initial, Last)	
TACOM ARDEC, AMSTA-AR-ESAC			
d. TITLE	e. SIGNATURE	f. DATE SIGNED	
ARTHUR J. HEYDERMAN Chief, FSAC Prod & Log Eng Spt Team		2000 0322	
15a. ACTIVITY ACCOMPLISHING REVISION	b. REVISION COMPLETED (Signature)	f. DATE SIGNED	

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QUALITY ASSURANCE PROVISIONS (QAP) - (CONTINUATION SHEET)
(DARCOM-R 702-10)

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PART II. QUALITY PROVISIONS

1. Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in this specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

2. Responsibility for compliance. All items shall meet all requirements of referenced drawings, special packaging instructions, and specifications. The inspection set forth in this QAP shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in this QAP shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements; however, this does not authorize submission of known defective material, either indicated or actual, not does it commit the Government to accept defective material.

3. General specification. Unless otherwise specified in the contract, the provisions of general specification MIL-W-63150 apply and are hereby made a part of this QAP.

4. First article inspection.

4.1 Submission. Unless otherwise specified, a first article sample consisting of two ~~pieces~~ ^{items} shall be submitted for inspection and approval in accordance with the terms of the contract. The sample items will be subjected to all of the quality conformance inspections listed in this QAP and may be inspected for compliance with any or all of the requirements of the applicable drawing(s) or specifications(s).

4.2 Rejection. If any sample item fails to comply with any of the applicable requirements, the first article sample shall be rejected. The Government reserves the right to terminate inspection upon any failure to comply with any of the requirements.

					CAGE CODE 13200
10. REVISION SYMBOL AND DATE					11. QAP NO. 12903073
					12. PAGE NO. 2

DARCOM 2484-R

STATEMENT R: UNLIMITED

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Q7A2092

QUALITY ASSURANCE PROVISIONS (QAP) - (CONTINUATION SHEET)
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5. Quality Conformance Inspection. Quality conformance inspection shall consist of inspection of the characteristics listed in Part III, Inspection Requirements, and Part IV, Certification Requirements, of this QAP. Failure to comply with the conformance criteria specified shall be cause for rejection of the lot or quantity represented. All other quality characteristics not specifically listed herein are subject to control under the contractor's quality program or inspection system.

5.1 Alternative quality conformance provisions. Alternative quality conformance provisions, such as statistical process controls or variables sampling plans, may be used by the contractor in lieu of the inspection provisions contained herein when such alternative(s) provide an equivalent or better level of quality assurance, and provided they have been described in a written proposal which has been approved by the Government. All approved alternative quality conformance provisions shall be incorporated into the contractor's quality program or inspection system.

PART III. INSPECTION REQUIREMENTS

1. Classification of Quality Conformance Characteristics.

CLASS	CHARACTERISTIC	AQL	INSPECTION METHOD
Critical:	None		
Major:			
101.	Assembly incomplete or missing components	.65	Visual
102.	0.257 Dim. (2 places)	.65	SMTE
103.	1.031 Dim.	.65	SMTE
104.	2.750 Dim.	.65	SMTE
105.	2.310 Dim.	.65	SMTE
106.	1.000 Dim.	.65	SMTE
107.	1.250 Dim.	.65	SMTE
108.	Hardness, RC 22-30, Pump Body	1.0	SMTE
109.	Hardness, RC 35-40, Bushing	1.0	SMTE

CAGE CODE
19200

10. REVISION SYMBOL AND DATE

12. QAP NO. 1705073
14. PAGE NO. 3

DARCOM FORM 2484-R

STATEMENT A: UNLIMITED

Nor Continuation Sheet 4 of 14
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QUALITY ASSURANCE PROVISIONS (QAP) - (CONTINUATION SHEET)
(DARCOM-R 702-10)

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Minor:

201.	Identification Plate Missing or Incorrect	2.5	Visual
202.	Workmanship	4.0	Visual

2. Special sampling inspection. Three items from each lot shall be subjected to the following tests.

301. Structural strength. These tests shall be conducted as specified in Part V, 501. The item(s) to be tested shall be representative of the items processed. Failure to pass any one of these tests shall be cause for rejection of the lot or the quantity represented. Cracks, deformation or breakage are considered a structural failure.

302. Priming. This test shall be conducted as specified in Part V, 502. The test item shall be a representative sample of the items processed. Failure to pass this test shall be cause for rejection of the quantity it represents.

303. Proof Pressure. This test shall be conducted as specified in Part V, 503. The test item shall be representative of the items being processed. Failure to successfully complete this test, shall be cause for rejection of the representative quantity.

304. Cold Priming. This test shall be conducted as specified in Part V, 504. The test item shall be representative of the items being processed. Failure to pass this test shall be cause for rejection of the lot or quantity it represents.

PART IV. CERTIFICATION PROVISIONS

The certification provisions of MIL-W-63150 for Certification of Conformance (COC) and Certified Test Reports (CTR) shall apply.

1. Certificates of Conformance are required for the following:

Number	Characteristic	Test Data to Comply With
401.	Material Pump Body	Dwg 12909073, Note 2C
402.	Material, Pins	Dwg 12909073, Note 2D
403.	Material, Bushing	Dwg 12909073, Note 2E
404.	Material, Pivot Arm	Dwg 12909073, Note 2F

		CAGE CODE 19200	
10. REVISION SYMBOL AND DATE		10. QAP NO. 12909073	10. PAGE NO. 4

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STATEMENT A: UNLIMITED

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QUALITY ASSURANCE PROVISIONS (QAP) - (CONTINUATION SHEET)
(DARCOM-R 702-10)

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2. Certified Test Reports are required as follows:

- 501. Dimensional Inspection MIL-P-5515, Para 4.4.5, AN 6248-3
- 502. Priming MIL-P-5515, Para 4.4.6.2
- 503. Ability to Hold Prime MIL-P-5515, Para 4.4.6.3
- 504. Output Pressure MIL-P-5515, Para 4.4.6.4.1
- 505. Handle Torque MIL-P-5515, Para 4.4.6.4.1.1
- 506. Mechanical Efficiency MIL-P-5515, Para 4.4.6.4.1.2
- 507. Burst Pressure MIL-P-5515, Para 4.4.6.4.3
- 508. Cold Cycling MIL-P-5515, Para 4.4.6.5.2
- 509. Volumetric Efficiency MIL-P-5515, Para 4.4.6.6
- 510. Endurance MIL-P-5515, Para 4.4.6.7

PART V. TEST METHODS AND PROCEDURES

- 501. Structural Strength. These tests shall be conducted in accordance with the procedures of MIL-P-5515, Para 4.4.6.1.
- 502. Primary. The test shall be conducted in accordance with the procedures of MIL-P-5515, Para 4.4.6.2.
- 503. Proof Pressure. This test shall be conducted in accordance with the procedures of MIL-P-5515, Para 4.4.6.4.2.
- 504. Cold Priming. This test shall be conducted in accordance with the procedures of MIL-P-5515, Para 4.4.6.5.1.

16. REVISION SYMBOL AND DATE						CAGE CODE
						19200
						16. QAP NO.
						12909071
						16. PAGE NO.
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STATEMENT A: UNCLASSIFIED

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 "ORIGINAL" QAP

QUALITY ASSURANCE PROVISION (QAP)

(DARCOM-R-702-10)

1. COMMAND AGENCY:

U.S. ARMY ARMAMENT, RESEARCH, DEVELOPMENT AND ENGINEERING CENTER PICATINNY ARSENAL, N.J.
07806-5000

THESE QAP'S FORM PART OF DRAWING/SPECIFICATION 12909073 AS SPECIFIED IN THE CONTRACT. INSPECTION SHALL BE CONDUCTED AS SPECIFIED HEREIN AND IN ACCORDANCE WITH REFERENCED DOCUMENTS.

3. PART I. LIST OF APPLICABLE DOCUMENTS

DRAWINGS

12909073 Pump, Hydraulic

STANDARDS

NONE

SPECIFICATIONS

MIL-P-5515 Pump, Hydraulic, Ram, Hand Driven
NASM20392 Pin, Straight, Headed, Drilled Shank

Nor Continuation Sheet 7 of 14
ECP No.: L0A2002
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"DRAFT", Revised QAP

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

REVISIONS

4. RELEASE NUMBER	L0A2002																			
5. DATE																				
4. RELEASE NUMBER																				
5. DATE																				
REVISION STATUS OF SHEETS	6. REVISION	A	A	A	A	A	A	A	A	A										
	7. SHEET	1	2	3	4	5	6	7	8	9										
	6. REVISION																			
	7. SHEET																			

8. QAP FOR: Pump, Hydraulic: M198 TOWED HOWITZER, 155MM		ORIG CODE IDENT 19200	CAGE CODE 19200
9. SUBMITTED BY AMSTA-AR-QAA-R, Raymond V. Meseika		10. QAP NO.: 12909073	
11. DATE	12. APPROVED: VICTOR LEONG	13. RELEASE NO. G3A2092	14. PAGE NO.: 1
		15. NO. OF PAGES: 1 OF 8	

QUALITY ASSURANCE PROVISION (QAP)

(DARCOM-R-702-10)

3. **PART II. CONFORMANCE PROVISIONS**

1. Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in this specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

2. Responsibility for compliance. All items shall meet all requirements of referenced drawings, special packaging instructions, and specifications. The inspection set forth in this QAP shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in this QAP shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements; however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

3. General provisions.

3.1 Classification of characteristics. There are three classes of characteristics covered in this QAP. These are critical characteristics, major characteristics and minor characteristics, as defined herein.

3.1.1 Critical characteristic. A critical characteristic is a characteristic that judgment and experience indicate that if nonconforming is likely to result in hazardous or unsafe conditions for individuals using, maintaining, or depending upon the product, or a characteristic that judgment and experience indicate is likely to prevent performance of the tactical function of a major end item such as a tank, land vehicle, missile, aircraft, artillery, or other major weapon system.

3.1.2 Major characteristic. A major characteristic is a characteristic that if nonconforming is likely to result in failure, or to reduce materially the usability of the unit of product for its intended purpose.

3.1.3 Minor characteristic. A minor characteristic is a characteristic that if nonconforming is not likely to reduce materially the usability of the unit of product for its intended purpose, or is a departure from established standards having little bearing on the effective use or operation of the unit.

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QUALITY ASSURANCE PROVISION (QAP)

(DARCOM-R-702-10)

3.

3.2 Certification provisions.

3.2.1 Certificate of conformance (COC). A certificate of conformance is required for Military Standard and commercial items. When a Certified Test Report is not required for material and process specification requirements, a COC, supported by inspection and test data, material analysis, or certification from the raw material producer or processor, shall be made available to the Government for specifications covering raw material, processed material, and processes. The contractor shall make the COC available to the Government prior to or with the request to perform acceptance inspection approval by the Government. This is in addition to, and not in lieu of, any rights of the Government under this contract or law. A COC may be used as an element incident to, but shall not be used as the sole basis for, Government acceptance of contract item(s) unless so indicated in the technical documentation or contract. As a minimum, the COC shall contain the following:

- a. Name of company and date.
- b. Contract number or purchase order number, national stock number and drawing number.
- c. Complete nomenclature of supplies together with lot number or other identification. The quantity in each lot or shipment shall be given.
- d. A statement, as follows, certifying that material meets all requirements of the contract:

"The undersigned, individually, and as the authorized representative of the contractor, warrants and represents that: All the information supplied above is true and accurate; the material covered by this certificate conforms to all contract requirements (including but not limited to the drawings and specifications); the analyses appearing herein are true and accurate analyses; and this certificate is made for the purpose of inducing payment and with knowledge that the information and certification may be used as a basis for such payment."

- e. Signature and title of certifying official.

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QUALITY ASSURANCE PROVISION (QAP)

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3.
4. First article inspection.

4.1 Submission. Unless otherwise specified, a first article sample consisting of three (3) Hydraulic Pumps, shall be submitted for inspection and approval in accordance with the terms of this contract. The sample items will be subjected to any or all of the quality conformance inspections listed in this QAP and may be inspected for compliance with any or all of the requirements of the applicable drawings and specifications.

4.2 Rejection. If any sample item fails to comply with any of the applicable requirements, the first article sample shall be rejected. The Government reserves the right to terminate inspection upon any failure to comply with any of the requirements.

5. Verification. Verification inspection shall consist of inspection of all characteristics contained in Part III, Inspection Requirements, and Part IV, Certification Provisions, of this QAP. Failure to comply with the conformance criteria specified shall be cause for rejection of the lot or quantity represented. All other quality characteristics not specifically listed herein are subject to control under the contractor's quality program or inspection system.

5.1 Lot formation. The term "lot" is defined as a homogeneous collection of units of product which a representative sample is drawn or which is inspected 100 percent to determine conformance with applicable requirements. Units of product selected for inspection shall represent only the lot from which they are drawn and shall not be construed to represent any prior or subsequent quantities presented for inspection. Homogeneity shall be considered to exist provided the inspection lot has been produced by one manufacturer, in one unchanged process, using the same materials and methods, in accordance with the same drawings, same drawing revisions, same specifications and specification revisions. All material submitted for inspection in accordance with this specification shall comply with the homogeneity criteria specified herein, regardless of the type of inspection procedure which is being applied to determine conformance with requirements.

5.2 Attributes sampling inspection. Unless otherwise specified, sampling inspection for quality conformance characteristics listed in Part III shall be in accordance with Table I below, using Inspection Level I for each major characteristic and Inspection Level II for each minor characteristic. Samples shall be selected at random so as to be representative of the lot.

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	AND DATE					

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3. Table I. Attributes sampling inspection.

<u>Lot Size</u>	<u>Inspection Levels</u>	
	<u>I</u>	<u>II</u>
2 to 8	*	5
9 to 15	13	5
16 to 25	13	5
26 to 50	13	5
51 to 90	13	7
91 to 150	13	11
151 to 280	20	13
281 to 500	29	16
501 to 1200	34	19

The asterisk indicates 100 percent inspection. Numbers under Inspection Level column indicate sample size. If sample size exceeds lot size, perform one hundred percent inspection. Reject the lot represented if one or more nonconforming characteristics are found in any sample for any level.

5.3 Alternative verification provisions. Unless otherwise specified, alternative verification provisions, such as statistical process control (preferred), variables or continuous sampling plans, may be used by the contractor in lieu of the inspection provisions contained herein when such alternative(s) provide an equivalent or better level of quality assurance, and provided they have been described in a written proposal which has been approved by the Government. All approved alternative verification provisions shall be incorporated into the contractor's quality program or inspection system.

PART III. INSPECTION REQUIREMENTS

1. Classification of Conformance Characteristics.

<u>CLASS</u>	<u>CHARACTERISTIC</u>	<u>ZONE</u>	<u>CONFORMANCE CRITERIA</u>	<u>INSPECTION METHOD</u>
<u>CRITICAL:</u>				
None				
<u>MAJOR</u>				
101	Assembly incomplete or missing components		100%	VISUAL
102	Diameter of 0.257 Holes (2 Places)	D5	100%	SMTE
103	Location of two 0.257 Holes to NASM20392 Pin	D5	100%	SMTE

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QUALITY ASSURANCE PROVISION (QAP)

(DARCOM-R-702-10)

3.	104	Location of 0.257 Holes to each other	C5	100%	SMTE
	105	Location of 0.257 holes to 0.312 Pin	C4	100%	SMTE
	106	Diameter of 1.000 Adapter Hole	E3	100%	SMTE
	107	Location of 0.312 Pin to NASM Pin	D4	100%	SMTE
	108	RHC 22-30	Note 2C	100%	SMTE
	109	RHC 35-40	Note 2E	100%	SMTE
	110	Proof Pressure	-	100%	503

MINOR

201	Item Identification IAW MIL-STD-130	Note 5	II	Visual
202	Workmanship	All	II	513

2. Special sampling inspection.

301. **MAJOR STRUCTURAL STRENGTH.** Each unit selected for FAT shall be subjected to this test. The test unit shall meet the required structural strength cited in MIL-P-5515, para. 3.7.1 and shall meet the requirements of special test method 501 specified in this document. Cracks, deformation or breakage are considered a structural failure.

302. **MAJOR PRIMING.** Each unit selected for FAT shall be subjected to this test. The test unit shall meet the required priming cited in MIL-P-5515, para. 3.7.2. and shall meet the requirements of special test method 502.

303. **MAJOR COLD PRIMING.** Each unit selected for FAT shall be subjected to this test. The test unit shall meet the required cold priming at -50 degrees F cited in MIL-P-5515, para. 3.7.6.1, and shall meet the requirements of special test method 504.

304. **MAJOR ABILITY TO HOLD PRIME.** Each unit selected for FAT shall be subjected to this test. The test unit shall meet the required ability to hold prime cited in MIL-P-5515, para. 3.7.3. and shall meet the requirements of special test method 505.

305. **MAJOR OUTPUT PRESSURE.** Each unit selected for FAT shall be subjected to this test. The test unit shall meet the required output pressure cited in MIL-P-5515, para. 3.7.4.1, the pump will be tested at 120 degrees F, for on output of 65% and at 145 degrees F for 50% displacement per cycle and shall meet the requirements of special test method 506.

306. **MAJOR HANDLE TORQUE.** Each unit selected for FAT shall be subjected to this test. The test unit shall meet the required handle torque cited in MIL-P-5515, para. 3.7.5 and meet the requirements of special test method 507.

307. **MAJOR MECHANICAL EFFICIENCY.** Each unit selected for FAT shall be subjected to this test. The test unit shall meet the required mechanical efficiency cited in MIL-P-5515, para. 3.7.7.2 and meet the requirements of special test method 508.

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	SYMBOL	
	AND DATE	

QUALITY ASSURANCE PROVISION (QAP)

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3. 308. **MAJOR COLD CYCLING.** Each unit selected for FAT shall be subjected to this test. The test unit and fluid shall meet the required cold cycling at -40 to -50 degrees F cited in MIL-P-5515, para. 3.7.6.2 and meet the requirements of special test method 509.

309. **MAJOR VOLUMETRIC EFFICIENCY.** Each unit selected for FAT shall be subjected to this test.. The test unit shall meet the required volumetric efficiency in MIL-P-5515, para. 3.7.7.1 and meet the requirements of special test method 510.

310. **MAJOR ENDURANCE.** Two of three units selected for FAT shall be subjected to this test. The test unit shall meet the required endurance for 10,000 cycles cited in MIL-P-5515, para. 3.7.8 and meet the requirements of special test method 511. This test may be conducted at the end of FAT testing.

311. **MAJOR BURST PRESSURE.** One of the three units selected for FAT shall be subjected to this. The test unit shall meet the required burst pressure in MIL-P-5515, para.3.7.4.3 and meet the requirements of special test method 512. This test may be conducted at the end of FAT testing and it shall be at 7,500 psi.

2.1 **Failure.** If any item fails to meet specified test requirements, acceptance of the product shall be suspended until necessary corrections have been made by the contractor and approved by the Government.

PART IV. CERTIFICATION REQUIREMENTS

The certification provisions of paragraph 3.2 shall apply. Certifications are required for the following:

<u>NUMBER</u>	<u>CHARACTERISTIC</u>	<u>CERTIFICATION METHOD</u>	<u>TEST DATA TO COMPLY WITH</u>
401	Material, Pump Body	COC	DWG 12909073, NOTE 2C
402	Material, Pins	COC	DWG 12909073, NOTE 2D
403	Material, Bushing	COC	DWG 12909073, NOTE 2E
404	Material, Pivot Arm	COC	DWG 12909073, NOTE 2F

PART V. TEST METHODS AND PROCEDURES

501. **STRUCTURAL STRENGTH.** This test shall be conducted in accordance with the requirements in MIL-P-5515, para 4.4.6.1. The test procedure shall be as described in special sampling inspection 301.

502. **PRIMING.** This test shall be conducted in accordance with the requirements in MIL-P-5515, para 4.4.6.2. The test procedure shall be as described in special sampling inspection 302.

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3.

503. PROOF PRESSURE. This test shall be conducted in accordance with the procedures in MIL-P-5515, para 4.4.6.4.2.

504. COLD PRIMING. This test shall be conducted in accordance with the procedures in MIL-P-5515, para 4.4.6.5.1. The cold soak will occur at -50 degrees F or colder for three days. The test procedure shall be as in special sampling inspection 303.

505. ABILITY TO HOLD PRIME. This test shall be conducted in accordance with MIL-P-5515, para 4.4.6.3. The test procedure shall be as in special sampling inspection 304.

506. OUTPUT PRESSURE. This test shall be conducted in accordance with MIL-P-5515, para 4.4.6.4.1. The test procedure shall be as in special sampling inspection 305.

507. HANDLE TORQUE. This test will be performed in accordance with MIL-P-5515, para 4.4.6.4.1.1. The test procedure shall be as in special sampling inspection 306.

508. MECHANICAL EFFICIENCY. This test shall be conducted in accordance with MIL-P-5515, para 4.4.6.4.1.2. The test procedure shall be as in special sampling inspection 307.

509. COLD CYCLING. This test shall be conducted in accordance with MIL-P-5515, para 4.4.6.5.2, the fluid and the pump shall be maintained at -40 to -50 degrees F. The test procedure shall be as in special sampling inspection 308.

510. VOLUMETRIC EFFICIENCY. This test shall be conducted in accordance with MIL-P-5515, para 4.4.6.6. The test procedure shall be as in special sampling inspection 309.

511. ENDURANCE. This test shall be conducted in accordance with MIL-P-5515, para 4.4.6.7. The test procedure shall be as in special sampling inspection 310.

512. BURST PRESSURE. This test shall be conducted in accordance with MIL-P-5515, para 4.4.6.4.3. The test procedure shall be as in special sampling inspection 311.

513. WORKMANSHIP. The Hydraulic Pumps shall not exhibit defective material or processing such as: seams, laps, laminations, cracks, fins, extraneous material, visible steps or irregularities, sharp edges, nicks, scratches, burrs, tool scores and gouges, deformation, improper assembly, missing parts, stains, corrosion, rust, unauthorized salvaging operations (e.g., hammering to shape, repair to shape, repair by welding, straightening, bending, etc.).

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