

ENGINEERING RELEASE RECORD

1. ERR NO. BRI-T6965	2. DATE <i>03-10-20</i>	3. SHEET OF SHEET 1 OF 4
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4. **BASELINE ESTABLISHED OR CHANGED**

FUNCTIONAL
 ALLOCATED
 PRODUCT

5. TYPE OF RELEASE <input type="checkbox"/> INITIAL <input checked="" type="checkbox"/> CHANGE	6. ECP NO. BRI-T6965 DATE APPROVED 03-07-30
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7. FUNCTIONAL ASSEMBLY NOMENCLATURE

11671787 ELECTRICAL INSTALLATION

8. SYSTEM / OR CONFIGURATION ITEM NOMENCLATURE

RECOVERY VEHICLE, FULL-TRACKED, MEDIUM, M88A1

9. REMARKS / MISCELLANEOUS

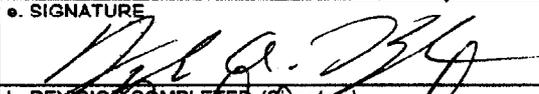
THIS ERR CONTAINS ALL AFFECTED DOCUMENTS.

10. **DATA RELEASED OR REVISED**

a Code ID	DOCUMENT				REVISION		h Release		i Change		j Other
	b Type	c Number	d Sh of	e Shts	f Ltr	g Date	IR	NAR	CH	CAN	
19207		E11671420	1	1	E	03-08-04			X		
19207	SQ	11671420	ALL	4	E	03-08-04			X		

11. SUBMITTED BY <i>Rosie DeMarco</i>	DATE <i>03-10-03</i>	12. APPROVED <i>Don L...</i>
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BARNES & REINECKE, INC.

NOTICE OF REVISION (NOR)		1. DATE (YYMMDD) 030613	Form Approved OMB No. 0704-0188
THIS REVISION DESCRIBED BELOW HAS BEEN AUTHORIZED FOR THE DOCUMENT LISTED.			
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.		2. PROCURING ACTIVITY NO. BRI-T6965	
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		5. CAGE CODE	
a. TYPED NAME (First, Middle Initial, Last) BARNES & REINECKE, INC.		85336	
b. ADDRESS (Street, City, State, Zip Code) 425 EAST ALGONQUIN ROAD ARLINGTON HEIGHTS, IL 60005-4683		7. CAGE CODE 19207	
		8. DOCUMENT NO. 11671420	
9. TITLE OF DOCUMENT WIRING HARNESS, BRANCHED		10. REVISION LETTER	
		a. CURRENT D	
		b. NEW E	
		11. ECP NO. BRI-T6965	
12. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES RECOVERY VEHICLE, FULL-TRACKED, MEDIUM, M88A1		NOR SHEET 1 OF 2	
13. DESCRIPTION OF REVISION			
<p>ZONE C,D-7,8</p> <p>CHANGE FROM: "2. CABLE TO CONFORM TO MIL-C-13486."</p> <p style="padding-left: 400px;">TO: "2. CABLE TO CONFORM TO MIL-DTL-13486."</p> <p>CHANGE FROM: "5. IN ADDITION TO REQUIREMENTS OF THIS DRAWING SUPPLEMENTARY QUALITY ASSURANCE PROVISIONS (SQAPS) ARE REQUIRED. (SQAP NO. SAME AS PART NO.)"</p> <p style="padding-left: 100px;">TO: "5. QUALITY ASSURANCE PROVISIONS (QAP) APPLY TO THIS ITEM."</p> <p>ZONE A,B-2,3</p> <p>ADD: "DISTRIBUTION STATEMENT A. APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED."</p> <p>IN APPLICATION BLOCK</p> <p>ADD: "PMIC CD"</p>			
14. THIS SECTION FOR GOVERNMENT USE ONLY			
a. (X one) <input checked="" 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 U.S. Army TACOM		c. TYPED NAME (First, Middle Initial, Last) Joseph A. Kogelmann	
d. TITLE Mech. Eng.		e. SIGNATURE 	
		f. DATE SIGNED (YYMMDD) 07/07/30	
15.a. ACTIVITY ACCOMPLISHING REVISION		b. REVISION COMPLETED (Signature) 	
		c. DATE SIGNED (YYMMDD) 10/20/03	

**NOTICE OF REVISION (NOR)
CONTINUATION SHEET**

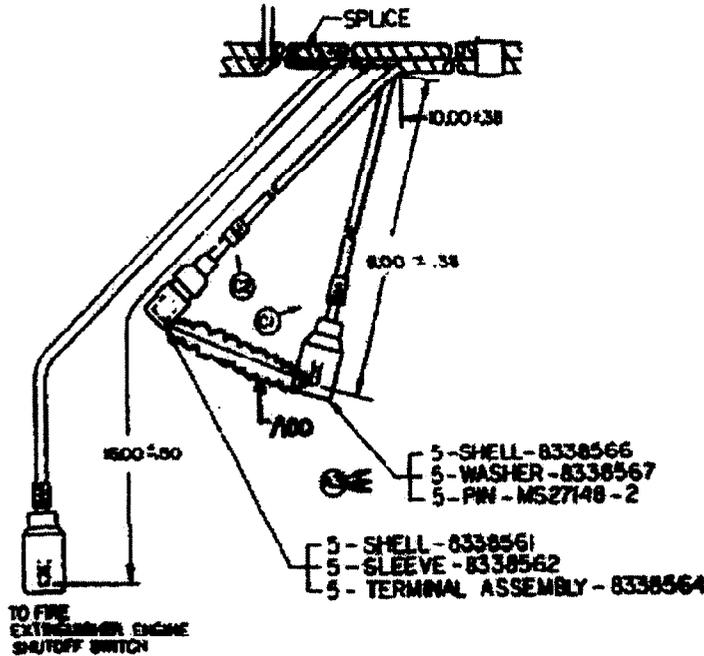
THIS REVISION DESCRIBED BELOW HAS BEEN AUTHORIZED FOR THE DOCUMENT LISTED.

DATE: 030613	ECP NUMBER: BRI-T6965	NOR SHEET NUMBER: 2	NOR NUMBER: 1
CAGE CODE: 19207	DOCUMENT NUMBER: 11671420	DOCUMENT TITLE: WIRING HARNESS, BRANCHED	

DESCRIPTION OF REVISION

ZONE C.D.E-3.4.5

ADD EXTENSION LINE TO PICTORIAL AS SHOWN BELOW



NOTICE OF REVISION (NOR)

THIS REVISION DESCRIBED BELOW HAS BEEN AUTHORIZED FOR THE DOCUMENT LISTED.

1. DATE (YYMMDD)
030613

Form Approved
OMB No. 0704-0188

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.

2. PROCURING ACTIVITY NO.
BRI-T6965

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)
BARNES & REINECKE, INC.

425 EAST ALGONQUIN ROAD
ARLINGTON HEIGHTS, IL 60005-4683

85336

2

7. CAGE CODE

8. DOCUMENT NO.

19207

SQ11671420

9. TITLE OF DOCUMENT

10. REVISION LETTER

11. ECP NO.

WIRING HARNESS, BRANCHED

a. CURRENT

b. NEW

D

E

BRI-T6965

12. CONFIGURATION ITEM (OR SYSTEM) TO WHICH ECP APPLIES

NOR SHEET
1 OF 12

RECOVERY VEHICLE, FULL-TRACKED, MEDIUM, M88A1

13. DESCRIPTION OF REVISION

~~SEE NOR CONTINUATION SHEETS 2, 3, 4-5, 6, 7 AND 8 OF 12 FOR CURRENT GAP~~

AND

~~NOR CONTINUATION SHEETS 9, 10, 11, AND 12 OF 12 FOR PROPOSED REVISION TO GAP~~

SEARCHED INDEXED SERIALIZED FILED
MAR 13 2003
FBI - TAMPA
STAMPED IN ECP **BRI-T6965** ON FILE FOR THE ENGINEERING RECORDS SYSTEM.

14. THIS SECTION FOR GOVERNMENT USE ONLY

- a. (X one) (1) Existing document supplemented by this NOR may be used in manufacture.
 (2) Revised document must be received before manufacturer may incorporate this change.
 (3) Custodian of master document shall make above revision and furnish revised document.

b. ACTIVITY AUTHORIZED TO APPROVE CHANGE FOR GOVERNMENT

c. TYPED NAME (First, Middle Initial, Last)

U.S. Army TACOM

Joseph A. Koyelmann

d. TITLE

e. SIGNATURE

f. DATE SIGNED (YYMMDD)

Mech Eng

[Handwritten Signature]

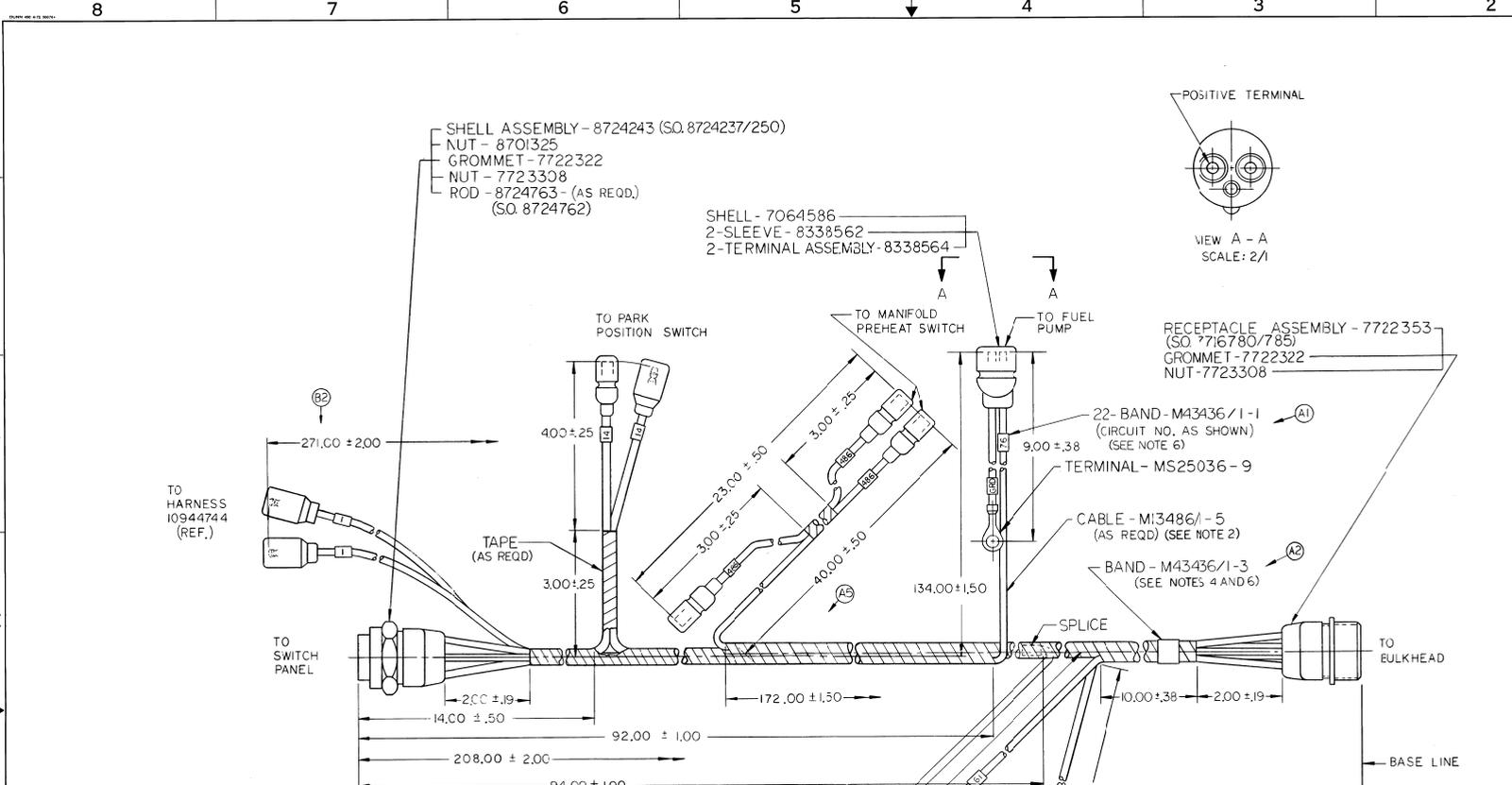
03/07/30

15. a. ACTIVITY ACCOMPLISHING REVISION

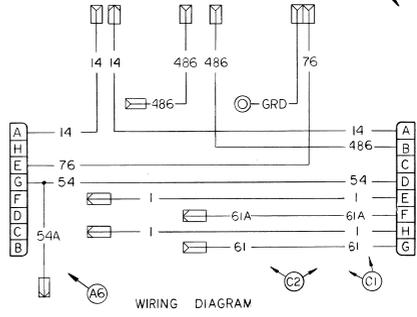
b. REVISION COMPLETED (Signature)

c. DATE SIGNED (YYMMDD)

12/20/03



- NOTES:
1. WIRING HARNESS TO BE ASSEMBLED PER DRAWING 8722729 PARAGRAPHS 1A, 2, 3A, 4, 5 AND 8
 2. CABLE TO CONFORM TO MIL-DTL-13486.
 3. ALL DOUBLE ARROW INDICATE DIMENSIONS FROM BASE LINE.
 4. APPLY PER MIL-STD-150: 19207-11671420
 5. QUALITY ASSURANCE PROVISIONS (QAP) APPLY TO THIS ITEM.
 6. BAND TO CONFORM TO MIL-B-43436.
 - 7.



ZONE/REV	DESCRIPTION	DATE	APPROVED
F 3	(1) WAS 21-BAND - MS39020-1 AND ADDED (SEE NOTE 6)		
E 3	(2) WAS MS39020-3 AND ADDED (SEE NOTE 6)		
C 4	(3) WAS QTY 4 (3 PLACES)		
C 5	(4) ADDED CIRCUIT 34A AND LOCATING DIMENSIONS		
E 5	(5) ADDED SPLICE		
A 6	(6) REVISED WIRING DIAGRAM		
C 8	(7) REVISED NOTE 5 (8) ADDED NOTE 6		
D 8	(9) REVISED NOTE 4		
D 6	(10) REVISED NOTE 1 (BML G7925) <i>7-71</i> <i>287</i> <i>ZZ</i>		
F 7	(11) WAS 53.00 ± 1.00 AND REVISED TO DETAIL (ALSO ZONE D5) (12) WAS 315.00 ± 2.00 (BML G7996) <i>1-92</i> <i>287</i> <i>ZZ</i>		
D 4	(13) WAS "J" 3 PLACES (ALSO ZONE A 5)		
D 4	(14) WAS "C" 3 PLACES (ALSO ZONE A 5)		
C 8	(15) REVISED NOTE 4		
C 5	(16) REVISED NOTE 4 QAP/SQ/SP NOT AFFECTED (BML H3999) <i>10-80</i> <i>287</i> <i>ZZ</i>		
E 5	(17) 40.00 ± .50 WAS 32.00 ± .50		
D 5	(18) 172.00 ± 1.50 WAS 180.00 ± 1.50		
C 6	(19) ADDED NOTE 7 BRL-R3493 <i>3-91</i> <i>287</i> <i>ZZ</i>		
D 4	(20) REV NOTES 2 & 5 (21) ADDED DISTR STMT A (22) ADDED EXTENSION LINE TO PICTORIAL BRL-T6965 <i>03-06-04</i> <i>ED</i> <i>287</i> <i>ZZ</i>		

DISTRIBUTION STATEMENT 'A'
 APPROVED FOR PUBLIC RELEASE;
 DISTRIBUTION IS UNLIMITED.

PART NO. 11671420

U.S. ARMY TANK AUTOMOTIVE COMMAND
 WARREN, MICHIGAN 48090

WIRING HARNESS.
 BRANCHED

PMIC CD	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	CONTRACT NUMBER D.A.F. 03-72-C-0131	CONTRACTOR McLAUGHLIN-YORKER - CO
INSURANCES ON 2 PLACE 3 PLACE ANGLES 1 2 3 4 5 6		DRAWN BY S. BOGALA	DATE 11-19-73
11671787 M.B.S.A.I	SEE ENGINEERING RECORDS	CHECKER EUT	ENGINEER J.S.
NEXT ASSY USED ON	MA' ENG'D	DRAWING APPROVED	DATE
APPLICATION	MA' ENG'D	DESIGN APPROVED	DATE

SIZE CODE IDENT. NO. E 19207 11671420

SCALE NONE UNIT WT. SHEET

QUALITY ASSURANCE PROVISIONS (QAP)

(PRODUCT ASSURANCE PAM 702-155)

1. **COMMAND AGENCY: U. S. ARMY TANK AUTOMOTIVE RESEARCH, DEVELOPMENT AND ENGINEERING CENTER, WARREN, MI 48397-5000**

2. THESE QAPS FORM PART OF DRAWING / SPECIFICATION **11671420** AS SPECIFIED IN THE CONTRACT. INSPECTION SHALL BE CONDUCTED AS SPECIFIED HEREIN AND IN ACCORDANCE WITH REFERENCED DOCUMENTS. THIS INCLUDES GENERAL QUALITY ASSURANCE PROVISIONS (STA FORM 458), WHICH FORMS A PART OF THIS QAP.

3.

PART I - LIST OF APPLICABLE DOCUMENTS

DRAWINGS

0722729 WIRING HARNESS ASSEMBLY REQUIREMENTS

STANDARDS

MIL-STD-130 IDENTIFICATION MARKING OF U.S. MILITARY PROPERTY

MIL-STD-202 TEST METHODS FOR ELECTRONIC AND ELECTRICAL COMPONENT PARTS

MIL-STD-1916 DOD PREFERRED METHODS FOR ACCEPTANCE OF PRODUCT

SPECIFICATIONS

MIL-DTL-13486 CABLE. SPECIAL PURPOSE. ELECTRICAL: LOW TENSION HEAVY DUTY SINGLE-CONDUCTOR AND MULTICONDUCTOR SHIELDED AND UNSHIELDED GENERAL SPECIFICATION FOR

MIL-DTL-22520 CRIMPING TOOLS, WIRE TERMINATION, GENERAL SPECIFICATION FOR

MIL-B-43436 BAND, MARKER BLANK

SAE AS7928 TERMINAL, LUG SPLICES, CONDUCTOR, CRIMP STYLE, COPPER, GENERAL SPECIFICATION

REVISIONS

4. RELEASE NUMBER	BRI-T6965																			
5. DATE	8-04-03																			
4. RELEASE NUMBER																				
5. DATE																				
REVISION STATUS OF SHEETS	6. REVISION	E	E	E	E															
	7. SHEET	1	2	3	4															
	6. REVISION																			
	7. SHEET																			

8. QAP FOR: WIRING HARNESS, BRANCHED										9. CODE M88A1 19207											
10. SUBMITTED BY: BARNES & REINECKE, INC.										11. QAP NO. 11671420											
12. DATE 1-26-73		13. APPROVED <i>Daniel L. Rasmussen 4 Sep 03</i>					14. RELEASE NO. ----					15. PAGE NO. 1					16. NO. OF PAGES 4				

QUALITY ASSURANCE PROVISIONS (QAP) (CONTINUATION SHEET)

(PRODUCT ASSURANCE PAM 702-155)

3

PART II - INSPECTION REQUIREMENTS

TABLE I - CLASSIFICATION OF QUALITY CONFORMANCE CHARACTERISTICS

<u>CLASS</u>	<u>CHARACTERISTICS</u>	<u>ZONE</u>	<u>INSPECTION METHOD</u>
<u>CRITICAL</u>	NONE		
<u>MAJOR</u>	<u>VERIFICATION LEVEL IV</u>		
101	CIRCUIT CONTINUITY	ALL	REF. PART IV, PARA. 1
102	INSULATION RESISTANCE	---	REF. PART IV, PARA. 2
103	FUNCTIONAL LENGTHS	ALL	LENGTH GAGE
104	CRIMPING (DWG. 8722729, NOTE 2)	D8	VISUAL
105	SOLDERING (DWG. 8722729, NOTE 3)	D8	VISUAL
106	SPLICING PROPERLY VULCANIZED (DWG. 8722729, NOTE 4)	D8	VISUAL & TACTILE
<u>MINOR</u>	<u>VERIFICATION LEVEL II</u>		
201	PART NUMBER APPLICATION (MIL-STD-130)	E3	VISUAL
202	BAND MARKER AND CIRCUIT NUMBER APPLICATION (MIL-B-43436)	ALL	VISUAL
203	CABLES BOUND TOGETHER (DWG. 8722729, NOTE 1)	ALL	VISUAL
204	ALL SPARE GROMMET HOLES PLUGGED (6 PLACES)	B5/B7	VISUAL
206	WORKMANSHIP	ALL	VISUAL & TACTILE

17 QAP REVISION SYMBOL & DATE	E 8-04-03					11 QAP NUMBER
						11671420
						15 PAGE NUMBER
						2

QUALITY ASSURANCE PROVISIONS (QAP) (CONTINUATION SHEET)

(PRODUCT ASSURANCE PAM 702-155)

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PART II - INSPECTION REQUIREMENTS (CONTINUED)

TABLE II - SPECIAL SAMPLING INSPECTION

1. **INITIAL PRODUCTION INSPECTION.** ONE (1) OF THE FIRST ITEMS PRODUCED SHALL BE SELECTED AT RANDOM AND SUBJECTED TO EXAMINATIONS AND TESTS BY THE CONTRACTOR. THE ITEM SHALL BE PRODUCED UNDER MANUFACTURING METHODS TO BE USED IN PRODUCTION. INITIAL PRODUCTION INSPECTION SHALL BE ACCOMPLISHED TO DETERMINE CONFORMANCE TO ALL REQUIREMENTS OF DRAWING 11671420.

1.1 **MANUFACTURING PROCESS CHANGE.** WHENEVER A CHANGE IS MADE IN THE MANUFACTURING PROCEDURE USED IN PRODUCTION, ONE (1) OF THE FIRST ITEMS PRODUCED UNDER THE NEW PROCESS SHALL BE GIVEN A COMPLETE INSPECTION AS SPECIFIED IN PARAGRAPH 1.

1.2 **FAILURE.** FAILURE OF THE ITEM TO MEET INITIAL PRODUCTION APPROVAL REQUIREMENTS SHALL BE CAUSE FOR REJECTION AND PARAGRAPH 1 SHALL APPLY UNTIL ACCEPTABLE ITEMS ARE PRODUCED.

2. **PRODUCTION QUALITY CONTROL.** THE CONTRACTOR SHALL RANDOMLY SELECT CABLE ASSEMBLY SAMPLES AT A RATE OF ONE PER MONTH OR ONE (1) PER ONE HUNDRED (100) PRODUCED, WHICHEVER COMES FIRST. TEST SAMPLE MAY BE USED INSTEAD PROVIDED THEY ARE PRODUCED UNDER THE SAME MANUFACTURING PROCEDURE USED IN PRODUCTION. THE SELECTED SAMPLE SHALL BE IDENTIFIED AS TO PRODUCTION PERIOD AND RECORDED ALONG WITH THE RESULTS OF THE EXAMINATION AND TESTS LISTED BELOW TO SATISFY THE REQUIREMENTS OF DRAWING 11671420.

<u>NUMBER</u>	<u>CHARACTERISTIC</u>	<u>INSPECTION METHOD</u>
301	WIRE PULL TEST - MIN. MECHANICAL STRENGTH (SAE AS7928)	PULL TEST EQUIPMENT

2.1 **FAILURE.** FAILURE OF ANY ONE (1) TEST SAMPLE SHALL BE CAUSE FOR REJECTION OF THE ENTIRE REPRESENTATIVE PRODUCTION LOT. ITEMS PRODUCED SUBSEQUENT TO THE FAILURE OF A TEST SAMPLE SHALL NOT BE SUBMITTED FOR ACCEPTANCE UNTIL OBJECTIVE EVIDENCE HAS BE SUBMITTED TO THE GOVERNMENT THAT CORRECTIVE ACTION HAS ELIMINATED THE CAUSE OF FAILURE. ACCEPTANCE OF PRODUCTION LOTS SUBSEQUENT TO TEST FAILURE SHALL NOT RESUME UNTIL THREE (3) CONSECUTIVELY PRODUCED ITEMS MEET TEST REQUIREMENTS SPECIFIED IN PARAGRAPH 2.

PART III - CERTIFICATION REQUIREMENTS

<u>NUMBER</u>	<u>CHARACTERISTIC</u>	<u>CERTIFICATION METHOD</u>
401	CABLE MATERIAL (MIL-DTL-13486)	CERTIFIED MATERIAL REPORTS
402	CRIMPING TOOL (MIL-DTL-22520)	CERTIFIED CRIMPING TOOL

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						11671420
						15 PAGE NUMBER
						3

QUALITY ASSURANCE PROVISIONS (QAP) (CONTINUATION SHEET)

(PRODUCT ASSURANCE PAM 702-155)

3

PART III - CERTIFICATION REQUIREMENTS (CONTINUED)

<u>NUMBER</u>	<u>CHARACTERISTIC</u>	<u>CERTIFICATION METHOD</u>
403	SOLDERING (DWG. 8722729)	CERTIFIED MANUFACTURING PROCESS
404	SPLICING (SAE AS7928)	CERTIFIED PROCESS REPORT

PART IV - TEST METHODS AND PROCEDURES

1. **CONTINUITY TEST.** THE CABLE ASSEMBLY SHALL BE TESTED IN ACCORDANCE WITH MIL-STD-202, METHOD 303, TO DETERMINE ITS CONFORMANCE TO THE PROVISIONS OF DRAWING 11671420. MAXIMUM ALLOWABLE RESISTANCE SHALL BE 1.0 OHM. FAILURE OF THE ITEM SHALL BE CAUSE FOR REJECTION.

2. **INSULATION RESISTANCE.** A MINIMUM RESISTANCE OF 100 MEGOHMS WITH 500 ± 50 VDC APPLIED SHALL BE MEASURED IN ACCORDANCE WITH MIL-STD-202, METHOD 302, TEST CONDITION "B", TO DETERMINE CONFORMANCE TO THE PROVISIONS OF THE DRAWING 11671420. FAILURE OF THE ITEM SHALL BE CAUSE FOR REJECTION .

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						11671420
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						4