

**STATEMENT OF WORK  
FOR THE  
INSPECTION AND REPAIR ONLY  
AS NECESSARY (IROAN)  
OF THE  
GUIDED MISSILE BATTERY  
CONTROL CENTRAL, VEHICLE MOUNTED:  
AN/TWQ-1  
AVENGER WEAPON SYSTEM  
1430-01-378-6963**

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**Appendixes**

- A Report DA-2404
- B Standard Form 364

Statement of Work for the  
 Inspection and Repair Only as Necessary (IROAN) of the  
 Guided Missile Battery Control Central, Vehicle Mounted:  
 AN/TWQ-1, Avenger Weapon System  
 NSN 1430-01-378-6963

1.0 SCOPE. This Statement of Work (SOW) establishes, sets forth tasks and identifies the work effort that the Contractor shall perform to IROAN the Guided Missile Battery Control Central, Vehicle Mounted: AN/TWQ-1, Avenger Weapon System, NSN 1430-01-378-6963, part number 13347650, CAGE 18876, hereafter referred to as the AN/TWQ-1 Avenger Weapon System. This document contains requirements to restore the AN/TWQ-1 Avenger Weapon System to Condition Code "A". Condition Code "A" is defined as "serviceable/issuable without qualification, new, used, repaired or reconditioned material which is serviceable and issuable to all customers without limitation or restriction, including material with more than six months shelf-life remaining."

1.1 Background. IROAN is defined as "That maintenance technique which determines the minimum repairs necessary to restore equipment components or assemblies to prescribed maintenance serviceability standards by utilizing all available diagnostic equipment and test procedures in order to minimize disassembly and parts replacement."

2.0 APPLICABLE DOCUMENTS. The following documents form a part of this SOW to the extent specified. Unless otherwise specified, the issues of these documents are those listed in the Department of Defense Index of Specifications and Standards (DoDISS) and supplements thereto which are in effect on the date of solicitation. In the event of conflict between the documents referenced herein and the contents of this SOW, the contents of this SOW shall be the superseding requirement.

2.1 Military Standards

MIL-STD-129	DoD Standard Practice for Military Marking
MIL-STD-3003	Vehicles, Wheeled: Preparation for Shipment and Storage of

2.2 Other Government Documents and Publications

MI-09871A-50/1	AN/TWQ-1 Missile Battery Control Cent.	PCN: 16009871000
MI-09871A-35/2	MOD Missile Connector AN/TWQ-1	PCN: 16009871100
MI-09871A-35/57	INSTL CR2 INTNET CONT PWR CONV	PCN: 16183311100
TI-09871A-25/1	AN/TWQ-1 Avenger	PCN: 16698710000
TM 09871A-CD	Avenger Air Defense Corrosion Control	PCN: 17809871200
TM 09871A-10	Expeditionary Air Defense Systems (EADS)	PCN: 18409871000
TM 09871A-12/1	Avenger AN/TWQ-1	PCN: 18409871100
TM 09871A-24P/6	Avenger Guided Missile System	PCN: 18409871600
LO 9-1425-433-12	Avenger Guided Missile System	PCN: 30914254300
TM 9-1425-433-10	Avenger/Guided Missile Battery Control	PCN: 34914251000
TM 9-4935-433-14P	Avenger LRU TPS TS-4223/USN	PCN: 34914251100

TM 9-1425-433BD	Avenger, Battlefield Damage	PCN: 34914251200
TM 9-1427-433-34	Avenger, Line Replacement Units	PCN: 34914251300
TM 9-1440-433-24-1	Avenger, ON-EQUIP MAINT	PCN: 34914251400
TM 9-1440-433-24-2	Avenger, AN/TWQ-1	PCN: 34914251500
TM 9-1440-434-24&P	Avenger, Guided Missile Battery	PCN: 34914251700
TM 9-1450-431-14&P	Avenger, Coolant Recharge Unit	PCN: 34914251800
TM 9-4935-433-14	Avenger LRU TPS-4223/USM	PCN: 34914251900
TM 9-4935-433-24P	Avenger, Guided Missile System	PCN: 34914256000
EM 0047	Avenger, Stinger Missile	PCN: 38107923000
EM 0017	TM 9-1440-Avenger CD-ROM	PCN: 38108522000
TM 4750-15/2	Painting and Registration Marking for Marine Corps Combat and Tactical Equip	
DOD 4000.25-1-M	Military Standard Requisitioning and Issue Procedures (MILSTRIP)	
SPI AL13786963	Special Packaging Instruction (SPI)	
SOW-04-C4I-09871A- 2/1	Screening/Repair of the Line Replaceable Units (LRU) for the Avenger Weapon System, AN/TWQ-1	

Military Handbooks (For Guidance Only)

MIL-HDBK-61 Configuration Management Guidance

2.3 Industry Standards

ANSI/ISO/ASQC Quality Management Systems – Requirements  
Q9001-2000

JESD625-A Requirements for Handling-Electrostatic-Discharge  
Sensitive (ESDS) Devices

Industry Standards (For Guidance Only)

ANSI/EIA-649 National Consensus Standard for Configuration  
Management

Copies of Military Standards and Specifications are available from the DOD Single Stock Point, Document Automation and Production Service, Building 4/D, 700 Robbins Avenue, Philadelphia, PA 19111-5094, commercial telephone number (215) 697-2179 or DSN 442-2179, or <http://www.dodssp.daps.mil>. Copies of other government publications required by contractors in connection with specific SOW requirements shall be obtained through the Contracting Officer: Contracts Department (Code 891), P.O. Drawer 43019, 814 Radford Blvd., Marine Corps Logistics Base, Albany, GA 31704-3019. Copies of engineering drawings, if applicable, shall be obtained from: Supply Chain Management Center, Attn: Code 583-1, 814 Radford Blvd., Suite

20320, Albany, GA 31704-0320, commercial telephone number (229) 639-6476 or DSN 567-6476.

3.0 REQUIREMENTS

3.1 General Tasks. In fulfilling the specified requirements, the Contractor shall: Provide materials, labor, equipment, facilities and missing/repair parts necessary to inspect, diagnose, restore, test, and calibrate as required to restore the AN/TWQ-1, Avenger Weapon System to Condition Code "A".

3.2 Detail Tasks. The following tasks describe the different phases for the IROAN of the AN/TWQ-1, Avenger Weapon System.

Phase I	Pre-Induction
Phase II	Repair/Replace
Phase III	Inspection, Testing and Acceptance
Phase IV	Packaging, Handling, Storage and Transportation (PHS&T)

3.2.1 Phase I - Pre-Induction. A pre-induction inspection analysis shall be performed for each AN/TWQ-1, Avenger Weapon System within five (5) working days of induction into the Contractor's facility. Using the Contractor facilities, perform diagnosis, inspection and testing techniques to determine the extent of work and parts required. A Limited Technical Inspection (LTI) shall be performed to determine the present condition of the item and feasibility of repair. Note on the LTI if any modifications are required to bring this item up to the current configuration. Report DA-2404 (Appendix A) and Standard Form 364 (Appendix B) shall be utilized to report all anomalies and shall be provided to the government in accordance with Section 4.0 of this SOW.

3.2.2 Phase II – Repair/Replace. Repair/Replace shall be accomplished in accordance with this SOW. Deficiencies noted on Appendix A and Appendix B during Phase I shall be repaired/replaced. Components or assemblies shall not be disassembled for replacement of parts unless that part has failed, or the component assembly wherein the part is located is disassembled for repair.

a. Cables. During Phase I, if it is noted that any AN/TWQ-1, Avenger Weapon System cables are not Condition Code "A", these cables are to be replaced.

b. Line Replaceable Unit (LRU). During Phase I, if it is noted that any AN/TWQ-1, Avenger Weapon System Line Replaceable Unit (LRU) is not in Condition Code "A", then follow the guidance set forth in SOW-04-C4I-09871A-3/1, Screening/Repair of the Line Replaceable Units (LRU) for the Avenger Weapon System, AN/TWQ-1.

c. Hardware.

(1) Replace broken, unserviceable and/or missing hardware including nuts, bolts, screws, washers, turnlock fasteners, mandatory replacement items, safety and one-time use items.

(2) Ensure proper hardware locking devices are present on all moving mechanical assemblies.

(3) Hardware normally supplied with commercial parts shall be used unless specifically prohibited.

d. Publications and Documentation. The Contractor shall use appropriate technical documentation to restore the AN/TWQ-1, Avenger Weapon System to the Condition Code "A". The following documents shall be used to assist the Contractor:

MI-09871A-50/1	AN/TWQ-1 Missile Battery Control Cent.	PCN: 16009871000
MI-09871A-35/2	MOD Missile Connector AN/TWQ-1	PCN: 16009871100
MI-09871A-35/57	INSTL CR2 INTNET CONT PWR CONV	PCN: 16183311100
TI-09871A-25/1	AN/TWQ-1 Avenger	PCN: 16698710000
TM 09871A-CD	Avenger Air Defense Corrosion Control	PCN: 17809871200
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TM 09871A-12/1	Avenger AN/TWQ-1	PCN: 18409871100
TM 09871A-24P/6	Avenger Guided Missile System	PCN: 18409871600
LO 9-1425-433-12	Avenger Guided Missile System	PCN: 30914254300
TM 9-1425-433-10	Avenger/Guided Missile Battery Control	PCN: 34914251000
TM 9-4935-433-14P	Avenger LRU TPS TS-4223/USN	PCN: 34914251100
TM 9-1425-433BD	Avenger, Battlefield Damage	PCN: 34914251200
TM 9-1427-433-34	Avenger, Line Replacement Units	PCN: 34914251300
TM 9-1440-433-24-1	Avenger, ON-EQUIP MAINT	PCN: 34914251400
TM 9-1440-433-24-2	Avenger, AN/TWQ-1	PCN: 34914251500
TM 9-1440-434-24&P	Avenger, Guided Missile Battery	PCN: 34914251700
TM 9-1450-431-14&P	Avenger, Coolant Recharge Unit	PCN: 34914251800
TM 9-4935-433-14	Avenger LRU TPS-4223/USM	PCN: 34914251900
TM 9-4935-433-24P	Avenger, Guided Missile System	PCN: 34914256000
EM 0047	Avenger, Stinger Missile	PCN: 38107923000
EM 0017	TM 9-1440-Avenger CD-ROM	PCN: 38108522000
TM 4750-15/2	Painting and Registration Marking for Marine Corps Combat and Tactical Equip	

c. Process Time. The complete IROAN process time shall not exceed thirty (30) days to restore the AN/TWQ-1, Avenger Weapon System to Condition Code "A". The Contractor shall use the minimum amount of time necessary to restore the item to Condition Code "A".

### 3.2.3 Phase III - Inspection, Testing and Acceptance.

a. Inspection, testing, and acceptance of the AN/TWQ-1, Avenger Weapon System shall be conducted in accordance with TM 9-1425-433-10. Records of tests shall be maintained and be available to the Marine Corps representative.

b. The Contractor shall be responsible for conducting all required tests. Acceptance tests shall be held at the Contractor's facility.

c. The Contractor shall be responsible for correcting deficiencies identified during inspection/testing. Representatives from Marine Corps Systems Command, Battlespace Management and Air Defense Systems (MCSC, BMADS) may require the Contractor to repeat tests, or portions thereof, if the original tests fail to demonstrate compliance with this SOW.

### 3.2.4 Phase IV - Packaging, Handling, Storage, and Transportation (PHS&T)

a. The Contractor shall be responsible for preservation and packaging of item(s) being repaired under the terms of this Statement of Work. Items scheduled for long-term storage or shipment to overseas destinations shall be in accordance with Level "A" requirements of Special Packaging Instruction (SPI) AL13786963 which may be obtained from Storage and Distribution Department (Code 580), Attn: Business Management Branch (Code 581), 814 Radford Blvd., Suite 20320, Albany, GA 31704-0320, commercial telephone number (229) 639-6786 or DSN 567-6786. Preservation and packaging of the vehicle shall be in accordance with the requirements of MIL-STD-3003. Items scheduled for domestic shipment for immediate use or short-term storage shall be in accordance with Level "B" requirements

b. Marking for shipping and storage shall be in accordance with MIL-STD-129.

c. The Marine Corps will provide the Contractor with the shipping address(es) for delivery of the repaired equipment. The Contractor shall be responsible for arranging for shipment of the equipment to the pre-designated site(s). The Marine Corps will be responsible for transportation costs associated with shipping the subject equipment to and from the Contractor.

3.3 Configuration Management. The Contractor shall apply configuration control procedures to established configuration items. The Contractor shall not implement configuration changes to an item's documented performance or design characteristics without prior written authorization. All permanent changes to the form, fit or function of the baseline shall be by Engineering Change Proposal (ECP). If it is necessary to temporarily depart from the authorized configuration, the Contractor shall prepare and submit a Request for Deviation. MIL-HDBK-61 and ANSI/EIA-649 provide guidance for preparing these configuration control documents.

3.4 Government Furnished Equipment (GFE)/Government Furnished Materiel(GFM). The Management Control Activity (MCA/Code 571-1) will coordinate GFE/GFM requests and maintain a central control system on all government owned assets in the Contractor's possession. The MCA will forward a GFE Accountability Agreement to the Contractor for signature on an annual basis to establish a chain of custody and identify property responsibilities for Marine

Corps assets. The Contractor shall report receipt of GFM to the MCA within 15 days of receipt. This can be done by mailing a copy of the DD1348 to: Materiel Management Department, Management Control Activity (Code 571-1), 814 Radford Blvd., STE 20320, Albany, GA 31704-0320, or by faxing a copy to commercial telephone number (229) 639-5498 or DSN 567-5498.

3.5 Contractor Furnished Materiel (CFM). The Contractor may requisition materiel as required in the performance of this SOW through the DoD Supply System. DoD 4000.25-1-M (MILSTRIP), Chapter 11, provides guidance to contractors on the requisitioning process. The contractor's decision to utilize CFM procured from the DoD Supply System shall be based upon cost effectiveness, availability of materiel and the required completion/delivery date.

3.6 Electrostatic Discharge (ESD) Control Program. The Contractor shall establish, implement and document an ESD control program following the guidelines provided in JESD625-A. ESD protective measures shall be used during manufacturing, handling, inspection, test, marking, packaging, storing and transporting ESD sensitive components.

3.7 Quality Assurance Provisions. The Contractor shall provide and maintain a Quality System that, as a minimum, adheres to the requirements of ANSI/ISO/ASQC Q9001-2000, Quality Management Systems - Requirements.

4.0 REPORTS. In fulfilling the specified requirements, the Contractor is required to submit, upon request, a copy of the LTI (to include Appendixes A and B), electronically (preferred), via regular mail, or facsimile to the Logistics Management Specialist (LMS), MCSC (BMADS). The electronic address is: [SMBmatcombmads@matcom.usmc.mil](mailto:SMBmatcombmads@matcom.usmc.mil). The mailing address is: Commander, Marine Corps Systems Command, Attn: Logistics Management Specialist, BMADS, 814 Radford Blvd., Suite 20343, Albany, GA 31704-0343. The LMS can be reached at commercial telephone number (229) 639-5036, or DSN 567-5036. Facsimiles may be sent to (229) 639-6545 or DSN 567-6545, Attn: Logistics Management Specialist, BMADS.



INSTRUCTIONS

DEPARTMENT OF DEFENSE: DLAR 4140.55/AR 735.11.2/NAVSUPINST 4440.127E/AFR 400.54/MCO 4430.3E, Reporting of Item and Packaging Discrepancies, and/or DLAR 4140.60/AR 12-12/NAVSUPINST 4920.9B/AFR 67.7/MCO 4140.1B, processing Discrepancy Reports Against Foreign Military Sales Shipments. CIVILIAN AGENCIES: See FPMR handbook cited in 19 (2) (a).

REPORT OF DISCREPANCY (ROD) SHIPPING _____ PACKAGING _____		1. DATE OF PREPARATION	2. REPORT NUMBER: 1					
3. TO: (Name and Address, Include ZIP Code)		4. FROM: (Name and Address, Include ZIP Code)						
5a. SHIPPERS NAME	5b. NUMBER AND DATE OF INVOICE	5c. TRANSPORTATION DOCUMENT NUMBER (GBL, Waybill, TCN, etc.)						
7a. SHIPPER'S NUMBER (Purchase Order-Shipmet, Contract, etc)	7b. OFFICE ADMINISTERING CONTRACT	8. REQUISITIONER'S NUMBER (Requisition, Purchase Request, etc.)						
9. SHIPMENT, BILLING, AND RECEIPT DATA				10. DISCREPANCY DATA	11.			
NSN/PART NUMBER AND NOMENCLATURE (a)	UNIT OF ISSUE (b)	QUANTITY SHIPPED/ BILLED (c)	QUANTITY RECEIVED (d)	QUAN- TITY (a)	UNIT PRICE (b)	TOTAL COST (c)	I CODE (d)	

12. REMARKS (continue on separate sheet of paper if necessary)

1. DISCREPANCY CODES	2. ACTION CODES
<b>CONDITION OF MATERIAL</b> C1 - in condition other than that indicated on release/receipt document C2 - Expired shelf life C3 - Damaged parcel post shipment <b>SUPPLY DOCUMENTATION</b> D1 - Not received D2 - Illegible or mutilated D3 - Incomplete, Improper or without authority (Only when receipt cannot be properly processed) <b>MISDIRECTED MATERIAL</b> M1 - Addressed to wrong activity <b>OVERAGE/DUPLICATE SHIPMENTS</b> O1 - Quantity in excess of that on receipt document O2 - Quantity in excess of that requested (Other than unit of issue pack) O3 - Quantity duplicate shipment <b>PACKING DISCREPANCY</b> P1 - Improper preservation P2 - Improper packing P3 - Improper Marking P4 - Improper unitization	<b>PRODUCT QUALITY DEFICIENCIES</b> Q1 - Deficient material (Applicable to Grant Aid and FMS shipments) <b>SHORTAGE OF MATERIAL</b> S1 - Quantity less than that on receipt document S2 - Quantity less than that requested (Other than unit of issue pack) S3 - Non-receipt of parcel post shipments <b>ITEM TECHNICAL DATA MARKINGS (i.e., Name Plates, Log Books, Operating Handbooks, Special Instructions, etc.)</b> T1 - Missing T2 - Illegible or Mutilated T3 - Precautionary operational markings missing T4 - Inspection data missing or incomplete T5 - Serviceability operating data missing or incomplete T6 - Warranty data missing <b>WRONG ITEM (Identify requested item as a separate copy in Item 9. above)</b> W1 - Incorrect item received W2 - Unacceptable substitute <b>OTHER DISCREPANCIES</b> Z1 - See Remarks
	1A - Disposition instructions requested (Reply on reverse) 1B - Material being retained (See Remarks) 1C - Supporting supply documentation requested 1D - Material still required, expedite shipment (Not applicable to FMS) 1E - Local purchase material to be returned at supplier's expense unless disposition instructions to the contrary are received within 15 days (Reply on reverse) (Not applicable to FMS) 1F - Replacement shipment requested (Not applicable to FMS) 1G - Reshipment not required. Item to be re-requisitioned 1H - No action required. Information only 1Z - Other action requested (See remarks)

13. FUNDING AND ACCOUNTING DATA	
14a. TYPED OR PRINTED NAME, TITLE, AND PHONE NUMBER OF PREPARING OFFICIAL	14b. SIGNATURE

15. DISTRIBUTION ADDRESSEES FOR COPIES

16. FROM:  <input type="checkbox"/>	17. DISTRIBUTION ADDRESSEES FOR DISTRIBUTION
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18 TO	Use window envelope to mail this document. Insert Name and address, including ZIP Code, starting one typing space below the left dot. Each address line must NOT extend beyond right dot. Address must not exceed four single space typing lines.
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19. **IN ACCORDANCE WITH NOTICE OF DISCREPANCY ON FACE OF THIS FORM:**

a. MATERIAL	<input type="checkbox"/> HAS BEEN <input type="checkbox"/> SHALL BE SHIPPED	DOCUMENT NUMBER	<input type="checkbox"/> NO RECORD OF SHIPMENT. RESUBMIT REPORT TO PROPER OFFICE UNDER APPROPRIATE REGULATION.
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<input type="checkbox"/> AN ADJUSTMENT IN BILLING HAS BEEN/SHALL BE PROCESSED AS A	<input type="checkbox"/> CREDIT <input type="checkbox"/> DEBIT	<input type="checkbox"/> INVOICE/BILL ATTACHED	<input type="checkbox"/> PROOF OF DELIVERY (Parcel Post Shipments) OR EVIDENCE
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AN ADJUSTMENT IN BILLING FOR THIS REPORTED DISCREPANCY SHALL NOT BE PROCESSED FOR THE FOLLOWING REASON WHICH IS CITED IN THE INDICATED REGULATION

(1) REASON FOR NOT PROCESSING	(2) PRESCRIBING REGULATION
(a) DISCREPANCY WAS NOT REPORTED WITHIN THE TIME FRAMES ALLOWED AND/OR	(a) CHAPTER 5 OF THE GSA HANDBOOK, DISCREPANCIES OR DEFICIENCIES IN GSA OR DOD SHIPMENTS, MATERIALS, OR BILLINGS (FPMR 101.26.8)
(b) DOLLAR VALUE DOES NOT MEET THE CRITERIA PRESCRIBED IN THE REGULATION OR AGREEMENT INDICATED IN 191(2)	(b) CHAPTER 2 AND/OR 7 OF DOD 4000.25.7 M, MILITARY STANDARD BILLING SYSTEM (MILBILLS) AND/OR DD 1513, U.S. DOD OFFER AND ACCEPTANCE, AS APPLICABLE

20. THE FOLLOWING DISPOSITION IS TO BE MADE OF THE REFERENCED MATERIAL

<input type="checkbox"/> PROCESS FOR DISPOSAL IN ACCORDANCE WITH SERVICE/AGENCY DIRECTIVES	<input type="checkbox"/> REPRESENTATIVE SHALL CALL FOR DISCUSSION CONCERNING DISPOSITION	DAYS
<input type="checkbox"/> RETAIN MATERIAL AT NO CHARGE	<input type="checkbox"/> MATERIAL SHALL BE PICKED UP IN:	DAYS
e. <input type="checkbox"/> SHIP MATERIAL <i>Specify location</i>		
(1) <input type="checkbox"/> GBL APPROPRIATION CHARGEABLE:		
(2) <input type="checkbox"/> CHARGES COLLECT - VIA: <input type="checkbox"/> FREIGHT <input type="checkbox"/> EXPRESS <input type="checkbox"/> PARCEL POST		
(3) <input type="checkbox"/> PARCEL POST LABEL ATTACHED    (4) <input type="checkbox"/> FREIGHT PREPAID		
(\$ <u>                    </u> postage advance)		

f.  OTHER *(Specify)*

21. <input type="checkbox"/> IF MATERIAL IS STILL REQUIRED, SUBMIT NEW REQUISITION	22. <input type="checkbox"/> REPLACEMENT WITH SATISFACTORY MATERIAL SHALL BE MADE ON/OR BEFORE:	DATE
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23. REMARKS *(Continue on separate sheet of paper if necessary).*

24a. TYPED OR PRINTED NAME AND PHONE NUMBER OF PREPARING OFFICIAL	24b. SIGNATURE	24c. DATE
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