

20 December 1999

FISCAL YEAR 2000

STATEMENT OF WORK

FOR

INSPECT, REPAIR ONLY AS NECESSARY
(IROAN)

OF THE

LIGHT ARMORED VEHICLE (R)

NSN 2320-01-123-1608

SOW-00-832-1-08651A-2/4

Prepared by

MARINE CORPS LOGISTICS BASES

(CODE 832-1)

Albany, Georgia

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1.0 SCOPE. This Statement of Work (SOW), along with the Inspect, Repair Only As Necessary (IROAN) Standard Depot Maintenance Manual (DMM) 2350-50/2B, sets forth tasks and identifies the work efforts that shall be performed by the contractor as minimum requirements to assemble, integrate, make fully operational, adjust, install, test, and inspect the Light Armored Vehicle (R). This SOW sets forth guidelines by which the LAV-R shall be refurbished, repaired, and restored to Condition Code "A," utilizing procedures contained in DMM 2350-50/2B, to include Modification Instructions (MIs), Technical Instructions (TIs) and Engineering Change Proposals (ECPs). The contractor, with the exception of MI/ECP kits which will be provided by the LAV Branch (Code 832-1) shall provide all material. In the event that the kits are unavailable, it shall be the responsibility of the contractor to contact LAV Branch (Code 832-1) for further instructions. The contractor shall perform installation and testing. All special tools and test equipment required to perform any task referenced in this SOW are identified in the applicable technical publications.

1.1 Background. IROAN is defined as "That maintenance technique which determines the extent of work and parts required 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. In the event of conflict between the documents referenced herein and the contents of this SOW, the content of this SOW shall be the superseding requirement. Unless otherwise specified, the issues of these documents are those listed in the current issue of the Department of Defense Index of Specifications and Standards (DoDISS).

2.1 Military Specification

ATPD 2241	Vehicles Wheeled: Preparation for Shipment and Storage
MIL-C-53039	Coating, Aliphatic Polyurethane, Single Component, Chemical Agent Resistant Coating
MIL-C-46168	Coating, Aliphatic Polyurethane Chemical Agent Resistant Coating
MIL-P-64159	Water Reducible Chemical Agent Resistant Coating
MIL-PRF-22750	Coating, Epoxy, High Solids

2.2 Military Standards

MIL-STD-129	DOD Standard Practice For Military Marking
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2.2 Military Standards (Guidance Only)

MIL-STD-973 Configuration Management

2.3 Other Government Documents and Publications. The following documents and publications form a part of this SOW to the extent specified herein. Unless otherwise specified, the issues are those named in this SOW.

TM 08594A-25/1	LAV Repair Welding Procedure
TM 4750-15/1	Painting and Registration Marking for Marine Corps Combat and Tactical Equipment
TM 4750-15/2-1	Camouflage Patterns
DMM 2350-50/2B	IROAN Manual for LAVs
TM 4750-13 (Draft)	Corrosion Prevention and Control for Marine Corps Equipment
TM 4790-35 (Draft)	Rustproofing and Underbody Coating Procedures for Tactical Vehicles, Trailers, and Engineering Equipment
TB 9-2300-245-50	Chassis Dynamometer Procedures and Test Standards Under Simulated Load Conditions
TB 9-2300-388-50	Acceptance Testing of Reconditioned Combat and Tactical Vehicles
EIA-625	Electrostatic Discharge Control Program for Protection of Electrical and Electronic Parts Assemblies and Equipment
DOD 4000.25-1-M	MILSTRIP Manual
NAVICPINST 4491.2A	Requisitioning of Contractor Furnished Material From The Federal Supply System

2.4 Industry Standards

ANSI/ISO/ASQC Q9002-1994 Quality Systems Model For Quality Assurance In Production, Installation, and Servicing

SSPC-SP-10/NACE No.2

Joint Surface Preparation Standard
Near White Blast Cleaning

Copies of federal and military specifications and standards are available from the Naval Publications and Forms Center, (ATTN: NPODS), 5801 Tabor Avenue, Philadelphia, PA 19120-5099. Copies of publications and other Government documents required by the contractor in connection with specific SOW requirements shall be obtained from: Commander, Marine Corps Logistics Bases, Attn: Publication, Branch (Code 876), Albany, Georgia 31704-5000, telephone COM. (912) 439-5818/19 or DSN 567-5818/19. Copies of engineering drawings/documents, ECPs, and Requests for Deviation/Requests for Waivers (RFDs/RFWs) may be obtained by accessing the Joint Engineering Data Management Information Control Systems (JEDMICS). Authorization to access JEDMICS may be obtained by contacting Commander, Attn: Engineering Data Management Branch (Code 825-3), Marine Corps Logistics Bases, Albany, Georgia 31704-1128, telephone (912) 439-6410, or DSN 567-6410. Access to engineering drawings/documents, ECP's, and RFDs/RFWs for read purposes only, may be obtained by accessing the Configuration Management Information System (CMIS). Authorization to access CMIS may be obtained by contacting Commander, Attn: Logistics Data Systems (G341), Marine Corps Logistics Bases, Albany, Georgia 31704-1128, telephone (912) 439-6143, or DSN 567-6143. Copies of SSPC-SP-10 can be obtained from: SSPC-The Society for Protective Coatings, 40 24th Street, 6th Floor, Pittsburgh, PA 15222-4643.

3.0 REQUIREMENTS

3.1 General Tasks. In fulfilling the specified requirements, the contractor shall render as a minimum, but shall not be limited to, the following tasks:

3.1.1 Program Management. The contractor shall establish and maintain management operations that shall include the following areas:

- (a) Program Planning and Control
- (b) Subcontractor Control
- (c) Financial Management
- (d) Data Management
- (e) Management Accountability for Government Furnished Equipment, Material, or Information
- (f) Risk Management

The contractor shall develop and implement a Management Program that clearly defines how the LAV Program Definition and Risk Reduction Project will be managed and controlled. A task matrix keyed to the Work Breakdown Structure shall be developed in sufficient detail to identify contractor and subcontractor responsibilities.

The contractor shall establish and implement a program management office function to manage all technical performance, including reliability, maintainability, ILS

(for locally procured Engineer Change Proposals), cost, schedule, and data delivery requirements of the contract.

3.1.1.1 Earned Value Management. Earned Value Management (EVM) is a tool that allows both government and the contractor program managers to have visibility into technical, cost, and schedule progress on their contracts. EVM shall be used on the LAV IROAN program to ensure that program cost, schedule, and performance objectives are integrated and tracked to ensure their achievement.

3.1.1.1.1 Integrated Baseline Review. An Integrated Baseline Review (IBR) shall be conducted to seek mutual understanding of and agreement to contractor planning for LAV IROAN. The IBR shall be held at the contractor's sight NLT 180 DAC. Fourteen days prior to IBR, the contractor shall provide Program Manager (PM)-LAV with it's System Description, Work Breakdown Structure (WBS), WBS Dictionary, Responsibility Assignment Matrix, sample master, intermediate, and detail schedules, as well as sample Work Authorization Documents and their flows. The IBR shall be chaired by PM-LAV, and shall address the following issues as a minimum:

- Verify technical content of Performance Measurement Baseline (PMB) and accuracy of related resource (budgets) and schedules.
- Ensure that there is a logical sequence of effort planned consistent with the IROAN schedule.
- Conduct a technical assessment of the earned value methods that will be used to measure progress to assure that objective and meaningful performance data will be provided.
- Establish a joint understanding of the contractors EVMS, to serve as the basis for future reviews of EVM planning, status, and estimates at completion to ensure that baseline integrity is maintained throughout the life of the contract.
- Tailoring of reporting to the minimum level required for effective management and oversight.

3.1.2 Production Management. Production Management shall provide materials, labor, facilities, and services necessary to troubleshoot, test, diagnose, engineer, integrate, install, repair, and adjust as required to make fully functional the LAV (R).

3.1.2.1 Marine Corps Logistics Bases (Code 832-1) personnel at their discretion shall conduct final on-site testing. This will only be done during normal contractor working hours.

3.1.2.2 Stages of Corrosion. Stages of corrosion One through Four are defined in TM 4790-35 (draft). Any component or structural member with Stages One or Two corrosion may be re-used (unless otherwise designated for replacement as a part of this program), and shall be cleaned, the surface prepared, and painted in accordance with the requirements herein. Any component or structural member with Stage Three corrosion shall be repaired or replaced as deemed most economical for that part. Repairs shall be accomplished prior to surface preparation and painting. Repaired or replaced components

or structural members which had Stage Three corrosion shall be cleaned, the surface prepared, and painted in accordance with the requirements herein. Any component or structural member with Stage Four corrosion shall be replaced. Replaced components or structural members which had Stage Four corrosion shall be cleaned, the surface prepared, and painted in accordance with the requirements herein.

3.1.2.2.1 The contractor shall be responsible for all structural, electrical, optics, fire control, mechanical, surface preparation and painting requirements associated with the repair and restoration of the LAV, as specified herein. All corrosion shall be removed and treated in accordance with TM 4750-13 (Draft).

3.1.3 Configuration Management (Contractor Responsibilities). The contractor shall establish a configuration management system which will record and report all change control documentation needed to manage the configuration item, including the status of proposed changes and implementation status of approved changes. The contractor shall ensure that when an assembly or component has been disassembled for repair, all parts identified as mandatory replacement parts by the applicable technical manuals shall be replaced. The contractor shall ensure that those items listed as 100% replacement in DMM 2350-50/2B shall be replaced. The Maintenance Expenditure Limit (MEL) of 65% should not be exceeded for the repair of assemblies, components and vehicles unless specifically authorized by Code 832-1 or their authorized representatives.

3.1.3.1 All required data plates shall be in place and shall be legible. The IROAN data plate shall be constructed of metal and reflect the following (refer to Figure 1):

- The contractor that performed the IROAN.
- Overhauled to limited standards in accordance with IROAN Procedure for LAV-_____.
- Odometer reading at Limited Technical Inspection _____.
- USMC No. _____ Date _____ (of IROAN)
- Vehicle Completely Stripped And Repainted. Interior Yes/No Exterior Yes/No
- CARC/Camouflage Topcoat Used MIL-SPEC .

<p>CONTRACTOR _____</p> <p>OVERHAULED TO LIMITED STANDARDS IN ACCORDANCE WITH IROAN PROCEDURE FOR LAV- _____.</p> <p>ODOMETER READING AT LIMITED TECHNICAL INSPECTION. _____</p> <p>USMC NO. _____ DATE _____</p> <p>VEH.COMPLETELY STRIPPED AND REPAINTED.</p> <p>INTERIOR _____ EXTERIOR _____</p> <p>CARC/CAMOUFLAGE TOPCOAT USED _____</p>

Figure 1

3.2 Inspect Repair Only As Necessary (IROAN) Objectives and Functions. After IROAN, the LAV shall have as a minimum the following characteristics:

- Latest Configuration as identified by current contract
- Maintainable
- Serviceable Condition Code "A"
- All vehicle systems and components shall operate as intended

3.3 Specific Tasks. The following tasks describe the different Phases of the IROAN for the LAV-FOV:

- Phase I Limited Technical Inspection
- Phase II IROAN
- Phase III Inspection, Testing, and Acceptance
- Phase IV Preparation for Shipment and/or Storage

3.3.1 Phase I – Limited Technical Inspection. A Limited Technical Inspection shall be completed within thirty days from the vehicle arriving on the base for each LAV under the provisions of this SOW using the contractor diagnosis, inspection, and testing techniques to determine the extent of work and parts required. A SF-364 Supply Discrepancy Report/ Report Of Discrepancy (SDR/ROD) shall be submitted for any items found to be missing on the Light Armored Vehicle. The Limited Technical Inspection can be in the contractor's format to best facilitate their work effort. The Limited Technical Inspection shall be maintained by the facility.

3.3.2 Phase II IROAN Base Line Vehicle.

3.3.2.1 Information recorded on the IROAN Limited Technical Inspection Sheets during Phase I shall be used as a guide to repair the LAV in accordance with this SOW.

3.3.2.2 All testing, inspecting, removal, disassembly, maintenance, repairs, installation, and final checks performed will comply with DMM 2350-50/2B.

3.3.2.3 Government Furnished Equipment (GFE)/Government Furnished Materiel (GFM). GFE is government owned equipment authorized by contract for use by a commercial/Government contractor. It is neither consumed during production nor incorporated into any product. GFM is materiel furnished to a contractor that will be consumed during the course of production or incorporated into the product being manufactured/remanufactured under a contract/statement of work. In the event the Marine Corps does have GFE/GFM requirements the Management Control Activity (MCA/G316-2), Marine Corps Logistics Bases, Albany, Georgia, will coordinate required GFE and will maintain a central control on Marine Corps assets in the Contractor's possession. The MCA will forward a GFE Accountability agreement to the Contractor Facility for signature to establish a chain of custody and property responsibilities for Marine Corps assets.

3.3.2.4 Contractor Furnished Materiel (CFM). The Marine Corps has adopted the Navy's procedures regarding Contractor Furnished Materiel (NAVICPINST 4491.2A). In the event that Contractor Furnished Materiel (CFM) is required for repair parts, the contractor shall requisition repair parts through the DoD Supply System. DoD 4000.25-1-M (MILSTRIP), Chapter 11 authorizes contractors to requisition through the DoD Supply System.

3.3.2.5 Hull Crack Inspection & Repair. After the completion of the Limited Technical Inspection (Ref. 3.3.1), all (100%) LAV hulls shall be prepared for crack inspection and application of corrosion resistant coating. The hull shall be disassembled, as required so abrasive blasting can be accomplished for internal and external paint removal, crack inspection and repair and repainting. After blasting, the hull shall be cleaned in preparation of crack inspection. The crack inspection shall be performed IAW this SOW (Paragraph 3.3.2.5.1), the Depot Maintenance Manual DMM 2350-50/2B, Section II (Hull Welded and Machined) and TM 08594A-25/1.

3.3.2.5.1 The initial hull crack inspection shall be beyond a visual inspection and in accordance with DMM 2350-50/2B. As a minimum, inspection shall be concentrated in the following areas.

1. All Strut Caps & lower Shock Towers.
2. RH Forward upper Sidewall aft of #2 strut cap.
3. RH Sidewall around the exhaust System Outlet, around the fwd drain hole and around vision blocks and water can mounts.
4. LH Side Plate around #1 and #2 Strut caps, vision blocks and appurtenances.
5. Complete Rear Wall and Doors and around tow pintle.
6. Roof Plates around appurtenances, around crane mount and crew hatch.
7. All hatches, doors and grills.
8. Around all tiedown, lifting and tow eyes.

3.3.2.5.2 All cracks discovered shall be classified and repaired IAW the requirements of TM 08594A-25/1. The vehicles crack repair history shall also be evaluated to determine if additional repairs are required to restore ballistic integrity. All Crack and Hull Weld Repair Sheets and recommended repair procedures shall be provided to Code 832-1 or their authorized representative. In the event that plate replacement is necessary, only Lukens Steel or Diesel Division General Motors are to be utilized to procure the high hard steel replacements. The customer reserves the right to perform in process or final inspections and/or audits of the crack inspection and repair process as required.

3.3.2.5.3 The Trim Vane shall be removed prior to abrasive blasting of the hull. This component shall be evaluated per DMM 2350-50/2B to determine the condition. The paint shall also be evaluated to determine if stripping and repainting is required per 3.3.2.6.

3.3.2.6 Painting. After crack inspection and repair, the hull surfaces and applicable external components shall be prepared for painting. The hull shall be cleaned to a "near

white" metal finish in accordance with SSPC-SP-10, with a surface profile of 0.002" to 0.0025" (2 to 2.5 mils). Surface preparation for painting of the hull and components shall be in accordance with TM 4750-15/1. The prepared hull and components shall then be primed. They shall then be painted with CARC paint using either MIL-C-53039 or MIL-C-46168 for exterior surfaces, or MIL-PRF-22750 for interior surfaces. Once MIL-P-64159 becomes available, it shall be used in place of MIL-C-53039 and MIL-C-46168. Unless otherwise specified, painting shall be performed in accordance with TM 4750-15/1. The paint scheme shall be United States and European Verdant, 3-Color Camouflage Pattern, per drawing number referenced in TM 4750-15/2-1. Glass, tires, hoses, belts, and other rubber parts shall not be painted.

3.3.2.6.1 Quality Assurance for Surface Preparation and Painting. The depot contractor shall implement a Quality Assurance (QA) program for surface preparation and painting in accordance with the applicable sections of TM 4750-15/1 as specified in Table I.

3.3.2.6.2 Corrosion Prevention and Control (CPAC) Procedures. Unless otherwise specified in the Depot Maintenance Manual DMM 2350-50/2B the depot contractor shall apply/install CPAC materials to components prior to or upon final assembly, in accordance with Appendix B-1 of TM 4750-13 (Draft).

3.3.2.7 All TIs, MIs, and ECPs not previously applied to the LAV, and current as to the date of the current contract, shall be applied during the IROAN. A list of all technical publications, TIs, MIs and ECPs is provided by Appendix A to DMM 2350-50/2B, however the SL 1-2 must be checked quarterly for recently published changes. If circumstances necessitate a change to the current approved configuration documentation of the configuration item or a departure from the authorized Bill of Material, the contractor shall submit an ECP or Request for Deviation or Request for Waiver using MIL-STD-973, paragraphs 5.4.2, 5.4.3, or 5.4.4 as guidance. Tailored instructions are provided in the applicable Contract Data Requirements Lists for ECPs, RFDs, and RFWs.

3.3.2.8 All work performed on electrical and electronic parts and assemblies during IROAN shall be performed in accordance with EIA-625 to minimize the negative effects of electrostatic discharge on electronic parts, assemblies, and equipment on the LAV.

3.3.2.9 All Work Instructions shall be provided to Code 832-1.

3.3.2.10 At the induction stage of the vehicle, the contractor shall contact the Light Armored Vehicle Branch (Code 832-1) in any case where the SINCGARS hardware is missing.

3.3.3 Phase III - Inspection, Testing, and Acceptance.

3.3.3.1 Inspection. Inspection of the vehicle shall be conducted in accordance with the Final Inspection Road Test Check Sheet and Final Inspection Check Sheet provided by Appendix C in DMM 2350-50/2B. These sheets shall be available for review during the final acceptance testing.

3.3.3.2 Testing. The contractor shall be responsible for conducting all required tests. The contractor shall ascertain that all necessary personnel are available, the Final Inspection Check Sheets and the Final Inspection Road Test Check Sheets are available. Chassis dynamometer procedures and test standards are outlined in TB 9-2300-245-50.

3.3.3.3 Acceptance. The performance of the contractor, the quality of work delivered, including all equipment furnished and documentation material written or compiled, shall be subject to in-process review/inspection during performance. Inspection shall be accomplished in-plant and/or at any work site or location. The Marine Corps Logistics Bases (Code 832-1) representatives shall be permitted to observe the work and/or conduct inspections during normal working hours. MCLB (Code 832-1) personnel will provide adequate notice of the intended observation. Final inspection and acceptance shall be at the contractor facility.

3.3.3.3.1 Final Inspection and Acceptance. Vehicles IROANed under the provisions of this SOW shall be acceptance tested in accordance with TB 9-2300-388-50. The Final Inspection Road Test Check Sheets and the Final Inspection Check Sheets will be utilized for the acceptance.

3.3.3.3.2 Correction of Deficiencies. Failure to comply with any of the specified requirements listed within this SOW shall be reason for rejection by the Marine Corps. Correction of deficiencies will be in accordance with NAVCOMP Volume 5, paragraph 054014, Guarantee Policy. The depot/contractor shall be responsible to correct all deficiencies discovered, at no additional cost to the Marine Corps, and enforce compliance with quality assurance procedures. Upon approval of a documented approach, the contractor shall correct the deficiencies and repeat the verification until an acceptable compliance with test requirements is demonstrated.

3.3.4 Phase IV Preparation for Shipment and/or Storage.

3.3.4.1 The LAV shall be prepared for shipment and storage in accordance with ATPD 2241 and the applicable Equipment Preservation Data Sheet (EPDS). EPDS's may be obtained from G3 Operations Department, Attn: S&DD (G330), Suite 20330, 814 Radford Blvd, Albany, Georgia 31704-0330, Commercial (912) 439-6856. LAV's scheduled for long term storage shall be preserved to Level A. LAV's scheduled for immediate shipment to all locations with the exception of Maritime Prepositioned Forces (MPF), shall be preserved to Level B, Drive-on/Drive-off. LAV's preserved to Level B, Drive-On/Drive Off being prepared for overseas shipment shall have a label affixed that reads, "NOT FOR WEATHER DECK STOWAGE." Items scheduled for MPF shall be preserved to Level B, MPF Modified Drive Away.

3.3.4.2 The terms "Drive-On/Drive-Off" and "MPF Modified Drive Away" are defined as follows:

3.3.4.2.1 Drive-On/Drive-Off - Batteries shall be hot and disconnected from vehicle electrical system. Terminals and leads shall be taped. Fuel tank shall be filled ¼ tank full

with approved fuel. The air intake system, exhaust system, brake system, drive train, and gauges shall be depreserved. Fire extinguisher brackets and seats shall be installed.

3.3.4.2.2 MPF Modified Drive Away - Batteries shall be hot and connected to vehicle electrical system. Fuel tank shall be $\frac{3}{4}$ full of approved fuel. The air intake system, exhaust system, brake system, drive train, and gauges shall be depreserved. Fire extinguisher brackets and seats shall be installed.

3.3.4.3 Marking for shipment and storage shall be in accordance with MIL-STD-129.

3.3.4.4 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 to the pre-designated site(s). The Marine Corps will be responsible for transportation costs associated with shipping the equipment to and from the contractor.

3.4 Quality Assurance Provisions.

3.4.1 The Depot shall establish, implement, document and maintain a quality system that ensures compliance to all contractual requirements. The contractor shall implement the requirements of ANSI/ISO/ASQC Q9002 or an equivalent quality system model; no third party certification is required. The Contractor shall develop a QA Program Plan and deliver it for review and approval as indicated in Section 4.0. The Contractor shall also update the QAPP as required.

3.4.2 The Depot's IROAN process shall be subject to in process and final inspections and audits to assess and verify compliance with the approved Quality Assurance Program Plan. Inspections and audits shall be conducted by the Marine Corps Logistics Base (Code 832-1), PM, LAV or their authorized representatives. All work locations or inspection stations shall be subject to in process and final inspections. Customer representatives shall be permitted to observe the work/task accomplishment, and/or conduct unannounced inspections within normal contractor working hours. Acceptance Tests shall be held in-plant. Inspections by the customer of acceptance test plans and procedures, materials, and associated lists furnished hereunder does not relieve the contractor from any responsibility regarding defects or other failures to meet contract requirements disclosed prior to final acceptance that fall within contract scope.

TABLE I**Surface Preparation and Painting QA Requirements**

Paragraph	Requirement
1-3g	Paint storage conditions – primer and topcoat: verify storage temperature ranges (low and high) that paint was stored at. Inspect condition of container to ensure there are no bulges that would indicate extreme temperature storage history.
1-3g	Shelf life – primer and topcoat: Inspect and verify shelf life has not expired.
2-2b (2) & b (3)	Condition of paint in cans (MIL-C-53039): Inspect for excessive skin or gelling.
2-4b (1) & 2-4d	Surface preparation – solvent cleaning: Visual check to be sure all oils & greases are removed prior to starting abrasive blasting or power tool cleaning.
2-4b (1) & 2-4e (1)	Surface preparation – paint stripping by blasting to bare metal: Visually inspect to ensure the surface cleanliness meets SSPC-SP-10 (near white metal). Can use visual standard SSPC-VIS-1. Verify surface profile after blasting is between 1.5 and 2.5 mils. (0.0015 to 0.0025)
2-4b (1) & 2-4e (1)	Surface preparation – surface cleanliness: Visual check just prior to priming to ensure surface is still oil/grease free, near white.
2-3h (1) & 2-5c (2)	Primer: dry film thickness (dft) for epoxy primers shall be 1.0-1.5 mils. Use of wet film thickness (wft) measurements can be made to verify proper dft. WFT measurements shall be 2.0-3.0 mils. Make measurements in as many areas on vehicle as needed to verify compliance.
2-3c	Cure time/time to topcoat primer: Record time of primer application. Primer must be at least set to touch before application of topcoat.
2-3h (6)	Primer & Topcoat Tape Adhesion Test: V-scribe adhesive tape test on primer and topcoat on two production units per lot as specified in TM 4750-15/1.
2-5e (1)	Topcoat – polyurethane (exterior): Dry film thickness (dft) should be 1.8 to 2.2 mils per coat. Total system dft range should be 2.8 to 3.7 mils.
2-5g (1)	Topcoat-epoxy MIL-PRF-22750 (interior): dft should be 1.8 to 2.2 mils for two coats.
2-3h (4)	Topcoat: overspray measure for 3-color camouflage shall be within (+/- one inch of pattern edge.
2-3h (4)	Topcoat: overspray – visual inspect, no overspray on rubber, glass, canvas, data plates, or other components not normally painted.
2-3h (5)	Topcoat: visual inspect to ensure match with camouflage pattern reference points.
1-2c	Post-job: ensure Vehicle Record Document/Equipment Record Jacket is annotated with paint system used and the date applied.

4.1.8 Quality Assurance Program Plan (QAPP). The contractor shall develop a QAPP to be delivered 120 days after contract award to the following address: Life Cycle Management Center, Attn: 832-1, 814 Radford Blvd, STE 20320, Albany, GA 31704-0320. The government will review and provide comments within 30 days. The contractor shall provide the final QAPP 30 days after receipt of government comments. The QAPP can be produced in contractor format.

LAV MASTER WORK SCHEDULE REQUIRED DELIVERY DATES'S (RDD'S)
 LIGHT ARMORED VEHICLES (MAINTENANCE CENTER, BARSTOW)

LAV	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	TOT
REC IND													
PROD													

LAV MASTER WORK SCHEDULE RDD'S
 LIGHT ARMORED VEHICLES (MAINTENANCE CENTER, ALBANY)

LAV	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	TOT
REC IND			1										1
PROD						1							1

LAV-R Work Breakdown

LAV-Recovery Work Breakdown Structure				
Level 1	Level 2	Level 3	Level 4	Level 5
1. Light Armored Vehicle-R	1.01 Hull/Frame	1.01.01 Hull Attachments (DMM Chap.4)	1.01.01.01 Hull Bolted	
			1.01.01.02 Hull Welded	
			1.01.01.03 Stowage	
			1.01.01.04 Hatches	
			1.01.01.05 Doors	
			1.01.01.06 Trim Vane	
			1.01.01.07 Tow Pintle	
			1.01.01.08 Combat Locks	
			1.01.01.09 Seat	
			1.01.01.10 Battery Compartment	
			1.01.01.11 Engine Access Panels	
			1.01.01.12 Engine Noise Insulation	
			1.01.01.13 Deck Plates	
			1.01.01.14 Work Bench	
			1.01.01.15 M240E1 Machine Gun Mount	
			1.01.01.16 Grenade Launchers	
		1.01.02 Hull (DMM Chap.4)		
	1.02 Suspension/Steering	1.02.01 Suspension System (DMM Chap.5)		
			1.02.02.01 Strut Assemblies	
			1.02.01.02 A-Frames	
			1.02.01.03 Control Arms	
			1.02.01.03.01 Torsion Bars	
			1.02.01.04 Shock Absorbers	
			1.02.01.05 Rubber Stops	
		1.02.02 Steering System (DMM Chap.5)		
			1.02.02.01 ZF Power Steering Pump	
			1.02.02.02 Hydraulic Slave Cylinder	
			1.02.02.03 Hydraulic Steering Gear	
			1.02.02.04 Steering Wheel	
			1.02.02.04.01 Horn	
			1.02.02.04.02 Turn Indicator	
			1.02.02.05 Steering Arm	
			1.02.02.06 Pitman Arms	
			1.02.02.07 Steering Shock Absorber	
			1.02.02.08 Tie Rods	
			1.02.02.09 Rudder Control Cable	
			1.02.02.10 Rudders	
			1.02.02.11 Connecting Rod	
			1.02.02.12 Hoses and Lines	
		1.02.03 Brake System (DMM Chap.5)		
			1.02.03.01 Service Brakes	
			1.02.03.01.01 Air Compressor	

LAV-R Work Breakdown

LAV-Recovery Work Breakdown Structure				
Level 1	Level 2	Level 3	Level 4	Level 5
				1.02.03.01.01.01 Check Valves
				1.02.03.01.01.02 Pressure Protection Valves
				1.02.03.01.02 Supply Tank
				1.02.03.01.03 Service Tanks
				1.02.03.01.04 Alcohol Evaporator
				1.02.03.01.05 Pressure Gages
				1.02.03.01.06 Brake Valves
				1.02.03.01.07 Brake Reservoirs
				1.02.03.01.08 Air Cylinders
				1.02.03.01.09 Brake Drums
				1.02.03.01.10 Brake Pads
				1.02.03.01.11 Brake Pedal
				1.02.03.01.12 Hoses and Lines
			1.02.03.02 Jacobs Brake	
			1.02.03.03 Parking Brake	
				1.02.03.03.01 Valve
				1.02.03.03.02 Actuating Cylinder
				1.02.03.03.03 Actuating Arm
			1.02.03.04 Transfer Case Gear Lock	
				1.02.03.04.01 Lever
				1.02.03.04.02 Locking Pawl
		1.03 Power Package/Drive Train		
		1.03.01 Powerpack Integration (DMM Chap.3)		
			1.03.01.01 Engine Dyno Test	
			1.03.01.02 Transmission Dyno Test	
		1.03.02 Engine (DMM Chap.3)		
			1.03.02.01 Cold Start Assy	
			1.03.02.02 Heads	
			1.03.02.03 Block	
			1.03.02.04 Crankshaft	
			1.03.02.05 Pistons	
			1.03.02.06 Camshafts	
			1.03.02.07 Valves	
			1.03.02.08 Bearings	
			1.03.02.09 Controls	
				1.03.02.09.01 Accelerator Pedal
				1.03.02.09.02 Hi-Idle Control
			1.03.02.10 Mounts	
			1.03.02.11 Hoses, Lines, Fittings	
		1.03.03 Transmission (DMM Chap.3)		
			1.03.03.01 Clutches	
			1.03.03.02 Torque Converter	
			1.03.03.03 Valve Body	
			1.03.03.04 Case	
			1.03.03.05 Linkages	
			1.03.03.06 Hoses, Lines, Fittings	

LAV-R Work Breakdown

LAV-Recovery Work Breakdown Structure				
Level 1	Level 2	Level 3	Level 4	Level 5
			1.03.03.07	Gear Selector
			1.03.03.08	Power Take Off
		1.03.04	Drive Train (DMM Chap.3)	
			1.03.04.01	Transfer Case
			1.03.04.02	Drive Shafts
			1.03.04.03	Differentials
			1.03.04.04	Wheel Drive Assemblies
				1.03.04.04.01 Hubs
				1.03.04.04.02 Planetaries
				1.03.04.04.03 Tires
			1.03.04.05	Marine Drive Transfer Case
			1.03.04.06	Propeller Drive Assemblies
		1.03.05	Air Intake And Exhaust System (DMM Chap.3)	
			1.03.05.01	Air Cleaner
			1.03.05.02	Air Intake Grille
			1.03.05.03	Blower
			1.03.05.04	Turbocharger
			1.03.05.05	Exhaust Grille
			1.03.05.06	Muffler
			1.03.05.07	Exhaust Manifolds
			1.03.05.08	Exhaust Pipes
		1.03.06	Cooling System (DMM Chap.9)	
			1.03.06.01	Radiator
			1.03.06.02	Transmission Oil Cooler
			1.03.06.03	Engine Oil Cooler
			1.03.06.04	Thermostat
			1.03.06.05	Cooling Fan
			1.03.06.06	Water Pump
				1.03.06.06.01 Belt
			1.03.06.07	Coolant Recovery Bottle
			1.03.06.08	Driver's Heater
			1.03.06.09	Hoses and Tubes
	1.04	Auxiliary Automotive		
		1.04.01	Pneumatic System (DMM Chap. 8)	
			1.04.01.01	Wet Tank
			1.04.01.02	Trim Vane Control
				1.04.01.02.01 Cylinder
			1.04.01.03	4-8 Wheel Drive Control
				1.04.01.03.01 Differential Shift Cylinders
			1.04.01.04	Marine Drive Control
				1.04.01.04.01 Shift Cylinder
			1.04.01.05	Driver's Seat Control
				1.04.01.05.01 Driver's Seat Cylinder
			1.04.01.06	Winch Control
			1.04.01.07	Pneumatic Hoses
			1.04.01.08	Parking Brake Control

LAV-R Work Breakdown

LAV-Recovery Work Breakdown Structure				
Level 1	Level 2	Level 3	Level 4	Level 5
			1.04.01.09 Trailer Brake Air Control	
		1.04.02 Fuel System (DMM Chap.6)		
			1.04.02.01 Fuel Filler Pipe	
			1.04.02.02 Fuel Tank	
			1.04.02.03 Electric Fuel Pumps	
			1.04.02.04 Fuel Supply Line	
			1.04.02.05 Check Valve	
			1.04.02.06 Supply Shut Off	
			1.04.02.07 Primary Fuel Filter	
			1.04.02.08 Secondary Fuel Filter	
			1.04.02.09 Mechanical Fuel Pump	
			1.04.02.10 Fuel Injectors	
			1.04.02.11 Fuel Return Line	
			1.04.02.12 Personnel Heater Lines	
			1.04.02.13 Personnel Heater	
		1.04.03 Electrical System (DMM Chap.6)		
			1.04.03.01 Instrument Panel	
				1.04.03.01.01 Gages
				1.04.03.01.02 Wiring and Connectors
				1.04.03.01.03 Circuit Breakers
			1.04.03.02 Annunciator Panel	
			1.04.03.03 Storage Batteries	
			1.04.03.04 Master Switch	
			1.04.03.05 Starter	
			1.04.03.06 Alternator	
				1.04.03.06.01 Belt
			1.04.03.07 Cables	
			1.04.03.08 Bilge Pumps	
			1.04.03.09 Lights	
				1.04.03.09.01 Headlights
				1.04.03.09.02 Domelights
				1.04.03.09.03 BO Drive Lights
				1.04.03.09.04 Turn Signals
				1.04.03.09.05 Work Bench Lights
		1.04.04 Hydraulic System (DMM Chap.9)		
			1.04.04.01 Reservoir	
			1.04.04.02 Hydraulic Filter	
			1.04.04.03 Oil Cooler	
			1.04.04.04 Cooling Fan Motor	
			1.04.04.05 Hydraulic Pump	
				1.04.04.05.01 Belt
			1.04.04.06 Hydraulic Manifold	
			1.04.04.07 Hydraulic Hoses	
			1.04.04.08 Hydraulic Winch Motor	
			1.04.04.09 Rear Hydraulic Manifold	
			1.04.04.09 Hydraulic Control Valves	

LAV-R Work Breakdown

LAV-Recovery Work Breakdown Structure				
Level 1	Level 2	Level 3	Level 4	Level 5
			1.04.04.10	Motor Generator
		1.04.05	Recovery System (DMM Chap.4)	
			1.04.05.01	Winch
			1.04.05.02	Winch Drum
			1.04.05.03	Winch Fairlead
			1.04.05.04	Crane
			1.04.05.05 Electrical Control Box & Remote Cables	
			1.04.05.06 Boom Mechanical	
				1.04.05.06.01 Boom Cylinder
				1.04.05.06.02 Lifting Hook
			1.04.05.07	Outriggers
			1.04.05.08 Rigger's Instrument Panel	
		1.04.06	Fire Suppression System (DMM Chap.11)	
			1.04.06.01	Halon Fire Bottles
			1.04.06.02	Heat Sensors
			1.04.06.03	Manual Actuators
			1.04.06.04	Spray Nozzles
			1.04.06.05	Engine Shut Off
	1.05	Navigation/Communication (DMM Chap.13)		
		1.05.01	VIC 2 Intercom	
			1.05.01.01	Control Boxes
		1.05.02	Mounts	
		1.05.03	Cables and Wiring	
	1.06	NBC System		
		1.06.01	Precleaner And Particulate Filter Box	
		1.06.02	M3 Heaters	
		1.06.03	Hoses	
	1.07	Vehicle Disassembly		
	1.08	Vehicle Assembly		
	1.09	Final Inspection & Road Test		
	1.10	Miscellaneous Material		
		1.10.01	Paint	
		1.10.02	Line Side Stock	
		1.10.03	Hazardous Material	
		1.10.04	Fabricated Parts	
	1.11	Systems Engineering/Program Management		
		1.11.01	Industrial Engineering	
			1.11.01.01	Quality Assurance Production Plan
		1.11.02	Production Management	
			1.11.02.01	Pre-Induction Test Sheets
			1.11.02.02	Crack Reports
		1.11.03	Configuration Management	
			1.11.03.01	Modification Database
			1.11.03.02	Deviation/Waiver Request Forms
		1.11.04	Program Management	
			1.11.04.01	Contractor's Progress & Management Report

LAV-R Work Breakdown

LAV-Recovery Work Breakdown Structure				
Level 1	Level 2	Level 3	Level 4	Level 5
			1.11.04.02 Priority Parts List	
	1.12 Vendor Processing			
	1.13 Facilities			
		1.13.01 Test Stands		
		1.13.02 Tools		
	1.14 Spares			
	1.15 GFM Repair			

CONTRACT DATA REQUIREMENTS LIST
(1 Data Item)

Form Approved
OMB No. 0704-0188

The public reporting burden for this collection of information is estimated to average 110 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 the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0701-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please DO NOT RETURN your form to the above address. 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 _____ X
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D. SYSTEM/ITEM Light Armored Vehicle, IROAN	E. CONTRACT/PR NO.	F. CONTRACTOR
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1. DATA ITEM NO. B001	2. TITLE OF DATA ITEM Engineering Change Proposal	3. SUBTITLE Configuration Management
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4. AUTHORITY (Data Acquisition Document No.) DI-CMAN-80639	5. CONTRACT REFERENCE SOW 3.3.2.7	6. REQUIRING OFFICE MCLBA (825)
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7. DD 250 REQ LT	9. DIST STATEMENT REQUIRED A	10. FREQUENCY ASREQ	12. DATE OF FIRST SUBMISSION See Blk 16	14. DISTRIBUTION	
8. APP CODE	11. AS OF DATE	13. DATE OF SUBSEQUENT SUBMISSION	a. ADDRESSEE		b. COPIES
			MCLBA (825-2)		Draft: 0, Final: 1, Reg: 1, Repr: 0

16. REMARKS
Blk 4 - Contractor format is authorized.
Blks 10 & 12 - ECPs shall be submitted to obtain approval for any changes to the approved configuration documentation (PBL).
ECPs will be reviewed and disposition determined in accordance with assigned priority codes and using MIL-STD-973, paragraph 5.4.2.3.4 as guidance.
ECPs shall be transmitted via e-mail to the following address:
mbmatcomconfigmgmnt@matcom.usmc.mil
Distribution Statement A: Approved for public release, distribution is unlimited

15. TOTAL	0	1	0
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17. PRICE GROUP
18. ESTIMATED TOTAL PRICE

G. PREPARED BY <i>Jay R. Peterson</i>	H. DATE 8/30/99	I. APPROVED BY <i>Michael A. Smith</i>	J. DATE 9-2-99
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CONTRACT DATA REQUIREMENTS LIST
(1 Data Item)

Form Approved
OMB No. 0704-0188

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A. CONTRACT LINE ITEM NO.	B. EXHIBIT	C. CATEGORY: TDP _____ TM _____ OTHER _____ X
----------------------------------	-------------------	--

D. SYSTEM/ITEM Light Armored Vehicle (IROAN)	E. CONTRACT/PR NO.	F. CONTRACTOR
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1. DATA ITEM NO. B003	2. TITLE OF DATA ITEM Request For Waiver	3. SUBTITLE Configuration Management
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4. AUTHORITY (Data Acquisition Document No.) DI-CMAN-80641B	5. CONTRACT REFERENCE SOW 3.3.2.7	6. REQUIRING OFFICE MCLBA (825)
---	---	---

7. DD 250 REQ LT	8. DIST STATEMENT REQUIRED	10. FREQUENCY ASREQ	12. DATE OF FIRST SUBMISSION SEE BLK 16	14. DISTRIBUTION	
8. APP CODE A		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBMISSION	a. ADDRESSEE	b. COPIES
					Draft
					Final
					Reg
					Repro

16. REMARKS Blk 4 - Contractor format is authorized. Blks 10 & 12 - RFWs shall be submitted to obtain authorization to deliver nonconforming material which does not meet prescribed configuration documentation. RFWs will be reviewed and disposition determined within 30 calendar days upon receipt by the Government. RFDs shall be transmitted via e-mail to the following address: mbmatcomconfigmngmnt@matcom.usmc.mil Distribution Statement A: Approved for public release, distribution is unlimited	14. DISTRIBUTION	a. ADDRESSEE	b. COPIES	
	MCLBA (825-2)	0	1	0
	15. TOTAL	0	1	0

17. PRICE GROUP
18. ESTIMATED TOTAL PRICE

G. PREPARED BY <i>Jay R. Peterson</i>	H. DATE 8/30/99	I. APPROVED BY <i>Michael A. Lutz</i>	J. DATE 9-2-99
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