

DRAFT PURCHASE DESCRIPTION (PD)

FOR

**JOINT LIGHT TACTICAL VEHICLE (JLTV)
FAMILY OF VEHICLES**

VERSION 2.5

18TH AUGUST 2010

Revision History

Revision	Date	Description
2.0	21 st January 2008	January 2008 Web Release
2.1s	15 th January 2010	Internal Release
2.2s	12 th March 2010	Internal Release
2.3	15 th April 2010	April 2010 Web Release
2.4s	29 th July 2010	Internal Release
2.5	18 th August 2010	August 2010 Web Release. The PD main body updated with new C4I section.

DRAFT

1 SCOPE.

The release of the Draft Purchase Description (PD) is for informational and planning purposes only. This is only a Draft PD. Multiple revision of the PD are expected between now and EMD RFP. The intent for releasing this Draft is to provide industry with the forecasted direction of the JLTV program requirements and is not final. This web site will be updated with the latest version of the Draft PD as available.

Probability of Change (POC): Each requirement within the FoV and Annexes has been marked as High, Medium or Low for the web release depending on the likelihood of it being modified

- **High:** Requirements marked as High (red) have a high probability of being modified for EMD
- **Medium:** Requirements marked as Medium (orange) might be modified for EMD
- **Low:** Requirements marked as Low (yellow) are not likely to be changed for EMD

ID	POC	JLTV FoV Requirement
PDFOV-XXXX	H	
PDFOV-XXXX	M	
PDFOV-XXXX	L	

Everything that is highlighted in blue text are requirements that have been modified since version 2.0 release.

Australian Requirements: Although Australia is yet to make a formal commitment with regard to joining the US JLTV Program for the EMD Phase, the JLTV Program is seeking industry comment and feedback on a number of requirements that Australia has proposed for inclusion in the JLTV EMD PD. The majority of these Australian proposed requirements relate to Australian regulatory compliance. These proposed Australian requirements are indicated in the EMD PD with the precursor 'AUSTRALIAN'. In particular, the Program is seeking industry comment on whether these Australian proposed requirements are design and/or cost drivers. The level of effort required to comply with these Australian proposed requirements is also sought. Industry feedback will be used by the Program in order to determine whether these Australian proposed requirements can be incorporated at no/minimal impact to the Program or if of significant impact, not incorporated at all. In order to assist industry feedback, a comparative study of Australian Design Rules with selected US Vehicle Standards is included.

1.1 General Description.

This ATPD identifies the physical, performance and inspection requirements for the Joint Light Tactical Vehicle (JLTV) Family of Vehicles (FoV) and the companion trailers. The ATPD establishes these requirements by identifying the following:

- a. Physical Characteristics
- b. Performance Requirements
- c. Test Requirements

The JLTV FoV is composed of three Payload Category vehicles, A, B, and C. The performance, force protection and physical characteristics of these Payload Category vehicles have been tailored to fulfill mission roles they will be required to execute. Each of the Payload Categories will have the capability of towing JLTV Companion Trailers as well as specified legacy trailers. The Payload Category Vehicles are defined as:

- a. Payload Category A (JLTV-A): The JLTV-A will serve Battlespace Awareness (BA) mission roles by providing protected, networked mobility for USMC and USA general command and control purposes.
- b. Payload Category B (JLTV-B): The JLTV-B will serve Force Application (FA) mission roles by providing protected, sustained and networked tactical ground mobility for mounted infantry/combat arms forces.
- c. Payload Category C (JLTV-C): The JLTV-C will serve Focused Logistics (FL) mission roles by providing transport of wounded personnel, general cargo, ammunition and shelters.
- d. Companion Trailers (JLTV-T): The companion trailers will provide addition payload carrying capacity commensurate with the specific Payload Category vehicles.

1.2

The ATPD is divided into a Main Body supplemented by Annexes. The Main Body of the ATPD defines overarching requirements that are applicable to the JLTV FoV and companion trailers. Specific Payload Category vehicle requirements and classified requirements are contained in the annexes. The outline of the ATPD is as follows:

- a. Annex A - Payload Category A (JLTV-A)
- b. Annex B - Payload Category B (JLTV-B)
- c. Annex C - Payload Category C (JLTV-C)
- d. Annex D - Companion Trailer (JLTV -T)
- e. Annex E - Force Protection (Classified)
- f. Annex F - Signature Management (Classified)
- g. Annex G - Export Controlled Annex (FOUO)
- h. Annex H - Operational Mode Summary/Mission Profile (OMS/MP)
- i. Annex I - Reserved
- j. Annex J - Engineering Drawings
- k. Annex K - Item Quantities

2 APPLICABLE DOCUMENTS

2.1 Government documents.

The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issue of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and in effect on the date of Request for Proposal.

MILITARY SPECIFICATIONS DEPARTMENT OF DEFENSE:

A-A-50271	Plate, Identification
A-A-52418	Light, Warning, Vehicular: Rotating, Unit, 14 and 28 Volt DC
A-A-52432	Mirror Assembly, Rearview: Automotive Exterior Mounting
A-A-52474	Electro coating Primer
A-A-52507	Chain Assembly and Cross Chain, Tire: For Military Vehicles
A-A-52513	Bracket Assembly, Liquid Container, Five Gallon

A-A-52525	Horns and Buzzers, Air- and Electrically-Actuated
A-A-52557	Fuel Oil, Diesel; For Posts, Camps and Stations
A-A-52624	Antifreeze, Multi-Engine Type
A-A-59326	Coupling Halves, Quick-Disconnect, Cam-Locking Type
A-A-59487	Padlock (Key Operated)
MIL-PRF-2104	Lubricating Oil, Internal Combustion Engine, Combat/Tactical Service
MIL-PRF-2105	Lubricating Oil, Gear, Multipurpose (Metric)
MIL-PRF-10924	Grease, Automotive And Artillery
MIL-PRF-20696	Cloth, Waterproof, Weather Resistant
MIL-S-40626	Sign Kit, Vehicle Class
MIL-PRF-46167	Lubricating Oil, Internal Combustion Engine, Arctic
MIL-PRF-52308	Filter-Coalescer Element, Fluid Pressure
MIL-DTL-53072	Chemical Agent Resistant Coating (CARC) System Application Procedures and Quality Control Inspection
MIL-DTL-0053084	Primer, Cathodic Electrodeposition, Chemical Agent Resistant
MIL-DTL-64159	Coating, Water Dispersible Aliphatic Polyurethane, Chemical Agent Resistant
MIL-DTL-0053030	Primer Coating, Epoxy, Water Reducible, Lead and Chromate Free
MIL-PRF-62048	Air Cleaners, Automotive: Heavy Duty, Dry-Type (For Internal Combustion Engines) (Metric)
MIL-DTL-83133	Turbine Fuels, Aviation, Kerosene Types, NATO F-34 (JP-8), NATO F-35, and JP-8+100
MIL-V-81940	Valve, Sampling and Bleed, Hydraulic, Type II Systems

STANDARDS
FEDERAL

FED-STD-595	Colors Used in Government Procurement
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DEPARTMENT OF DEFENSE

MIL-STD-129	Standard Practice For Military Marking
MIL-STD-209	Lifting and Tie-down Provisions
MIL-STD-461	Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems and Equipment
MIL-STD-461E Interim Notice 4	Measurement of Electromagnetic Interference Characteristics
MIL-STD-461E Interim Notice 5	Measurement of Electromagnetic Interference Characteristics
MIL-STD-704	Aircraft Electric Power Characteristics
MIL-STD-810	Environmental Engineering Considerations and Laboratory Tests
MIL-STD-889	Dissimilar Metals
MIL-STD-1275	Characteristics of 28 Volt DC Electrical Systems in Military Vehicles
MIL-STD-464	Electromagnetic Environmental Effects Requirements for Systems
MIL-STD-1366	Transportability Criteria
MIL-STD-1472	Human Engineering
MIL-STD-1474	Noise Limits
MIL-STD-2169	High Altitude Electromagnetic Pulse
SAE J318	ABS brake malfunction light
SAE J2497	ABS brake intervehicular cable
MIL-DTL-12468	Super Tropical Bleach
DODI-6055.11	Electromagnetic Radiation Protection

HANDBOOKS

DEPARTMENT OF DEFENSE

MIL-HDBK-454	General Guidelines for Electronic Equipment
MIL-HDBK-1791	Designing for Internal Aerial Delivery in Fixed Wing Aircraft

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia PA 19111-5094.)

2.2 Other Government documents, drawings, and publications.

The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

Training and Doctrine Command Pamphlet 525-3-90/O&O(Change 2), The United States Army Objective Force Operational and Organizational Plan Maneuver Unit of Action, 30 June 2003.

TRADOC Pamphlet 525-4-0, US Army Concept for Maneuver Sustainment Operations in Support of the Objective Force (Draft), 23 Jan 03 U.S. Army White Paper: Concepts for the Objective Force
(Application for copies should be addressed to the U.S. Army Tank automotive and Armament Command, ATTN: AMSTA-LC-AH, Warren, MI 48397-5000)
C-130 Transportability of Army Vehicles, Military Traffic Management Command Transportation Engineering Agency, 11 Sept. 02, Joseph Cassidy.

US ARMY EDGEWOOD RESEARCH DEVELOPMENT AND ENGINEERING CENTER
D5-15-8779 Interface for M-8 Alarm
Application for copies should be addressed to the: Technical Director, US Army Edgewood Research Development and Engineering Center, ATTN: SCBRD-RT/ASM, Aberdeen Proving Ground, MD 21010-5423)

US ARMY COMMUNICATIONS ELECTRONICS MATERIEL READINESS COMMAND

A3013814	SINGARS AN/VRC-90 Radio Set
A3013842	Antenna (AS-3684)
A3014039	Power Cable
A3019214	Mounting Base, Electrical Equipment For The MT6352/VRC-VEC
SCD189023	Antenna Support Assembly

(Application for copies should be addressed to the: US Army Communications and Electronics Materiel Readiness Command, Logistics Engineering Directorate, 12WD Bldg. 601 McAfee Center, Fort Monmouth, NJ 07703)

TECHNICAL BULLETIN (TB)

U. S. ARMY TANK-AUTOMOTIVE AND ARMAMENT COMMAND

TB 43-0213	Corrosion, Prevention and Control Including Rust proofing Procedures for Tactical Vehicles and Trailers
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(Application for copies should be addressed to the U.S. Army Tank automotive and Armament Command, ATTN: AMSTA-LC-AH, Warren, MI 48397-5000)

REGULATIONS, ARMY

AR 70-38	Research, Development, Test and Evaluation of Materiel for Extreme Climatic Conditions
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(Copies are available from the following website: <http://www.usace.army.mil/inet/usace-docs/army-reg>)

GOVERNMENT AGENCIES

CALIFORNIA AIR RESOURCES BOARD (CARB)

Tank Pressure and Vacuum Requirements

(Application for copies should be addressed to the: California Air Resources Board, 2020 L Street, Sacramento, CA 95814)

DEPARTMENT OF TRANSPORTATION (DOT)

Federal Motor Vehicle Safety Standards (FMVSS)

178.346	Cargo Tank Motor Vehicle (DOT 406)
571.101	Controls and Displays
571.102	Transmission Shift Lever Sequence, Starter Interlock, and Transmission Braking Effect
571.104	Windshield Wiping and Washing Systems
571.108	Lamps, Reflective Devices, and Associated Equipment
571.111	Rearview Mirrors
571.119	New Pneumatic Tires for Vehicles other Than Passenger Cars
571.120	Tire Selection and Rims for Motor Vehicles Other Than Passenger Cars
571.121	Air Brake Systems
571.124	Accelerator Control Systems
571.208	Occupant Crash Protection
571.209	Seat Belt Assemblies
571.210	Seat Belt Assemblies Anchorage
571.223	Rear Impact Guards
571.224	Rear Impact Protection

Federal Motor Carrier Safety Regulations (FMCSR)

393.27	Wiring Specifications
393.28	Wiring to Be Protected
393.29	Grounds
393.30	Battery Installation
393.31	Overload Protection Devices
393.32	Detachable Electrical Connections
393.33	Installation Wiring,
393.40	Required Brake Systems
393.41	Parking Brake System
393.42	Brakes Required on All Wheels
393.43	Breakaway and Emergency Braking
393.45	Brake Tubing and Hose, Adequacy

393.46	Brake Tubing and Hose Connections
393.47	Brake Lining
393.48	Brakes to Be Operative
393.49	Single Valve to Operate All Brakes
393.50	Reservoirs Required
393.51	Warning Devices and Gauges
393.52	Brake Performance
393.55	Antilock Brake Systems
393.65	All Fuel Systems
393.67	Liquid Fuel Tanks
393.70	Coupling Devices and Towing Methods, Except for Driveaway-Towaway Operations
393.83	Exhaust Systems
393.86	Rear Impact Protection
393.95	Emergency Equipment on All Power Units

(Application for copies should be addressed to the Dept of Transportation, Federal Highway Administrations, Washington, DC 20591)

ENVIRONMENTAL PROTECTION AGENCY (EPA)

Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines
Compliance with Interstate Motor Carrier Noise Emission Standards

(Application for copies should reference "Code of Federal Regulations 40 CAR and the Federal Register, and should be addressed to the Superintendent of Documents, US Government Printing Office, Washington, DC 20402)

NATIONAL FIRE PROTECTION AGENCY (NFPA)

NFPA 407	Standard for Aircraft Fuel Servicing (National Fire Codes, Vol. 7)
NFPA 70	National Electrical Code

(Application for copies should be addressed to the National Fire Protection Agency, One Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101)

NORTH ATLANTIC TREATY ORGANIZATION (NATO) STANDARDIZATION AGREEMENT (STANAG)

STANAG 2413	Demountable Load Carrying Platforms (DLCP/Flatracks)
STANAG 4007	Electrical Connectors Between Prime Movers, Trailers and Towed Artillery
STANAG 4074	Auxiliary Power Unit Connections for Starting Tactical Land Vehicles
STANAG 4569	Protection levels for occupants of logistic and light armored vehicles
QSTAG 244 Ed 3	Nuclear Survivability Requirements For Military Equipment

NORTH ATLANTIC TREATY ORGANIZATION (NATO) ALLIED VEHICLE TESTING PUBLICATION (AVTP)

AVTP 03-30WT	Steering and Maneuverability
AVTP 03-160 W	Dynamic Stability

(Applicable NATO documents are those that are current at NATO Headquarters (Military Agency for Standardization , 1110 Brussels). Copies are available from Global Engineering, Inc., 15 Inverness Way East, Englewood, CO 80112).

OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA)

Title 29, CFR, Part 1910.1000	Air Contaminants
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(Application for copies should be addressed to the American Conference of Government Industrial Hygienists (ACGIH), 1330 Kemper Meadow Drive, Cincinnati, OH 45240).

AUSTRALIAN GOVERNMENT AGENCIES

Department of Infrastructure, Transport, Regional Development and Local Government
Motor Vehicles Standards Act 1989
Australian Design Rules - 3rd Edition (ADR)

01/00	Reversing Lamps
02/01	Side Door Latches and Hinges
03/03	Seat and Seat Anchorages
04/04	Seat Belts
05/05	Anchorage for Seatbelts
06/00	Direction Indicators
08/01	Safety Glazing Material
13/00	Installation of Lighting and Light-Signalling Devices on other than L-Group Vehicles
14/02	Rear Vision Mirrors
18/03	Instrumentation
23/02	Passenger Car Tyres
30/01	Smoke Emission Control for Diesel Vehicles
35/03	Commercial Vehicle Brake Systems
38/03	Trailer Braking Systems
42/04	General Safety Requirements
43/04	Vehicle Configuration & Dimensions
45/01	Lighting & Light-Signalling Devices not covered by ECE Regulations
46/00	Headlamps
47/00	Retro-Reflectors
48/00	Devices for Illumination of Rear Registration Plates
49/00	Front and Rear Position (Side) Lamps, Stop Lamps and End-outline Marker Lamps

50/00	Front Fog Lamps
51/00	Filament Lamps
52/00	Rear Fog Lamps
61/02	Vehicle Markings
62/02	Mechanical Connections Between Vehicles
74/00	Side Marker Lamps
75/00	Headlamp Cleaners
76/00	Daytime Running
77/00	Gas Discharge Headlamps
78/00	Gas Discharge Light Sources
80/02	Emission Control for Heavy Vehicles
80/03	Emission Control for Heavy Vehicles
83/00	External Noise

Australian Paint Approval Scheme Specification

0502 (APAS 0502)	Disruptive Pattern Camouflage Polyurethane Finishing System for Vehicles & Equipment
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Australian Defence Specifications

ARMY (AUST) 6868	Electrical Characteristics of Rotating Alternating Current Generator sets for Field Use.
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2.3 Non-Government Publications.

The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS are the issues of the documents cited in the solicitation (see 6.2).

AMERICAN PETROLEUM INSTITUTE (API)

API STD 1529	Aviation Fueling Hose (DOD Adopted)
API SPEC 1581	Specifications and Qualification Procedures for Aviation Jet Fuel Filter/Separators

(Application for copies should be made to the: American Petroleum Institute, 1220 L St NW, Washington, DC 20005)

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B30.22 Articulating Boom Cranes 01JAN00

(Applications for copies should be addressed to the: American Society of Mechanical Engineers, 345 East 47th Street, New York, NY 10017)

AMERICAN SOCIETY FOR TESTING & MATERIALS (ASTM).

D522 Mandrel Bend Test of Attached Organic Coatings (DOD Adopted) 01JAN01

D1171 Rubber Deterioration - Surface Ozone Cracking Outdoors or Chamber (Triangular Specimens)
(DOD Adopted)

(Applications for copies should be addressed to the: American Society for Testing & Materials 100 Bar Harbor Drive, West Conshohocken, PA 19428-2959)

GENERAL MOTORS (GM)

GM 9540P Accelerated Corrosion Test

(Application for copies should be addressed to Global Engineering, 7730 Carondelet Ave., Suite 407, St. Louis, MO 63105)

INTERNATIONAL ORGANIZATION OF STANDARDIZATION (ISO)

668 Series 1 Freight Containers - Classification, Dimensions and Ratings

(Application for copies should be addressed to International Organization of Standardization (ISO), Case Postale 56, Geneva, Switzerland CH-1211)

SOCIETY OF AUTOMOTIVE ENGINEERS, INC. (SAE)

AS8090	Mobility, Towed Aerospace Ground Equipment, General Requirements for (DOD Adopted)
J163	Low Tension Wiring and Cable Terminals and Splice Clips (DOD Adopted)
J198	Windshield Wiper Systems- Trucks, Buses, and Multipurpose Vehicles (DOD Adopted)
J318	Automotive Air Brake Line Couplers (Gladhands)
J336	Sound Level for Truck Cab Interior (DOD Adopted)
J343	Test and Test Procedures for SAE 100R Series Hydraulic Hose and Hose Assemblies
J366	Exterior Sound Level for Heavy Trucks and Buses (DOD Adopted)
J381	Windshield Defrosting Systems Test Procedures -Trucks, Buses, and Multipurpose Vehicles (DOD Adopted)
J382	Windshield Defrosting Systems Performance Requirements Trucks, Buses, and Multipurpose Vehicles (DOD Adopted)
J516	Hydraulic Hose Fittings
J517	Hydraulic Hose
J534	Lubrication Fittings (DOD Adopted)
J560	Seven Conductor Electrical Connector for Truck-Trailer Jumper Cable (DOD Adopted)
J682	Rear Wheel Splash and Stone Throw Protection (DOD Adopted)
J683	Tire Chain Clearance-Trucks, Buses (Except Suburban, Intercity, and Transit Buses), and Combinations of Vehicle (DOD Adopted)
J697	Safety Chain of Full Trailers or Converter Dollies (DOD Adopted)

J701	Truck Tractor Semitrailer Interchange Coupling Dimensions (DOD Adopted)
J706	Rating of Winches (DOD Adopted)
J848	Fifth Wheel King Pin, Heavy Duty - Commercial Trailers and Semitrailers (DOD Adopted)
J849	Connection and Accessory Locations for Towing Multiple Trailers (DOD Adopted)
J994	Alarm - Backup - Electric Laboratory Performance Testing, Standard (DOD Adopted)
J1100	Motor Vehicle Dimensions (DOD Adopted)
J1292	Automobile, Truck, Truck-Tractor, Trailers, and Motor Coach Wiring (DOD Adopted)
J1436 (R)	Requirements for Engine Cooling System Filling, De-aeration, and Drawdown Tests, Information Report
J1587	Joint SAE/TMC Electronic Data Interchange between Microcomputer Systems in Heavy Duty Vehicle Applications
J1708	Serial Data Communications between Microcomputer Systems in Heavy-Duty Vehicle Applications 13
J1850	Class B Data Communications Network Interface
J1939	Series: J1939-11 Physical Layer - 250K bits/s, Shielded Twisted Pair
J1939-13	Off-Board Diagnostic Connector
J1939-21	Data Link Layer
J1939-31	Network Layer
J1939-71	Vehicle Application Layer
J1939-73	Application Layer - Diagnostics
J1939-81	Recommended Practice for Serial Control and Communications Vehicle Network - Part 81 - Network Management
J1992	Wheels/Rims - Military Vehicles - Test Procedures and Performance Requirements
J2014	Pneumatic Tires for Military Tactical Wheeled Vehicles
J2711	Recommended Practice for Measuring Fuel Economy and Emissions of Hybrid-Electric and Conventional Heavy-Duty Vehicles

(Applications for copies should be addressed to the: Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096)

TIRE AND RIM ASSOCIATION (TRA) INCORPORATED

European Committee for Standardization EN-12999 Crane-Loader cranes

TRA 1-Year Book

(Application for copies should be addressed to the: TRA Inc., 175 Montrose West Avenue, Suite 150, Copley, OH 44321)

2.4 Order of precedence.

In the event of a conflict between the text of this specification and the references cited herein, requirements shall be followed by the below listed order of precedence:

1. Contract Document and associated contract clauses.
2. JLTV Performance Specification, dated 7 December 2007.
3. Government Standards, specifications or handbooks.
4. Non-government standards, specifications or handbooks.

2.4.1 Compliance with Laws & Regulations.

The requirements and specifications contained in the above documents shall not be interpreted as a waiver or allowance to supersede any law or regulation unless a specific exemption has been obtained

DRAFT

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements																	
PDFOV-874		3 VEHICLE REQUIREMENTS.																	
PDFOV-875	L	<p>The JLTV is defined as a System of Systems to include the truck chassis, the Companion Trailer, and applicable sub-components listed hereunder. All vehicle variants shall meet the general requirements of section 3 of this specification. Payload Category and Companion Trailer specific requirements are contained in the respective vehicle specific annex for each JLTV subconfiguration.</p> <p>If a conflict arises between Section 3 of this specification and the vehicle specific annex, the callout in the vehicle specific annex shall take precedence. If not otherwise specified, all requirements are threshold values (T). Objective values, which are desired capabilities, are labeled with an (O).</p>																	
PDFOV-876		3.1 Physical Requirements																	
PDFOV-877		3.1.1 Curb Weight (CW).																	
PDFOV-878	H	Curb weight of the JLTV is defined as the empty vehicle weight with a full fuel tank, all fluids, lubricants, coolant, A-structure inherent armor , Basic Issue Items (BII), On-vehicle Maintenance (OVM) and weapons mounts.																	
PDFOV-879		3.1.2 Gross Vehicle Weight (GVW).																	
PDFOV-880	L	Gross Vehicle Weight (GVW) is defined as CW plus payload, plus B-kit armor.																	
PDFOV-881		3.1.3 Gross Combined Vehicle Weight (GCVW).																	
PDFOV-882	L	Gross Combined Vehicle Weight (GCVW) is defined as the gross vehicle weight of the JLTV (excluding tongue/pintle weight) plus the GVW of the towed load, when coupled to the truck. For planning purposes and mobility calculations, it is assumed that 10% of the trailer GVW is trailer tongue weight that is carried by the JLTV prime mover. All characteristics requiring evaluation at GCVW is performed using the JLTV Companion Trailer (CT) at GVW.																	
PDFOV-883		3.1.4 Payload.																	
PDFOV-884	M	Payload is defined as occupants and their personal equipment with individual weapon, sustainment items for mission lengths called out in the vehicle specific annex, mission essential equipment, cargo, and the tongue/pintle weight of the towed load (if any). B-kit armor is not considered part of payload. The planning factor per soldier with equipment is 363 pounds each. For each payload category vehicle, see the vehicle specific annex.																	
PDFOV-7339		3.1.4.2 Self Sustainment Payload.																	
PDFOV-7340	M	The JLTV FoV (with accompanying trailer) shall be capable of carrying 3 days (T), 7 days (O) of self sustainment payload.																	
PDFOV-7341		3.1.4.2.1 On Vehicle Self-Sustainment Payload.																	
PDFOV-7342	M	The JLTV FoV shall be capable of carrying at least one (1) day of self sustainment payload on the vehicle as defined below.																	
PDFOV-7343		3.1.4.2.1.1 One Day of Self Sustainment Payload.																	
PDFOV-7345	M	Table 1. One Day of Self Sustainment Payload.																	
PDFOV-7344	M		<table border="1"> <thead> <tr> <th></th> <th>Quality per Occupant</th> <th>Weight (lbs)</th> </tr> </thead> <tbody> <tr> <td>Molle Packs</td> <td>1</td> <td>8.50</td> </tr> <tr> <td>Gallons of water per day</td> <td>4</td> <td>8.30</td> </tr> <tr> <td>Meals Ready to Eat per day</td> <td>3</td> <td>1.30</td> </tr> <tr> <td>Ammunition</td> <td>See Ammunition Storage Section</td> <td>See Ammunition Storage Section</td> </tr> </tbody> </table>		Quality per Occupant	Weight (lbs)	Molle Packs	1	8.50	Gallons of water per day	4	8.30	Meals Ready to Eat per day	3	1.30	Ammunition	See Ammunition Storage Section	See Ammunition Storage Section	
	Quality per Occupant	Weight (lbs)																	
Molle Packs	1	8.50																	
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Meals Ready to Eat per day	3	1.30																	
Ammunition	See Ammunition Storage Section	See Ammunition Storage Section																	

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-3930		3.1.5 Essential Combat Configuration (ECC)
PDFOV-3931	H	Essential Combat Configuration shall be defined as curb weight of the vehicle but at tank of fuel plus 3 crew members with personal gear (363 lbs per person for planning purposes), plus sub-configuration specific communication equipment, one days supply of food, water and ammunition and the primary weapon system, such that the vehicle is capable of immediate employment upon debarkation. "Immediate" for this purpose is defined as the time required to mount and load the weapon, 3 minutes or less excluding the time to mount the Remote Weapons Station.
PDFOV-6836		3.1.6 B-Kit Armor
PDFOV-6837	H	The B armor kit shall be defined as the Gunners Protection Kit (GPK) and the add on armor above the A structure inherent armor.
PDFOV-895		3.1.7 Operating Environment.
PDFOV-896		3.1.7.1 Operating Parameters.
PDFOV-897	L	The JLTV shall
PDFOV-898	L	1) Start and operate in all altitudes from -500 feet (-152.4 meters) through 12,000 feet (3658 meters)
PDFOV-899	M	2) Maintain full mission capability in temperatures from -50°F to 130°F (-46° C to 54° C).
PDFOV-3940	L	3) Start and operate on JP-8 and DF-2 Fuels independently.
PDFOV-900		3.1.7.1.1 Start
PDFOV-901	L	The JLTV shall Start in:
PDFOV-902	M	1) -25°F to 130°F (-32° C to 54° C) within one minute from the initiation of cranking with no external aids, kits, or prior warming of the batteries.
PDFOV-903	M	2) -50°F to -26°F (-46° C to -32.5° C) within two minutes or less from the initiation of cranking assisted by external aids or arctic heater kits which will not be a permanent part of the non-artic fleet.
PDFOV-3942	M	a) The engine must be able to be started within thirty (30) minutes from the initiation of the engine arctic kit-aided start sequence.
PDFOV-6544		3.1.7.1.1.1 Automatic Starting Aid.
PDFOV-3529	L	If ether is required to assist engine start in cold weather, the vehicle shall be equipped with a fully-automatic starting fluid system that will inject precisely controlled amount of vaporized starting fluid into the engine's air intake system to prevent engine damage. The automatic starting aid system will only operate when enabled by the driver.
PDFOV-911		3.1.7.2 Storage Temperatures.
PDFOV-912	H	The JLTV and its Companion Trailer shall be capable of being placed outdoor in long term storage, up to six months, at temperatures ranging between -50ø F and 160ø F (-46ø C to 71ø C) , in humid storage conditions IAW AR 70-38 table 2-1 and in salt-fog conditions per MCO 4790.18B 16 Jul 04 / TM 4795-34-2 / TM4795-12-1 without degradation.
PDFOV-941		3.2 PERFORMANCE CHARACTERISTICS
PDFOV-942	H	Unless otherwise specified, all performance requirements shall be met with the vehicle at Gross Vehicle Weight (GVW). If Gross Combined Vehicle Weight (GCVW) is specified, the CT (Companion Trailer with uniformly distributed payload whose CG is 24 inches above the cargo bed) shall be the trailer to be used for mobility calculations and/or modeling. All performance requirements shall be met while operating on JP-8 fuel per MIL-DTL-83133 and at full hotel load. All Force Protection and Mobility requirements shall be met at one ride height.
PDFOV-943		3.2.1 MOBILITY.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements			
PDFOV-7477	M	The JLTV at GVW shall be capable of traversing fine grain soils with an RCI of 25 (27 for 6 passenger configurations) (T) 22 (O) in a single pass.			
PDFOV-7478	M	The JLTV at GVW shall be capable of ascending coarse grained, dry sand (less than 1% moisture content) 30% (T) 40% (O) longitudinal slopes at tactically relevant speeds.			
PDFOV-7479	M	The JLTV at GVW shall be capable of descending coarse grained, dry sand (less than 1% moisture content) 30% (T) 40% (O) longitudinal slopes at tactically relevant speeds.			
PDFOV-945		3.2.1.1 Mission Profile.			
PDFOV-946	H	JLTV Tactical Mobility is defined as 60 percent improved roads (Primary and Secondary) and 40 percent-unimproved roads (trails) and cross-country. Cross-country includes beaches, forests, grasslands, tropical jungles, mountains, and deserts throughout all seasonal conditions.			
PDFOV-7207	H	Table 2. JLTV Tactical Mobility			
PDFOV-7346	H	Road Surface	Terrain	%Operation Threshold %	* RMS Range
		Improved	Primary Roads	30	0.1" - 0.3"
			Secondary Roads	30	0.1" - 0.6"
		Unimproved	Trails and Cross-Country	40	0.6" - 4.5"
PDFOV-977	H	* Root Mean Squared (RMS) is a measure of surface and terrain roughness used to evaluate trafficability			
PDFOV-978		3.2.1.2 Acceleration Dash Speed.			
PDFOV-7392		3.2.1.2.1 0-30 mph Acceleration Dash Speed.			
PDFOV-980	L	See vehicle specific annex			
PDFOV-7393		3.2.1.2.2 0-50 mph Acceleration Dash Speed.			
PDFOV-981	L	The JLTV at GVW shall be capable of accelerating on dry, level hard terrain from 0 to 50 mph (80.5 kph) within 26.1 seconds.			
PDFOV-982		3.2.1.3 Speed			
PDFOV-983	L	The JLTV variants shall meet the following speed requirements:			
PDFOV-984		3.2.1.3.1 Forward Speed.			
PDFOV-985	L	The JLTV at GVW shall be capable of maintaining a minimum speed of 70 mph (112.7kph) (T=O) in the forward direction on a dry, level, hard surface road.			
PDFOV-986		3.2.1.3.2 Reverse speed.			
PDFOV-987	L	The JLTV at GVW shall be capable of operating in reverse at a speed of 8 mph (12.9 kph) (T) on a dry, level, hard surface road.			
PDFOV-988		3.2.1.3.3 Speed on grade.			
PDFOV-989	L	See vehicle specific annex.			
PDFOV-990		3.2.1.4 Lateral Stability.			

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-991	H	For the JLTV the lateral roll stability as determined from a steady-state circular turn at the vehicle's tightest turning radius, as defined in the vehicle specific annex, on a paved surface shall meet or exceed a lateral acceleration of 0.5 g's (T), 0.6 g's (O) without wheel-lift off. The JLTV shall meet the stability requirements at Curb weight, Curb Weight with B-kit armor, at GVW, at GVW minus B-kit armor, at GCVW and at GCVW minus B-kit armor.
PDFOV-992		3.2.1.5 Approach & Departure Angles.
PDFOV-993		3.2.1.5.1
PDFOV-994	L	The JLTV angle of approach shall not be less than 60 degrees without winch.
PDFOV-995		3.2.1.5.2
PDFOV-996	H	The JLTV angle of approach shall not be less than 45 degrees with winch. Protrusion of the tow eyes into the angle of approach plane is permitted.
PDFOV-997		3.2.1.5.3
PDFOV-998	L	The JLTV, at GVW and GCVW, angle of departure shall not be less than 45 degrees in the area of the pintle hook.
PDFOV-1001		3.2.1.6 Brakes.
PDFOV-1002		3.2.1.6.1 Service Brakes
PDFOV-1003	M	Service brakes shall comply with the requirements of FMVSS 121 or FMVSS 105.
PDFOV-7439	M	[AUSTRALIAN] The vehicle shall be equipped with service brakes as specified per ADR 35/03 Commercial Vehicle Brake Systems for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-1006		3.2.1.6.1.1
PDFOV-1007	L	The service brakes shall hold the vehicle at GVW on a dry hard surface, 60% grade (30.96 degrees) pointing either uphill or downhill.
PDFOV-3919		3.2.1.6.1.2
PDFOV-3921	M	The service brakes shall hold the system at GCVW on a dry hard surface, 40% grade (21.8 degrees) pointing either uphill or downhill.
PDFOV-6857		3.2.1.6.1.3 Stopping Distance
PDFOV-6858	M	The service brakes shall stop the JLTV at GVW from a speed of 20 mph (T), 30 mph (O) in 25 ft or less, when tested in accordance with FMVSS 105 and 121. Brake pedal force shall not exceed that which can be applied by the driver as defined in MIL-STD 1472.
PDFOV-6915		3.2.1.6.1.4
PDFOV-6916	M	The JLTV at GCVW shall be capable of maintaining speeds downhill equal to the uphill capability of the vehicle up to a 15% slope.
PDFOV-3377		3.2.1.6.1.4.1
PDFOV-3378	M	If engine assisted braking is provided then this system shall have the ability to be turned off when not needed.
PDFOV-1008		3.2.1.6.2 Parking Brakes.
PDFOV-3922		3.2.1.6.2.1
PDFOV-3924	L	At GVW, the JLTV shall be capable of holding in either direction on a 40% (21.8 degrees) longitudinal slope (T) using the JLTV parking brake with the engine off on a dry, hard surface and free from loose material.
PDFOV-3923		3.2.1.6.2.2
PDFOV-1009	H	At GCVW, the JLTV shall be capable of holding in either direction on a 40% (21.8 degrees) longitudinal slope (T) using the JLTV parking brake with the engine off on a dry, hard surface and free from loose material.
PDFOV-1010		3.2.1.6.2.3

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-1011	M	Parking brake shall conform to FMCSR 393.41
PDFOV-1012		3.2.1.6.2.4
PDFOV-1013	L	An indicator shall be provided to alert the crew when the parking brake is engaged.
PDFOV-6818		3.2.1.6.2.5
PDFOV-6819	H	The vehicle parking brake shall have a manual release in the event of an electrical, hydraulic, or pneumatic system failure.
PDFOV-1014		3.2.1.6.3 Brake Configuration.
PDFOV-1015	M	Brakes shall conform to Federal Motor Carriers Safety Regulations (FMCSR) 393.40 through 393.42 (b), 393.43, and 393.45 through 393.52, and 393.55 in the tactical environment.
PDFOV-1018		3.2.1.6.3.1
PDFOV-1019	L	Brake system shall be designed to minimize exposure to "off-road hazards" and maximize ground clearance.
PDFOV-1022		3.2.1.6.3.2 Brakes for Pintle/Lunette Towed Trailers.
PDFOV-1023	M	Air brake glad hand couplers with cover assemblies and cover securing chains shall be provided at the front (if truck complies with FMVSS 121) and rear of the truck per SAE J849 to interface with pintle/lunette towed trailers.
PDFOV-1026		3.2.1.6.3.3 Trailer Brake Control System.
PDFOV-1027	L	A complete trailer brake control system shall be furnished that includes the following:
PDFOV-1028	L	a. Clear identification (color code and tags) of both emergency and service line connectors.
PDFOV-1029	L	b. Coincident control of trailer brakes with truck foot brake control.
PDFOV-1030	L	c. Independent hand control for trailer brakes.
PDFOV-1032	L	d. Trailer stoplight operative with application of the truck's service brakes.
PDFOV-1033	L	e. Two connecting coil-type air hoses (color-coded) equipped with coiled spring hose guards and "glad hand" quick connector on trailer end of hoses.
PDFOV-1034		3.2.1.6.4 Antilock Braking System (ABS).
PDFOV-1038		3.2.1.6.4.1
PDFOV-1039	L	The ABS system shall have built-in test and report thru the vehicle diagnostic system.
PDFOV-1042		3.2.1.6.4.2 ABS Electronic Control Unit.
PDFOV-1043	L	The Anti-lock Braking System (ABS) electronic control unit (ECU) shall include wiring provisions to transmit the trailer ABS malfunction signal to the prime mover cab. PLC (Power Line Carrier - SAEJ 2497) communication technology shall be used to comply with the trailer ABS malfunction requirement of FMVSS 121.
PDFOV-1044		3.2.1.6.5 Brake Wear Indicator.
PDFOV-1045	L	The JLTV shall be equipped with a means to inform the operator, without removal of tire/wheel and without any special tools, when the brake pads are approaching the end of their service life. Reliance on audible indications from worn brake pads is not an acceptable form of informing the operator.
PDFOV-1046		3.2.1.7 Maneuverability over Terrain obstacles.
PDFOV-1047		3.2.1.7.1 NATO Reference Mobility Model (NRMM)
PDFOV-1048	L	The vehicle (at GVW) shall achieve the NATO Reference Mobility Model (NRMM) requirements as called out in the vehicle specific annex.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements		
PDFOV-1049		3.2.1.7.2 Vehicle Cone Index		
PDFOV-1050	H	The JLTV single pass vehicle cone index (VCI [VCI1]) for mud/sand/snow shall have a value no greater than 25.0 (T) 20.0 (O) at GVW, with the tire pressure set at an appropriate reduced level, and using a corresponding increased section width.		
PDFOV-1051		3.2.1.8 Ride Quality.		
PDFOV-1052	M	The JLTV shall meet the ride quality requirements at CW, GVW, GVW minus B armor kit, GCVW, and GCVW minus B-kit armor.		
PDFOV-1053		3.2.1.8.1		
PDFOV-1060	H	The JLTV shall be robust enough to accommodate future payload growth of at least 25%(O).		
PDFOV-1061		3.2.1.8.2 Ride Limiting Speeds.		
PDFOV-1062	L	The JLTV shall attain no more than 6 watts average vertical absorbed power, as measured at the base of all occupant seats of the JLTV, while negotiating the following Root Mean Square (RMS) ride courses at speeds listed below, with the tires at cross-country tire pressure.		
PDFOV-1063	H	Table 3. 6-Watt Speeds		
PDFOV-7347	H	US imperial units (RMS)	SI units (RMS)	
PDFOV-7348	H	1.00 in. at 30 (T), 40 (O) mph	2.54 cm at 48.3 (T), 64 (O) kph	
PDFOV-7349	H	1.50 in. at 20 (T), 28 (O) mph	3.81 cm at 32.2 (T), 45 (O) kph	
PDFOV-7350	H	2.00 in. at 15 (T), 22 (O) mph	5.08 cm at 24.1 (T), 35 (O) kph	
PDFOV-7351	H	2.5 in. at 13 (T), 18 (O) mph	6.35 cm at 20.9 (T), 29 (O) kph	
PDFOV-1081		3.2.1.8.3 Vertical Acceleration.		
PDFOV-1082	L	The JLTV shall sustain no more than 2.5-G peak vertical acceleration, as measured at each occupant location while negotiating a non-deformable, half-round obstacle at the rated speed as listed below with the tires at cross-country tire pressure.		
PDFOV-7208	H	Table 4. Vertical Acceleration		
PDFOV-7352	H	Obstacle Height	Speed (T)	Speed (O)
PDFOV-7353	H	4 in (10.16 cm)	50 mph (80.5 kph)	65 mph (104.6 kph)
PDFOV-7354	H	6 in (15.24 cm)	16 mph (25.7 kph)	18 mph (29 kph)
PDFOV-7355	H	8 in (20.32 cm)	15 mph (24.1 kph)	17 mph (27.4 kph)
PDFOV-7356	H	10 in (25.4 cm)	5 mph (8.0 kph)	6 mph (9.7 kph)
PDFOV-1096		3.2.1.8.4 Vehicular Vibration.		
PDFOV-1097	L	The JLTV shall be designed to control the transmission of whole-body vibration to levels that permit safe and effective operation and maintenance per MIL-STD-1472. Evaluation of military vehicle vibration and its possible effects on health, comfort, perception and motion sickness shall conform to ISO 2631-1 and ISO 2631-5.		
PDFOV-1108		3.2.1.9 Grade & Slope Operations.		
PDFOV-3926	L	The JLTV shall be capable of meeting the below Grade & Slope operations in the following states:		
PDFOV-3927	L	1) With the fuel tank at 100% full.		

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-3928	L	2) With the fuel tank at 10% of the useable left.
PDFOV-1109		3.2.1.9.1 Grade Operations.
PDFOV-1110	L	The JLTV shall be capable of:
PDFOV-1111	L	1) Ascending/descending, starting, and stopping on dry, hard-surfaced longitudinal slopes
PDFOV-1112	L	2) The vehicle engine shall be capable of being turned off and restarted while on the slope. The engine off times shall be of such long duration as to assure that there shall be no loss of fluids or other malfunction while parked on the slope
PDFOV-1113		3.2.1.9.1.1 60% Grade (30.96 degrees).
PDFOV-1114	M	The JLTV at GVW shall be capable of slope operations up to and including 60% (30.96 degrees) at GVW (T), GCVW (O).
PDFOV-1115		3.2.1.9.1.2 40% Grade (21.8 degrees).
PDFOV-1116	M	The JLTV at GCVW shall be capable of slope operations up to and including 40% (21.8 degrees) (T), 60% (30.96 degrees) (O).
PDFOV-1118		3.2.1.9.2 Side Slopes Operations.
PDFOV-1119	L	The JLTV shall be capable of laterally traversing, in forward (at GVW and GCVW) and reverse (at GVW), side slopes up to and including 40% with no degradation in driver control (at GVW). Side slope operation shall be performed with either side of the vehicle facing up slope and without engine malfunction or loss of vehicle fluids.
PDFOV-1122		3.2.1.10 Tires.
PDFOV-1123		3.2.1.10.1 Rims & Tires.
PDFOV-1124	L	Rims and tires shall meet the requirements of SAE J2014 and conform to Federal Motor Vehicles Safety Standards (FMVSS) 571.119 and 571.120.
PDFOV-1125		3.2.1.10.1.1
PDFOV-1126	L	Vehicle and trailer tires shall be a tubeless radial design with hub piloted wheels. Beadlock for CTIS system shall be provided if prime mover is equipped with CTIS.
PDFOV-7055		3.2.1.10.1.1.1
PDFOV-7056	L	The JLTV shall not utilize any wheel rim assembly that contains a split style locking ring or any other device that relies on a single point of failure. The wheel assembly must not rely on tire air pressure to maintain the integrity of the assembly. The tire must be able to be safely mounted, inflated, deflated, and dismounted without the use of a safety cage or other restraining device.
PDFOV-1127		3.2.1.10.1.2
PDFOV-1128	L	All tire and rim ratings shall conform to the Tire and Rim Association (TRA) 1 or the European Tire and Rim Technical Organization (ETRTO) Standards Manual for the GCVW and maximum speed of the vehicle.
PDFOV-1129		3.2.1.10.1.3
PDFOV-1130	L	The JLTV shall use a single tire tread design within a payload category (T), across the FoV (O).
PDFOV-1131		3.2.1.10.1.4
PDFOV-1132	L	All wheel/tire assemblies shall be interchangeable within each payload category and its trailer (T), the FoV and all trailer types (O).
PDFOV-1133		3.2.1.10.1.5
PDFOV-1134	H	Tires shall have a minimum tread life of 18,000 miles over JLTV OMS/MP terrain, without re-treading.
PDFOV-1135		3.2.1.10.2 Spare Tire/Wheel Assembly, Carrier and Hoist.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-1136	M	The JLTV vehicle shall be capable of carrying a spare wheel/tire assembly kit, with spare wheel/tire identical to that employed on the vehicle.
PDFOV-1137		3.2.1.10.2.1
PDFOV-1138	L	A device, capable of operating independent of vehicle power, shall be provided on each vehicle to facilitate spare tire loading and unloading from stowed position by two (T), one (O) occupant.
PDFOV-1139		3.2.1.10.3 Tire Changing Equipment.
PDFOV-1140	L	A two person JLTV crew shall be capable of completing a field tire change on the prime mover and companion trailer, using only BII, within 30 minutes per tire (T), 15 minutes per tire (O), while the vehicle is on a flat, hard surface.
PDFOV-7268		3.2.1.10.3.1
PDFOV-7269	L	A single crew member shall be capable of completing a field tire change on the prime mover and companion trailer, using only BII, within 30 minutes per tire (O).
PDFOV-1141		3.2.1.10.4 Run-Flat Capability.
PDFOV-6899		3.2.1.10.4.1
PDFOV-1142	H	The run-flat capability shall permit driving over the OMS/MP terrain after loss of air pressure in any two tires (T), all tires (O) for the vehicle, or one tire (T), all tires (O) for the trailer. Reduction in speed is allowable while utilizing the run-flat device.
PDFOV-7297		3.2.1.10.4.1.1
PDFOV-1144	L	The run-flat capability shall be performed without speed reduction (O).
PDFOV-7296		3.2.1.10.4.1.2
PDFOV-1143	M	The run-flat capability shall permit the JLTV to travel a distance of at least 30 miles (T), 60 miles (O).
PDFOV-6900		3.2.1.10.4.2
PDFOV-6901	L	The run-flat device shall not damage the vehicle's tires, wheels or suspension components when run at highway, off-road or cross-country inflation levels.
PDFOV-1145		3.2.1.10.5 Central Tire Inflation System (CTIS).
PDFOV-6896	L	If CTIS is implemented, it shall meet the following requirements:
PDFOV-6897		3.2.1.10.5.1
PDFOV-1151	L	The CTIS system shall allow the driver to adjust all JLTV (T) and Companion Trailer (O) tires to any one of four preset tire pressures (highway, cross country, mud/snow/sand, and emergency).
PDFOV-3979		3.2.1.10.5.2 CTIS Isolation
PDFOV-1155	L	The system shall provide for the automatic isolation of any or all tires from the CTIS in the event of CTIS or tire failure for any reason.
PDFOV-3981		3.2.1.10.5.3 Manual Tire Inflation/Deflation
PDFOV-1157	L	Valves for manual inflation shall be readily accessible.
PDFOV-1158		3.2.1.10.5.4 Air-Priority System.
PDFOV-1159	L	The CTIS shall incorporate sufficient safeguards to assure that air pressure necessary to continue safe operation of the JLTV System shall be available at all times during activation of CTIS or in the event of a CTIS failure. Use of brakes is the minimum requirement for safe operation.
PDFOV-3977		3.2.1.10.5.5 Tire pressure control system

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements		
PDFOV-1164		3.2.1.10.5.5.1 Maintenance of Tire Pressure.		
PDFOV-1165		3.2.1.10.5.5.1.1		
PDFOV-1166	L	With the CTIS in operation, tire pressure shall be checked and adjusted at intervals necessary to assure that no more than 3 psi variation exists between the selected pressure and actual pressure except during the inflation/deflation operation caused by the selection of a new tire pressure or a catastrophic tire failure.		
PDFOV-1167		3.2.1.10.5.5.1.2		
PDFOV-1168	L	With the CTIS not in operation and the vehicle engine not running after 24 hours, the tire pressure shall not drop below 97% of the pressure setting which existed before the vehicle was stopped. No action shall be required of crew personnel beyond normal shutdown to meet this requirement.		
PDFOV-1160		3.2.1.10.5.5.2 Speed-at-Pressure Control Warning.		
PDFOV-1161	L	The CTIS shall include sensing of the vehicle speed and comparing indicated speed to the maximum allowable speed for each tire pressure setting (highway, cross country, mud/snow/sand, emergency).		
PDFOV-1162		3.2.1.10.5.5.2.1		
PDFOV-1163	L	An indicator shall activate to warn the driver of excessive speed-at-pressure conditions until the CTIS has adjusted each tire to the appropriate pressure.		
PDFOV-1169		3.2.1.10.5.6 Time to Inflation/Deflation.		
PDFOV-1170		3.2.1.10.5.6.1 Deflation		
PDFOV-1171	L	The CTIS shall be capable of deflating all JLTV prime mover tires at the same (T); deflating all JLTV prime mover and trailer tires at the same time (O) within the time constraints listed below, (minutes: seconds):		
PDFOV-1172	L	Table 5. DEFLATION Times		
PDFOV-7357	L	From	To	Time Allowed
PDFOV-7358	L	Highway	Cross-country	2:00
PDFOV-7359	L	Cross-country	Mud/Snow/Sand	2:00
PDFOV-7360	L	Mud/Snow/Sand	Emergency	2:00
PDFOV-1190		3.2.1.10.5.6.2 Inflation		
PDFOV-1191	M	The CTIS shall be capable of inflating all JLTV prime mover tires at the same (T); inflating all JLTV prime mover and trailer tires at the same time (O) within the time constraints listed below, (minutes: seconds):		
PDFOV-1192	M	Table 6. INFLATION Times		
PDFOV-7361	M	From	To	Time Allowed
PDFOV-7362	M	Cross-country	Highway	6:00
PDFOV-7363	M	Mud/Snow/Sand	Cross-country	3:00
PDFOV-7364	M	Emergency	Mud/Snow/Sand	2:00
PDFOV-6898		3.2.1.10.5.7 Operator Control Location		

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements			
PDFOV-1153	L	The operator control of the CTIS system shall be located so that the system may be activated while the driver continues to operate the JLTV.			
PDFOV-1214		3.2.1.11 Turning Radius, Curb to Curb:			
PDFOV-1215	M	See vehicle specific annex.			
PDFOV-1219		3.2.1.11.1 Steerable/Lockable Rear Axle.			
PDFOV-1220	L	If a steerable rear axle is used on the vehicles, transitions to and from the neutral steer position shall not adversely affect the handling of the vehicle. In the event of a rear steer system failure; the rear axles shall assume a neutral, locked position.			
PDFOV-1216		3.2.1.12 Lane Changing.			
PDFOV-3918		3.2.1.12.1			
PDFOV-1217	M	The vehicle (at GVW) shall be capable of making a NATO lane change in accordance with AVTP 03-160W at speeds up to 45 mph (72 kph) (T), 65 mph (105 kph) (O).			
PDFOV-3916		3.2.1.12.2			
PDFOV-3917	M	The vehicle (at GCVW) shall be capable of making a NATO lane change in accordance with AVTP 03-160W at speeds up to 40 mph (64 kph) (T); 55 mph (89 kph) (O).			
PDFOV-1262		3.2.1.13 Operational Range.			
PDFOV-1263		3.2.1.13.1 Range.			
PDFOV-1264	H	The JLTV shall be capable of traveling the distances shown in the table below at sustained speeds on a single tank of fuel.			
PDFOV-7366	H	Table 7. JLTV Range Requirements			
PDFOV-7365	H		Distance	Load Condition	Surface
		Threshold	300 miles	GVW	Flat, paved road
		Objective	300 miles	GCVW	OMS/MP
PDFOV-1269		3.2.1.14 Standard Obstacles.			
PDFOV-1270		3.2.1.14.1 Vertical Step.			
PDFOV-1271	M	The JLTV at GVW shall be capable of stepping up and down a vertical step of 18 inches (T) or 24 inches (O) in forward and reverse on a straight on approach without preparation or modification of the vehicle. No portion of the vehicle other than the tires shall contact the ground or the step.			
PDFOV-1272		3.2.1.15 Fording.			
PDFOV-1273	M	The JLTV, at GVW, shall ford a 30" (T) and 60" with kit (T) or 60" without kit (O) salt water obstacle without preparation, or other fording devices, in forward and reverse while maintaining contact with the ground.			
PDFOV-1274		3.2.1.15.1			
PDFOV-1275	L	While fording, the engine shall be capable of being restarted when stopped for 10 minutes. The cooling fan shall not turn on during fording restart.			
PDFOV-7070		3.2.1.15.2			

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-7071	M	During fording operations water contamination of engine, brake fluid, transmission, transfer transmission, power steering pump, bearing lubricants, fuel tank(s) and all differentials shall not exceed 2.0% by volume. All bearing seals shall restrict the leaking of lubricants from the bearings.
PDFOV-1276		3.2.1.15.3
PDFOV-1277	M	Vented components shall be vented above the 60 inch fording line without the fording kit.
PDFOV-1278		3.2.1.16 Towing.
PDFOV-1293		3.2.1.16.1 Towed Load Braking and Lighting.
PDFOV-1294	L	The JLTV shall have the capability to actuate the towed vehicle's brakes and lights.
PDFOV-1295		3.2.1.16.1.1
PDFOV-1296	L	The vehicle shall be equipped with all cables, receptacles and connectors necessary to operate 12 and 24 volt electrical components of the JLTV companion trailer and military trailers including blackout lights.
PDFOV-1297		3.2.1.16.1.2
PDFOV-1298	L	Interconnecting coil-type electrical cables (truck to trailer) shall be provided for 12-volt/7 pin and 24 volt/12 pin operation.
PDFOV-1299		3.2.1.16.1.2.1
PDFOV-1300	M	The standard commercial (SAE J560) 12 volt/7 pin receptacles shall be mounted at the front and rear of the vehicle. A 24 volt/12 pin receptacle (STANAG 4007) with cover shall be mounted at the rear of the vehicle.
PDFOV-1279		3.2.1.16.2 Like Vehicle Towing.
PDFOV-1284	H	The JLTV shall be capable of towing another JLTV in its payload category at GVW for 100 miles over flat secondary roads (T) and 100 miles over cross country terrain (O). All available on-board fuel including additional fuel cans, as well as any necessary attachments, tow bars or couplers, are permitted to meet this requirement.
PDFOV-1286		3.2.1.16.3 Recovery/Towing.
PDFOV-1287	H	The JLTV shall be capable of being recovered/lift and flat towed from both the front (at GCVW) and rear (at GVW) by 5-ton M939 series, MTVR, FMTV, and HEMTT wreckers, with no alteration required.
PDFOV-1288		3.2.1.16.4 Towed Load Capability.
PDFOV-7440	M	[AUSTRALIAN] The vehicle shall have mechanical connections as specified per ADR 62/02 Mechanical Connections Between Vehicles for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-1289		3.2.1.16.4.1 Companion Trailer.
PDFOV-1290	L	The primary towed load for the JLTV is the Companion Trailer (CT) and is described in the trailer specific annex.
PDFOV-1291		3.2.1.16.4.2 Backward Compatibility.
PDFOV-1292	L	See vehicle specific annex for list of legacy trailers.
PDFOV-1302		3.2.1.16.5 Tow Eyes.
PDFOV-1303	L	Front and rear tow eyes shall be provided on the JLTV.
PDFOV-1304		3.2.1.16.5.1
PDFOV-1305	H	The tow eyes shall be of a size such that the vehicle can be towed with the heavy-duty towbar described on drawing 12322663, which is referenced in MS500048.
PDFOV-7330		3.2.1.16.5.2

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-7331	H	The tow lugs shall conform to STANAG 4019, and shall connect a towbar conforming to MS500048.
PDFOV-1308		3.2.1.16.6 Pintle.
PDFOV-1309	L	A pintle shall be provided which permits a single operator wearing MOPP level IV to latch/unlatch a trailer from the prime mover within 5 minutes.
PDFOV-6697		3.2.1.16.6.2
PDFOV-6691	L	Vehicle pintle shall be located at the rear and centered horizontally on the vehicle.
PDFOV-6699		3.2.1.16.6.3
PDFOV-6693	L	The pintle assembly shall cause no interference when towing trailers and Howitzers in a full cramp steer (right or left) while traveling in the forward direction.
PDFOV-6701		3.2.1.16.6.4
PDFOV-6695	L	Provision for attachment of trailer safety chains shall be provided as per SAE J849 (per truck installation note) for single axle trailers.
PDFOV-3438		3.2.1.18 Electronic Stability Control System
PDFOV-3439	H	The JLTV shall be equipped with an Electronic Stability Control System (ESC) that conforms to FMVSS 126 with modified performance parameters, regardless of the weight of the vehicle. The ESC shall control all 4 wheels to minimize loss of vehicle control/accidents. The system shall have an on/off switch that will deactivate the system. Preference is for an integrated controller for the ABS/ESC modules.
PDFOV-7213		3.2.1.18.1 ESC Default.
PDFOV-7214	M	The ESC shall default to "on" upon each vehicle start.
PDFOV-1036		3.2.1.18.2
PDFOV-1037	H	If the ABS becomes deactivated it shall not deactivate the ESC (O).
PDFOV-6820		3.2.1.19 Road Departure Sensing System.
PDFOV-6722		3.2.1.20 Vehicle Horn.
PDFOV-6723	M	The JLTV shall be equipped with a horn that produces sound at 110 db to 120 db. The horn activation mechanism shall be within easy reach of the driver.
PDFOV-7041		3.2.1.21 Right Hand Drive.
PDFOV-7042	H	[AUSTRALIAN] The JLTV FoV shall be capable of being produced for either Left Hand Drive or Right Hand Drive operation. Contracts will specify which model is required.
PDFOV-1310		3.2.2 SURVIVABILITY.
PDFOV-1311	L	The JLTV is designed with a base structure called an A-structure and B-kit armor that provides higher armor protection levels. The A-structure and B-kit armor are stated as protection levels for the internal Crew Compartment (CC) (defined as all occupant space in the JLTV). JLTV also incorporate various additional survivability technologies to meet overall requirements.
PDFOV-1318		3.2.2.1.2 B-Kit Armor Interoperability.
PDFOV-1319	L	The JLTV B-kit armor shall be designed for maximum interoperability and commonality within the JLTV family of vehicles.
PDFOV-6702		3.2.2.1.2.1 B-Kit Armor Interchangeability
PDFOV-6703	L	B-Kit armor components shall be interchangeable across the same sub-configuration (T) payload category (O) throughout the vehicle life cycle.
PDFOV-1320		3.2.2.1.3 JLTV Windows

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-1321	L	The JLTV shall be designed to accept both automotive glass and transparent armor (see Annex G).
PDFOV-6714		3.2.2.1.3.1 Transparent Armor Requirements
PDFOV-6707	L	All installed transparent armor shall meet the requirements of IAW ATPD 2352.
PDFOV-6719		3.2.2.1.3.1.1 Interoperability
PDFOV-6711	L	All installed automotive glass and transparent armor shall be interoperable with all automotive functions (i.e., defrosters, wipers, etc).
PDFOV-6720		3.2.2.1.3.1.2 Automotive Glass and Frame Assembly Detachment
PDFOV-6712	L	All transparent armor and frame assemblies installed onto any JLTV shall not detach from their moorings and deflect into any Crew Compartment when subjected to any threshold PD Annex E threat.
PDFOV-1316		3.2.2.1.3.1.4 Transparent Armor Storage.
PDFOV-1317	M	The JLTV B transparent armor kit shall be designed for storage for 5 years (T), 15 years (O) IAW ATPD 2352 and without any adverse effects as defined in AR 70-38 without additional preparation or preservation equipment, except for elastomeric gaskets, adhesives, etc. The contractor shall minimize, and identify, the use of any materials which have shelf life limitations.
PDFOV-6717		3.2.2.1.3.2 Automotive Glass Ventilation
PDFOV-6705	L	The design of the standard automotive glass and its frame attachment, for the side windows, shall have the ability to open for ventilation purposes while minimizing intrusion from dust and precipitation.
PDFOV-1322		3.2.2.1.4 B-Kit Armor Installation.
PDFOV-1323	H	The B Armor Kit (excluding GPK) shall be mountable within seven (7) hours with MHE (T), five (5) hours without MHE using a two (2) man crew (O). The A structure surface shall require no additional preparation for mounting any B armor Kit.
PDFOV-1324		3.2.2.2 JLTV Ballistic Protection.
PDFOV-1325	L	The A-structure and opaque B-kit armor ballistic protection requirements are defined in Annex E.
PDFOV-1326		3.2.2.2.1 Spall Liners
PDFOV-1327	L	Spall liner protection requirements are defined in Annex E.
PDFOV-1726		3.2.2.2.2 Recover from kinetic damage.
PDFOV-1727	L	The JLTV FoV at GVW, less 50% fuel, on trail condition at half the rated cross country speed the JLTV shall be capable of travelling for 1Km(T) and 5Km(O) after a single Small Arms fire perforation occurs anywhere in the fuel tank, engine oil reservoir, or cooling system. (See Annex G)
PDFOV-1354		3.2.2.3 Fire Extinguishing.
PDFOV-1355	H	The JLTV shall be equipped with automatic fire extinguishing systems (AFES) for the crew area, engine compartment, and cargo compartment (if not isolated from the crew area). The systems shall address slow growth and rapidly developing fuel fires generated by any of the explosive effects contained in Annex E. The systems shall be able to extinguish petroleum, oil, and lubricant (POL) fires before crew members are incapacitated or significant vehicle damage occurs.
PDFOV-1356		3.2.2.3.1 General Requirements.
PDFOV-1357	L	The following requirements apply to the crew area, engine and cargo compartment (as applicable) automatic fire extinguishing systems (AFES).
PDFOV-1358		3.2.2.3.1.1 Battery Back-up
PDFOV-1359	L	The AFES shall remain energized for 10 minutes following vehicle shut down.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements																			
PDFOV-1362		3.2.2.3.1.2 Extinguishing Activation																			
PDFOV-1363	L	The AFES shall be capable of both automatic sensing and extinguishing, and mechanical manual extinguisher activation. The manual release shall be located within easy reach of the driver and be clearly identified. A guarded toggle switch shall be used for electrical release, if provided. Manual pull force shall not exceed 40 lbf at the point of activation for mechanical release, if provided.																			
PDFOV-1364		3.2.2.3.1.3 Status Indicators																			
PDFOV-1365	L	System status indicators shall be provided that visually inform crewmembers that the AFES is powered and operational.																			
PDFOV-1366		3.2.2.3.1.4 Maintenance																			
PDFOV-1367	L	A means shall be provided to disconnect AFES power to permit maintenance. The AFES maintenance power switch shall not be readily accessible to the crewmembers.																			
PDFOV-1368		3.2.2.3.1.5 False Activation Prevention																			
PDFOV-1369	L	Automatic protection shall be provided to preclude false activation of any extinguisher(s) during removal or replacement of any AFES component. Removal of any individual fire sensor or extinguisher shall not render the remainder of the system inoperative.																			
PDFOV-1370		3.2.2.3.1.6 Commonality																			
PDFOV-1371	L	Components shall be common between the compartments to the maximum extent practicable. Use of components already in the DoD supply system is desired consistent with meeting other requirements in this section.																			
PDFOV-1376		3.2.2.3.1.7 Fire detectors.																			
PDFOV-1377		3.2.2.3.1.7.1 External Fire Sources																			
PDFOV-1378	M	The fire detectors shall not respond (i.e., cause extinguisher(s) to discharge) to external fire sources or other radiation stimuli when all vehicle windows and hatches are closed.																			
PDFOV-1379		3.2.2.3.1.7.2 Radiation Stimuli Response																			
PDFOV-1380	M	The fire detectors shall not respond to any of the radiation stimuli identified in Table 8 at distances greater than or equal to those specified.																			
PDFOV-1424	M	Table 8. False Alarm Susceptibility Requirements																			
PDFOV-7367	M	<table border="1"> <thead> <tr> <th>Radiation Source</th> <th>Immunity</th> </tr> </thead> <tbody> <tr> <td>Director reflected sunlight</td> <td>IAD*</td> </tr> <tr> <td>Incandescent frosted glass light, 100W</td> <td>1</td> </tr> <tr> <td>Incandescent clear glass light, rough service, 100W</td> <td>2</td> </tr> <tr> <td>Fluorescent light with white enamel reflector, 40W</td> <td>IAD</td> </tr> <tr> <td>Ambient light extremes (darknes to bright light with snow, water, rain, desert glare and fog)</td> <td>IAD</td> </tr> <tr> <td>Bright colored clothing, including red and safety orange</td> <td>IAD</td> </tr> <tr> <td>Electronic flash, 180W-sec minimum output</td> <td>9</td> </tr> <tr> <td>Movie light, 625W quartz DWY lamp</td> <td>24</td> </tr> </tbody> </table>	Radiation Source	Immunity	Director reflected sunlight	IAD*	Incandescent frosted glass light, 100W	1	Incandescent clear glass light, rough service, 100W	2	Fluorescent light with white enamel reflector, 40W	IAD	Ambient light extremes (darknes to bright light with snow, water, rain, desert glare and fog)	IAD	Bright colored clothing, including red and safety orange	IAD	Electronic flash, 180W-sec minimum output	9	Movie light, 625W quartz DWY lamp	24	
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ID	POC	DRAFT Purchase Description FoV v2.5 Requirements	
		Red vehicular dome light	IAD
		Blue-green vehicular dome light	IAD
		Flashlight	IAD
		Radiation heater, 1500W	18
		Radiation heater, 1000W with fan	12
		Electric arc, 15/32 in. gap at 4000 Vac	1
		Arc welding, 5/32 in. rod, 300 A	12
		Acetylene welding, 00 tip, 5/8 by 6 in flame	12
		Muzzle flash from M16 rifle, 3 bound burst	2
		Muzzle flash from M2 machine gun, 8-12 round burst	40
		Lit cigar	1
		Lit cigarette	1
		Match, wood, including flare-up	4
		Match, paper, including flare-up	4
PDFOV-1495	M	* Immune at Any Distance (IAD)	
PDFOV-1381		3.2.2.3.1.8 Extinguishers.	
PDFOV-1384		3.2.2.3.1.8.1 Vehicle Component Degradation	
PDFOV-1385	H	The agent and its byproducts shall not cause degradation to any vehicle components. Any cleanup after agent discharge, if required, shall be limited to a water wash after no less than 48 hours after discharge.	
PDFOV-1386		3.2.2.3.1.8.2 Agent Discharge	
PDFOV-1387	L	Agent discharge and any resulting residue shall not interfere with operation of the vehicle or its systems.	
PDFOV-1388		3.2.2.3.1.8.3 Accidental Discharge	
PDFOV-1389	L	All extinguishers shall be equipped with means to prevent accidental discharge during shipping, installation and maintenance. All safety components that are removed following extinguisher installation shall be attached to the extinguisher with a ring and cable or similar device. Mounting provisions shall be provided on the extinguisher mounting bracket to secure these items upon removal.	
PDFOV-1390		3.2.2.3.1.8.4 Extinguisher Charge Status	
PDFOV-1391	L	A visual means to accurately determine the charge status of each extinguisher (e.g. pressure gage) shall be provided. This indicator shall be clearly visible to vehicle crewmen when the extinguishers are installed in the vehicle.	
PDFOV-1392		3.2.2.3.1.8.5 Extinguisher Leakage	
PDFOV-1393	L	The extinguishers shall not leak more than one ounce per year.	
PDFOV-1394		3.2.2.3.1.8.6 Extinguisher Crew Protection	

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements		
PDFOV-1395	L	The extinguishers shall not discharge materials or items that could cause physical injury to crewmembers. The extinguishers shall not eject solid fragments larger than 300 microns in diameter under any circumstances.		
PDFOV-1396		3.2.2.3.1.8.7 Cylinder Requirements		
PDFOV-1397	L	Cylinders shall meet all applicable Department of Transportation (DOT) requirements, the non-shatterability requirements of MIL-C-7905 Cylinders, Steel, Compressed Gas, Non-Shatterable, Seamless, 1800 PSI and 2100 PSI and be marked and color coded in accordance with MIL-STD-101 Color Code for Pipelines and for Compressed Gas Cylinders.		
PDFOV-1398		3.2.2.3.1.8.8 Extinguisher Venting		
PDFOV-1399	L	Each extinguisher shall be equipped with a safety relief device to vent internal pressure before it reaches levels that could cause damage to the extinguisher or injury to personnel. The relief device shall not activate at temperatures below 180°F.		
PDFOV-1400		3.2.2.3.1.8.9 Extinguisher Refill/Recharge		
PDFOV-1401	L	Extinguisher refill capabilities and procedures shall be compatible with existing Army recharge equipment (NSN 4210-01-474-6206, TB 9-4210-245-50). Any replacement/rebuild parts required to service the extinguisher shall be available in individual kit form. This requirement does not apply if disposable extinguishers are used.		
PDFOV-1402		3.2.2.3.2 Extinguisher Performance Within Crew Compartment.		
PDFOV-1403	L	The fire extinguishing system in the crew compartment shall be capable of detecting and extinguishing peacetime and combat initiated Petroleum, Oil, and Lubricant (POL) fires before crewmen receive second-degree burns.		
PDFOV-1404		3.2.2.3.2.1 Crew Incapaction Level		
PDFOV-1405	L	Compartment parameters shall not exceed the crew incapacitation levels during and following any fire event, as contained in the Medical Evaluation of Non-Fragment Injury Effects in Armored Vehicle Live Fire Test, Instrumentation Requirements and Injury Criteria reference document dated September 1989.		
PDFOV-1408		3.2.2.3.2.2 Extinguishing Agent		
PDFOV-1409	L	HFC-227ea (heptafluoropropane) with 5%-10% sodium bicarbonate powder by weight shall be used as the extinguishing agent. Agent concentrations shall not exceed the exposure limits of Table 9 (ref: NFPA 2001, Standard on Clean Agent Fire Extinguishing Systems) under any vehicle operating condition (hatches and windows open/closed, engine on/off, heater or A/C on/off, etc.).		
PDFOV-1557	L	Table 9. Exposure Limits for HFC-227ea		
PDFOV-7368	L	Concentration (%vol/vol)	Maximum Exposure Time (min)	
PDFOV-7369	L	up to 10.5	5	
PDFOV-7370	L	11	1.13	
PDFOV-7371	L	11.5	0.6	
PDFOV-7372	L	12	0.49	
PDFOV-1410		3.2.2.3.2.3 Extinguisher Discharge		
PDFOV-1411	L	Extinguishers shall not discharge directly at any normally occupied crew or passenger position. Discharge force shall be less than 20 psi at 5 inches from any extinguisher outlet or nozzle.		

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-1414		3.2.2.3.3 Engine Compartment Fire Suppression
PDFOV-1415	L	POL fires in the engine compartment shall be detected and extinguished within 10 seconds of ignition to minimize vehicle damage. The system shall function either with the engine running or not running. The system shall be automatic with manual backup capability.
PDFOV-1416		3.2.2.3.4 Fuel Tank Protection.
PDFOV-1417		3.2.2.3.4.1 Self-Sealing Requirement
PDFOV-1418	L	All fixed fuel tanks shall be self-sealing. See MIL-T-5578 (as applicable to a tactical vehicle using JP-8) for reference.
PDFOV-7295		3.2.2.3.4.2 Portable Fuel Carrying Capacity.
PDFOV-1266	L	JLTV FoV shall be able to accommodate two (2) standard jerry cans on the vehicle exterior.
PDFOV-1419		3.2.2.3.4.3 Fixed Fuel Tanks
PDFOV-1420	L	All fixed fuel tanks shall be mounted external to the crew compartment or compartmented away from the crew to minimize the occurrence of internal fires. The JLTV design shall incorporate layering protection for fuel tanks where fixed fuel tanks shall be shielded by the JLTV structure.
PDFOV-6893		3.2.2.3.4.4 Crew Ingress/Egress
PDFOV-6894	H	A fire protection method shall be provided to allow safe egress of the crew and prevent any sustained fuel fires when the fuel tanks (to include jerry cans) are penetrated by any ballistic and/or blast events listed in Annex E.
PDFOV-1422		3.2.2.3.5 Portable Extinguisher.
PDFOV-1423	H	The JLTV shall be equipped with at least one portable extinguisher with a minimum 20B:C rating per UL 711 that is mounted within easy reach of the driver. The agent and its byproducts of extinguishment must not be harmful to the crew, vehicle or equipment. If not already done, the agent shall receive a toxicity clearance from the Army Surgeon General via the US Army Center for Health Promotion and Preventive Medicine.
PDFOV-1564		3.2.2.4 Ballistic Shock.
PDFOV-1563	H	The B armor kitted JLTV shall absorb the energy in the structure to eliminate any secondary missiles generated from any on-board equipment tearing loose from their moorings and to allow, at a minimum, continued AFES and radio operation capabilities when subjected to any of the ballistic and blast loads specified in Annex E.
PDFOV-1569		3.2.2.5 Signature Management.
PDFOV-1570	L	The JLTV shall utilize signature reduction techniques and materials in order to reduce detection as specified in PD Annex F.
PDFOV-1573		3.2.2.6 Light Vehicle Obscuration Smoke System (LVOSS)
PDFOV-1574		3.2.2.6.1 Installation of LVOSS Components
PDFOV-1575	L	The JLTV shall have the ability to install the Light Vehicle Obscuration Smoke System (LVOSS) kit consisting of Discharger, Grenade, Smoke, Countermeasure: Lightweight, M7 (NSN 1040-01-454-1625).
PDFOV-1576		3.2.2.6.2 LVOSS Configuration.
PDFOV-1577	L	The JLTV shall be configured with the capability to install up to four (4), M7 discharger(s) with associated grenades, arming/firing unit (AFU), mounting brackets and hardware.
PDFOV-6889		3.2.2.6.2.1 Dischargers

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-6890	L	The M7 dischargers installed on the JLTV shall not impair the vehicle operational capabilities. The M7 dischargers shall not interfere with the host vehicle's weapon systems (stowage, mounting/dismounting tasks/procedures) and shall not obstruct the soldiers' field of view from normal operation.
PDFOV-1578		3.2.2.6.3 Electrical Interface.
PDFOV-1579	L	The JLTV shall be equipped with an integral electrical interface to connect the M7 discharger(s) to the appropriate AFU when kit is installed. The electrical interface shall be compatible with the overall JLTV electronic/data architecture and shall not have connectors susceptible to damage when the M7 discharger(s) and AFU are not installed.
PDFOV-6891		3.2.2.6.3.1 Dischargers Wiring
PDFOV-6892	L	The JLTV wiring to accommodate multiple M7 dischargers shall be configured in parallel circuit so the loss of any launcher will not effect the function of the remaining dischargers.
PDFOV-1588		3.2.2.7 Weapon Provisions.
PDFOV-1589		3.2.2.7.1 Weapons Mount.
PDFOV-6957		3.2.2.7.1.1 MK-93 Weapons Mount.
PDFOV-1590	L	The JLTV FoV shall have the capability to accept the MK93 weapons mount to mount the following weapons:
PDFOV-1591	L	M2
PDFOV-1592	L	MK19
PDFOV-6958		3.2.2.7.1.2 M197 Weapons Mount.
PDFOV-6959	L	The JLTV FoV shall have the capability to accept the M197 weapons mount to mount the following weapons.
PDFOV-1594	L	M240
PDFOV-7441	L	[AUSTRALIAN] MAG58
PDFOV-1595	L	M249
PDFOV-7442	L	[AUSTRALIAN] F89 Minimi
PDFOV-6960		3.2.2.7.1.3 ALGL Weapons Mount.
PDFOV-1593	H	The JLTV FoV shall have the capability to accept the Mk 107 weapons mount to mount the Advanced Lightweight Grenade Launcher (ALGL) MK-47.
PDFOV-1596		3.2.2.7.2 Weapon Mount Integration.
PDFOV-6956	L	The JLTV shall be capable of meeting the weapons mount integration requirements, as stated below, with the MK-93, M197 and Mk 107 weapons mount.
PDFOV-6961		3.2.2.7.2.1
PDFOV-1597	H	The JLTV with weapons mount and mounted machine-guns, shall permit operation of the weapon while traversing 360 degrees azimuth without interfering with crew operations.
PDFOV-1598		3.2.2.7.2.2
PDFOV-1599	L	The weapon mount equipped with a weapon shall be able to be operated by a 5th to 95th percentile soldier/marine.
PDFOV-1604		3.2.2.7.2.3
PDFOV-1605	L	The crew shall be able to perform all crew service functions on the weapon while it is mounted in operating position, e.g. reloading, immediate action, maintenance.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-7420	H	The weapon when mounted on the JLTV should be in close proximity to stowage locations for all BII required to operate the weapon.
PDFOV-1606		3.2.2.7.2.4
PDFOV-1607	L	The integration of the weapons mount and weapon on the JLTV shall preclude the firing of the weapon at the vehicle.
PDFOV-1608		3.2.2.7.2.5
PDFOV-1609	H	The weapon when mounted on the JLTV shall be capable of being elevated to +60 degrees and depressed to -20 degrees.
PDFOV-1610		3.2.2.7.2.6
PDFOV-1611	L	Weapons, when mounted, shall function within the published performance standards of that weapon system.
PDFOV-1616		3.2.2.7.2.7
PDFOV-1617	L	A means shall be provided to prevent spent brass and links from entering the crew compartment.
PDFOV-1618		3.2.2.7.3 Gunner's Protection Kit (GPK)
PDFOV-1619		3.2.2.7.3.1 GPK Integration
PDFOV-1620	L	A gunner's protection kit (GPK) shall be integrated for use on the JLTV with the exception of the C-UTL when fitted with a shelter.
PDFOV-1621		3.2.2.7.3.2 GPK Ballistic Protection
PDFOV-1622	L	The GPK shall provide the gunner protection from small arms fire and below plane fragmentation. Protection is equivalent to B-armor kit attached requirements described in PD Annex E.
PDFOV-6838		3.2.2.7.3.2.1 GPK Azimuth Protection
PDFOV-6839	H	The GPK shall provide the gunner with 360 degree azimuth protection.
PDFOV-6964		3.2.2.7.3.2.2 GPK Protection Minimum Height
PDFOV-6965	M	The GPK shall protect the gunner to a minimum height of name tag defilade of a 95% soldier/marine when operating all required weapons.
PDFOV-1625		3.2.2.7.3.3 GPK Weapon Operation
PDFOV-1626	L	The GPK shall not interfere with the crew's ability to operate the weapon. This includes all crew service functions IAW published weapons manual standards.
PDFOV-7039		3.2.2.7.3.4 Lateral Traverse.
PDFOV-7040	L	The weapon shall traverse +/- 20 degrees minimum with GPK stationary while utilizing the MK-93, M197 and Mk 107 weapons mounts.
PDFOV-6962		3.2.2.7.3.5 Traversing Unit.
PDFOV-6970		3.2.2.7.3.5.1 Motorized Traversing Unit.
PDFOV-7033	L	The GPK shall have a motorized traversing unit to allow for it to rotate 360 degrees continuous.
PDFOV-7032		3.2.2.7.3.5.1.1
PDFOV-6963	M	The GPK turret shall have a slip ring for continuous power to a 360-degree motorized traversing unit and/or electronic equipment mounted above the turret.
PDFOV-6971		3.2.2.7.3.5.1.2
PDFOV-6972	H	On JLTV variants with a shelter that exceeds the roofline, the motorized traversing unit shall traverse 180 degrees (T) 220 degrees (O).
PDFOV-6966		3.2.2.7.3.5.2 Manual Traversing Gear.
PDFOV-6967	L	The GPK shall have a manual traversing gear to traverse the GPK in the event of power loss.
PDFOV-1629		3.2.2.7.3.6 GPK Assembly and Installation

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-1630	M	The GPK shall be installable (to include assembly) with MHE using 2 operators plus an MHE operator within four (4) hours (T), two (2) hours (O).
PDFOV-6840		3.2.2.7.3.7 GPK Overhead Protection Kit
PDFOV-6841	L	The GPK shall be capable of accepting an overhead protection kit with the same level of protection as the vehicle roof with B-kit armor installed.
PDFOV-6886		3.2.2.7.3.8 Stowage.
PDFOV-7036		3.2.2.7.3.8.1 Weapon Stowage.
PDFOV-6887	M	[AUSTRALIAN] The GPK shall store and secure the M16, F88 AUSTEYR and M4 personal weapons with the butt stock in the collapsed or extended positions.
PDFOV-7034		3.2.2.7.3.8.1.1
PDFOV-7035	M	The personal weapons shall be easily accessible from the left or right sides of the GPK for immediate use within 2 seconds.
PDFOV-7037		3.2.2.7.3.8.2 Ammo Stowage.
PDFOV-7038	L	The GPK shall be capable of storing ammunition. See Annex G for more specific requirements.
PDFOV-1639		3.2.2.7.3.9 Gunner's Restraint System.
PDFOV-6842		3.2.2.7.3.9.1
PDFOV-6843	L	The gunner's restraint system shall prevent the gunner from being inadvertently ejected during off-road operations or in an accident. The restraint shall not inhibit the gunner from ducking back inside the vehicle during a vehicle rollover.
PDFOV-6844		3.2.2.7.3.9.2
PDFOV-6845	M	The gunner's restraint system shall allow weapons operation of the gunner in full combat equipment for a duration of 10 hours.
PDFOV-7272		3.2.2.7.3.9.3
PDFOV-7273	L	The gunner's restraint system shall allow for multiple (adjustable) seating heights varying from complete defilade to name tag defilade, and accommodating 5th percentile female to the 95th percentile male gunners such that the gunner can effectively employ the assigned weapon.
PDFOV-7311		3.2.2.7.3.9.3.1
PDFOV-7312	L	The adjustable gunner restraint system shall enable the gunner to maintain 360 degree visibility with only his/her head/kevlar exposed.
PDFOV-1640		3.2.2.7.4 Storage.
PDFOV-7221		3.2.2.7.4.1 Ammunition Storage.
PDFOV-7220		3.2.2.7.4.1.1
PDFOV-1641	H	Provisions shall be made for weapon ammunition storage that meet U.S. Army Defense Ammunition Center and School (USADACS) security certification requirements to transport ammunition over the vehicle mission profile.
PDFOV-1642		3.2.2.7.4.1.2
PDFOV-1643	H	Storage provisions shall have a readily accessible quick release.
PDFOV-1644		3.2.2.7.4.1.3
PDFOV-1645	M	The JLTV FoV shall have designated stowage locations, protected inside the vehicle and the GPK, for the ammunition quantities listed in Annex G.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-1664		3.2.2.7.4.2 Stored Ammunition Safety.
PDFOV-1665		3.2.2.7.4.2.1
PDFOV-1666	M	Each JLTV shall have secured designated storage locations inside the protected crew compartment for all reload ammunition boxes that are easily accessible, but will prevent them from becoming secondary projectiles in a vehicle crash or rollover.
PDFOV-1669		3.2.2.7.4.2.2
PDFOV-1670	H	Egress shall not be impeded by having to move or relocate parts of the ammunition storage compartment(s)
PDFOV-7222		3.2.2.7.4.3 Weapons Storage
PDFOV-7223	H	The JLTV shall have designated stowage locations for ground mount weapons components (e.g. tripods for guns).
PDFOV-1671		3.2.2.7.5 Common Remotely Operated Weapons Station (CROWS).
PDFOV-1672		3.2.2.7.5.1
PDFOV-1673	L	The JLTV shall be designed ready to accept a CROWS IAW the CROWS ICD.
PDFOV-7224		3.2.2.7.5.2
PDFOV-7225	L	The CROWS view shall be accessible to the vehicle commander via the Display and Control Subsystem.
PDFOV-7226		3.2.2.7.5.3
PDFOV-7227	L	The CROWS Integration shall receive all power from the vehicle power management/distribution system.
PDFOV-6846		3.2.2.7.5.4
PDFOV-6847	L	The JLTV shall have a man-sized opening to facilitate manual operation of the CROWS.
PDFOV-7266		3.2.2.7.5.5
PDFOV-7267	H	The CROWS shall not interfere with crew egress.
PDFOV-1700		3.2.2.8 Chemical, Biological, Radiological/Nuclear, and Explosive Incidents (CBRNE).
PDFOV-1704		3.2.2.8.1 Chemical Protection.
PDFOV-1706	L	The JLTV shall provide an environment where the crew can operate in MOPP IV (as described in FM 3-11) gear for 6 hours (T) 12 hours (O).
PDFOV-1711		3.2.2.8.2 Detection.
PDFOV-1702		3.2.2.8.2.1 Chemical Detection.
PDFOV-1703	L	The JLTV shall have the capability to accept a sensor (GFE), to detect and classify chemical and TIC/TIMs agents, compliant with the Common CBRN Sensor Interface (CCSI) document.
PDFOV-1712		3.2.2.8.2.2 Nuclear Detection.
PDFOV-1713	L	The JLTV shall have the capability to accept a sensor (GFE), to detect and quantify nuclear contamination gamma and neutron radiation (T), alpha and beta particles (O), compliant with the Common CBRN Sensor Interface (CCSI) document.
PDFOV-1718		3.2.2.8.3 Decontamination.
PDFOV-1719	L	JLTV shall be capable of being decontaminated to the Operational [T] or Thorough[O] decon levels (as defined by FM 3-11 and FM 3-5) using current existing decon methodology and performance standards.
PDFOV-1728		3.2.3 TRANSPORTABILITY.
PDFOV-1732		3.2.3.1 Cargo Tiedowns.
PDFOV-1733	L	The JLTV FoV shall be equipped with cargo tiedowns (recessed tie-downs where applicable) to secure the payload and equipment.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-3988		3.2.3.1.1
PDFOV-3989	L	The cargo tiedowns shall be in accordance with MIL-STD-209.
PDFOV-1734		3.2.3.2 Lifting & Tiedown Provisions.
PDFOV-1735	L	JLTV FoV and companion trailers shall be equipped with lifting and tiedown provisions in accordance with MIL-STD-209, MIL-STD-1366 and design guidelines contained in MIL-HDBK-1791.
PDFOV-3991		3.2.3.2.1
PDFOV-3992	L	The lifting and tiedown provisions shall be permanently marked.
PDFOV-3990		3.2.3.2.2
PDFOV-3993	L	The lifting and tiedown provisions shall not interfere with the payload.
PDFOV-1736		3.2.3.3 Air Transport.
PDFOV-1738		3.2.3.3.1 Fixed Wing Transport.
PDFOV-1739	M	The JLTV FoV and companion trailers at GVW shall be air-transportable by C-130 and larger military aircraft.
PDFOV-1740		3.2.3.3.1.1
PDFOV-1741	M	The JLTV FoV and companion trailers shall be in accordance with air transport requirements of MIL-STD-1366 and design guidelines contained in MIL-HDBK-1791.
PDFOV-1742		3.2.3.3.1.2 Mission Scenario.
PDFOV-1743	H	The C-130 mission conditions shall be based on an Armored C-130E/H with payload limited for a range of 1,000 nautical miles. Range requirement shall be met under ideal conditions, at sea level, with a normal landing on a 5,000 foot runway and the aircraft being refueled at the landing site.
PDFOV-1746		3.2.3.3.1.3 Vehicle Quantities.
PDFOV-1747	L	Quantities of vehicles per mission and vehicle preparation for fixed wing transport are identified in the vehicle specific annexes.
PDFOV-3938		3.2.3.3.1.4 Low Velocity Aerial Delivery (LVAD).
PDFOV-4019	L	The JLTV FoV and companion trailers shall be capable of LVAD in accordance with MIL-HDBK-669, MIL-STD-814, MIL-HDBK-1791 and MIL-STD-1366.
PDFOV-4021		3.2.3.3.1.4.1
PDFOV-4020	L	The JLTV FoV shall be capable of LVAD without shelters installed (T), with shelters (O).
PDFOV-3939		3.2.3.3.1.4.2
PDFOV-1762	L	See vehicle specific annex.
PDFOV-7228		3.2.3.3.1.4.2.1
PDFOV-7229	L	The JLTV-C-AMB four-litter ambulance shall be air-droppable by C-5 and C-17 only.
PDFOV-4022		3.2.3.3.1.4.3
PDFOV-1764	L	The vehicle shall be ready for operation after LVAD within 15 minutes (T) and 10 minutes (O). Time to remount the shelter shall not be included in this time period.
PDFOV-1748		3.2.3.3.2 Rotary Wing Aircraft.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements					
PDFOV-1749	M	The JLTV FoV and companion trailers shall be air-transportable by military rotary wing aircraft in accordance with air transport requirements of MIL-STD-1366, with the exception that the maximum transport weights of the aircraft shall be as called out in the transportability table below, under the stated mission conditions.					
PDFOV-7076	H	Table 10. Rotary Wing Transport Weights and Mission Scenarios (assuming 4 wheel configuration)					
PDFOV-7077	H	Transport	Mission Scenario			Lift Capacity, lbs (external)	Lift Capacity, lbs (internal)
			Temperature, deg F (deg C)	Elevation, ft	Combat Radius, nm		
		CH-53K	91.5 (33)	3000	110	27,000	2500 lbs per wheel (10,00 lbs max)
		CH-53E	59 (15)	sea-level	110	16,800	2500 lbs per wheel (10,000 lbs max)
		CH-47F	95 (35)	4000	30	15,639	2500 lbs per wheel (10,000 lbs max)
		MH-47F	70 (21)	2000	30	18,098	2500 lbs per wheel (10,000 lbs max)
PDFOV-4025		3.2.3.3.2.1 Slinging					
PDFOV-4026	L	The JLTV FoV shall be equipped with lifting provisions that meet the requirements of MIL-STD-913 for helicopter sling lift (HSL).					
PDFOV-1752		3.2.3.3.2.2 Vehicle Quantity.					
PDFOV-1753	L	Quantities of vehicles per mission and vehicle preparation for rotary wing transport are identified in the vehicle specific annexes.					
PDFOV-1754		3.2.3.4 Highway Transport.					
PDFOV-1755	L	The JLTV FoV shall not exceed USA and NATO highway legal permit limits when operated as a self-propelled vehicle.					
PDFOV-7443	L	[AUSTRALIAN] The vehicle shall not exceed ADR 43/04 Vehicle Configuration & Dimensions when operated as a self-propelled vehicle for NB Class Vehicles (Medium Goods Vehicles).					
PDFOV-4029		3.2.3.4.1					
PDFOV-4031	L	The JLTV vehicle shall not exceed highway permit limits when operated in combination with the companion trailer.					
PDFOV-7444	L	[AUSTRALIAN] The JLTV FoV shall not exceed ADR 43/04 Vehicle Configuration & Dimensions when operated as a self-propelled vehicle in combination with the companion trailer for NB Class Vehicles (Medium Goods Vehicles), TB Class Trailer (Light Trailer) or TC Class Trailers (Medium Trailer).					
PDFOV-4028		3.2.3.4.2					
PDFOV-4033	L	The JLTV FoV and companion trailers (coupled and uncoupled) shall not exceed highway weight and dimensional permit limits when carried as cargo by highway transportation assets of the Army, USMC, NATO, or allied countries.					
PDFOV-4027		3.2.3.4.3					
PDFOV-4034	L	The highway transport requirements shall be applicable at all vehicle load conditions from CW to GCVW.					

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-1756		3.2.3.5 Rail Transport.
PDFOV-1757	L	The JLV FoV and companion trailers shall be rail transportable on CONUS and NATO country railways in accordance with MIL-STD-1366.
PDFOV-4036		3.2.3.5.1 Dimensional Requirements.
PDFOV-4038	L	The JLV FoV and companion trailers shall meet the dimensional requirements of the Association of American Railroads (AAR) "Outline Diagram for Single Loads, Without End Overhang, on Open Top Cars" and the Gabarit International de Chargement (GIC) gauge when loaded on a 51-inch deck-height railcar.
PDFOV-4035		3.2.3.5.2 Rail Impact.
PDFOV-4039	H	The JLV FoV and companion trailers at GCVW shall withstand the rail impact test specified in MIL-STD-810.
PDFOV-4037		3.2.3.5.2.1
PDFOV-4040	L	The JLV FoV shall be capable of rail transport requirements coupled or un-coupled to their companion trailer.
PDFOV-4041		3.2.3.5.3
PDFOV-4042	L	Disassembly of the JLV FoV or companion trailers shall not be required.
PDFOV-1758		3.2.3.6 Sealift Transport.
PDFOV-6911		3.2.3.6.1
PDFOV-4043	L	The JLV FoV and companion trailers shall be transportable on all classes of ocean-going transport ships in accordance with MIL-STD-1366.
PDFOV-4046		3.2.3.6.2
PDFOV-4048	L	The JLV FoV shall meet sealift transport requirements coupled or un-coupled to the companion trailer.
PDFOV-3933		3.2.3.6.3
PDFOV-3934	L	The JLV FoV and companion trailers shall be transportable by Amphibious Ships, Maritime Prepositioning Force (MPF), Afloat Pre-positioning Ship (APS), Roll-On Roll-Off (RORO) ships, Joint High Speed Vessel (JHSV), Logistics Support Vessel (LSV), and all vessels of Army, Navy, and Marine Corps watercraft fleet as defined in MIL-STD-1366.
PDFOV-4045		3.2.3.6.4
PDFOV-1759	L	The JLV FoV and companion trailers shall be transportable by Landing Craft Air-Cushioned (LCAC), Joint High Speed Vessel (JHSV), Landing Craft Utility (LCU), Logistic Support Vehicle (LSV), Landing Craft Medium (LCM), Improved Navy Lighterage System (INLS) in accordance with MIL-STD-1366.
PDFOV-4047		3.2.3.6.5
PDFOV-4049	H	Removal of the weapon, GPK, and antennas shall be permitted for transport on the 78" restricted height decks on naval ships. No further disassembly of the JLV FoV or companion trailers shall be required.
PDFOV-3388		3.2.3.6.6
PDFOV-3389	L	The JLV system shall be capable of withstanding external saltwater spray while on-board an LCAC during typical LCAC operations for periods up to 60 minutes(T) and 120 minutes(O) at a time, without essential function failure.
PDFOV-7298		3.2.3.7 Adjustable Height Suspension.
PDFOV-7299		3.2.3.7.1
PDFOV-7300	L	If an adjustable height suspension is implemented on the JLV prime mover and/or trailer (JLV-T) to achieve transportability requirements, then the following requirements shall be met:
PDFOV-7301		3.2.3.7.1.1

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-7302	L	The adjustable height suspension shall be raised to its highest position or lowered to its lowest position within 2 minutes.
PDFOV-7303		3.2.3.7.1.2
PDFOV-7304	M	The activation mechanism for suspension height adjustment shall incorporate at least two distinct safety features that the driver or co-driver must overcome before adjustments can be made. In case of failure of one or more of these safety override features, suspension height adjustment shall be automatically disabled.
PDFOV-7305		3.2.3.7.1.3
PDFOV-7306	H	Suspension height adjustment shall be disabled while the JLTV and/or JLTV-T are in continuous motion. Suspension height adjustment shall be pre-selected while the system is in motion. Selected suspension height adjustment shall be performed only after the system has come to a complete stop. Once the vehicle has achieved a complete stop the system shall adjust the suspension height to the desired selection while underway.
PDFOV-7307		3.2.3.7.1.4
PDFOV-7308	L	Indicator(s) shall be provided that visually informs the driver/co-driver of the current suspension height position, and that sends a notification if the suspension travel fails to reach the targeted height.
PDFOV-1766		3.2.3.8 Hazardous Material Transport.
PDFOV-1768		3.2.3.9 Preparation Time.
PDFOV-1769	H	The JLTV FoV and the companion trailers shall not require more than 30 minutes (T), 15 minutes (O), beginning when the first preparation step has begun (e.g. folding mirrors) using on-board tools and equipment (T), no tools (O), to prepare for embarkation or operation after debarkation on any form of transport. This requirement applies to vehicles already at transport weight.
PDFOV-4050		3.2.3.9.1
PDFOV-4051	L	The following shall not be included in the preparation time: a. Shelter mounting and dismounting. b. Vehicle or trailer rigging or rigging removal. c. GPK removal and installation.
PDFOV-1770		3.2.4 VEHICLE COMMAND, CONTROL, COMMUNICATIONS, COMPUTERS, INTELLIGENCE, SURVEILLANCE & RECONNAISSANCE / ELECTRONIC WARFARE (C4ISR/EW) SYSTEM

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-7480	M	<p>This section specifies integration of all of the vehicle electrical systems: Vetronics; Command, Control, Communications, Computers, Intelligence, Surveillance & Reconnaissance (C4ISR) and Electronic Warfare (EW) components; Power Generation and Distribution. The overall goal is to minimize the number of independent "Bolt On" components and to promote sharing of components and capabilities across multiple applications. The integrated design utilizes mature technologies to implement an open architecture that meets DoD Information Assurance (IA) requirements.</p> <p>Implementation of this concept is via an A Kit/B Kit electronics design: A-Kit electronics refers to the components which are "built-in" into the vehicle during vehicle production, B-Kit electronics refers to the components which are installed onto the vehicle at a later date and may be optional based on vehicle mission.</p> <p>To control cost, a Family of C4ISR/EW Architectures shall be developed consisting of a base architecture that is incrementally scalable to provide added capability levels to JLTV sub-configurations that require additional C4ISR/EW systems. The base architecture includes embedded driver's display and controls for vehicle processing, which include, but are not limited to: vetronics, diagnostics, and power management. Scalable increments add commander's and rear workstation/displays and controls, which add capabilities including, but not limited to: battle command applications, radio control, network management, and intercom connection. Overall areas of scalability may include: Displays, Computing Resources, Networking, Enclaves, Cross Domain Solutions, and Power Generation and Distribution.</p>
PDFOV-1771		3.2.4.1 Network Centric (NetCentric) Vehicle Requirements
PDFOV-1772	L	<p>This section specifies integration of Command, Control, Communications, Computers, Intelligence, Surveillance & Reconnaissance (C4I) and Electronic Warfare (EW) components into the vehicle to minimize the number of independent "Bolt On" components and to promote sharing of components and capabilities across multiple applications. The integrated design implements an open architecture. Specifications that define the vehicle C4ISR/EW architecture shall be made public. This includes primarily commercial standards as well as design specifications specific to the JLTV architecture. The intent of the open architecture is to allow for future requirements and products to be easily designed and integrated into the vehicle. One of the goals of this program is to realize reduced installation and maintenance costs.</p>
PDFOV-1779	L	<p>Implementation of this concept be via an A Kit/B Kit electronics design: A-Kit electronics refers to the components which are "built-in" into the vehicle during vehicle production, B-Kit electronics refers to the components which get installed onto the vehicle at a later date and may be optional based on vehicle mission.</p>
PDFOV-7632		3.2.4.2 Environmental Survivability and Reliability
PDFOV-7634	L	All vehicle electronics shall be compliant with MIL-STD-1275 excluding 704 power generation items and GFE.
PDFOV-2690	M	There shall be neither unacceptable response nor malfunction of any JLTV system or subsystem due to EMI produced by any or all of the JLTV systems and sub-systems.
PDFOV-7635	L	The JLTV shall be IAW MIL-STD-464 section S5.2 Intra-system electromagnetic compatibility (EMC).
PDFOV-7636	L	The JLTV shall be IAW MIL-STD-464 section S5.3 External RF EME (ground systems).
PDFOV-7637	M	The JLTV shall be IAW MIL-STD-464 section S5.4 Lightning - near strike.
PDFOV-7638	L	The JLTV shall be IAW MIL-STD-464 section S5.6 Subsystems and equipment electromagnetic interference (EMI) - S5.61 Non-developmental items (NDI) and commercial items.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-7639	L	The JLTV shall be IAW MIL-STD-464 section S5.7 Electrostatic charge control - S5.71 Vertical lift and S5.73 Ordnance sub-systems.
PDFOV-7640	L	The JLTV shall be IAW MIL-STD-464 section S5.8 Electromagnetic radiation hazards (EMRADHAZ) - S5.81 HERP, S5.82 HERF, S5.83 HERO.
PDFOV-7641	L	The JLTV shall be IAW MIL-STD-464 section S5.9 Life cycle, E3 hardness.
PDFOV-7642	L	The JLTV shall be IAW MIL-STD-464 section S5.10 Electrical bonding (excluding plastic housing and enclosures).
PDFOV-7643	M	The JLTV shall be IAW MIL-STD-464 section S5.12 TEMPEST.
PDFOV-7644		3.2.4.2.1 Electrostatic Discharge (ESD)
PDFOV-7645	M	The JLTV systems and subsystems shall be compliant to MIL-STD-1275 ESD (SAE J1113-13).
PDFOV-7646	L	The JLTV shall be compliant to SAE J551-15 Vehicle Electromagnetic Immunity-Electrostatic Discharge (ESD).
PDFOV-2771		3.2.4.2.2 Radiated Susceptibility
PDFOV-2772	L	The JLTV including systems and sub-systems shall meet the RS103 radiated susceptibility requirements of MIL-STD-461, Table IV & VII, as specified for Army ground vehicles with exception, including the optional requirements.
PDFOV-2773	L	Frequencies and field strengths shall be 10 kHz to 2 MHz at 20 V/m.
PDFOV-2774	L	Frequencies and field strengths shall be 2 MHz to 40 GHz at 50 V/m.
PDFOV-2775		3.2.4.2.3 Radiated Emissions
PDFOV-2776	L	The JLTV including system and sub-systems shall meet the Army Ground RE102 requirements for MIL-STD-461, for frequencies from 2 MHz to 20 GHz or 10 times the highest intentionally generated frequency of the JLTV.
PDFOV-2777		3.2.4.2.4 Conducted Susceptibility
PDFOV-2779	L	The JLTV including system and sub-system shall meet the Conducted Susceptibility requirements of MIL-STD-461 via Signal or Power entry points of the JLTV CS101, Figure CS101-1.
PDFOV-2780	L	The JLTV including system and sub-system shall meet the Conducted Susceptibility requirements of MIL-STD-461 via Signal or Power entry points of the CS114, Figure CS114-1, Curve #3 from 10 kHz to 2 MHz, and curve #4 from 2 MHz to 400 MHz
PDFOV-2781	L	The JLTV including system and sub-system shall meet the Conducted Susceptibility requirements of MIL-STD-461 via Signal or Power entry points of the CS115, Figure CS115-1, at a 30 Hz rate for one minute
PDFOV-7647	L	The JLTV including system and sub-system shall meet the Conducted Susceptibility requirements of MIL-STD-461 via Signal or Power entry points of the CS116, Conducted susceptibility, damped sinusoid transients, cables and power leads, 10 kHz to 100 MH.
PDFOV-2782		3.2.4.2.5 Co-site Interference
PDFOV-2784	L	The JLTV platforms shall mitigate cosite interference from multiple co-located antennas with simultaneous adjacent channel transmitting frequencies and harmonics.
PDFOV-2727		3.2.4.2.6 Grounding
PDFOV-2729	L	The JLTV shall provide a grounding system that is compliant with the Electromagnetic Environment and Electrical Safety requirements in accordance with CECOM TR 98-6, MIL-HDBK-1857.
PDFOV-2731	L	The grounding system shall provide an adequate ground for use while the vehicle is halted in accordance with CECOM TR 98-6 and MIL HDBK 1857.
PDFOV-2758	L	Ground rods shall be supported, for use while the JLTV is halted, to create a ground point(s) (for vehicle chassis and exportable power kit) for the vehicle IAW the requirements of CECOM TR 98-6.
PDFOV-2764	L	Equipment grounding shall comply with the requirements of CECOM TR 98-6.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-7648	L	Hinges and slides shall not be relied upon as the sole means of grounding.
PDFOV-7649		3.2.4.2.7 Environmental and Design Reliability
PDFOV-7650	L	The wiring distribution systems (harness, connectors, plugs, switching, bus bars, etc.) shall be protected to prevent fluid (fresh and salt water, etc.) damage from fording, condensation from HVAC system and environmental effects.
PDFOV-7651	M	The wiring distribution systems (harness, connectors, plugs, switching, bus bars, etc.) subject to submersion shall meet IP67 for locations less than 1m of submersion and IP68 for locations greater than 1m.
PDFOV-7652	M	The wiring distrobution systems (harness, connectors, plugs, switching, bus bars, etc.) shall be protected against power wash/spraying to IP66.
PDFOV-6576	L	All electrical/electronic components/devices shall be routed/installed to prevent fluid (fresh and salt water, etc.) damage from fording, condensation from HVAC system and environmental effects.
PDFOV-7653	M	All electrical/electronic components/devices subject to submersion shall meet IP67 for locations less than 1m of submersion and IP68 for locations greater than 1m.
PDFOV-7654	M	All electrical/electronic components/devices shall be protected against power wash/spraying to IP66.
PDFOV-1849		3.2.4.2.7.1 Connectors, Harness and Routing
PDFOV-1855	L	All harnesses shall be protected from physical damage such as impact and abrasion as well as routed in a fashion that avoids contact/chafing with rough surfaces or sharp edges.
PDFOV-1861	L	All harnesses shall be labeled with circuit identification.
PDFOV-7655	L	Identification shall include brief but intuitive description of wiring function and intended connection devices.
PDFOV-7656	L	All receptacle connections shall be labeled with intended component connection identifiers.
PDFOV-7657	L	Unused electrical cables, leads and receptacles shall include covers to prevent accidental contact and/or damage.
PDFOV-7658	L	Electrical connectors shall include positive means (keying) to prevent the inadvertent reversing or mismatching connectors.
PDFOV-7659	H	All harnesses and connector wiring shall be strain relieved to prevent physical damage due to harness and connector movement.
PDFOV-7660	M	All connectors shall utilize MIL grade connectors (power, signal, etc), unless approved through a waiver/deviation.
PDFOV-7661		3.2.4.3 Base Vetronics System
PDFOV-7662	L	As part of the base vehicle configuration the JLTV shall include a dedicated Driver Smart Display Unit (DSDU) to support the driver's vehicle operational needs.
PDFOV-7663	L	The DSDU shall be integrated into the vehicle instrument panel. (O)
PDFOV-7664	L	The DSDU shall be integrated within usable distance and not blocking any of the windshield or other indicators and switches. (T)
PDFOV-7665	L	The DSDU shall be common across all vehicle configurations.
PDFOV-7666		3.2.4.3.1 Kitted C4ISR/EW Solutions - Options
PDFOV-7667	L	The Commanders Smart Display Unit (CSDU) shall be usable from the commander's (front passenger seat) location and not block any portion of the windshield.
PDFOV-7668	L	The Auxiliary Smart Display Unit (ASDU) - if equipped and Auxiliary Display Unit (ADU) - if equipped shall be usable from the 2nd row seating positions.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-7669	L	The CSDU hardware shall be common across all vehicle configurations (if equipped).
PDFOV-7670	L	Vehicles which require enhanced computer processing (above what is included in the C4ISR/EW smart displays) shall include an Enhanced Modular Computing Unit (EMCU).
PDFOV-7671		3.2.4.3.2 JLTV FoV Configurations
PDFOV-7672	L	The JLTV FoV shall be capable of accepting the DSDU configuration (included, but not limited to).
PDFOV-7673	L	The JLTV FoV shall be capable of accepting the DSDU, CSDU - Single Security Enclave configuration (included, but not limited to).
PDFOV-7674	L	The JLTV FoV shall be capable of accepting the DSDU, CSDU - Dual Security Enclave configuration (included, but not limited to).
PDFOV-7675	L	The JLTV FoV shall be capable of accepting the DSDU, CSDU, ASDU - Dual Security Enclave configuration (included, but not limited to).
PDFOV-7676	L	The JLTV FoV shall be capable of accepting the DSDU, CSDU, 2nd Row ADU #1 & #2, Dual Security Enclave with EMCU configuration (included, but not limited to).
PDFOV-7677		3.2.4.3.3 Cross Domain Access
PDFOV-7678	M	The C4I display and processing assets (CSDU, ASDU, ADU-EMCU) shall provide an approved cross domain access solution kit to permit the display and control of different security enclave assets independently on the screens without any manual reconnection. (T)
PDFOV-7679	M	The C4I display and processing assets (CSDU, ASDU, ADU-EMCU) shall provide an approved cross domain access solution kit to permit the display and control of different security enclave assets concurrently on the screens without any manual reconnection. (O)
PDFOV-7680	H	The C4I display and processing assets (CSDU, ASDU, ADU-EMCU) shall have the ability to host an approved cross domain transfer solution kit to permit data transfer between different security enclave C4ISR/EW networks.
PDFOV-2166		3.2.4.4 Expansion/Growth
PDFOV-2181	L	The JLTV design shall accommodate the need for additional functionality and space (including wire harness routing e.g. cable tray/raceways) of new C4ISR/EW A-Kit electronics and B-Kit electronics systems.
PDFOV-7681		3.2.4.5 Data Distribution
PDFOV-1797		3.2.4.5.1 JLTV Data Bus Architecture Requirements
PDFOV-7241	L	The JLTV Data Bus architecture shall include a C4ISR/EW Data Bus(es) and a Vehicle Sensor Data Bus(es).
PDFOV-7243	L	The C4ISR/EW Data Bus shall implement a network backbone that provides throughput and access time performance equivalent to IEEE 802.3z and IEEE 802.3ab standards.
PDFOV-7246	L	The C4ISR/EW Data Bus and connected components shall support IPV4 and IPV6 transport.
PDFOV-7247	L	The Vehicle Sensor Data Bus(es) shall be compliant with appropriate industry standards (i.e. SAE J1708, J1939 and IEEE 1451) in order to enable and facilitate the exchange and update of vehicle diagnostics data.
PDFOV-7682	L	All device/sensor data from the Vehicle Sensor Data Buses shall be accessible (bi-directional) off-board via a single vehicle J1939 diagnostic connector (VADS, MSD, DSDU connection) for diagnostics, vehicle health status and data transfer.
PDFOV-7683	L	All device/sensor data from the Vehicle Sensor Data Buses shall be accessible (bi-directional) on the DSDU without any manual reconnection.
PDFOV-1832		3.2.4.5.1.2 Growth
PDFOV-1844	L	The C4ISR/EW bus routing/switching functionality shall provide a minimum 1 spare ports per enclave (UNCLASSIFIED, SECRET, etc.) more than the maximum vehicle B-Kit electronics requirement to provide connections to additional routing/switching.
PDFOV-7684	L	All Vehicle Sensor Data Bus(es) individually shall not exceed 75% maximum sustained utilization.

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PDFOV-7685	L	The C4ISR/EW Data Bus networks individually shall not exceed 75% maximum sustained utilization with B Kit configuration.
PDFOV-1847		3.2.4.5.1.3 Data Bus Diagnostics
PDFOV-1848	L	The JLTV Vehicle Sensor Data Bus architecture fault and functional health shall be monitored by the Electronic Logistics Diagnostics and Reporting Capabilities.
PDFOV-1874		3.2.4.5.1.4 Timing Latency and Jitter
PDFOV-1876	L	The C4ISR/EW Data Bus timing distribution shall support data exchange with latency no greater than that of the proper implementation and distribution of GPS timing and data IAW IS-GPS-154C and ICD-GPS-153C.
PDFOV-1878	L	The C4ISR/EW Data Bus timing distribution shall support data exchange with jitter no greater than that of the proper implementation and distribution of GPS timing and data IAW IS-GPS-154C and ICD-GPS-153C.
PDFOV-6575		3.2.4.5.1.5.1
PDFOV-1882		3.2.4.5.1.5.2 Failsafe Mode
PDFOV-1883	L	The vehicle data buses shall provide for failsafe modes (causing no harm) if any segment of the C4ISR/EW and Vehicle Sensor Data Bus primary bus fails.
PDFOV-1782		3.2.4.5.2 C4ISR/EW Data Bus Architecture Requirements
PDFOV-1786	L	The C4ISR/EW Architecture shall support the transfer of data from onboard C4ISR/EW systems to networks external to the JLTV.
PDFOV-6860	L	The C4ISR/EW architecture shall perform a graceful shutdown of critical systems in the event of vehicle ignition being commanded off.
PDFOV-1821	L	The C4ISR/EW vehicle routing/switching functionality shall be configured and monitored from the CSDU, ASDU and ADU.
PDFOV-7686	M	The JLTV shall have a weather protected external signal entry point connection accessible near the rear of the vehicle (rear passenger compartment wall) for each C4ISR/EW Data Bus network enclave and include a means to disable the port from inside the vehicle.
PDFOV-1981		3.2.4.6 Security and Information Assurance
PDFOV-7687		3.2.4.6.1 Physical Security
PDFOV-7688	L	All CCI high value items shall have a means of being physically locked to the vehicle.
PDFOV-1998		3.2.4.6.2 Classification
PDFOV-1999	L	The C4ISR/EW architecture shall be capable of processing the following type of data: Unclassified, Secret, and NATO Secret.
PDFOV-1982		3.2.4.6.3 Information Assurance Capabilities
PDFOV-1984	L	The JLTV shall be certified and accredited in accordance with DoDD 8500.1 and DODI 8500.bb (DIACAP) implementing the corresponding IA controls as described in DoD information assurance (IA) certification and accreditation (C&A).
PDFOV-1988	L	There shall be no connection of any device to both the SECRET and the UNCLASSIFIED bus that has not been approved as a Cross Domain Peripheral Sharing device or Cross Domain Solution that has completed a favorable Certification Test and Evaluation conducted by the National Security Agency or trusted agent designated by the National Security Agency to perform such testing on their behalf, to include CT&E SR 9 Penetration Testing.
PDFOV-1997		3.2.4.6.4 Information Description
PDFOV-2006		3.2.4.6.4.1.4 Tamper Protection
PDFOV-2007	L	The C4ISR/EW architecture shall include tamper protection measures as required by the applicable Federal Information Processing Standards (FIPS) 140-2 or NSA approved methods as defined in the UIC.
PDFOV-2042		3.2.4.6.6.6 Management of System Security policies

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-2043	L	The C4ISR/EW architecture shall include a single interface to manage the system security policies implemented for all IA products.
PDFOV-2060		3.2.4.6.6.8 End Crypto Unit Management (ECU)
PDFOV-2065	L	The C4ISR/EW architecture shall not exceed requirements necessary to be handled as Controlled Cryptographic Item (CCI) when un-keyed.
PDFOV-2080	H	A vehicle occupant shall have the capability to zeroize Red and Black keys on each filled device.
PDFOV-2083		3.2.4.6.6.8.1.4 Key Management
PDFOV-2106		3.2.4.6.6.8.1.4.9 Key Loading
PDFOV-2107	L	Contractor Furnished Equipment (CFE) for C4ISR/EW implemented architecture devices that require key loading shall support EKMS' Simple Key Loading, AN/CYZ-10 devices or newly approved KMI key loading specifications.
PDFOV-2113		3.2.4.6.6.8.1.4.10 Key Control Functions
PDFOV-2115	L	Contractor Furnished Equipment (CFE) for C4ISR/EW implemented architecture devices that require key loading shall support EKMS defined Key Update.
PDFOV-2116	L	Contractor Furnished Equipment (CFE) for C4ISR/EW implemented architecture devices that require key loading shall support EKMS defined Key Rollover.
PDFOV-2117	L	Contractor Furnished Equipment (CFE) for C4ISR/EW implemented architecture devices that require key loading shall support EKMS defined Over-The Air Functions (OTAR - Over-The-Air-Rekeying, OTAT - Over the Air Key Transfer, OTAD - Over the Air Key Distribution, OTAZ - Over The Air Zeroize).
PDFOV-2118	L	Contractor Furnished Equipment (CFE) for C4ISR/EW implemented architecture devices that require key loading shall support EKMS defined Compromise.
PDFOV-2119	L	Contractor Furnished Equipment (CFE) for C4ISR/EW implemented architecture devices that require key loading shall support EKMS defined Recovery.
PDFOV-2120	L	Contractor Furnished Equipment (CFE) for C4ISR/EW implemented architecture devices that require key loading shall support EKMS defined Zeroize.
PDFOV-7689		3.2.4.7 Vehicle Command and Control Systems
PDFOV-7690		3.2.4.7.1 Display and Onboard Computing Resources
PDFOV-7691	L	The vehicle display and processing subsystem solutions will consist of a combination of the following: Driver Smart Display Unit - shared display and processing unit; Commander Smart Display Unit - shared display and processing unit; Auxiliary Smart Display Unit - shared display and processing unit; Auxiliary Display Unit(s) - display only and uses external central vehicle computer system for processing - Enhanced Modular Computing Unit (EMCU); EMCU - dedicated expandable computer processing for specialized applications.
PDFOV-2320	L	The design shall provide multiple computing resources to support all JLTV SW apps.
PDFOV-1912		3.2.4.7.1.2 Common Display Requirements
PDFOV-4010	L	The native resolution of the image area shall be 1024 x 768 pixels, as specified by the industry standard eXtended Graphics Array (XGA) for displays up to 12.1.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-7692	L	Displays greater than 12.1 shall provide resolution greater than 1024 x 768 pixels.
PDFOV-1916	L	Displays shall be flat panel technology.
PDFOV-1924	L	Displays shall be viewable through Night Vision Goggles (NVGs) such that a wavelength restriction for the total energy above 700nm is no more than 0.5% of the total energy between 350 nanometer (nm) and 930 nm.
PDFOV-7693	L	Displays shall be viewable through Night Vision Goggles (NVGs) such wavelength restriction for the 0.5% cutoff shall be as close to 600 nm as possible.
PDFOV-7694	M	The viewing angle shall be at least 140 degrees when viewed from the center of the display, for both the horizontal and vertical axes.
PDFOV-7695	M	There shall be no contrast or color or grey reversal within the viewing angle cone.
PDFOV-7696	M	Displays white-to-black contrast ratio for a dark ambient light environment (< 0.1 fL) shall have a minimum contrast ratio of 400:1.
PDFOV-7697	M	Displays white-to-black contrast ratio for a high ambient light environment (5000 fC and reflected specular image of a 2000 fL glare source) shall have a minimum contrast ratio of 4:1.
PDFOV-7698	M	In day mode the display shall provide a minimum of six, $\sqrt{2}$ grey shades, and have a High Ambient Contrast Ratio (HACR) of at Least 5.66:1 as per Table II of MIL-L-85762A under the following simultaneous worst case ambient Conditions: a. Diffuse measurement illuminance source of 5,000 fC (53,821 lux) b. Specular measurement luminance source of 1000 fL (3,426cd/m ²).
PDFOV-1928	M	Displays shall include adjustable contrast and brightness controls.
PDFOV-1930	L	Displays shall include vertical and horizontal image adjustment controls.
PDFOV-1934	L	Displays shall include the power indicator, and a front panel indicator or pop-up message to indicate "sync operation" or no video signal for both analog and digital signals.
PDFOV-1938	M	Displays shall include the capability of reducing the display brightness to a level that is sufficient to not be detected by unaided human eyes at ranges greater than 50 meters or by Night Vision Goggles (AN/PVS-7 & AN/PVS-14) at ranges greater than 500 meters from the host vehicle under clear atmospheric conditions and starlight.
PDFOV-7231	L	All vehicle displays, indicators, and lighted buttons shall dim to the above levels when black out mode is enabled.
PDFOV-1940	M	Displays luminance shall be dimmable to 0.05 foot-lamberts or less. Light security filter is permissible.
PDFOV-4013	L	Displays shall prevent burn-in of latent images.
PDFOV-6862	L	Displays shall permit viewing under blue and red lighting.
PDFOV-6743		3.2.4.7.1.2.14 Controls
PDFOV-1914	L	Displays shall include a touch screen and buttons around the perimeter of the display as Human Machine Interfaces (HMIs) for manipulation of displayed object.
PDFOV-7699	L	Displays HMI shall be operable in MOPP IV & Cold Weather gear.
PDFOV-1941		3.2.4.7.1.2.15 The Display Interfaces

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-1943	L	The CSDU, ASDU, and ADU Interface electronics shall have the ability to auto sync display analog and digital data and video signals fed from C4ISR/EW Data Bus and direct interface sources.
PDFOV-1945	L	Display Interface electronics shall have the ability to display static and live National Television Systems Committee (NTSC) interlaced motion video information with no perceivable flicker with refresh rate of 30 Hz.
PDFOV-1947	L	Display Interface electronics shall have the ability to display dynamic analog and digital data signals with no perceivable flicker with refresh rate between 60 to 76 Hz
PDFOV-1949	L	Display Interface electronics shall have the ability to display motion video information.
PDFOV-1951	L	Display interface electronics shall have the ability to display interlace or progressive scanning inputs.
PDFOV-1953	L	Display interface electronics shall have the ability to display multi-format video input formats, possessing disparate resolution formats, IAW ICDs provided as GFI, at a minimum, but not limited to: VGA, SVGA, XGA, SXGA, SXGA+, UXGA, WUXGA.
PDFOV-1955	L	Display interface electronics shall have the ability to display formats greater or less than the screen's native grid size, scaled to match the screen's parameters.
PDFOV-1957	H	Display interface electronics shall have the ability to display, at a minimum, 24 bit color depth at the native resolution of the screen.
PDFOV-1959	L	Display interface electronics shall have the ability to display varying aspect ratios such as, but not limited to: 4:3, 5:4, 16:9, and automatically switch between modes.
PDFOV-1961	L	Display interface electronics shall have the ability to display high information content through the vehicle computing resource(s) 3D graphics acceleration or additional graphics processing.
PDFOV-7700		3.2.4.7.1.2.16 Driver Smart Display Unit (DSDU)
PDFOV-7701	L	The DSDU shall provide an active viewing area, measured diagonally greater than eight (8) inches.
PDFOV-7702	L	The DSDU shall be a combined display and processor unit.
PDFOV-7703	L	The DSDU shall utilize its touch screen and bezel (perimeter display) buttons as the Human Machine Interface (HMI) without an external hardware keyboard except for maintenance operations.
PDFOV-7704	L	The DSDU shall be an open standards system.
PDFOV-7705		3.2.4.7.1.2.16.1 Security and Enclave Classification
PDFOV-7706	L	The classification state of DSDU shall meet minimum requirements to process unclassified J1939 data.
PDFOV-7707	L	The DSDU shall not be connected to the C4ISR/EW Data Bus to maintain physical separation.
PDFOV-7708	L	The classification state of the DSDU shall be unclassified.
PDFOV-7709	L	The DSDU shall incorporate a security feature to prevent the external transfer of data to and from the device unless manually overridden in a secure manner.
PDFOV-7710	L	The DSDU shall include roles based access and incorporate least privilege access control.
PDFOV-7711	L	There shall be no root access to the operating system for non-administrators.
PDFOV-7712		3.2.4.7.1.2.16.2 Functionality and Application Hosting
PDFOV-7713	L	The DSDU's primary function is to support the operational needs of the vehicle driver.
PDFOV-7714	L	The vehicle shall be able to be driven without the DSDU.
PDFOV-7715	L	The DSDU hardware shall be capable of running approved Microsoft Windows or Linux operating systems (if required).
PDFOV-7716	L	The startup time (user can interact with full functionality of the display) shall be less than 30 seconds from vehicle start/ignition on.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-7717	L	The DSDU shall display all vetronic health/diagnostics (faults, status, alerts, cautions) and permit interrogative diagnostics to all smart electronics/devices connected to any Vehicle Sensor Data Bus.
PDFOV-7718	L	The DSDU shall be able to execute/run all specified functionalities concurrently.
PDFOV-7719	L	The DSDU shall automatically power-up with the vehicle ignition is in the run state.
PDFOV-7720	L	The DSDU shall provide a graceful power down/up (i.e. no errors/file corruptions) during rapid ignition run/start/off cycling.
PDFOV-7721	L	The DSDU shall permit the controlling and displaying (device state, etc.) of vetronics functions (included, but not limited to: engine, transmission, powertrain, ABS, suspension, mobility, lighting, etc.).
PDFOV-7722	L	The DSDU shall permit the controlling and displaying vehicle power generation and distribution subsystems.
PDFOV-7723	L	The DSDU shall host vehicle unclassified IETMs (O).
PDFOV-7724	L	The DSDU shall store Vehicle Sensor Data Bus(es) information to support CBM and transfer via MSD.
PDFOV-7725	L	The DSDU shall be software upgradable via a remote signal entry point and without removing the display (if embedded into the instrument panel).
PDFOV-7726	L	The DSDU shall be compatible with MSD and VADS diagnostic tools.
PDFOV-7727		3.2.4.7.1.2.16.3 Hardware and Interfaces
PDFOV-7728	L	The DSDU shall provide two (2) J1939/CAN interfaces.
PDFOV-7729	L	The DSDU shall provide two (2) IEEE 802.3 compliant Gigabit Ethernet Interfaces.
PDFOV-7730	L	The DSDU shall provide a minimum of two (2) RS232/RS422 serial interfaces.
PDFOV-7731	L	The DSDU shall provide a minimum of two (2) USB interfaces.
PDFOV-7732	L	The DSDU shall provide a minimum 64GB solid state hard drive/storage with memory cell wear leveling capabilities.
PDFOV-7733	L	The DSDU shall be able to accept a short-range wireless connectivity kit.
PDFOV-7734		3.2.4.7.1.2.16.4 Growth and Expansion
PDFOV-7735	L	To permit future growth the processor(s) shall not exceed 50% maximum sustained utilization (typical running configuration).
PDFOV-7736	L	To permit future growth the processor RAM shall not exceed 50% sustained utilization (typical running configuration).
PDFOV-7737		3.2.4.7.1.3 Commander Smart Display Unit (CSDU)
PDFOV-4009	L	The CSDU shall provide an active viewing area, measured diagonally greater than 12 inches.
PDFOV-7738	L	The CSDU shall be a combined display and processor unit.
PDFOV-7739	L	The CSDU shall utilize its touch screen, bezel buttons, and keyboard (virtual and physical) as the Human Machine Interface.
PDFOV-7740	L	The CSDU shall be an open standards system.
PDFOV-7741		3.2.4.7.1.3.2 Security and Enclave Classification
PDFOV-7742	L	The CSDU common hardware shall be software configurable (re-image) to support UNCLASSIFIED, SECRET, and BOTH SECRET/UNCLASSIFIED (with Cross Domain Solution) security enclaves depending on mission role.
PDFOV-7743	L	The CSDU shall incorporate a removable hard drive for data at rest.
PDFOV-7744	L	The CSDU shall incorporate a Type 1 (up to SECRET) hard drive data encryption device for data at rest.
PDFOV-7745		3.2.4.7.1.3.3 Functionality and Application Hosting
PDFOV-7746	L	The CSDU's primary function is to support the C4ISR/EW operational needs of the vehicle Commander.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-7747	L	The usability startup time (user can interact with full functionality of the display i.e. launch FCB2) shall be less than 2 minutes from power on.
PDFOV-7748	L	The CSDU shall be able to integrate, concurrently host, execute, display, and control the approved Windows and Linux operating systems and applications.
PDFOV-7749	L	The CSDU shall be able to integrate, concurrently host, display, and control all Core Services and Primary Applications (primary applications independently runtime reconfigurable and executable: JCR or OSRVT or AFATDS).
PDFOV-7750	L	The CSDU shall be able to integrate, display, and control the intercom (Core Service).
PDFOV-7751	L	The CSDU shall be able to integrate, display, and control the military radio remote control (Core Service)
PDFOV-7752	L	The CSDU shall be able to integrate, display, and control the electronic warfare (EW) (Core Service).
PDFOV-7753	L	The CSDU shall be able to integrate, control (if equipped and does not violate device safety certification) and display the situational Awareness (SA) video feeds e.g. DVE, external cameras, CROWS, ITAS/TOW/LRAS, etc. (Core Service).
PDFOV-7754	L	The CSDU shall be able to integrate, display, and control the network device(s) configuration and control - router/switch/firewall (Core Service).
PDFOV-7755	L	The CSDU shall be able to integrate and display the CBRNE sensors (Core Service).
PDFOV-7756	L	The CSDU shall be able to integrate Virtual Network Computer (VNC) like display sharing and control (view and hosting) of other C4I display and processing assets (ASDU, EMCU, ADU) within the same security domain/enclave (Core Service).
PDFOV-7757	L	The CSDU shall be able to integrate virtualized operating systems (Virtual Machines) for both Microsoft Windows and Linux or as specified by application ICD (Core Service).
PDFOV-7758	L	The CSDU shall be able to integrate, display, and control the C4ISR/EW subsystem diagnostics and system health (Core Service).
PDFOV-7759	L	The CSDU shall be able to integrate a Cross Domain Solution - when equipped (Core Service).
PDFOV-7760	L	The CSDU shall be able to integrate, display, and control the boomerang shot detection (Core Service).
PDFOV-7761	L	The CSDU shall be able to integrate, display, and control the LVOSS (Core Service).
PDFOV-2341		3.2.4.7.1.3.3.1 JCR Capability
PDFOV-7762	L	The CSDU shall be runtime reconfigurable for different JCR configurations E.g FCB2 L-Band or FCB2 EPLRS or FCB2 L-Band with KGV-72 or MTS-ES L-Band.
PDFOV-2346	L	The CSDU shall utilize the C4ISR/EW Data Bus to interface with the provided GFE JCR software to interface between the CFE C4ISR/EW processing assets and communication hardware.
PDFOV-2378		3.2.4.7.1.3.3.1.3 JCR System Software Environment
PDFOV-2380		3.2.4.7.1.3.3.1.4 JCR Networking Capabilities
PDFOV-2381		3.2.4.7.1.3.3.1.4.1 EPLRS
PDFOV-2382	L	The CSDU shall interface and integrate JCR transmit JCR data via the EPLRS radio to the JCR SW / HW in the JLTV.
PDFOV-2383		3.2.4.7.1.3.3.1.4.2 L-band Satellite
PDFOV-2384	L	The CSDU shall integrate JCR to transmit and receive JCR data via the L-band Satellite Network with and without the KGV-72 encryptor.
PDFOV-7763		3.2.4.7.1.3.3.1.4.4 AFATDS
PDFOV-7764	L	The CSDU shall host and integrate the AFATDS (Windows based) system (Primary Application).
PDFOV-7765	L	The CSDU shall transmit AFATDS data via SINCGARS.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-7766		3.2.4.7.1.3.3.1.4.5 One System Remote Video Terminal (OSRVT)
PDFOV-7767	H	The CSDU shall host and integrate the OSRVT system (Primary Application).
PDFOV-7768	M	The CSDU shall receive antenna feeds per the OSRVT ICD.
PDFOV-7769		3.2.4.7.1.3.4 Hardware and Interfaces
PDFOV-7770	L	The CSDU processor(s) shall be compatible with hypervisor kernel and virtualization.
PDFOV-7771	L	The CSDU shall provide two (2) J1939/CAN interfaces.
PDFOV-7772	L	The CSDU shall provide two (2) IEEE 802.3 compliant Gigabit Ethernet interfaces.
PDFOV-7773	L	The CSDU shall provide a minimum of four (4) RS232/RS422 serial interfaces.
PDFOV-7774	L	The CSDU shall provide a minimum of four (4) USB interfaces.
PDFOV-7775	M	The CSDU shall provide a minimum 128GB solid state hard drive/storage with memory cell wear leveling capabilities.
PDFOV-7776	L	The CSDU shall provide two (2) PCMCIA interfaces.
PDFOV-7777	L	The CSDU shall provide a redundant DVE (GFE DVE display primary) video input interface.
PDFOV-7778	L	The CSDU shall provide one (1) VGA video input to produce a minimum of 1024 x 768 pixel color image interface.
PDFOV-7779	L	The CSDU shall provide two (2) RS170 video inputs.
PDFOV-7780	H	The CSDU shall provide microphone/speaker audio I/O.
PDFOV-7781	L	The CSDU shall provide an interface to a Mission Data Loader (MDL).
PDFOV-7782		3.2.4.7.1.3.5 Growth and Expansion
PDFOV-7783	L	To permit future growth the processor(s) shall not exceed 50% maximum sustained utilization (typical running configuration - core and primary services/applications).
PDFOV-7784	L	To permit future growth the processor RAM shall not exceed 50% sustained utilization (typical running configuration - core and primary services/applications).
PDFOV-7785		3.2.4.7.1.4 Auxiliary Smart Display Unit (ASDU)
PDFOV-7786	L	The ASDU shall be common with the CSDU and meet all the specified requirements of the CSDU.
PDFOV-7787		3.2.4.7.1.5 Auxiliary Display Unit (ADU)
PDFOV-7788	L	The ADU (when paired with the enhanced modular computing unit) shall meet all the CSDU display functionality requirements (not computing/interface requirements).
PDFOV-7789		3.2.4.7.1.6 Enhanced Modular Computing Unit (EMCU)
PDFOV-7790	L	The EMCU provides a centralized computer asset for any specialized vehicle applications E.g. C2OTM, RECON variants that need a significant amount of processing and expandability which cannot be met using Smart Display(s) alone. The computing platform when combined with Auxiliary Display Units (ADU) provides 2nd row occupants battle command workstations and additional processing to the CSDU and ASDU.
PDFOV-7791	L	The EMCU shall be an open standards system.
PDFOV-7792	L	The EMCU shall be a modular (at the component board / subsystem level) computing platform.
PDFOV-7793	L	The EMCU shall provide dedicated multiple processor assets (blades) to distribute the application processing loads.
PDFOV-7794	L	The EMCU usability startup time (user can interact with full functionality of the displays) shall be less than 2 minutes from power on.
PDFOV-7795		3.2.4.7.1.6.1 Security and Enclave Classification

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-7796	L	The EMCU (and internal processor blades) shall be individually configurable to support UNCLASSIFIED, SECRET, BOTH SECRET/UNCLASSIFIED (with Cross Domain Solution) security enclaves depending on mission role.
PDFOV-7797	L	The EMCU shall incorporate removable hard drive(s) for data at rest.
PDFOV-7798	L	The EMCU shall incorporate a Type 1 hard drive(s) data encryption device for data at rest.
PDFOV-7799		3.2.4.7.1.6.2 Functionality and Application Hosting
PDFOV-7800	L	The EMCU shall permit independent access (without manual reconnection techniques) to each of the EMCU processor assets (blades) using the ADU's and C4I display/processing assets (CSDU, ASDU) with the same domain/enclave or through a cross domain solution when equipped.
PDFOV-7801	L	The EMCU shall not automatically power-up with the vehicle ignition in the run state.
PDFOV-7802	L	The EMCU shall be able to integrate, concurrently host, display (with ADU, CSDU, ASDU), and control all specified core service/applications in addition to the specified primary applications.
PDFOV-7803	L	The EMCU shall be able to integrate, display (with ADU, CSDU, ASDU), and control the intercom (Core Service).
PDFOV-7804	L	The EMCU shall be able to integrate, display (with ADU, CSDU, ASDU) , and control the military radio remote (Core Service).
PDFOV-7805	L	The EMCU shall be able to integrate, control (if equipped and does not violate device safety certification) and display (with ADU, CSDU, ASDU) the situational Awareness (SA) video feeds e.g. DVE, external cameras, CROWS, ITAS/TOW/LRAS, etc. (Core Service).
PDFOV-7806	L	The EMCU shall be able to integrate, display (with ADU, CSDU, ASDU), and control the network device(s) configuration and control - router/switch/firewall (Core Service).
PDFOV-7807	L	The EMCU shall be able to integrate and control Virtual Network Computer (VNC) like display sharing and control (view and hosting) of other C4I display and processing assets within the same security domain/enclave or through a cross domain solution when equipped (Core Service).
PDFOV-7808	L	The EMCU shall be able to integrate, display (with ADU, CSDU, ASDU), and control the virtualized operating systems (Virtual Machines) for both Microsoft Windows and Linux or as specified by application ICD (Core Service).
PDFOV-7809	L	The EMCU shall be able to integrate, display (with ADU, CSDU, ASDU), and control the C4ISR/EW subsystem diagnostics and system health (Core Service).
PDFOV-7810	L	The EMCU shall be able to integrate, host, display (with ADU, CSDU, ASDU) and control the Cross Domain Solution - when equipped (Core Service).
PDFOV-7811	L	The EMCU shall be able to integrate, host, display (with ADU, CSDU, ASDU), and control the WIN-T network management (Core Service).
PDFOV-7812	L	The EMCU shall be able to integrate, host, display (with ADU, CSDU, ASDU), and control the Command Post of the Future (CPOF) (Core Service).
PDFOV-7813	L	The EMCU shall be able to integrate, host, display (with ADU, CSDU, ASDU), and control the JCR - local and VNC (Core Service) per JCR requirements specified in the CSDU JCR section.
PDFOV-7814	L	The EMCU shall be able to concurrently integrate, host, display (with ADU, CSDU, ASDU), and control all core services in addition to the primary applications AFATDS and OSRVT or C2PC/JTCW.
PDFOV-7815		3.2.4.7.1.6.3 Hardware and Interfaces

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-7816	L	The EMCU processor(s) shall be compatible with hypervisor kernel and virtualization.
PDFOV-7817	L	The EMCU shall provide two (2) J1939/CAN interfaces.
PDFOV-7818	L	The EMCU shall provide IEEE 802.3 compliant Gigabit Ethernet interfaces.
PDFOV-7819	L	The EMCU shall provide a minimum of two (4) RS232/RS422 serial interfaces.
PDFOV-7820	L	The EMCU shall provide a minimum of four (4) USB interfaces.
PDFOV-7821	M	The EMCU shall provide a minimum 256GB solid state hard drive/storage with memory cell wear leveling capabilities.
PDFOV-7822	L	The EMCU shall provide two (2) PCMCIA interfaces.
PDFOV-7823	L	The EMCU shall provide microphone/speaker audio I/O.
PDFOV-7824		3.2.4.7.1.6.4 Growth and Expansion
PDFOV-7825	L	To permit future growth the EMCU processor(s) shall not exceed 50% maximum sustained utilization (typical running configuration - core services/applications) per processor blade.
PDFOV-7826	L	To permit future growth the EMCU processor RAM shall not exceed 50% sustained utilization (typical running configuration - core and primary services/applications) per processor blade.
PDFOV-7827	L	The EMCU shall provide a minimum of two (2) spare slots for adding additional processing and interface cards.
PDFOV-2387		3.2.4.7.2 Electronic Logistics Diagnostics and Reporting Capabilities
PDFOV-2388		3.2.4.7.2.1 General
PDFOV-2390	M	The vehicle architecture will provide on board and at platform diagnostics capabilities and services.
PDFOV-2394	L	The Electronic Logistics Diagnostics and Reporting Capability display, computing, I/O and interface requirements are identified in the section entitled Driver Smart Display Unit (DSDU).
PDFOV-2399		3.2.4.7.2.2 On Platform Diagnostics
PDFOV-2401	L	The vehicle architecture shall have the ability to query digital and analog subsystems, modules, and components in support of embedded diagnostics. At a minimum, electronic monitoring will cover the following systems: fuel, air intake, engine, cooling, transmission, energy storage, power generation, mobility systems (e.g. CTIS, suspension) and vehicle speed included as part of the platform.
PDFOV-2403	L	The JLTV shall provide total vehicle embedded diagnostics software which interfaces to and utilizes the information from any existing embedded diagnostic capabilities that are already included in the subsystems, components, and modules resident on the vehicle.
PDFOV-7426	H	The diagnostic software shall detect 90% (T) 97% (O) of failures through Built-in Test / Built-in Test Equipment (BIT/BITE).
PDFOV-7425	H	The diagnostic software shall isolate to a single component/LRU/LRM and associated wiring with 97.5% (T) 99% (O) accuracy.
PDFOV-2407	L	The vehicle architecture shall enable Condition Based Maintenance Plus (CBM+) functionality, based on the total vehicle embedded diagnostic software, such as routine health and status checks, diagnostic monitoring, and data logging.
PDFOV-7828	L	The architecture shall include adequate computer storage for storing this CBM+ data.
PDFOV-2409	L	The vehicle architecture shall have the hardware and software interfaces from the electronic maintenance assets to transmit this information to VADS and MSD.
PDFOV-7248		3.2.4.7.2.4 At-Platform Diagnostics
PDFOV-7250	L	The JLTV shall be compatible with the U. S. Army Maintenance Support Device (MSD), with the auxiliary Internal Combustion Engine (ICE) test hardware.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-7252	L	The JLTV shall be compatible with the USMC Vehicle Automated Diagnostic System (VADS).
PDFOV-7254	L	The JLTV At-Platform diagnostic connectors shall be easily accessible, hard mounted and environmentally protected.
PDFOV-7256	L	Diagnostic outputs shall be transmitted to the vehicle mounted J1939 female 9 pin Deutsch Connector, which shall conform to SAE J1939-13 Off-board Diagnostic Connector dated July 1999, using a format conforming to SAE J1587.
PDFOV-7258	L	The JLTV shall have a vehicle Diagnostic Connector Assembly (DCA) harness that will allow testing a vehicle without disassembly IAW the Design Guide For Vehicle Diagnostic Connector Assemblies (DCA) Report No. CR-82-588-003 Rev 1, Feb 1998.
PDFOV-7829	L	The DSDU shall provide one (1) easily accessible, hard mounted and environmentally protected Ethernet port to provide high capacity bulk transfer of stored CBM data from the DSDU to the MSD.
PDFOV-2683		3.2.4.8 Electromagnetic Environment - EMC/EMI
PDFOV-2128		3.2.4.10 Electronically Aided Survivability
PDFOV-2130		3.2.4.10.1 General
PDFOV-2131	L	The JLTV C4ISR/EW architecture shall integrate (display, control, alert, diagnostics, etc.) all survivability assets specified in Annex K.
PDFOV-2160		3.2.4.10.3 Situational Awareness
PDFOV-2161	L	Situational Awareness information shall be shared between the C4ISR/EW systems and defensive measures sensor information to support reporting local situational awareness to the vehicle Display and Control CSDU, ASDU, and ADU subsystem.
PDFOV-2553		3.2.4.10.3.1 Driver's Visual Aid Capability (includes DVE)
PDFOV-7830	L	The GFE DVE display shall be positioned directly in front of the driver at eye level for a 50th% adult male.
PDFOV-2557	L	The hardware to secure the DVE sensor and Pan & Tilt Module to the vehicle shall not inhibit the driver's vision.
PDFOV-2510		3.2.4.10.3.1.7 Counter Radio-Controlled Improvised Explosive Device Electronic Warfare (CREW)
PDFOV-7063	L	If the electronic interface is available, the CREW Integration shall be remote controllable, via the CSDU, ASDU, and ADU, with regards to viewing and controlling all parameters similar to front panel operations of the equipment.
PDFOV-7067	L	If the electronic interface is available, all error messages for the CREW Integration shall be visible through CSDU, ASDU, and ADU.
PDFOV-4312	L	The CREW Remote Control Unit shall be integrated in the crew compartment and be accessible to the crew for operation.
PDFOV-2189		3.2.4.11 Communication Capability
PDFOV-2190		3.2.4.11.1 Military Radio Capability
PDFOV-7831	L	If the electronic interface is available, all military radios (voice and data) shall be remote controllable with regards to viewing and controlling all radio parameters, via the CSDU, ASDU, ADU, similar to front panel operations of the equipment.
PDFOV-7832	L	All military radios (capable of voice communication) shall utilize the Vehicle Intercom system headsets for voice communications. Secondary handsets shall be accessible for voice communications.
PDFOV-7833	L	If the electronic interface is available, all diagnostics, error messages and alarms for each of the military radios shall be visible through CSDU, ASDU, and ADU.
PDFOV-7834	L	All military radios that support data shall transmit all data through the C4ISR/EW Data Bus.
PDFOV-7835		3.2.4.11.1.1 Integration
PDFOV-7836	M	The JLTV shall be able to integrate all GFE communication systems, per their ICDs, as defined in Annex K.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-7837	L	The integration of the GFE communication systems identified in Annex K onto the JLTV shall not degrade the performance of the GFE systems.
PDFOV-2211		The EPLRS Integration shall receive all power off the vehicle power management/distribution system.
PDFOV-2421		3.2.4.11.1.5 Antennas
PDFOV-2285	L	All antenna integrations shall include a method of quick stowage or removal for transportation transportability.
PDFOV-2228		3.2.4.11.2 Vehicle Intercom System
PDFOV-2230	L	The vehicle intercom system shall provide a modular and expandable access to analog and/or digital voice communications for vehicle operators and passengers. Wired. (T)
PDFOV-7838	L	The vehicle intercom system shall provide a modular and expandable access to analog and/or digital voice communications for vehicle operators and passengers. Wireless. (O)
PDFOV-7839	L	The vehicle intercom system shall include crew intercom stations (for each position) that provide occupants local display and control of the intercom and radio assets independent of the CSDU, ASDU, and ADU (display and processing assets).
PDFOV-7840	L	The vehicle intercom crew stations shall be able to take control precedence over CSDU, ASDU, and ADU intercom control.
PDFOV-2244	L	The vehicle intercom system shall provide an interface for use with standard tactical headsets/handsets including H-250 type handsets, or hand microphones and shall be accessible from each crew station.
PDFOV-2246	L	Noise canceling headsets compatible with helmets shall be provided.
PDFOV-2248	L	The electrical interface shall provide for radio and intercom push-to-talk.
PDFOV-2250	L	Side tone suppression and echo cancellation shall be included.
PDFOV-2252	L	A connection for at least one adjustable volume level, external speaker with on/off capability shall be provided.
PDFOV-2254	L	The vehicle intercom system shall be configurable by the user to connect operators together as an intercom in any combination and to connect any or all operator(s) to any voice capable radio or transmission system that is connected to the C4ISR/EW Data Bus.
PDFOV-2256	L	The vehicle intercom system shall be capable of generating Voice over Internet Protocol (VoIP) calls using G.711, G.729A and g.723.1 CODECs at a minimum.
PDFOV-7841	L	The vehicle intercom shall not use VoIP as the primary means for voice communication.
PDFOV-2528		3.2.4.13 Position and Timing Capability (includes GPS)
PDFOV-2530	L	The JLTV shall integrate the Small Serial Interface (SSI) Ground-Based GPS Receiver Applications Module (GB-GRAM) IAW MIL-PRF-GB-GRAM-300, ICD-GPS-153C, and NMEA 0183.
PDFOV-2548	L	The C4ISR/EW Architecture shall ensure the proper implementation and distribution of GPS timing and data to include, but not limited to, AN/PSN-11 TOD and One Pulse Per Second (1 PPS) IAW IS-GPS-154C and ICD-GPS-153C.
PDFOV-7842	L	The C4ISR/EW architecture shall provide GPS data and timing to all systems using a single GB-GRAM card.
PDFOV-2570		3.2.4.14 Power Management and Distribution Capability
PDFOV-2571		3.2.4.14.1 General
PDFOV-2573	L	The Power Management and Distribution System shall have the capability to detect faults such as electrical shorts, opens, under voltage, under current, over voltage, over current and report back through the DSDU.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-2579	L	The power distribution subsystem shall incorporate safety features E.g. protective covers, grounding, interlocks, leakage detection to mitigate electric shock potential to vehicle operators and maintainers.
PDFOV-2581	L	The Power Management and Distribution System shall have an isolated electrical bus IAW MIL-STD-1275D separate from an isolated low voltage electronics power bus IAW MIL-STD-704F.
PDFOV-7843	L	The Power Management and Distribution System's isolated low voltage bus shall be able to interconnect with the low voltage electronics bus in emergency situations for starting.
PDFOV-2583	L	The Power Management and Distribution System shall be capable of transitioning between on board power sources without any loss of functionality.
PDFOV-4316	L	The Power Management and Distribution System shall provide for electrical isolation between any AC voltage buses and grounded DC voltage buses.
PDFOV-4318	L	The Power Management and Distribution System shall provide protection from voltage reversals, short circuits, and arcing.
PDFOV-7844	L	The power management, generation and distribution shall prevent sympathetic tripping due to any system fault.
PDFOV-2623		3.2.4.14.2 Low Voltage Distribution
PDFOV-2627	L	The low voltage power distribution subsystem shall separate clean and dirty loads.
PDFOV-7845	L	The low voltage system shall provide a minimum of 5kW of clean MIL-STD-704 quality power as part of a kit.
PDFOV-7846	L	The low voltage system shall provide the remaining power as dirty power and its quality factor shall meet MIL-STD-1275.
PDFOV-7847	L	The vehicle power management/distribution system shall provide and control power to all electrical devices.
PDFOV-1222		3.2.4.14.3 Power Generation
PDFOV-1223		3.2.4.14.3.1 DC Power Source/ On-board Electrical Power Requirement
PDFOV-1224	L	The JLTV shall be capable of providing 15kW (T) sustained electrical power to on-board vehicle subsystems, in addition to the power required for the vehicle hotel loads. Hotel loads are all electrical loads that are required in order to operate the vehicle in any condition, and do not include any GFE loads. Hotel loads include but are not limited to the following: vehicle lighting, environmental control units, heating and cooling fans and blowers, cooling fans, engine ECU, wipers, all suspension loads, ABS, AFES, heated windshields, all sensors, solenoids, modules, transducers, compressors, heaters/dryers, all pumps, clutches, etc.
PDFOV-1226	L	The On-board power generation shall be simultaneously provided as the vehicle is charging the batteries and/or capacitors consistent with the specifications of the component manufacturer.
PDFOV-1228	L	The On-board power generation shall be provided on the move.
PDFOV-7848	L	The On-board power generation shall be provided at the halt with engine at tactical idle. (T)
PDFOV-7849	L	The On-board power generation shall be provided at the halt with engine at normal idle. (O)
PDFOV-1233		3.2.4.14.3.2 Exportable Electrical Power
PDFOV-1234	L	The JLTV shall be capable of providing 10 kW of sustained electrical export power, with engine running at tactical idle speed and when the vehicle is moving, to an external power customer. This capability can be provided as a vehicle add on kit. (T)
PDFOV-7616	L	Exportable power shall be provided nominally at 110/120VAC L-N @ 60Hz and, 220/240VAC L-L @ 60Hz or 240 L-N @ 50Hz when providing up to 10kW.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-7617	L	The JLTV shall be capable of stacking export power kits in blocks of 10KW up to a maximum of 30KW providing of sustained electrical export power to an external power customer, with the engine running at tactical idle speed and when the vehicle is moving. (O)
PDFOV-7618	L	When providing power > 10KW, exportable power shall be selectable at: 110/120VAC L-N @ 60Hz, 220/240VAC L-L @ 60Hz; 240 L-N @ 50Hz, 208V 3-Phase AC @ 60Hz; 415V 3-Phase @50Hz, 4-Wire. The loads may be unbalanced.
PDFOV-1236	L	The export power generation capability is in addition to the on-board power generation capability and shall be provided simultaneously with the on board power generation requirements. This capability can be provided as a vehicle add on kit.
PDFOV-1238	L	Exportable shall be IAW MIL-STD-705, MIL-STD-1332D and MEP-STD-001.
PDFOV-7621	L	NATO voltage/frequencies shall be provided in accordance to IAW ARMY (AUST) 6868 - Electrical Characteristics of Rotating Alternating Current Generator sets for Field Use.
PDFOV-1252		3.2.4.14.3 Depleted Battery Engine Start
PDFOV-1253	L	In the event of the use of supplemental electronic devices (i.e. radios), the vehicle shall be equipped with a device, which prevents the batteries or other storage devices from being depleted past the appropriate charge level sufficient to start the vehicle.
PDFOV-1255	L	This device shall have a shutoff switch to allow power to the radios in case of emergency.
PDFOV-1258		3.2.4.14.3.4 Energy Storage
PDFOV-1259	L	Energy storage devices shall be maintenance free, except for removal, replacement and recharging, and shall be of sufficient power to meet the demand of the vehicle subsystems in all climatic conditions.
PDFOV-6872	L	Energy storage devices shall be readily accessible for service and shall be protected from the environment.
PDFOV-6870	L	The energy storage shall be insulated to prevent short circuiting during maintenance and operation.
PDFOV-6868	L	The energy storage enclosures shall not be vented into the cab.
PDFOV-6866	L	Energy storage enclosures shall be designed to preclude major systems damage or serious personnel injury in the event of a violent gas venting or rupture of energy storage cells causing high pressure within the enclosure.
PDFOV-6864	L	Energy storage terminal connectors shall be of such material as to prevent terminal corrosion while maintaining good conductivity.
PDFOV-6982	L	If lead-acid Starting, Lighting, and Ignition (SLI) batteries are utilized they shall meet the requirements of MIL-PRF-32143 and NATO STANAG 4015.
PDFOV-2584		3.2.4.14.4 Power Management System
PDFOV-2586	L	The DSDU shall provide power management via the Vehicle Sensor Data Buses to control and collect the status of the power generation, energy storage, and power control/distribution components.
PDFOV-2588	L	The vehicle shall be capable of dynamic load prioritization and load shedding and shall be reconfigurable and allow the crew to prioritize and shed unneeded loads during operations.
PDFOV-909		3.2.4.14.4.3 Capacitor Starting
PDFOV-910	L	If the contractor chooses Capacitor Starting, the capacitor shall have a minimum service life of 500,000 cycles, maintain at least 75% of cranking power at -25 °F; retain at least 60% of its rated energy capacity after 6 months storage at 75°F, have a minimum operating temperature range of -58 °F to 140 °F, shall be readily air shippable and shall have an internal resistance of less than 22 mOhm at -58°F.
PDFOV-2590	L	The Power Management System shall also monitor and manage the vehicle isolated low voltage bus batteries to ensure that the vehicle electronics does not drain the batteries below its critical engine starting capability and warn the user when that condition is reached.
PDFOV-2600	L	The power distribution subsystem controllers shall be able to control load circuit engagement to all required vehicle loads.
PDFOV-2602	L	The power controller shall prevent sympathetic tripping.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-2604	L	The power controller shall be able to open any controllable circuit without any damage to itself or other circuits.
PDFOV-2607		3.2.4.14.5 Power Connector/Interfaces
PDFOV-2609	L	The electrical power generation/distribution primary power interconnects shall use standard military grade connectors for interfaces.
PDFOV-2613	L	The connector/interfaces shall be accessible by operators.
PDFOV-2614		3.2.4.14.6 Power Interface for COTS
PDFOV-7394	L	The 120VAC power outlets shall meet wiring distribution design requirements IAW SAE J2698.
PDFOV-2616	L	The Power Management and Distribution System shall provide either at least one (1) outlet configurable as 15A 120VAC or 10A 240VAC accessible by the driver and one (1) outlet configurable as 15A 120VAC or 10A 240VAC outlet accessible by the crew, for a total of either 15A at 120VAC or 10A at 240VAC.
PDFOV-7850	L	The outlets shall be protected with GFCI capability.
PDFOV-7851	L	The Power Management and Distribution System shall provide at least one (1) GFCI outlet accessible by the driver and one (1) GFCI outlet accessible by the crew.
PDFOV-7852	L	Each outlet shall be configurable as 15A 120VAC or 10A 240VAC for a total of 15A for the 120VAC circuit or 10A for the 240VAC.
PDFOV-7853	L	Output wave form shall be either a 60 Hz (for 120VAC) or 50 Hz (for 240VAC) sine wave with a maximum total harmonic distortion of less than 6%.
PDFOV-2618	L	The Power Management and Distribution System will provide at least one 10A 12 VDC outlet accessible by driver and one outlet accessible by the crew.
PDFOV-7854	L	The outlets shall be controlled by a power switch that provides a visible indicator.
PDFOV-2622	L	The Power Management and Distribution System will provide at least one 5A 24 VDC outlet accessible by driver and one outlet accessible by the crew.
PDFOV-7855	L	The outlets shall be controlled by a power switch that provides a visible indicator.
PDFOV-2636		3.2.4.14.7 Battery Management
PDFOV-2642	L	Battery management shall provide SOC for each battery. SOC will be for each series battery pair if batteries are in a series configuration.
PDFOV-7856	L	The battery management SOC indication shall be not less than 95% accurate.
PDFOV-2646	L	Battery management shall learn SOC and state of health characteristics of battery newly introduced to the system.
PDFOV-2648	L	Battery charging shall be optimized for maximum battery life for the type of energy storage present on the vehicle.
PDFOV-2651		3.2.4.14.8 NATO Slave Interface
PDFOV-2653	L	The vehicle shall be equipped with standard NATO slave interfaces as defined by STANAG No. 2601.
PDFOV-2655	L	The NATO slave interfaces shall support recharging of all energy storage on the vehicle, provide MIL-STD-1275D electrical power input into the host vehicle, provide ?Slave? starting the host or another vehicle, and provide 28VDC output electrical power to another vehicle.
PDFOV-2657	L	The power distribution system will provide 28 VDC through NATO slave interfaces located externally at the front of the vehicle.
PDFOV-7619	L	The NATO slave interface shall be protected from environmental and fording events.
PDFOV-1245	L	The vehicle shall be provided with a 24-volt starting/accessory system.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-1247	L	The vehicle shall be equipped with a NATO Intervehicle Power Cable IAW STANAG 4074 with Type 1 plugs that is at least 12 ft. in length.
PDFOV-1249	L	The vehicle shall be capable of being jump started with or without the batteries connected using a standard NATO power cable and plug assembly.
PDFOV-1251	L	The receptacles and wiring shall be IAW STANAG 4074 (Type 1) and located so as to preclude damage, corrosion or contamination, and tripping hazards upon entering or exiting the cab.
PDFOV-1260		3.2.4.14.9 Silent Watch Capability
PDFOV-1261	L	The JLTV FoV, with the engine off and without the use of an auxiliary power unit, shall have the capability of supplying continuous, rechargeable electrical power during a silent watch mission for two (2) hours (T) six (6) hours (O) when undergoing the load described in Annex K throughout a 0C to 55C ambient temperature range. Silent watch systems/loads/duty cycles are defined in Annex K. This capability may be kitted.
PDFOV-7857	L	The JLTV with the engine off and without the use of an auxiliary power unit or silent watch kit, shall have the capability of supplying continuous, rechargeable electrical power until the battery level protection system engages.
PDFOV-2662		3.2.4.14.10 High Voltage Distribution
PDFOV-2668	L	The high voltage power distribution subsystem shall incorporate safety features (e.g. interlocks, leak detection systems, etc) as required for high voltage power distribution.
PDFOV-2670	L	High voltage power distribution shall be labeled as such and connectors will be physically different from the low voltage connectors.
PDFOV-2672	L	The vehicle shall be designed and manufactured to comply with High Voltage Corona (HVC) per requirements defined in MIL-HDBK-454, Guideline 45 for altitudes up to 15,000 feet.
PDFOV-7396	L	The electrical distribution system shall provide protective countermeasures for both users and maintenance personnel IAW MIL-HDBK-454B Guideline 1 Section 5.2.4 Accidental Contact.
PDFOV-7398	L	The high voltage electrical wiring (between 50 VDC or AC RMS and 600 DC or AC RMS) shall be designed IAW SAE J1673.
PDFOV-7400	L	High voltage electric propulsion systems shall be designed IAW SAE J2344 and FMVSS305 S5.3 and S7.6.
PDFOV-7402	L	All components/conductors/wiring with voltages above 42.4 VAC peak or 60 VDC shall be located outside of crew occupied spaces or compartmentalized to contain primary and secondary effects of an arc flash and arc blast.
PDFOV-2818		3.2.4.15 Vehicle Lighting
PDFOV-2819		3.2.4.15.1 General
PDFOV-2821	L	All clearance lights, marker lights and military composite lights shall be LED.
PDFOV-2823	L	All interior lighting shall be LED (O).
PDFOV-2825	L	The vehicle exterior and interior lights shall be protected to preclude any damage when interfacing with other vehicles or ancillary equipment and shall be protected from terrain and natural obstacles while traveling cross-country.
PDFOV-2827	L	The vehicle shall be equipped with lamps, reflective devices, and associated equipment as specified per FMVSS 571.108. License plate lamps, clearance lamps, and side marker lamps are not required.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-7453	L	[AUSTRALIAN] The vehicle shall be equipped with reversing lamps as specified per ADR 01/00 Reversing Lamps for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-7454	L	[AUSTRALIAN] The JLTV FoV shall be equipped with direction indicators as specified per ADR 06/00 Direction indicators for NB Class Vehicles (Medium Goods Vehicles), TB Class Trailer (Light Trailer) and TC Class Trailers (Medium Trailer).
PDFOV-7455	L	[AUSTRALIAN] The JLTV FoV shall have installed lights and light-signalling devices as specified per ADR 13/00 Installation of Lighting and Light-Signalling Devices on other than L-Group Vehicles for NB Class Vehicles (Medium Goods Vehicles), TB Class Trailer (Light Trailer) and TC Class Trailers (Medium Trailer).
PDFOV-7456	L	[AUSTRALIAN] The JLTV FoV shall have installed lights and light-signalling devices as specified per ADR 45/01 Lighting & Light Signalling Devices not covered by ECE Regulations for NB Class Vehicles (Medium Goods Vehicles), TB Class Trailer (Light Trailer) and TC Class Trailers (Medium Trailer).
PDFOV-7457	L	[AUSTRALIAN] The vehicle shall be equipped with headlamps as specified per ADR 46/01 Headlamps for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-7458	L	[AUSTRALIAN] The JLTV FoV shall be equipped with reflective devices as specified per ADR 47/00 Retro-Reflectors for NB Class Vehicles (Medium Goods Vehicles), TB Class Trailer (Light Trailer) and TC Class Trailers (Medium Trailer).
PDFOV-7459	L	[AUSTRALIAN] The JLTV FoV shall be equipped with a device for illumination of rear registration plate as specified per ADR 48/00 Devices for Illumination of Rear Registration Plates for NB Class Vehicles (Medium Goods Vehicles), TB Class Trailer (Light Trailer) and TC Class Trailers (Medium Trailer).
PDFOV-7460	L	[AUSTRALIAN] The JLTV FoV shall be equipped with front and rear position (side) lamps, stop lamps and end-outline marker lamps as specified per ADR 49/00 Front and Rear Position (side) Lamps, Stop Lamps and End-Outline Marker Lamps for NB Class Vehicles (Medium Goods Vehicles), TB Class Trailer (Light Trailer) and TC Class Trailers (Medium Trailer).
PDFOV-7461	L	[AUSTRALIAN] The vehicle shall be equipped with front fog lamps as specified per ADR 50/00 Front Fog Lamps for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-7462	L	[AUSTRALIAN] If fitted with filament lamps, the JLTV FoV shall be equipped with filament lamps as specified per ADR 51/00 Headlamps for NB Class Vehicles (Medium Goods Vehicles), TB Class Trailer (Light Trailer) and TC Class Trailers (Medium Trailer).
PDFOV-7463	L	[AUSTRALIAN] The vehicle shall be equipped with rear fog lamps as specified per ADR 52/00 Rear Fog Lamps for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-7464	L	[AUSTRALIAN] The vehicle shall be equipped with side marker lamps as specified per ADR 74/00 Side Marker Lamps for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-7465	L	[AUSTRALIAN] The vehicle shall be equipped with headlamp cleaners as specified per ADR 75/00 Headlamps Cleaners for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-7466	L	[AUSTRALIAN] The vehicle shall be equipped with daytime running lamps as specified per ADR 76/00 Daytime Running Lamps for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-2829	L	Actuation of the brakes shall override the vehicle hazard flasher lights.
PDFOV-2831	L	All indicators and gauges shall be illuminated in service mode.
PDFOV-2832		3.2.4.15.2 Headlights
PDFOV-2836	L	The headlights shall meet the illumination requirements of FMVSS 108. The headlight height restrictions of FMVSS 108 do not apply.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-2838	L	Headlights shall meet DOT illumination requirements,; If LED headlight lamp are used they must be in accordance with spec MIL-PRF-32243 (Draft)
PDFOV-2857		3.2.4.15.3 Secure Lighting
PDFOV-2858	L	The JLTV shall have a blackout lighting system.
PDFOV-2862	L	Exterior blackout lighting shall consist of, either separately mounted or in a composite light assembly, one blackout drive lamp (reference 12360910), and two rear mounted blackout stop lamp assemblies (reference 12360870).
PDFOV-2864	L	Interior blackout lighting shall be as required for safe operation of the vehicle and compatible with night vision devices (i.e. night goggles) in use at time of fielding.
PDFOV-2866	L	The emission of any vehicle interior or exterior light source, which may be illuminated (including warning lights) in the blackout mode, shall be limited to the visible spectrum (380 to 700 nanometers).
PDFOV-2868	L	No energy shall be emitted in the 700 to 1200-nanometer portion of the electromagnetic (EM) spectrum. (Emission peaks shall not exceed 1% relative to the peak emission in the visible spectrum.)
PDFOV-2870	L	Colored warning lights shall be maintained as necessary while meeting the above requirements.
PDFOV-2871		3.2.4.15.4 Crew Indicators
PDFOV-2873	L	The JLTV shall be equipped with gauges/indicators that shall be readily visible to the driver and illuminated for night operation.
PDFOV-2875	L	Gauges/indicators may be replaced by the driver DSDU. Speed, tach, water temperature, oil pressure and fuel indicators shall be dedicated gauges that continue to operate if the driver DSDU fails.
PDFOV-2877	L	Gauges/indicator shall include as a minimum, fuel level, engine oil level, engine oil quality, engine coolant temperature, transmission fluid temperature, engine oil pressure, engine tachometer, speedometer/odometer, power management suite, air pressure (air assist vehicle/trailer brakes), brake warning, park brake on and air filter gauge.
PDFOV-2879	L	The JLTV speedometer shall be calibrated in both MPH and KPH.
PDFOV-2881	L	The JLTV shall be equipped with an odometer to indicate mileage and kilometers.
PDFOV-7467	L	[AUSTRALIAN] The vehicle shall be equipped with instrumentation as specified per ADR 18/03 Instrumentation for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-2885	L	The JLTV shall be equipped with a visual indicator and an audible warning to indicate low air pressure, low oil pressure, and high coolant temperature and shall report thru the vehicle diagnostic system.
PDFOV-2887	L	The audible warning indicators shall be inactive while in the blackout mode except for head-set/intercom sound.
PDFOV-2889	L	The JLTV shall be equipped with self canceling turn indicators
PDFOV-7073	L	The JLTV shall be equipped with an emergency flasher system.
PDFOV-7075	L	The JLTV shall be equipped with controls to operate and adjust service lights, blackout lights, driving lights and instrument panel lights.
PDFOV-2891	L	Gauges and switches shall be color coded on the face scale to indicate information such as: desirable operating range in green; cautious, undesirable, or ineffective usage in yellow; dangerous or harmful operating level in red.
PDFOV-2893	L	Lenses shall not discolor throughout the life of the vehicle.
PDFOV-2895	L	The JLTV shall have one map light located at each occupant seat with individual switches. These lights shall be over-ridden during blackout mode.
PDFOV-2903		3.2.5 SUPPORTABILITY.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-6562	L	The JLTV FoV and companion trailers shall be designed to maximize the use of common components. Examples of commonality utilization include: instrument panels and gauges; seats; suspensions; wheels, tires, and run-flat inserts; ballistic glass; engines; transmissions; transfer cases; differentials; brushguards; etc.
PDFOV-7234		3.2.5.1 Measurement Standard.
PDFOV-7332		3.2.5.1.1
PDFOV-7235	L	The JLTV FoV shall utilize only one measurement standard, either Metric or US English.
PDFOV-7333		3.2.5.1.2
PDFOV-7334	L	The JLTV FoV shall utilize only the Metric measurement standard. (O)
PDFOV-2904		3.2.5.2 RELIABILITY, AVAILABILITY, and MAINTAINABILITY (RAM)
PDFOV-2905		3.2.5.2.1 Reliability.
PDFOV-2907	L	The extremely high system-level reliability of the JLTV platform coupled with a trained operator/crew is essential to make platform availability goals. It is through inherent, high reliability and maintainability that the JLTV is able to meet its operational goals with a smaller force and logistics footprint. The RAM requirements for the JLTV Family of Vehicles do not include government furnished equipment or mission specific equipment such as radios, weapons, C4, medical, etc.
PDFOV-2908		3.2.5.2.1.1 Mean Miles Between Hardware Mission Failure.
PDFOV-2909	H	See vehicle specific annex
PDFOV-2917		3.2.5.2.2 Operational Availability.
PDFOV-2918	L	The JLTV shall demonstrate the operational availability (Ao) of 95% (T), 98% (O).
PDFOV-2919	L	Operational Availability (Ao) is the degree (expressed as a decimal between 0 and 1, or the percentage equivalent) to which one can expect a piece of equipment or weapon system to work properly when it is required. Ao is calculated by dividing uptime by the sum of uptime and downtime. It is the quantitative link between readiness objectives and supportability.
PDFOV-2920	H	$Ao = \text{Uptime} / \text{Total Time} = 1 - \text{Downtime} / \text{Total Time} = 1 - (\text{OM} / \text{TT}) * (\text{ALDT} / \text{MMBOMF} + \text{MR} / \text{K})$
PDFOV-2921	M	Uptime is that time when the system is considered to be ready for use and is either operating, in standby, or off
PDFOV-2922	M	Downtime is the time the system is down for repair of operational mission hardware failures and/or for restoration from operational mission software faults, including off-board logistic delays. It also includes planned maintenance time with a periodicity less than or equal to the test duration time that prevents the system from performing its assigned mission.
PDFOV-3125		3.2.5.2.2.1 Service Life.
PDFOV-3126	L	The JLTV shall have a design life that maintains the RAM requirements and is supportable for at least 20 years under the same environment and failure criteria.
PDFOV-2924		3.2.5.2.3 Maintainability.
PDFOV-4304		3.2.5.2.3.1 Installation of Mission Kits
PDFOV-4305	L	The JLTV maintainability requirements do not include the maintenance time required to configure a vehicle into mission mode through conversion or installation of kits. However, the installation of mission kits (to include B-kit armor) will not hinder the maintainability of the system. The time required to repair missions kits as a result of damage caused by design failure or corrosion will be included in the maintenance ratio, mean time to repair, and maximum time to repair calculations.
PDFOV-3946		3.2.5.2.3.2 Maintenance Ratio (Field Level)

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-3947	H	The JLTV family of vehicles shall demonstrate a Field Level Maintenance Ratio of 0.005 (T); 0.0036 (O) maintenance man hours per operating mile (MMH/OM).
PDFOV-6732		3.2.5.2.3.2.1 Definition of Field Level Maintenance.
PDFOV-2933	H	Field Level Maintenance is repair and return to the user. Maintenance operations assigned to Field Maintenance include: (1) Performance of PMCS (Operator/Crew); (2) Inspections by sight and touch of accessible components per the Technical Manual and condition-based maintenance indicators or instrumentation; (3) Lubrication, cleaning (including corrective actions to repair corrosive damage), preserving (including spot painting), tightening, replacement, and adjustments; (4) Diagnosis and fault isolation; (5) Replacement of unserviceable parts, modules, Line Replaceable Unit (LRU) / Line Replaceable Module (LRM), and assemblies; (6) Verification of faults and level of repair of unserviceable materiel prior to evacuation; (7) Recovery or coordination for transportation of equipment for Field Level Maintenance; (8) Diagnosis and isolation of materiel or module malfunctions, adjustment, and alignment of modules that can be readily completed with assigned tools and Test, Measurements, and Diagnostic Equipment (TMDE); (9) Performance of body repair, including straightening, welding, sanding, and spot painting of skirts, fenders, body, and hull sections when required to stop corrosion or restore structural integrity; and (10) Turn-in of unserviceable end items and components.
PDFOV-3945		3.2.5.2.3.3 Maintenance Ratio (Sustainment Level)
PDFOV-2925	H	See vehicle specific annex
PDFOV-6733		3.2.5.2.3.3.1 Definition of Sustainment Level Maintenance.
PDFOV-2934	H	Sustainment maintenance is repair and return to the supply system. Operations assigned to sustainment maintenance units/activities include: (1) Inspection, diagnosis, isolation, and repair of faults within assemblies, modules and components for repair and return to stock; (2) Sustainment maintenance returns part assemblies to a National Maintenance Program standard [This process involves inspection and diagnosis, according to the depot maintenance work requirements or similar technical directions, that identifies all components exhibiting wear and directs the replacement or adjustment of those items to original equipment specification]; (3) Performance of heavy body, hull, turret, and frame repair; (4) Collection and classification of Class VII materiel (less medical materiel) for proper disposition; (5) Turn-in of unserviceable end items and components; (6) Special inspections and modifications of equipment requiring extensive disassembly or elaborate test equipment as part of cyclic overhaul or special depot maintenance programs; and (7) Nondestructive testing to determine the serviceability of removed used parts.
PDFOV-2970		3.2.5.2.3.4 Time to Repair.
PDFOV-2971		3.2.5.2.3.4.1 Mean time to repair
PDFOV-2972	L	Each JLTV shall have a Mean Time To Repair (MTTR) of 0.5 clock-hours or less for field level maintenance. MTTR is measured as "hood up to hood down repair time and includes isolation of failure and repair, remove and replace"
PDFOV-2975	L	MTTR is the sum of corrective maintenance times divided by the total number of corrective maintenance actions during a given period of time under stated conditions. MTTR applies to the system-level configuration; it will be used as an "on-system" maintainability index and not for the repair of components.
PDFOV-2973		3.2.5.2.3.4.2 Maximum time to repair Field level
PDFOV-3953	L	That time below which a specified percentage of all corrective maintenance tasks must be completed. MaxTTR is used as an "on-system" maintainability parameter; it is not used for the off-system repair of replaced components. MaxTTR is measured as "hood up to hood down repair time and includes isolation of failure and repair / remove and replace."
PDFOV-3955		3.2.5.2.3.4.2.1

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-2977	L	The JLTV family of vehicles shall have a maximum time to repair (MaxTTR) for Crew/Operator maintenance tasks of 0.5 clock-hours.
PDFOV-3954		3.2.5.2.3.4.2.2
PDFOV-3956	L	The JLTV family of vehicles shall have a maximum time to repair (MaxTTR) for field level maintenance tasks performed by a MOS Mechanic(s) of 2.5 clock-hours (T) and 2 clock-hours (O).
PDFOV-3000		3.2.5.2.3.4.2.2.1 Removal and Replacement
PDFOV-3001	L	All vehicle variants of this family shall be designed so that each of the following (if applicable) can be removed from the vehicle and replaced in under 2.5 clock hours (T) and 1 hour (O) by 2 maintainers.
PDFOV-3002	L	a. Transfer Case (if applicable)
PDFOV-3003	H	b. Engine (only)
PDFOV-3004	H	c. Transmission (only)
PDFOV-3005	L	d. Engine & transmission (powerpack)
PDFOV-3964		3.2.5.2.3.5 Tools
PDFOV-3970	H	The JLTV family of vehicles shall be capable of being maintained by 20 total common tools for both Crew/Operator and mechanics. The tools include two sets (screw driver set and a socket driver handle set).
PDFOV-3968		3.2.5.2.3.5.1
PDFOV-3971	L	The operator tool set shall include no more than 10 common tools, including BII.
PDFOV-3091		3.2.5.2.3.5.2
PDFOV-3092	H	Mechanic tool set shall require only 10 additional common tools from the operator tool set to perform the remainder of the Field Level tasks.
PDFOV-3972		3.2.5.2.3.5.3 Special tools
PDFOV-3976	L	The JLTV family of vehicles shall be able to be maintainable without special tools or test measuring diagnostic equipment (TMDE) beyond a multimeter (no calibration required) and a torque wrench (no calibration required) at field level.
PDFOV-3973		3.2.5.2.3.5.3.1
PDFOV-3094	L	No special tools or TMDE shall be required at the operator level.
PDFOV-2946		3.2.5.2.3.6 Component Accessibility and Identification.
PDFOV-2947		3.2.5.2.3.6.1
PDFOV-2948	L	All reservoirs, filters, drains, vents and valves shall be easily accessible and identified for inspection and servicing.
PDFOV-2949		3.2.5.2.3.6.1.1
PDFOV-2950	L	Drain plugs installed in engine, transmission, transfer case, axles, and hydraulic reservoir shall be of the permanent magnet type and readily accessible.
PDFOV-2951		3.2.5.2.3.6.1.2
PDFOV-2952	L	The function of all drains, vents and valve openings shall not adversely affect the function of or damage to any other vehicle component (i.e. battery box).
PDFOV-2953		3.2.5.2.3.6.1.3
PDFOV-2954	L	Provisions shall be in place to prevent draining fluids from contacting other components of the vehicle.
PDFOV-2963		3.2.5.2.3.6.2

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-2964	L	The JLTV shall have mounting and stowage provisions for all Basic Issue Items (BII) and onboard tools that is operationally accessible and securable.
PDFOV-7274		3.2.5.2.3.6.2.1
PDFOV-7275	L	The JLTV BII shall not include any special tools for maintenance.
PDFOV-2978		3.2.5.2.3.7 Preventive Maintenance Checks & Services (PMCS).
PDFOV-2980		3.2.5.2.3.7.1 Preventive Maintenance Checks and Services (PMCS).
PDFOV-2981	H	Crew chief/operator PMCS requirements shall be automated to the maximum extent possible using onboard sensors and diagnostics to simplify checks and reduce operator workload. The section entitled Electronic Logistics Diagnostics and Reporting system will be used to manage and record maintenance actions.
PDFOV-2982		3.2.5.2.3.7.1.1
PDFOV-2983	H	The PMCS results shall be displayed to the crew/operators.
PDFOV-2988		3.2.5.2.3.7.1.2
PDFOV-2989	L	PMCS in total shall require no more than 10 minutes to complete.
PDFOV-3006		3.2.5.2.3.7.1.3
PDFOV-3007	L	JLTV equipment checked as part of routing/daily maintenance checks, i.e., engine oil, coolant level, battery liquid level, etc., shall be physically accessible without the use of tools.
PDFOV-3014		3.2.5.2.3.8 Maintenance Access (doors and panels).
PDFOV-3015	L	The JLTV shall provide accessibility for servicing, adjusting, and replacing elements without tear-down of any major part, component, or element to be compatible with the maintenance ratio requirement.
PDFOV-3032		3.2.5.2.3.9 Electrical Connectors.
PDFOV-3034		3.2.5.2.3.9.1
PDFOV-3035	L	Electrical/electronic connectors to be used on LRUs shall be keyed to prevent incorrect application.
PDFOV-3038		3.2.5.2.3.10 Automotive Filters.
PDFOV-3044		3.2.5.2.3.10.1
PDFOV-3045	L	All filters within the JLTV for water, fuel, oil, hydraulic, pneumatic, and air, shall be designed with the following additional features:
PDFOV-3046	L	a. All filters shall be directly accessible by the operator/maintainer/crew (with or without B armor kit installed).
PDFOV-3047	L	b. Life of the filters shall be displayed through the Diagnostic system.
PDFOV-3048	L	c. The filter elements shall be able to be changed in five minutes with the use of onboard tools(T) and one minute or less without the use of tools(O), by the operator or crew.
PDFOV-3042		3.2.5.2.3.10.2
PDFOV-3043	H	The engine air filter element (if applicable) shall meet MIL-PRF-46736 for a 200 hour service life capacity.
PDFOV-3051		3.2.5.2.3.10.3 Air Cleaner.
PDFOV-3052		3.2.5.2.3.10.3.1
PDFOV-3053	H	The vehicle shall incorporate an air cleaner system that complies with the requirements of MIL-PRF-62048, Air Cleaners, Automotive, Heavy Duty and Dry Type; at the 200 hour service life(T), 400 hour(O).
PDFOV-3054		3.2.5.2.3.10.3.2

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-3055	H	The air filtration system shall achieve a minimum of 99.9%(T), 99.99%(O), filtration with SAE coarse test dust..
PDFOV-3056		3.2.5.2.3.10.3.3
PDFOV-3057	H	The air filtration system shall achieve a minimum filtration of 99.5%(T), 99.99%(O), with SAE fine test dust.
PDFOV-3060		3.2.5.2.3.11 Interactive Electronic Technical Manuals (IETM)
PDFOV-3096		3.2.5.2.3.11.1 Interactive Electronic Technical Manuals (IETM).
PDFOV-3097	L	Each JLTV DSDU shall host and operate full IETM's that include operator and maintainer technical manuals (TMs) and Repair Parts and Special Tool Lists (RPSTL) for all onboard equipment, including GFE items. (O)
PDFOV-3098		3.2.5.2.3.11.1.1
PDFOV-3099	L	The JLTV DSDU shall host and operate an embedded training system to assist the mechanic/operator in performing maintenance tasks and diagnosis. (O)
PDFOV-3102		3.2.5.2.3.11.2 I.E.T.M Embedded Video Maintenance Support.
PDFOV-3103	L	The JLTV IETM software platform shall allow the operator/maintainer to view actual video coverage of Field and Sustainment Level Maintenance Tasks. (O)
PDFOV-3104		3.2.5.2.3.11.2.1
PDFOV-3105	L	The operator/maintainer will use the IETM for standard maintenance fault isolation tasks, on-system video maintenance task demonstration, and on-system video instructional or refresher training. (O)
PDFOV-3106		3.2.5.2.3.11.2.2
PDFOV-3107	L	The IETM will have a multi option capability allowing the maintainer to access various tasks and use links to access video instructions/demonstrations for the task. (O)
PDFOV-3108		3.2.5.2.3.11.2.3
PDFOV-3109	L	The video function shall allow start, stop, pause, rewind, fast-forward, and return to the maintenance window. This will allow the maintainer the option of viewing a maintenance task on video and returning to the maintenance procedures to begin the task. (O)
PDFOV-3110		3.2.5.2.3.11.2.4
PDFOV-3111	L	The video shall be formatted using memory-reduced compression, and can be viewed through the DSDU. (O)
PDFOV-6543		3.2.5.3 SAFETY.
PDFOV-7445	L	[AUSTRALIAN] The JLTV FoV shall meet ADR 42/04 General Safety Requirements for NB Class Vehicles (Medium Goods Vehicles), TB Class Trailer (Light Trailer) and TC Class Trailers (Medium Trailer).
PDFOV-3161		3.2.5.3.1 Cab Crush Protection.
PDFOV-3162	L	The JLTV cab shall have a crush resistant roof capable of withstanding 150%(T), 200%(O) of the vehicles? GVW (excluding GPK and RWS) placed on top of the cab in a vertical plane. Maximum vertical cab deformation into the occupant compartment shall not exceed the headroom between the top of the helmet of a combat-equipped 95% male occupant and the roof edge.
PDFOV-6549		3.2.5.3.1.1
PDFOV-6552	L	Each representative JLTV variant type shall provide a roof crush resistant structure that shall pass the government?s inverted drop test at curb vehicle weight, 10 degrees pitch angle and 12.5 degrees roll angle, and vehicle drop height of 30 inches. Maximum vertical deformation in the occupant compartment shall not exceed the headroom between the top of the helmet of a combat-equipped 95% male occupant and the roof edge.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-3176		3.2.5.3.3 Crew Restraint System (seat belts).
PDFOV-3177	L	Each occupant seat shall have a combined seat and restraint device.
PDFOV-3178		3.2.5.3.3.1
PDFOV-6920	H	The JLTV FoV seat and restraint device shall pass the specifications and testing listed in FMVSS 207,208, 209 and 210.
PDFOV-7448	H	[AUSTRALIAN] The JLTV FoV seat and restraint device shall pass the specifications and testing as per ADR 03/03 Seat and Anchorages for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-7449	H	[AUSTRALIAN] The JLTV FoV seat and restraint device shall pass the specifications and testing as per ADR 04/04 Seat Belts for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-7450	H	[AUSTRALIAN] The JLTV FoV seat and restraint device shall pass the specifications and testing as per ADR 05/05 Anchorages for Seatbelts for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-6919		3.2.5.3.3.2
PDFOV-3179	L	The restraints shall be a minimum of a 4 point system. The restraints shall not contain a “loop” that will snag an occupant's gear upon release of the restraint.
PDFOV-3180		3.2.5.3.3.3
PDFOV-3181	L	The restraints shall be able to be released by a single movement of the hand in less than one second.
PDFOV-3182		3.2.5.3.3.4
PDFOV-3183	H	The vehicle shall sense an imminent vehicle rollover situation and respond by tightening the crew restraints to restrain the occupants in their seats (T) and by lowering the seat (O). The system shall be capable of multiple uses such that it does not have to be re-charged or re-set between events.
PDFOV-3186		3.2.5.3.3.5
PDFOV-3187	L	The restraint system shall allow vehicle and crew operation without hindrance or the need to loosen and/or remove the restraint.
PDFOV-6849		3.2.5.3.4.1 Crew Ingress
PDFOV-6852		
PDFOV-6851	L	Crew ingress time includes the time it takes for all occupants to open the door(s), step up into the vehicle, sit in assigned seat, close the door, and fully latch the seatbelt.
PDFOV-6853		
PDFOV-6854	L	Total crew ingress time for a crew of six shall be 45 seconds or less, with occupants in combat gear.
PDFOV-6855		
PDFOV-6856	L	Total crew ingress time for a crew of four shall be 30 seconds or less with occupants in combat gear.
PDFOV-6850		3.2.5.3.4.2 Crew Egress
PDFOV-3152	M	The JLTV, with or without B-ki armor, shall provide provisions for the crew and passengers (in combat equipment) to quickly egress from the vehicle during combat or normal operations. Crew is defined as the number of occupants specified in the vehicle specific annexes for each sub-configuration.
PDFOV-3154	M	Crew egress times shall be as follows:
PDFOV-3155	M	1-2 personnel within 6 seconds(T), 4 seconds(O)
PDFOV-3156	M	3 personnel within 9 seconds(T), 6 seconds(O)

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-3157	M	4-6 personnel within 13 seconds(T), 9 seconds(O)
PDFOV-3158	M	7 personnel(if applicable) within 18 seconds(T), 13 seconds(O)
PDFOV-7236		3.2.5.3.5 Toxic Gases.
PDFOV-7237		3.2.5.3.5.1 Carbon Monoxide (CO).
PDFOV-7238	M	Personnel, while occupying, operating, or maintaining the JLTV, shall not be exposed to CO concentrations emitted by the vehicle that result in Carboxyhemoglobin (COHB) blood levels greater than 10%.
PDFOV-7239		3.2.5.3.5.2 Other Toxic Gases
PDFOV-7240	M	Nitrogen dioxide, ether, ammonia, nitric oxide and sulfur dioxide emitted by the JLTV shall be limited to concentrations not to exceed those specified in the Threshold Limit Values for Chemical Substances in Work Air by the American Conference of Governmental Industrial Hygienists.
PDFOV-7451		3.2.5.3.5.3 [AUSTRALIAN] Organic Material
PDFOV-7452	M	[AUSTRALIAN] The JLTV components that are susceptible to ingress of insects, seeds and micro-organisms (i.e. components made of organic materials) shall be replaceable by the vehicle crew.
PDFOV-3131		3.2.5.4 HUMAN SYSTEMS INTEGRATION (HSI)/MANPOWER & PERSONNEL INTEGRATION (MANPRINT).
PDFOV-3132		3.2.5.4.1 Human Factor Engineering.
PDFOV-3133		3.2.5.4.1.1
PDFOV-3134	H	The JLTV shall be in conformance with MIL-STD-1472.
PDFOV-3137		3.2.5.4.1.1.1
PDFOV-3138	H	[AUSTRALIAN] All vehicle configurations, including right hand drive operation configuration, shall ensure functionality, ease and safety of operation for all functions performed by operational and maintenance personnel based on 5th percentile female through 95th percentile male.
PDFOV-1571		3.2.5.4.1.2 Noise Limits.
PDFOV-1572	L	The JLTV shall comply with the impulsive and steady state noise limits of MIL-STD-1474 at all crew locations, both inside and outside the vehicle. The vehicle shall comply with category C* interior steady state noise limits as outlined in MIL-STD-1474, Table 2, at all personnel occupied areas. If steady state noise levels are 85dBA or greater, noise hazard cautions signs shall be posted in the vehicle and hearing protection shall be required.
PDFOV-913		3.2.5.4.1.3 Heating, Ventilation, Air Conditioning (HVAC) and Defroster.
PDFOV-6570	H	JLTV shall be capable of meeting the crew compartment HVAC and defrosting requirements with vehicle in both A-structure and B-kit armor configuration.
PDFOV-914		3.2.5.4.1.3.1 Heater
PDFOV-915		3.2.5.4.1.3.1.1
PDFOV-916	H	The heater shall be capable of raising the crew compartment temperature from -25° F to +41° F (-32 to +5 °C) within 45 minutes (T) 20 minutes (O) after the vehicle has been started.
PDFOV-917		3.2.5.4.1.3.1.2
PDFOV-918	H	The vehicle's heater shall be able to maintain a crew compartment temperature per MIL-STD-1472 ,section 12.6.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-921		3.2.5.4.1.3.1.3
PDFOV-922	H	The control of the air flow from blower shall operate independent of the heater's temperature controls.
PDFOV-937		3.2.5.4.1.3.2 Ventilation.
PDFOV-919		3.2.5.4.1.3.2.2
PDFOV-920	M	Individual vents/ducts shall have hand moveable controls to adjust the amount of air output and position the air flow in a range from directly on occupants to completely off occupants.
PDFOV-6988		3.2.5.4.1.3.2.3
PDFOV-6989	H	The JLV ventilation system shall comply with the ventilation system performance requirements in MIL-STD-1472F section 5.12.6.2, and have the capability to adjust the origin of air flow from 100% fresh air to nearly 100% recirculated air.
PDFOV-927		3.2.5.4.1.3.3 Air Conditioning.
PDFOV-930	H	Crew compartment cooling requirements shall be met with windows closed and under full radiant heat loading (I.E from the sun, crew, electronics, engine heat) in the operating range of the vehicle.
PDFOV-929		3.2.5.4.1.3.3.1 Performance
PDFOV-928	H	The JLV air conditioning system shall be capable of maintaining average temperature of not greater than 85øF (29.5ø C) (T); 76ø F(24 ø C) (O) at any seating positions.
PDFOV-7429	H	At 130°F (54.4°C)outside ambient air, with 1120w/m2 solar load, minimum required air flow for chamber temperature control and including a heat load applied to the interior of the crew chamber to represent electronics and Soldiers, the A/C shall:
PDFOV-6986		3.2.5.4.1.3.3.2 Cooling Performance
PDFOV-6987	H	The air conditioning system shall be capable of lowering the crew compartment temperature to 85øF (29.5øC) within 60 minutes (T), 40 minutes (O), of AC system starting and at any engine speed, when the outside of vehicle ambient air temperature is 130øF (54.4øC).
PDFOV-931		3.2.5.4.1.3.3.3
PDFOV-932	H	Air conditioner shall operate using refrigerant with a global warming potential (GWP) less than or equal to 1300 (T) ; 10 (O).
PDFOV-923		3.2.5.4.1.3.4 Defroster
PDFOV-924	M	The windshield shall be capable of being defrosted within 30 minutes in accordance with SAE J381 (exception: ambient temperature shall be at -50° F (-46° C) with arctic heater kit and -25°F (-31° C) without arctic heater kit).
PDFOV-7430		3.2.5.4.1.3.5 Integration
PDFOV-7431	L	Airflow controls and distribution: The system shall incorporate variable airflow for crew space air distribution, with no less than 3 (T); 4 (O)(e.g. off, low, med and high) selectable airflow settings (speed). System shall provide directional airflow for all occupants.
PDFOV-3147		3.2.5.4.2 Crew Compartment.
PDFOV-3148		3.2.5.4.2.1 Cab.
PDFOV-3149		3.2.5.4.2.1.1
PDFOV-3150	L	Operator (aided or unaided) shall be able to see the ground or roadway when negotiating terrain at maximum break-over angles.
PDFOV-6921		3.2.5.4.2.1.2 Interior Occupant Protection.
PDFOV-6922		3.2.5.4.2.1.2.1
PDFOV-6923	M	The JLV FoV shall provide interior impact protection for each occupant as described in FMVSS 571.201
PDFOV-3163		3.2.5.4.2.1.3 Seating.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-3164		3.2.5.4.2.1.3.1
PDFOV-3165	L	Driver seat (T) all occupants seats (O) shall be individually adjustable fore and aft and up and down, to the occupant's height.
PDFOV-3166		3.2.5.4.2.1.3.2
PDFOV-3167	L	The JLTV design shall provide isolation and mitigation capabilities from all blast, IED, and ballistic events contained in Classified Annex E with all loads applied, including mine blast and shock from the vehicle landing back on the ground after the blast event and rollover.
PDFOV-3168		3.2.5.4.2.1.3.3
PDFOV-3169	M	Each seat and restraint system on the JLTV FoV shall be designed to accommodate a soldier/marine wearing CBRNE (MOPP IV), cold weather protective clothing and full combat Individual Body Armor (IBA) to include headgear and Load Bearing Equipment (LBE). Crew weights per MIL-STD-1366.
PDFOV-7030		3.2.5.4.2.1.3.4
PDFOV-7031	M	All seats shall recline a sufficient amount such that an occupant wearing full body armor will not be seated in a position where his upper body leans forward beyond an upright, vertical position.
PDFOV-6924		3.2.5.4.2.1.3.5 Seat Head Restraints.
PDFOV-6925	H	Head restraints that conform to FMVSS 202 S4.3 shall be provided at each designated seating position (regardless of the weight of the vehicle).
PDFOV-3170		3.2.5.4.2.1.3.6 Re-configurable/removable seats.
PDFOV-3172		3.2.5.4.2.1.3.6.1
PDFOV-3171	L	The JLTV shall be fitted with removable/re-configurable rear seats.
PDFOV-6675		3.2.5.4.2.1.3.6.1.1
PDFOV-3173	L	The seats shall be removable by the vehicle operator with on-board tools(T), without tools(O), within 5 minutes.
PDFOV-3174		3.2.5.4.2.1.3.6.2 Casualty Evacuation.
PDFOV-3175	L	The JLTV seats shall be reconfigurable to allow for the carrying of a Talon II litter (NSN 6530-01-504-9051) in support of non-standard casualty evacuation.
PDFOV-6990		3.2.5.4.2.1.3.6.3
PDFOV-6991	H	Additional JLTV seats shall be capable of being added for additional seating locations with the removal of mission specific equipment.
PDFOV-3188		3.2.5.4.2.1.4 Windshield & Windows.
PDFOV-3189		3.2.5.4.2.1.4.1
PDFOV-3190	L	Windshields and windows shall be configured to minimize solar glare.
PDFOV-3191		3.2.5.4.2.1.4.2 Protection from sun glare.
PDFOV-3200	L	Windshields or other transparent areas through which high acuity vision is required shall not be impaired due to sun glare protection.
PDFOV-6736		3.2.5.4.2.1.4.2.1
PDFOV-3192	L	Visors or other means shall be used to preclude performance degradation due to glare from external sources such as sunlight or headlights.
PDFOV-3193		3.2.5.4.2.1.4.2.2

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-3194	L	Visors or other means shall provide coverage across the entire width of the windshield and side windows to protect front seat occupants from glare.
PDFOV-3195		3.2.5.4.2.1.4.2.3
PDFOV-3196	L	Visors or other means shall have a mechanical detent to prevent movement while in the stowed position.
PDFOV-6927		3.2.5.4.2.1.4.3 Automotive Glass.
PDFOV-6929		3.2.5.4.2.1.4.3.1
PDFOV-6930	L	The design of the standard automotive glass (windshields and windows) and replacement materials shall meet the glazing materials specifications called out in FMVSS 571.205 "Glazing Materials".
PDFOV-7468	L	[AUSTRALIAN] The design of the standard automotive glass (windshields and windows) and replacement materials shall meet the glazing materials specifications as per ADR 08/01 Safety Glazing Material for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-6931		3.2.5.4.2.1.4.3.2
PDFOV-3201		3.2.5.4.2.1.5 Windshield Wipers & Washers.
PDFOV-3202	L	The cab shall be equipped with multi-speed windshield wipers with an adjustable, intermittent wiper setting, and windshield washing system.
PDFOV-3203		3.2.5.4.2.1.5.1
PDFOV-3204	L	A minimum size of 3-qt (2.8 l) washer reservoir compatible with cleaner and appropriate additives for the climatic conditions for destination shall be furnished.
PDFOV-3205		3.2.5.4.2.1.5.2
PDFOV-3206	L	Windshield wipers and washers shall conform to FMVSS 571.104 and SAE J198, and be compatible to all thicknesses of windshield armor protection, see Annex E.
PDFOV-3207		3.2.5.4.2.1.6 Vehicle Cab Interior.
PDFOV-3208	H	The vehicle cab interior and upholstery shall be dark, non-reflective color.
PDFOV-3213		3.2.5.4.2.1.7 Cab Floor Drains.
PDFOV-3219		3.2.5.4.2.1.7.1 Drainage System
PDFOV-3220	H	The drainage system shall not reduce crew protection performance against PD Annex E threats.
PDFOV-3231		3.2.5.4.2.1.8 M4/M16/F88 AUSTEYR Rifle Mounting.
PDFOV-3232	L	The JLTV shall provide stowage capable of accepting all versions of the M4, M16, and F88 AUSTEYR rifles. The mounted rifles shall not interfere with vision, operation of vehicle controls, or vehicle ingress/egress, and shall be accessible to vehicle occupants without hindrance or the need to loosen and/or remove the seat restraint.
PDFOV-7068		3.2.5.4.2.1.8.1
PDFOV-7069	L	The JLTV shall provide stowage of one rifle per crew member.
PDFOV-3235		3.2.5.4.2.1.9 Beverage holders.
PDFOV-3236	L	The cab of the vehicle shall be equipped with rugged, cup holders for the driver and co-driver that are capable of holding containers in the range of a standard 12 ounce aluminum soda pop can to a 24 ounce plastic soda pop bottle (O).
PDFOV-3237		3.2.5.4.2.1.9.1
PDFOV-3238	L	The cup holders shall hold the containers securely without spilling during normal primary and secondary road operations (O).

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-3239		3.2.5.4.2.1.9.2
PDFOV-3240	L	The cup holders shall not interfere with combat operations (O).
PDFOV-3242		3.2.5.4.2.1.10 Rear View Mirrors.
PDFOV-3243	L	Mirrors conforming to A-A-52432 and FMVSS 111 shall be provided on the left and right hand sides of the JLTV and be capable of folding toward the vehicle body sides in both directions.
PDFOV-7469	L	[AUSTRALIAN] The vehicle shall be equipped with rear vision mirrors as specified per ADR 14/02 Rear Vision Mirrors for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-3244		3.2.5.4.2.1.11 Stowage.
PDFOV-3245	M	Stowage space with latching device to utilize a standard military padlock shall be provided to accommodate Basic Issue Items (BII), publications (operator, hand receipt and warranty) and operator's Common Table of Allowances (CTA) 50-900 personal clothing and equipment.
PDFOV-6547		3.2.5.4.2.1.11.1 Additional Storage Space.
PDFOV-6548	H	In addition to the storage of BII items and tools called out in this specification, the JLTV shall have a minimum of 60 cubic feet of additional, enclosed storage space that is protected from the elements, e.g. rain, snow, etc. that is suitable for the storage of personal gear, sleeping bags, non-mounted mission equipment and other supplies. Minimum size of additional storage areas shall be no less than 4 cubic feet per storage area.
PDFOV-3246		3.2.5.4.2.1.11.2
PDFOV-3247	M	All stowage boxes and stowage spaces shall contain drain holes.
PDFOV-3250		3.2.5.4.2.1.11.3
PDFOV-3251	L	Provisions shall be included that inhibit contents of BII from obstructing the drain holes.
PDFOV-3252		3.2.5.4.2.1.12 Crew Compartment Integration.
PDFOV-3253	M	Crew compartment integration shall consider population characteristics, crew task requirements, crew workload through the mission, functional relationships between controls and displays, crew compartment physical constraints, operating environment, assessments of available display technologies, and crew physical limitations.
PDFOV-3280		3.2.5.4.2.1.13 Door and Entry Point operation.
PDFOV-3281	L	All JLTV doors and entry points shall latch securely in the closed position.
PDFOV-3282		3.2.5.4.2.1.13.2 Combat Lock
PDFOV-3283	L	All JLTV doors and entry points shall be capable of being locked from the inside for combat missions and unlocked from the outside with rescue tool per drawing, 6437086, CAGE CODE, 6W728, per attachment J.
PDFOV-3284		3.2.5.4.2.1.13.3
PDFOV-3285	L	Provision shall be made to prevent inadvertent actuation of internal door and entry point control handles while entering or leaving the platform, performing routine mission duties, or performing maintenance on the platform.
PDFOV-6909		3.2.5.4.2.1.13.4 External Rescue Provision for First Responders
PDFOV-6910	L	The JLTV passenger doors with and without B-kit armor shall be equipped with an external ring/eye, as a rescue provision for First Responders to remove/open any of the doors in the event of a combat emergency situation.
PDFOV-3286		3.2.5.4.2.1.13.5

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-3287	H	JLTV passenger doors, without B-kit armor installed, shall be capable of being opened and closed by 5th-95th percentile military personnel on 60% slope (facing up and down) and on 40% side slope without injury or vehicle damage. This requirements applies to all other vehicles entrance/exit point as well.
PDFOV-6939		3.2.5.4.2.1.13.6 Opening/Closing Doors Without B-Kit Armor
PDFOV-6940	H	JLTV passenger doors, without B-kit armor installed, shall be capable of being opened and closed by 5th-95th percentile military personnel on 30% (T), 40% (O), slopes (facing up and down) and side sloopes without injury or vehicle damage. This requirements applies to all other vehicles entrance/exit point as well.
PDFOV-3288		3.2.5.4.2.1.13.7 Door/Escape Portal
PDFOV-3289	H	At least one door/escape portal shall be accessible to all on-board personnel, and be capable of being opened by 5th-95th percentile military personnel, even when the vehicle has rolled upside down in a narrow ditch, where normal door operation is not possible, or on either side.
PDFOV-939		3.2.5.4.2.1.13.7.1 Crew Visibility
PDFOV-7276		3.2.5.4.2.1.13.7.1.1 Crew Compartment Visibility
PDFOV-940	H	The vehicle crew compartment shall allow the driver and passengers to collectively maintain 360 degree visibility around the vehicle, with and without B-kit armor.
PDFOV-7277		3.2.5.4.2.1.13.7.1.2
PDFOV-7278	L	The JLTV Companion Trailer (JLTV-T) shall be visible from the driver's position when tracking directly behind the prime mover.
PDFOV-3394		3.2.5.5 Vehicle Security.
PDFOV-3395	L	The JLTV shall have a means to provide vehicle security (e.g., door locks, locking hatches and fuel tanks, etc.).
PDFOV-3396		3.2.5.5.1 Security System
PDFOV-3397	L	The security system shall provide the capability to lock the entry points from inside the vehicle without inhibiting a quick exit from the vehicle.
PDFOV-3398		3.2.5.5.2 LatchingDevice
PDFOV-3399	L	Each door shall be provided with a latching device that will permit the door to be pad locked from the outside with pad lock A-A-59487.
PDFOV-3379		3.2.5.6 Painting, & Corrosion.
PDFOV-6573		3.2.5.6.1 Paint.
PDFOV-6574	H	Unless otherwise specified, all external surfaces of the JLTV shall have a finish coat of Chemical Agent Resistant Coating (CARC) meeting MIL-DTL-64159, Type II. Color shall be Green 383, chip number 34094 per FED-STD-595. Camouflage pattern requirement of the system specification need not apply. CARC primer coat shall be MIL- P 53030, MIL-DTL-0053084, A-A-52474, or an ARL approved powder coat. Surface preparation, quality assurance and application of all CARC coatings shall be done IAW MIL-DTL 53072. If A-A-52474 primer is used, topcoat DFT shall be in the range of 2.0 to 2.5 mils. All interiors of vehicles shall receive a color determined by the PM office. The following items shall not be painted: terminal wiring connections, instruction diagrams and plates, instrumentation, rubber, lubrication fittings, hoses, nozzles and all other parts whose operation or function would be adversely affected by paint. Insulation material shall be painted unless the sound absorbing characteristics of the material are compromised.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-7470	M	[AUSTRALIAN] The JLTV shall have applied a Disruptive Pattern Camouflage schema IAW the Australian Paint Approval Scheme Specification 0502 (APAS 0502) for 'Disruptive Pattern Camouflage Polyurethane Finishing System for Vehicles & Equipment'. Contracts will specify when required.
PDFOV-3384		3.2.5.6.2 Corrosion Resistance.
PDFOV-3385	L	The vehicle shall be designed to operate for a minimum of 20 years(T), 30 years(O), corrosion service life, which will include varying or extended periods in corrosive environments involving one or more of the following: high humidity, salt spray, road de-icing agents, ground contact, gravel impingement, atmospheric contamination and temperature extremes (-50 to +160 F degrees).
PDFOV-3386		3.2.5.6.2.1
PDFOV-3387	M	Only normal washing (includes high pressure), scheduled maintenance (exclusive of paint touch up) and repair of accidentally damaged areas (not a result of intended use, deficiency in design, materials, manufacturing or normal wear), shall be necessary to keep the corrosion prevention in effect.
PDFOV-6941		3.2.5.7 Markings & Data Plates.
PDFOV-6942		3.2.5.7.1 Markings.
PDFOV-6943	L	Vehicle markings shall be IAW MIL-STD-642. Markings such as safety, fuel type, fill level of liquids, tire pressure, and instructional markings shall be letters or numerals one inch in height. Painted markings, letters and numerals shall be lusterless paint conforming to MIL-DTL-53039 and MIL-DTL-64159.
PDFOV-7471	L	[AUSTRALIAN] The JLTV FoV shall have markings as specified per ADR 61/02 Vehicle Markings for NB Class Vehicles (Medium Goods Vehicles), TB Class Trailer (Light Trailer) and TC Class Trailers (Medium Trailer).
PDFOV-6944		3.2.5.7.2 Data Plates.
PDFOV-6945	L	Instruction, caution, identification, operating and data plates shall be provided IAW A-A-50271 and installed in a readily visible location.
PDFOV-6950		3.2.5.7.2.1 Instruction Plates.
PDFOV-6953	L	The vehicle shall be equipped with instructions, plates or diagrams, including cautions and warnings describing any special or important procedures to be followed in assembling, operation or servicing. Instruction plate(s) shall completely describe and depict operating tasks. Shipping dataplate and identification, in accordance with (IAW) MIL-STD-209 shall be provided.
PDFOV-6949		3.2.5.7.2.2 Identification Plate.
PDFOV-6954	L	The JLTV shall have an identification (name) plate that contains the vehicle serial number, model number, description, national stock number, USA registration number, date of manufacture, contractor's name, and contact number for that vehicle.
PDFOV-7472	L	[AUSTRALIAN] The JLTV shall have a Compliance Plate that complies with the Australian Federal Motor Vehicles Standards Act 1989. Contracts will specify when required.
PDFOV-6948		3.2.5.7.2.3 Lubricant Plate.
PDFOV-6955	L	Installed adjacent to the identification (name) plate shall be a lubricant plate IAW SAE J753 except that it shall reference military lubricants.
PDFOV-6947		3.2.5.7.2.4 Vehicle Weight Classification Sign.
PDFOV-6951	L	A vehicle weight classification sign as described in drawing no. 6-1-2248 (81337) shall be provided.
PDFOV-6946		3.2.5.7.2.4.1 Location.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-6952	L	The vehicle weight classification sign shall be installed in a location behind the front bumper and shall not interfere with other vehicle functions.
PDFOV-3416		3.2.5.8 Rear Reflective Signature.
PDFOV-3417	H	Exterior safety markings meeting the intent of the requirements of FMVSS 571.108, shall be applied on the rear of the JLTV.
PDFOV-7473		3.2.5.9 [AUSTRALIAN] Tactical Signage.
PDFOV-7474	L	[AUSTRALIAN] The JLTV shall mount tactical signs. Contracts will specify when required.
PDFOV-3440		3.2.5.10 Kits.
PDFOV-3441	L	The vehicle shall operate IAW the specification requirements after installation of and use of the kits specified herein. The application and use of these kits shall in no way affect the life expectancy or performance of the vehicle or its components. The vehicle shall be furnished with the interface requirements for the kits, such as predrilled holes, electrical hook-up, hole accesses, coolant ports for heater and etc. The vehicle shall have space and power allocation to accept installation of all or any combination of the kits described herein.
PDFOV-3442		3.2.5.10.1 Kit Installation
PDFOV-3443	M	Each kit, shall not take longer than four (4) man-hours to initially install at Field Level maintenance and subsequent installation shall be completed by the operator within 2 hours(T) and 0.5 hours(O).
PDFOV-3446		3.2.5.10.2 Engine Arctic Kit.
PDFOV-3447	L	The JLTV shall provide an engine arctic kit IAW the Operating Parameters of this ATPD.
PDFOV-3452		3.2.5.10.3 Vehicle Medical Aid Kit.
PDFOV-3453	L	Each JLTV shall be equipped with a Medical Aid kit (First aid kit) to treat injuries to personnel per NSN 6545-00-922-1200, PN 11677011 (19207).
PDFOV-4052		3.2.5.10.4 CBRN Detector Kit.
PDFOV-4056	L	The JLTV shall be capable of accepting a chemical, nuclear detector IAW the requirements in the Detection section of this ATPD.
PDFOV-3400		3.2.5.10.5 Winch Kit.
PDFOV-3401	L	The JLTV shall be capable of accepting a winch kit with cable, chain, shackle, and snatch block.
PDFOV-3408		3.2.5.10.5.4
PDFOV-3409	L	The winch, cable, and BII winch accessories shall be able to withstand and overcome loads equal to 1.5 times the GVW of the JLTV (T), 2 times GVW (O).
PDFOV-3410		3.2.5.10.5.5
PDFOV-3411	L	The winch cable shall be long enough to reach an anchor 45 feet (T), 75 feet (O) from the JLTV and return (using the snatch block) to enable self-recovery with a 2:1 mechanical advantage.
PDFOV-3412		3.2.5.10.5.6
PDFOV-3413	L	The winch shall incorporate an automatic brake that stops the cable from paying out when not under power.
PDFOV-3414		3.2.5.10.5.7
PDFOV-3415	L	The JLTV winch kit shall provide control for outside-vehicle operations.
PDFOV-7432		3.2.5.10.5.8
PDFOV-7433	L	The winch shall receive all electrical power from the vehicle power management/distribution system.

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-2850		3.2.5.10.6 Convoy Warning Lights Kit.
PDFOV-2851		3.2.5.10.6.1
PDFOV-2852	M	There shall be provisions for readily mounting and connecting a commercial, yellow strobe type LED convey warning light, per NSN 2590-01-107-9696, on the vehicle suitable for operation in all locations.
PDFOV-2855		3.2.5.10.6.2
PDFOV-2856	L	The warning light shall be visible for 360 degrees and shall not be capable of being activated during the blackout mode.
PDFOV-7279		3.2.5.10.7 Exterior Work Lamps Kit.
PDFOV-7280	L	The JLTV shall be capable of accepting a minimum of two (2) work lamps that meet the following requirements to facilitate low-light and maintenance operations:
PDFOV-7281		3.2.5.10.7.1
PDFOV-7282	L	The work lamps shall be adjustable such that the lamps can be aimed at areas around the rear and sides of the vehicle.
PDFOV-7283		3.2.5.10.7.2
PDFOV-7284	L	The work lamps shall be provided with a 30 foot minimum length power cord and shall run off vehicle power.
PDFOV-7285		3.2.5.10.7.3
PDFOV-7286	L	The work lamps shall provide a minimum illumination of 1,000 lux over a minimum surface area of 50 square feet.
PDFOV-7287		3.2.5.10.7.4
PDFOV-7288	L	The work lamps shall be equipped with an individual on-off switch.
PDFOV-7291		3.2.5.10.7.5
PDFOV-7292	L	An on/off switch accessible from the driver's position shall be furnished and operate separately from the work lamps themselves.
PDFOV-7289		3.2.5.10.7.6
PDFOV-7290	L	The work lamps shall be robust enough to sustain a 3 foot drop onto the ground without damage.
PDFOV-6676		3.2.5.10.8 Fording Kit.
PDFOV-6677	L	The JLTV shall be capable of accepting a fording kit IAW the fording depth and venting requirements in the Fording section of this document.
PDFOV-6678		3.2.5.10.9 Exportable Power Kit.
PDFOV-6679	L	The JLTV shall be capable of accepting a exportable power kit (if kitted) IAW the Exportable Electrical Power section of this document.
PDFOV-6737		3.2.5.10.10 RPG Protection Kit.
PDFOV-6738	L	The JLTV shall be capable of accepting an RPG protection kit IAW Annex G of the JLTV ATPD.
PDFOV-6739		3.2.5.10.11 Silent Watch Energy Storage Kit.
PDFOV-6740	L	The JLTV shall be capable of accepting a rechargeable silent watch energy storage kit (if kitted) IAW vehicle specific annexes.
PDFOV-6741		3.2.5.10.12 Vehicle Obscuration Smoke System Kit.
PDFOV-6742	L	All JLTV variants shall be capable of accepting a vehicle obscuration smoke system kit.
PDFOV-6992		3.2.5.10.13 Material Handling Equipment (MHE) Kit.
PDFOV-6993	H	JLTV shall be capable of accepting a Material Handling Equipment (MHE) kit that meets the following requirements:
PDFOV-6994		3.2.5.10.13.1 MHE Components

ID	POC	DRAFT Purchase Description FoV v2.5 Requirements
PDFOV-6995	H	The kit shall include a fully electric crane, remote control, and associated hardware.
PDFOV-6996		3.2.5.10.13.2 Crane Power Requirements
PDFOV-6997	L	The crane shall be fully powered by the vehicle electrical system.
PDFOV-6998		3.2.5.10.13.3 Crane Remote Control Capability
PDFOV-6999	L	The crane shall have the ability to be operated via remote control from outside the cab.
PDFOV-7000		3.2.5.10.13.4 Crane Operations
PDFOV-7001	L	The crane shall be fully operable without removal of other on-vehicle equipment, such as spare tire/carrier assemblies.
PDFOV-7002		3.2.5.10.13.5 Crane Illumination
PDFOV-7003	L	The crane shall include a means to illuminate all areas within the span of the crane boom. X
PDFOV-7010		3.2.5.10.13.6 Lift Capability.
PDFOV-7011	L	The MHE kit shall have lift capability of 500 lb (T) 1,000 lb (O).
PDFOV-7012		3.2.5.10.13.7 Lift Rate.
PDFOV-7014		3.2.5.10.13.8 Lift Traverse Angle.
PDFOV-7015	L	The crane shall have a minimum working traverse of 370° with a rated capacity of 125% of static capacity at inner and outermost reach. The traverse overlap shall be toward the rear of the vehicle. The boom length shall be a minimum of 4 feet.
PDFOV-7016		3.2.5.10.13.9 MHE Installation.
PDFOV-7017	L	The JLTV MHE shall be able to be installed or uninstalled by two operators, on the vehicle in 5 minutes. The JLTV MHE shall be able to be safely stored on board the vehicle during normal operating conditions.
PDFOV-7018		3.2.5.10.13.10 Crane Installation/Removal
PDFOV-7019	L	The crane shall be capable of being installed and removed from various locations necessary to assist in the removal/replacement of any damaged tire with a spare and installation/removal of B-kit armor panels.
PDFOV-7020		3.2.5.10.13.11 Vehicle Stability.
PDFOV-7021	L	The MHE kit shall be designed so that when operating on an unloaded JLTV, with tires at highway pressure, and crane at maximum capacity, the system tipping moment shall not exceed 85% of the system righting moment when tested in accordance with SAE J765, except that the test shall occur on a 7% lateral slope. A safety switch shall be integrated with the system to preclude use of the crane on slopes larger than 7%.
PDFOV-7022		3.2.5.10.13.12 Crane Assembly Stress
PDFOV-7023	L	When installed on the vehicle and during operation, the stress imparted by the crane assembly (including mounting hardware) on any member shall not exceed the margin of safety provided in SAE J1063 when tested accordingly.
PDFOV-7024		3.2.5.10.13.13 Manual Operations
PDFOV-7025	L	A means shall be provided to lower any load to the ground in the event of an electrical system or control failure.
PDFOV-7026		3.2.5.10.13.14 Load Capacity Chart
PDFOV-7027	L	A load capacity chart shall be visible to the crane operator.
PDFOV-7028		3.2.5.10.13.15 Remote Control Box
PDFOV-7029	L	The remote control box shall contain appropriate operating instructions.
PDFOV-3324		3.2.5.11 Fuels and Lubricants.

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PDFOV-3326	L	The JLTV shall be fully operational with standard military fuels, lubricants, and fluids as required by the climatic operating requirements without component degradation and adverse affect on the vehicle performance or warranty provisions.
PDFOV-3325		3.2.5.11.1 Fuel.
PDFOV-3327		3.2.5.11.1.1 JP-8
PDFOV-3328	L	The primary fuel for operation and testing will be JP-8 per MIL-DTL-83133, but the vehicle shall be capable of operating on DF2 diesel fuel per A-A-52557 or ASTM D975.
PDFOV-3329		3.2.5.11.1.2
PDFOV-3330	L	The JLTV shall be capable of operating with alternate fuels as defined by AR-70-12 with minimal operational impact.
PDFOV-3331		3.2.5.11.1.3
PDFOV-3332	L	The JLTV shall be capable of operating with emergency fuels, as defined by AR-70-12, for short periods of time not to exceed 24 hours, although significant degradation in performance will be anticipated.
PDFOV-3335		3.2.5.11.1.4
PDFOV-3336	L	If liquid cooled, the engine shall be serviced with a solution of propylene glycol conforming to A-A-52624 and water in equal parts by volume. In conditions below -25F a 60/40 Propylene Water Mixture shall be used.
PDFOV-3337		3.2.5.11.1.5 Fuel efficiency.
PDFOV-3338	H	See vehicle specific annex.
PDFOV-6555		3.2.5.11.1.6 Fuel Conservation.
PDFOV-6557	L	The JLTV shall incorporate an automatic device that shuts off the vehicle after it has been at normal idle for more than 10 minutes without being moved/used. The shut off device shall cut off all power to the engine/powerpack, except for the engine cooling system, such that no power drains to the batteries/energy storage device occurs after shut-off. The device shall have a “combat override” switch so that the driver/operator can turn off this automatic shut off feature in a combat or silent watch situation. The override switch shall return to its active, default, position every time the engine is turned off.
PDFOV-3345		3.2.5.11.2 Lubricants
PDFOV-3346		3.2.5.11.2.1 Vehicle Lubrication.
PDFOV-3347	M	Two fluids (T) and a single fluid (O) (excluding grease and gear oils) shall be used for all lubrication and hydraulic applications on the JLTV in each operating environment, e.g. -25 F to 130 F and -26 F and below.
PDFOV-3358		3.2.5.11.2.1.1
PDFOV-3359	L	Grease lubrication fittings shall conform to SAE J534.
PDFOV-3472		3.2.5.12 Engine/Drive Train.
PDFOV-3473		3.2.5.12.1 Engine Cooling System.
PDFOV-3474	L	The cooling system shall meet the requirements of SAE J1436 except for the following: Inspection of fluid fill levels shall be accomplished without removal of caps from coolers or surge tanks.
PDFOV-3477		3.2.5.12.1.1
PDFOV-3478	L	JLTV FoV shall have front-end / underbody protection and ruggedized external components to prevent damage to vehicle lights, body, and engine components, from brush, tree limbs or other entangling material and to reduce/prevent water/mud ingestion into the radiator area while traveling cross-country at cross-country speeds.

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PDFOV-3481		3.2.5.12.1.2
PDFOV-3484	M	Given clean heat exchanger(s), the required cooling shall be provided continuously at all ambient conditions between -50 Deg F and 130 Deg F, full radiant heat load and at 750mm HG:
PDFOV-3485	L	a. Under all operating conditions within the maximum tractive effort (TE) to weight vs. speed defined by:
PDFOV-3486	L	i. TE/projected vehicle combat loaded weight = 0.6 to maximum forward speed.
PDFOV-3487	L	ii. Gear engaged idle and high idle operations
PDFOV-3488	L	b. For all conditions specified under the Braking and Speed on Grade Section of this ATPD.
PDFOV-3489	L	c. Including the capability of cooling the ancillary vehicle power (hydraulic, electrical, electronics, pneumatic, etc.) losses for the JLTV application as a minimum, while satisfying (a) and (b). Integration of the cooling requirements of the vehicle power system is optional, and is dependent upon due consideration to the volume, weight, and other penalties imposed on the propulsion system by such cooling requirements.
PDFOV-3490		3.2.5.12.2 Fan Clutch.
PDFOV-3491	L	If a fan clutch is used, a positive lockup shall be provided in case of a clutch or a control system failure.
PDFOV-3492		3.2.5.12.2.1
PDFOV-3493	L	The cooling fan shall be designed so that it will not experience aerodynamic stall with a 30% cooler face area blockage.
PDFOV-3494		3.2.5.12.2.2
PDFOV-3495	L	The fan shall be equipped with a thermostatic control so that fan use is minimized when not required for cooling.
PDFOV-3496		3.2.5.12.3 Oil Filtration.
PDFOV-3499		3.2.5.12.3.1
PDFOV-3501	L	A full flow type oil filter system with integral emergency bypass, IAW the engine manufacturer's specification, shall be furnished to ensure maximum engine protection.
PDFOV-6761		3.2.5.12.3.2
PDFOV-6762	L	Spin-on type oil filters shall be used for engine oil filtration.
PDFOV-3504		3.2.5.12.4 Engine Speed Control.
PDFOV-3506		3.2.5.12.4.1
PDFOV-3507	L	The tactical idle control shall operate only when the vehicle is in park or neutral and automatically disengage when the vehicle is placed in gear.
PDFOV-3508		3.2.5.12.4.2
PDFOV-3509	L	Tamper resistant means shall be provided to limit the maximum engine speed to the engine manufacturer's maximum recommended operating speed.
PDFOV-3510		3.2.5.12.4.3
PDFOV-3511	L	The accelerator control system shall conform to FMVSS 571.124.
PDFOV-3526		3.2.5.12.5 Exhaust System.

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PDFOV-3527	L	The exhaust system shall conform to FMCSR 393.83. The exhaust system as installed shall be gas tight to prevent the accumulation of exhaust gas in the occupied areas in accordance with best commercial practice. The exhaust system shall be configured to prevent entry of water. Exhaust mufflers and exhaust pipes shall be made of corrosion resistant material and shall be furnished with adequate guards/shielding to prevent personnel contact. The exhaust system shall be located to minimize the danger of ignition of fuel from leaks or overflow of fuel. The contractor shall minimize visible profile of the exhaust system from thermal detection devices to the maximum extent possible.
PDFOV-3530		3.2.5.12.6 Gear Train.
PDFOV-3531	L	The gear train shall be lubricated with standard military products as indicated in the Fuels and Lubricants section of this document. When utilizing permanently sealed components, they shall have a life of not less than 100,000 miles of operation over OMS/MP.
PDFOV-3532		3.2.5.12.6.1 Transmission (If Applicable).
PDFOV-3533	L	The transmission shall be automatic and shall have a gear range capable of meeting the performance specified in this Purchase Description
PDFOV-3534		3.2.5.12.6.1.1
PDFOV-3535	L	The transmission, shall include the following:
PDFOV-3536	L	a. A downshift inhibitor system that prevents driver shift control action from over-speeding or damaging engine, transmission, or drive train components.
PDFOV-3537	L	b. Starter Interlock. The engine starter shall be inoperative when the transmission shift lever is in a forward or reverse drive position.
PDFOV-3538	L	c. A means to manually select and identify the gear range.
PDFOV-3539	L	d. A neutral interlock shall be provided which shall allow the truck to start only in park or neutral.
PDFOV-3540		3.2.5.12.6.2 Transfer Case (If Applicable).
PDFOV-3541	L	If utilized, the transfer case shall be installed which has the ability to provide torque proportioning full time all-wheel drive.
PDFOV-3542		3.2.5.12.6.2.1
PDFOV-3543	L	If a single speed transfer case is used, it shall contain a planetary differential that shall provide full time all-wheel drive. A multi-speed transfer case, if used, must possess a low range speed of at least 20 mph.
PDFOV-3544		3.2.5.12.7 Steering.
PDFOV-3545	M	Power steering shall be furnished and have full limit steer when the vehicle is stationary while at GVW and GCVW.
PDFOV-3546		3.2.5.12.7.1
PDFOV-3547	M	In the event power assist is lost, the system shall be manually steerable and capable of being brought to a safe stop.
PDFOV-3548		3.2.5.12.7.2
PDFOV-3549	M	The system at all payload conditions shall meet the requirement of the TECOM/CSTA test methodology for Dead Engine Steering Test, "Y-Course", derived from the Allied Vehicle Testing Publication (AVTP), No. 03-30WT. Throughout its entire steering arc (lock-to-lock) and including maximum tire side wall deflection, no components of the steering system shall contact or bind.
PDFOV-3552		3.2.5.12.7.3
PDFOV-3553	L	The steering wheel shall be capable of being locked in a neutral position with either a standard padlock A-A-59487 (Part Identification Number AA59487-1BC) or chain.
PDFOV-6933		3.2.5.12.7.4

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PDFOV-7434	L	The steering control system shall be constructed so that no components or attachments, including the horn actuating mechanisms and trim hardware, can catch the driver's clothing, watch, rings, or bracelets during normal driving maneuvers.
PDFOV-7435	L	The steering column and shaft in the vehicle shall not be displaced more than 127 mm in the horizontal rearward direction parallel to the longitudinal axis of the vehicle during a 48 km/h perpendicular impact into a fixed collision barrier. This requirement shall be meet under the test conditions specified by FMVSS 205 S5.
PDFOV-3583		3.2.5.12.8 Engine EPA Emissions Requirements.
PDFOV-3584	L	The JLTV FOV is not subject to EPA Motor Vehicle Heavy Duty Diesel Exhaust emission standards or the EPA Non-road exhaust emission standards since the vehicle will contain permanent armor protection. This determination is IAW 40 CFR, Sections 85.1703, 89.908 and 1068.225.
PDFOV-7475	L	[AUSTRALIAN] The vehicle shall meet ADR 30/01 Smoke Emission Control for Diesel Vehicles for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-7476	L	[AUSTRALIAN] The vehicle shall meet ADR 80/02 Emission Control for Heavy Vehicles for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-3587		3.2.5.12.8.1
PDFOV-3588	L	The JLTV shall meet National Security Exemption labeling requirements IAW EPA regulations.
PDFOV-3589		3.2.5.12.8.2
PDFOV-3590	L	The engine provided shall be of the latest engine technology that shall meet all performance requirements specified in this PD while operating with turbine fuel IAW with MIL-DTL-83133(JP-8) as the primary fuel (or MIL-DTL-5624, JP-5), which may have up to 3,000 ppm sulfur.
PDFOV-3591		3.2.5.12.8.3
PDFOV-3592	L	Pollution control technologies that are affected by the sulfur level of the JP-8 fuel either in maintenance or life expectancy shall not be used, e.g., Exhaust Gas Re-circulation (EGR), NOX traps, particulate traps, catalytic converters, etc.
PDFOV-3593		3.2.5.12.8.4
PDFOV-3594	L	The engine shall also be capable of running and meeting performance requirements using DF-2 fuel per ASTM D 975 or CID A-A-52557.
PDFOV-6744		3.2.5.13 Fuel System.
PDFOV-6745		3.2.5.13.1
PDFOV-6747	L	The fuel system shall meet the requirements of FMCSR 393 and incorporate the Standard Army Refueling System (SARS) components.
PDFOV-6746		3.2.5.13.2
PDFOV-6748	L	The fuel system shall include an automatic water separator.
PDFOV-6749		3.2.5.13.3 Fuel Tanks.
PDFOV-6750	L	The vehicle shall be equipped with corrosion resistant fuel tank (s).
PDFOV-6751		3.2.5.13.3.1
PDFOV-6752	L	A shut-off valve between the tanks, if more than one tank, shall be furnished.
PDFOV-6753		3.2.5.13.3.2
PDFOV-6754	L	Metal fuel lines shall be galvanically insulated from adjacent surfaces.
PDFOV-6755		3.2.5.13.3.3
PDFOV-6756	L	Mounting straps used to secure metal tanks to frame/chassis shall be insulated.

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PDFOV-6757		3.2.5.13.3.4
PDFOV-6759	L	Fuel tank(s) shall be provided with drain plug(s) and safety type tank filler caps, captive chained to filler neck strainers, which are accessible and removable by personnel wearing arctic mittens.
PDFOV-6758		3.2.5.13.3.5
PDFOV-6760	L	Fuel tank ports must be a minimum of 2.25 inches (5.7 cm) diameter, and shall be compatible with NATO dispensing nozzles having a nominal outside diameter of 2 inches (51 mm).
PDFOV-7309		3.2.5.13.3.6
PDFOV-7310	L	External fuel covers shall visually blend in with the body of the vehicle to preclude the covers being identified as potential targets.
PDFOV-3554		3.2.5.14 Hydraulics System (if applicable).
PDFOV-3555	H	The hydraulic system shall have provisions for operating hydraulic equipment external to the vehicle and include such provisions for future use (O).
PDFOV-3556		3.2.5.14.1
PDFOV-3557	L	Removable caps or plugs shall cover “quick disconnect” hydraulic fittings for attachment of the external hydraulic system to prevent dirt or other foreign objects from contaminating the system.
PDFOV-3558		3.2.5.14.2 Hydraulic Reservoir.
PDFOV-3559	L	Vehicle shall have a hydraulic reservoir of sufficient capacity to operate vehicle systems and auxiliary equipment for all mission types.
PDFOV-3560		3.2.5.14.2.1
PDFOV-3561	L	Reservoir shall be provided with at least the following:
PDFOV-3562	L	a. Filter(s) shall be readily accessible for cleaning or replacement without draining the reservoir in all hydraulic circuits. Bypasses shall be furnished where necessary, to protect filters and ensure components are adequately lubricated during cold temperature operation.
PDFOV-3563	L	b. Baffles to preclude foaming.
PDFOV-3564	L	c. Dip stick, sight gage, and pressure vented type filler cap of no less than 5 psi.
PDFOV-3565	L	d. Access size to allow manual cleaning of the reservoir.
PDFOV-3566	L	e. Reservoir shall allow for hydraulic maintenance without draining the systems (objective).
PDFOV-3567	L	f. Hydraulic system cooler-if required.
PDFOV-3568		3.2.5.14.3 Hydraulic Hoses & Fittings.
PDFOV-3569	L	High-pressure hoses and fittings shall conform to the requirements of SAE J516, SAE J517 and SAE J343. Self-sealing quick disconnect hydraulic couplings shall be provided for all hydraulic system connectors required to be removed for engine, transmission or transfer case removal/replacement.
PDFOV-3574		3.2.5.15 Hazardous Materials Usage.
PDFOV-3575		3.2.5.15.1
PDFOV-3576	L	Asbestos, beryllium, radioactive materials, hexavalent chromium, cadmium, mercury, or other highly toxic or carcinogenic materials, as defined in 29 CFR 1910.1200, shall not be used in the manufacture, assembly, maintenance or sustainment of the JLTV without prior approval from the government. The JLTV shall be designed in such a way that the use of benzene, N-butyl alcohol, toluene, dichloromethane, and xylene are not required during maintenance or sustainment of the vehicle.

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PDFOV-3577		3.2.5.15.2
PDFOV-3578	L	Class I and Class II Ozone Depleting Substances shall not be used.
PDFOV-3579		3.2.5.15.3 Lead.
PDFOV-3580	L	Lead shall not be used without prior approval of the government except: (a) RoHS-compliant alloys containing less than 4% lead for ease of machining are permitted. (b) Lead-acid batteries are permitted.
PDFOV-3581		3.2.5.15.4 Applicability.
PDFOV-3582	L	Hazardous materials requirements shall apply to any components/parts purchased through a subcontractor/vendor or OEM parts, as well as manufactured parts.
PDFOV-3597		3.2.5.16 Disposal.
PDFOV-3598	L	The system shall be designed such that the user shall have the ability to dispose of the system in full compliance with applicable U.S., foreign and international environmental quality laws and regulations.

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