

DRAFT PURCHASE DESCRIPTION

FOR

JOINT LIGHT TACTICAL VEHICLE

FAMILY OF VEHICLES

VERSION 2.7

11TH APRIL 2011

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.
2.6	21 st January 2011	January 2011 Web Release. PD main body has been updated and annex A, B, C and D have been consolidated into the main body.
2.7	11 th April 2011	April 2011 Web Release PD main body has been revised.

DRAFT

1 SCOPE

The Joint Light Tactical Vehicle (JLTV) program Engineering and Manufacturing Development (EMD) Phase is pre-decisional. The release of the Draft Purchase Description (PD) is for informational and planning purposes only and is not to be construed as a commitment or obligation by the United States (U.S.) Government. Multiple revision of the PD are expected between now and any potential release of an 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.

1.1 General Description

This ATPD identifies the physical, performance and inspection requirements for the JLTV Family of Vehicles (FoV) and the companion trailer (JLTV-T). The Automotive Tank Purchase Description (ATPD) establishes these requirements by identifying the following:

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

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 JLTV-T. The outline of the ATPD annexes are as follows:

- a) Annex E - Force Protection (Classified)
- b) Annex G - Export Controlled Annex (FOUO)
- c) Annex H - Operational Mode Summary/Mission Profile (OMS/MP)
- d) Annex I – Reserved
- e) Annex J - Engineering Drawings
- f) Annex K - Item Quantities
- g) Annex L - Right Hand Operation
- h) Annex M – Basic Issue Items List

Unless otherwise specified, all mobility requirements are met with the JLTV at Gross Vehicle Weight (GVW). If Gross Combined Vehicle Weight (GCVW) is specified, the JLTV-T (with uniformly distributed payload whose center of gravity is 24 in (61 cm) above the cargo bed) is the trailer to be used for mobility calculations and/or modeling. All performance requirements are met while operating on JP-8 fuel per MIL-DTL-83133 and at full hotel load. All Force Protection and Mobility requirements are met at one (1) ride height.

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

Section Number	Title
A-A-50271	Plate, Identification
A-A-52418	Light, Warning, Vehicular: Rotating, DC
A-A-52432	Mirror Assembly, Rearview: Automotive Exterior Mounting
A-A-52474A	Electrocoating 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

Section Number	Title
FED-STD-595	Colors Used in Government Procurement

DEPARTMENT OF DEFENSE

Section Number	Title
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
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

Section Number	Title
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

Section Number	Title
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)

TECHNICAL BULLETIN (TB)

U. S. ARMY TANK-AUTOMOTIVE AND ARMAMENT COMMAND

Section Number	Title
TB 43-0213	Corrosion, Prevention and Control Including Rust proofing Procedures for Tactical Vehicles and Trailers

(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

Section Number	Title
AR 70-38	Research, Development, Test and Evaluation of Materiel for Extreme Climatic Conditions
AR 385-10	ARMY SAFETY PROGRAM
AR 190-51	Security of Unclassified Army Property (Sensitive and Nonsensitive)

(Copies are available from the following website:
<http://www.usace.army.mil/inet/usace-docs/army-reg>)

GOVERNMENT AGENCIES

DEPARTMENT OF TRANSPORTATION (DOT) (49 CFR)

Federal Motor Vehicle Safety Standards (FMVSS) (part 571)

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

(Application for copies should reference "Code of Federal Regulations 49 CFR" and should be addressed to the Superintendent of Documents, US Government Printing Office, Washington, DC 20402 or online at <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=%2Findex.tpl>)

Federal Motor Carrier Safety Regulations (FMCSR) (part 393)

Section Number	Title
49 CFR 393.11	Lamps and reflective devices
49 CFR 393.40	Required Brake Systems
49 CFR 393.41	Parking Brake System
49 CFR 393.42	Brakes Required on All Wheels
49 CFR 393.43	Breakaway and Emergency Braking
49 CFR 393.45	Brake Tubing and Hose, Adequacy
49 CFR 393.46	Brake Tubing and Hose Connections
49 CFR 393.47	Brake Lining
49 CFR 393.48	Brakes to Be Operative
49 CFR 393.49	Single Valve to Operate All Brakes
49 CFR 393.50	Reservoirs Required
49 CFR 393.51	Warning Devices and Gauges
49 CFR 393.52	Brake Performance
49 CFR 393.55	Antilock Brake Systems
49 CFR 393.65	All Fuel Systems
49 CFR 393.67	Liquid Fuel Tanks

49 CFR 393.70	Coupling Devices and Towing Methods, Except for Driveaway-Towaway Operations
49 CFR 393.80	Rear-vision mirrors
49 CFR 393.83	Exhaust Systems

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

ENVIRONMENTAL PROTECTION AGENCY (EPA)

Section Number	Title
EPA 85.1703	Definition of a Motor Vehicle
EPA 89.908	National Security Exemption
EPA 1068.225	Provisions for exempting engines/equipment for national security

(Application for copies should reference "Code of Federal Regulations 40 CFR" and should be addressed to the Superintendent of Documents, US Government Printing Office, Washington, DC 20402 or online at <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=%2Findex.tpl>)

NATIONAL FIRE PROTECTION AGENCY (NFPA)

Section Number	Title
NFPA 407	Standard for Aircraft Fuel Servicing (National Fire Codes, Vol. 7)
NFPA 70	National Electrical Code
NFPA 2001	Standard on Clean Agent Fire Extinguishing Systems

(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)

Section Number	Title
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

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

Section Number	Title
NATP AVTP 03-30 WT	Steering and Maneuverability
NATP 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).

U.S. OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION (OSHA) (29 CFR)

Section Number	Title
29 CFR 1910.12	Hazard Communication

(Application for copies should reference "Code of Federal Regulations 29 CFR" and should be addressed to the Superintendent of Documents, US Government Printing Office, Washington, DC 20402 or online at <http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=%2Findex.tpl>)

AUSTRALIAN GOVERNMENT AGENCIES

Department of Infrastructure, Transport, Regional Development and Local Government
Motor Vehicles Standards Act 1989

Australian Design Rules - 3rd Edition (ADR)

Section Number	Title
ADR 03/03	Seat and Seat Anchorage
ADR 05/05	Anchorage for Seatbelts
ADR 06/00	Direction Indicators
ADR 13/00	Installation of Lighting and Light-Signalling Devices on other than L-Group Vehicles
ADR 18/03	Instrumentation
ADR 30/01	Smoke Emission Control for Diesel Vehicles
ADR 38/03	Trailer Braking Systems
ADR 42/04	General Safety Requirements
ADR 45/01	Lighting & Light-Signaling Devices not covered by ECE Regulations
ADR 49/00	Front and Rear Position (Side) Lamps, Stop Lamps and End-outline Marker Lamps
ADR 62/02	Mechanical Connections Between Vehicles
ADR 75/00	Headlamp Cleaners

(Copies are available from the following website:

http://www.infrastructure.gov.au/roads/motor/design/adr_online.aspx)

Australian Paint Approval Scheme Specification

Section Number	Title
0502 (APAS 0502/1)	Disruptive Pattern Camouflage Polyurethane Finishing System for Vehicles & Equipment

(Copies are available from the following website: <http://www.apas.gov.au/SpecList.asp>)

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 SOCIETY FOR TESTING & MATERIALS (ASTM)

Section Number	Title
ASTM D975	Standard Specification for Diesel Fuel Oils

(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)

Section Number	Title
GMW14872	Accelerated Cyclic Laboratory Corrosion Test (replaces GM 9540P)

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

INTERNATIONAL ORGANIZATION OF STANDARDIZATION (ISO)

Section Number	Title
ISO 2631-1	Mechanical vibration and shock -- Evaluation of human exposure to whole-body vibration -- Part 1: General requirements
ISO 2631-5	Mechanical vibration and shock -- Evaluation of human exposure to whole-body vibration -- Part 5: Method for evaluation of vibration containing multiple shocks

(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)

Section Number	Title
SAE AS8090	Mobility, Towed Aerospace Ground Equipment, General Requirements for (DOD Adopted)
SAE J163	Low Tension Wiring and Cable Terminals and Splice Clips (DOD Adopted)
SAE J198	Windshield Wiper Systems- Trucks, Buses, and Multipurpose Vehicles (DOD Adopted)
SAE J318	Automotive Air Brake Line Couplers (Gladhands)
SAE J336	Sound Level for Truck Cab Interior (DOD Adopted)
SAE J343	Test and Test Procedures for SAE 100R Series Hydraulic Hose and Hose Assemblies
SAE J366	Exterior Sound Level for Heavy Trucks and Buses (DOD Adopted)
SAE J381	Windshield Defrosting Systems Test Procedures -Trucks, Buses, and Multipurpose Vehicles (DOD Adopted)
SAE J382	Windshield Defrosting Systems Performance Requirements -Trucks, Buses, and Multipurpose Vehicles (DOD Adopted)
SAE J516	Hydraulic Hose Fittings
SAE J517	Hydraulic Hose
SAE J534	Lubrication Fittings (DOD Adopted)
SAE J560	Seven Conductor Electrical Connector for Truck-Trailer Jumper Cable (DOD Adopted)
SAE J682	Rear Wheel Splash and Stone Throw Protection (DOD Adopted)
SAE J683	Tire Chain Clearance-Trucks, Buses (Except Suburban, Intercity, and Transit Buses), and Combinations of Vehicle (DOD Adopted)
SAE J697	Safety Chain of Full Trailers or Converter Dollies (DOD Adopted)
SAE J701	Truck Tractor Semitrailer Interchange Coupling Dimensions (DOD Adopted)
SAE J706	Rating of Winches (DOD Adopted)
SAE J848	Fifth Wheel King Pin, Heavy Duty - Commercial Trailers and Semitrailers (DOD Adopted)
SAE J849	Connection and Accessory Locations for Towing Multiple Trailers (DOD Adopted)
SAE J994	Alarm - Backup - Electric Laboratory Performance Testing, Standard (DOD Adopted)
SAE J1100	Motor Vehicle Dimensions (DOD Adopted)
SAE J1292	Automobile, Truck, Truck-Tractor, Trailers, and Motor Coach Wiring (DOD Adopted)
SAE J1436 (R)	Requirements for Engine Cooling System Filling, De-aeration, and Drawdown Tests, Information Report
SAE J1587	Joint SAE/TMC Electronic Data Interchange between Microcomputer Systems in Heavy Duty Vehicle Applications
SAE J1708	Serial Data Communications between Microcomputer Systems in Heavy-duty Vehicle Applications 13
SAE J1850	Class B Data Communications Network Interface
SAE J1939	Series: J1939-11 Physical Layer - 250K bits/s, Shielded Twisted Pair
SAE J1939-13	Off-Board Diagnostic Connector

Section Number	Title
SAE J1939-21	Data Link Layer
SAE J1939-31	Network Layer
SAE J1939-71	Vehicle Application Layer
SAE J1939-73	Application Layer - Diagnostics
SAE J1939-81	Recommended Practice for Serial Control and Communications Vehicle Network - Part 81 - Network Management
SAE J1992	Wheels/Rims - Military Vehicles - Test Procedures and Performance Requirements
SAE J2014	Pneumatic Tires for Military Tactical Wheeled Vehicles
SAE 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)

UNDERWRITERS LABORATORIES (UL) INCORPORATED

Section Number	Title
UL 299	Dry Chemical Fire Extinguishers
UL 711	Rating and Fire Testing of Fire Extinguishers
UL 2166	Halocarbon Clean Agent Extinguishing System Units

2.4 Order of precedence

If there is 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 ATPD.
3. Government documents, drawings and publications specified in the JLTV PD.
4. Non-government documents, drawings and publications specified in the JLTV PD.
5. Documents, drawings and publications referenced in (3) or (4) above.

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.

ID	Purchase Description v2.7
PDFOV-874	3 VEHICLE REQUIREMENTS
PDFOV-875	The JLTV provides enhanced light tactical mobility as an integral component of future Joint war fighting concepts and the Joint Force's ability to dominate the asymmetric operational environment. The JLTV system includes the truck and the companion trailer. If a conflict arises between the main body and vehicle sub-configuration, the callout in the sub-configuration takes precedence. If not otherwise specified, all requirements are threshold values (T). Objective values, which are desired capabilities, are labeled with an (O).
PDFOV-8260	3.1 JLTV Sub-Configurations
PDFOV-8261	3.1.1 JLTV-GP
PDFOV-8262	The JLTV-GP (General Purpose) is a highly mobile multi-purpose platform for general utility, movement of troops or small supply items about the battlefield. The JLTV-GP provides general purpose logistical support, including administrative movement. The JLTV-GP includes only a basic suite of command and control items common to all members of the FoV.
PDFOV-8263	3.1.2 JLTV-SP
PDFOV-8264	The JLTV-SP (Special Purpose) is a highly mobile multi-purpose platform for the general C2 purposes of unit leaders and functional staffs within the USMC Ground Combat Element and the U.S. Army Brigade Combat Teams. The primary purpose of the JLTV-SP is to support small-unit leader C2 by providing access to classified or unclassified networks, as well as command and control applications supporting maneuver, fires, aviation, intelligence, signal (including retrans) and logistics. In this role, the JLTV-SP essentially serves as a scaled-down command and control vehicle. The primary difference between the JLTV-SP and JLTV-GP is the addition of more capable command and control systems that support specialized C2 / staff missions, or small unit leaders, such as company commanders. For US Army JLTV-SP vehicles, the primary difference is inclusion of the Soldier Network Extension.
PDFOV-8265	3.1.3 JLTV-HGC
PDFOV-8266	The JLTV-HGC (Heavy Guns Carrier) accommodates mounting weapons (machine guns, grenade machine-gun, etc.) with a protected gun mount and will be the principal light vehicle employed for over-watch and base of fire during infantry attack, convoy escort, and security (military police).
PDFOV-8267	3.1.4 JLTV-CCWC
PDFOV-8268	The JLTV-CCWC (Closed Combat Weapons Carrier) is configured for employment of the Close Combat Weapons System, currently the TOW-ITAS or Saber, and direct fire kinetic weapons such as the M2 .50 Cal machine-gun. The JLTV-CCWC is employed on avenues of approach, over-watch positions or attack by fire positions. During all types of operations including urban operations, they will use its precision long range fire capability to enable maneuver of Infantry units in the close fight. The JLTV-CCWC satisfies the requirement for an anti-tank / anti-armor weapons platform within the USMC and U.S. Army.
PDFOV-8271	3.1.5 JLTV- C20TM/FDC

ID	Purchase Description v2.7
PDFOV-8272	The JLTV-C2OTM/FDC (Command and Control on the Move/ Fire Direction Center) vehicle provides protected transport for unit level leaders with selected staff at the battalion level and above along with their associated battle command equipment. It allows them to perform command and control tasks away from fixed command posts, closer to the points of decisive action on the battlefield. It provides access to classified or unclassified networks, as well as command and control applications supporting maneuver, fires, and logistics. The JLTV-C2OTM/FDC uses the same body structure and chassis as the JLTV-GP with mounting provisions for battle command equipment to support operational security and provide equivalent unit-level mobility characteristics. The JLTV-C2OTM/FDC vehicle also hosts the FDC capability for Army fire support units.
PDFOV-8273	3.1.6 JLTV-UTL
PDFOV-8275	The JLTV-UTL (Utility) carries cargo (or unprotected troops in an administrative environment) on an open bed; this configuration provides mobility primarily for non-shelter loads, such as boxes, pallets, small containers, or break bulk cargo. As a prime mover, this vehicle tows existing combat loads including 105 mm howitzers, Q-36 radars, or other towed loads typically moved by light tactical vehicles. The JLTV-UTL acts as a Shelter Carrier when configured to carry existing standard shelters required for maintenance, communications, etc. The bed maybe modified or a shelter interface kit may be required to accept shelter loads and optimize vehicle performance while loaded with a shelter. Standard legacy shelters are supported by this vehicle.
PDFOV-8346	3.1.7 JLTV-T
PDFOV-8347	The JLTV-T (Trailer) is capable of meeting the mobility characteristics of the JLTV and capable of safely carrying the payload.
PDFOV-876	3.2 Physical Requirements
PDFOV-877	3.2.1 Curb Weight
PDFOV-878	Curb Weight (CW) is defined as the weight of the empty JLTV with BII onboard; all armor to meet A-structure requirements; infrastructure to support standard equipment; and a full load of fuel, fluids, and lubricants. Standard equipment is defined in Annex K. BII is defined in Annex M.
PDFOV-8201	The JLTV-GP shall not exceed 13,600 lbs at CW.
PDFOV-8202	The JLTV-SP shall not exceed 13,600 lbs at CW.
PDFOV-8203	The JLTV-HGC shall not exceed 13,600 lbs at CW.
PDFOV-8204	The JLTV-CCWC shall not exceed 13,600 lbs at CW.
PDFOV-8206	The JLTV-C2OTM/FDC shall not exceed 13,600 lbs at CW.
PDFOV-8207	The JLTV-UTL shall not exceed 14,100 lbs at CW.
PDFOV-879	3.2.2 Gross Vehicle Weight
PDFOV-880	Gross Vehicle Weight (GVW) is defined as curb weight plus B-kit armor and payload.

ID	Purchase Description v2.7
PDFOV-8190	3.2.3 Gross Vehicle Weight Rating
PDFOV-8191	Gross Vehicle Weight Rating (GVWR) is defined as the maximum allowable total weight of the vehicle so that the vehicle does not exceed the published ratings of the load bearing components (e.g. tires, wheels, axles, suspension frame).
PDFOV-881	3.2.4 Gross Combined Vehicle Weight
PDFOV-882	Gross Combined Vehicle Weight (GCVW) is defined as the gross vehicle weight of the JLTV excluding tongue weight plus the weight of the towed load. All characteristics requiring evaluation at GCVW are performed using the JLTV-T with full payload.
PDFOV-883	3.2.5 Payload
PDFOV-884	Payload is defined as any load placed in or on the vehicle that increases the vehicle weight above the curb weight. Payload includes, but is not limited to, the weight of the driver and crew, weight of crew's personal gear, cargo, water cans, table of organization equipment or common table of allowances items, kits, communications and electronics equipment, cargo cover kits, shelterized systems (including the weight of the shelter), ammunition and/or additional fuels and lubricants (to include water) necessary to render the system combat ready. Any trailer tongue load will be included as a part of the payload (if applicable). B-kit armor is not considered part of payload.
PDFOV-8208	The JLTV-GP shall be capable of transporting a payload of 3,500 lbs. (T)
PDFOV-8209	The JLTV-GP shall be capable of transporting a payload of 4,000 lbs. (O)
PDFOV-8210	The JLTV-SP shall be capable of transporting a payload of 3,500 lbs. (T)
PDFOV-8211	The JLTV-SP shall be capable of transporting a payload of 4,000 lbs. (O)
PDFOV-8212	The JLTV-HGC shall be capable of transporting a payload of 3,500 lbs. (T)
PDFOV-8213	The JLTV-HGC shall be capable of transporting a payload of 4,000 lbs. (O)
PDFOV-8214	The JLTV-CCWC shall be capable of transporting a payload of 3,500 lbs. (T)
PDFOV-8215	The JLTV-CCWC shall be capable of transporting a payload of 4,000 lbs. (O)
PDFOV-8219	The JLTV-C2OTM/FDC shall be capable of transporting a payload of 4,000 lbs. (O)
PDFOV-8220	The JLTV-UTL shall be capable of transporting a payload of 5,100 pounds. (T)
PDFOV-8221	The JLTV-UTL shall be capable of transporting a payload of 5,600 pounds. (O)
PDFOV-8222	The JLTV-T shall have a payload of 5,600 lbs.
PDFOV-8128	3.2.5.1 GFE Integration
PDFOV-8129	All Government Furnished Equipment (GFE) as specified by the JLTV variant in Annex K shall be integrated per their Interface Control Documents (ICD) into designated vehicle locations with accounting for SWaPC (including all electrical interfaces).
PDFOV-8130	All GFE as specified by the JLTV variant in Annex K shall be able to be installed without any additional vehicle modifications.
PDFOV-8131	The GFE performance shall not be degraded due its integration within JLTV.
PDFOV-7339	3.2.5.2 Self Sustainment Payload

ID	Purchase Description v2.7
PDFOV-7340	The JLTV (with accompanying trailer) shall be capable of carrying three (3) days of self sustainment payload. (T)
PDFOV-7984	The JLTV (with accompanying trailer) shall be capable of carrying seven (7) days of self sustainment payload. (O)
PDFOV-7341	3.2.5.2.1 On Vehicle Self-Sustainment Payload
PDFOV-7342	The JLTV shall be capable of carrying at least one (1) day of self sustainment payload on the vehicle as defined below.
PDFOV-8223	3.2.6 Crew
PDFOV-8224	The JLTV-GP shall provide the capability to accommodate and transport a total of four (4) crew and their personal equipment with individual weapon.
PDFOV-8225	The JLTV-SP shall provide the capability to accommodate and transport a total of four (4) crew and their personal equipment with individual weapon.
PDFOV-8226	The JLTV-HGC shall provide the capability to accommodate and transport a total of four (4) crew and their personal equipment with individual weapon.
PDFOV-8227	The JLTV-CCWC shall provide the capability to accommodate and transport a total of four (4) crew and their personal equipment with individual weapon.
PDFOV-8229	The JLTV-C2OTM/FDC shall provide the capability to accommodate and transport a total of four (4) crew and their personal equipment with individual weapon.
PDFOV-8230	The JLTV-UTL shall provide the capability to accommodate two (2) crew and their personal gear.
PDFOV-6836	3.2.7 B-kit Armor
PDFOV-6837	The B-kit armor shall be defined as the Gunners Protection Kit (GPK) and the add on armor above the A structure inherent armor.
PDFOV-895	3.2.8 Operating Environment
PDFOV-896	3.2.8.1 Operating Parameters
PDFOV-898	The JLTV shall start and operate in all altitudes from -500 feet (-152.4 meters) through 12,000 feet (3658 meters).
PDFOV-899	The JLTV shall maintain full mission capability in temperatures from -40°F (-40°C) to 120°F (49°C) under full radiant heat loading (from the sun, crew, electronics, engine heat) in the operating range of the vehicle.
PDFOV-900	3.2.8.1.1 Start
PDFOV-902	The JLTV shall start in -25°F (-32°C) to 120°F (49°C) within one (1) minute from the initiation of cranking with no external aids, kits, or prior warming of the batteries.
PDFOV-903	The JLTV shall start in -40°F (-40°C) to -26°F (-32°C) within two (2) minutes or less from the initiation of cranking. An arctic kit can be used.
PDFOV-3942	The JLTV engine shall be able to be started within 30 minutes from the initiation of the engine arctic kit-aided start sequence.
PDFOV-6544	3.2.8.1.1.1 Automatic Starting Aid

ID	Purchase Description v2.7
PDFOV-3529	If either 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	3.2.8.2 Storage Temperatures
PDFOV-912	The JLTV and JLTV-T shall be capable of being placed outdoor in long term storage, up to six months, at temperatures ranging between -50°F (-46°C) and 160°F (71°C) , in humid storage conditions in accordance with (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. The removal of the DSDU/CSDU/ASDU/ADU and the Vehicle Computer System is permitted.
PDFOV-7985	3.2.8.3 Height
PDFOV-7986	The JLTV shall have the ability to be reduced to a height of less than 76 in (193 cm) as measured from the ground to the highest point on the vehicle (excluding GPK and antennas).
PDFOV-941	3.3 Performance Requirements
PDFOV-943	3.3.1 Mobility
PDFOV-7477	The JLTV at GVW shall be capable of traversing fine grain soils with an Rating Cone Index (RCI) of 25 in a single pass. (T)
PDFOV-7987	The JLTV at GVW shall be capable of traversing fine grain soils with an RCI of 22 in a single pass. (O)
PDFOV-7478	The JLTV at GVW shall be capable of ascending coarse grained, dry sand (less than 1% moisture content) 30% longitudinal slopes.
PDFOV-946	The 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. Optimum CTIS (if fitted) setting may be used to meet JLTV Tactical Mobility requirements.
PDFOV-8348	3.3.1.1 Speed
PDFOV-8349	The JLTV-T at all permissible loads shall be capable of operating at speeds specified for the JLTV in all on/off road conditions without damage or interference.
PDFOV-978	3.3.1.1.1 Acceleration Dash Speed
PDFOV-7392	3.3.1.1.1.1 0-30 mph Acceleration Dash Speed
PDFOV-980	The JLTV at GVW shall be capable of accelerating on dry, level hard terrain from 0 to 30 mph (48.3 kph) within 9.4 seconds. (T)
PDFOV-7990	The JLTV at GVW shall be capable of accelerating on dry, level hard terrain from 0 to 30 mph (48.3 kph) within 7 seconds. (O)
PDFOV-7393	3.3.1.1.1.2 0-50 mph Acceleration Dash Speed
PDFOV-981	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-984	3.3.1.1.2 Forward Speed

ID	Purchase Description v2.7
PDFOV-985	The JLTV at GVW shall be capable of maintaining a minimum speed of 70 mph (112.7 kph) in the forward direction on a dry, level, hard surface road.
PDFOV-986	3.3.1.1.3 Reverse Speed
PDFOV-987	The JLTV at GVW shall be capable of operating in reverse at a speed of 8 mph (12.9 kph) on a dry, level, hard surface road.
PDFOV-988	3.3.1.1.4 Speed on Grade
PDFOV-989	The JLTV shall be capable of continuously ascending a 5-percent grade at not less than 45 mph (72.4 kph) at GVW (T).
PDFOV-8074	The JLTV shall be capable of continuously ascending a 5-percent grade at 60 mph (96.6 kph) at GVW (O).
PDFOV-990	3.3.1.2 Lateral Stability
PDFOV-7599	The JLTV shall be capable of sustaining 0.5 g lateral acceleration in a steady state cornering maneuver on a paved surface at CW. (T)
PDFOV-7991	The JLTV shall be capable of sustaining 0.6 g lateral acceleration in a steady state cornering maneuver on a paved surface at CW. (O)
PDFOV-7600	The JLTV shall be capable of sustaining 0.5 g lateral acceleration in a steady state cornering maneuver on a paved surface at GVW. (T)
PDFOV-7992	The JLTV shall be capable of sustaining 0.6 g lateral acceleration in a steady state cornering maneuver on a paved surface at GVW. (O)
PDFOV-992	3.3.1.3 Approach & Departure Angles
PDFOV-994	The JLTV angle of approach shall not be less than 60 degrees without winch.
PDFOV-996	The JLTV angle of approach shall not be less than 45 degrees with winch.
PDFOV-998	The JLTV at GVW shall possess an angle of departure no less than 45 degrees. This angle cannot be intruded on by any part of the JLTV.
PDFOV-8350	The JLTV-T angle of departure shall not be less than 45 degrees.
PDFOV-8351	3.3.1.4 Reversing
PDFOV-8352	The JLTV and JLTV-T combination shall be capable of being backed safely from any normal position (such as when in a turn but not from full jackknife) without damage to truck, trailer, or payload, and without necessity for operator dismounting or other preparation.
PDFOV-1001	3.3.1.5 Brakes
PDFOV-7995	All components in the JLTV brake system shall meet or exceed all SAE brake standards relevant based on the type of brakes chosen for implementation on the JLTV.
PDFOV-1002	3.3.1.5.1 Service Brakes
PDFOV-1003	The JLTV shall meet the requirements of Federal Motor Vehicles Safety Standards (FMVSS) 571.121 for pneumatic brakes or FMVSS 571.105 for hydraulic brakes to include vehicle stopping distances.
PDFOV-1007	The service brakes shall hold the JLTV on a dry hard surface, 60% grade (30.96 degrees) pointing either uphill or downhill.
PDFOV-6858	The service brakes shall stop the JLTV from a speed of 20 mph (32.2 kph) in 25 ft or less. (T)
PDFOV-7993	The service brakes shall stop the JLTV from a speed of 30 mph (48.3 kph) in 25 ft or less. (O)
PDFOV-7601	The brake pedal force shall not exceed that which can be applied by the driver as defined in MIL-STD 1472 section 5.4.4.3.

ID	Purchase Description v2.7
PDFOV-6916	The JLTV at GCVW shall be capable of maintaining speeds downhill continuously equal to the uphill capability of the JLTV up to a 15% (8.6 degrees) slope.
PDFOV-3378	If engine assisted braking is provided then this system shall have the ability to be turned off when not needed.
PDFOV-7994	If separate methods of actuation are provided for any functions of the JLTV service brake system, actuation of one function shall not cause operation of another function.
PDFOV-7998	The JLTV which utilizes air brakes to operate the trailer and/or towed like-vehicle brakes shall be equipped with air brake quick connect couplers (gladhands) at the front and rear of the prime mover and at the front of the trailer that meet the requirements of SAE J318.
PDFOV-7999	Where the service brake system incorporates a single brake power unit, an audible warning indicator shall accompany the visible warning indicator mentioned in Clause 4.1.2 of ADR 35/03.
PDFOV-8000	Each air brake reservoir shall be fitted with either a manual or automatic condensate drain valve fitted at the lowest point.
PDFOV-8001	In the case where the master cylinder also contains fluid for use not in the brake system, the Visible Indicator shall only operate when there is a drop in the fluid used exclusively for the brake system.
PDFOV-8002	Where the JLTV is equipped to tow a trailer that also utilizes air brakes, when the pressure in the supply line drops to or below 65 psi (450 kPa), the visible indicator shall operate as specified in Clause 4.2 of ADR 35/03.
PDFOV-8003	The visible indicator referenced in ADR 35/03 4.2.4 shall not operate when a JLTV-T is not connected and no other defect is present.
PDFOV-8004	The visible indicator shall be located within the bounds specified in Clauses 4.2.12.1 - 4.2.12.4 of ADR 35/03.
PDFOV-8007	Where the JLTV is equipped to tow a trailer that also utilizes air brakes, operation of the parking brake system shall cause the pressure in the supply line to drop below 5 psi (35 kPa).
PDFOV-8012	A hydraulic service brake system shall be a split service brake system.
PDFOV-8013	Where the secondary brake system is a spring brake system, it shall comply with Clauses 4.5.6.1 - 4.5.6.3 of ADR 35/03. A backup system capable of energizing the pump used to supply high pressure fluid to the brake power assist units independent of engine operation may be regarded as a secondary brake system.
PDFOV-8019	The capacity of each reservoir shall not be less than the fluid displacement resulting when all the wheel cylinders move from a new-lining, full retracted position, to a fully-worn, fully applied position.
PDFOV-8020	Any Stored Energy device shall be so protected that failure of the device generating the energy does not result in depletion of the Stored Energy.
PDFOV-8021	Where the service brake system incorporates brake power assist units, and where the secondary brake is not applied by the service brake control, the volume of all stored energy devices shall be such that Clauses 4.7.6.1 and 4.7.6.2 of ADR 35/03 are met.
PDFOV-8022	An energy generating device producing energy at a negative pressure shall comply with the volume pressure relationship stated in Clause 4.7.6 of ADR 35/03 IAW Clauses 4.7.7.1 and 4.7.7.2 of ADR 35/03.

ID	Purchase Description v2.7
PDFOV-8023	Where the energy generating device for any number of brake power units supplies energy to other devices, it shall preferentially charge the brake power units to a level not less than 65 psi (450 kPa).
PDFOV-8024	All brake power units shall preferentially service the brake system if the energy falls below 65 psi (450 kPa).
PDFOV-8016	Where the motor JLTV uses a split service brake system as the secondary brake system and is equipped to tow a JLTV-T that also utilizes air brakes, it shall be so equipped that operation of the secondary brake system causes a control signal proportional to the level of braking to be present in the control line.
PDFOV-3921	The combination of JLTV and JLTV-T service brake systems shall hold the vehicle at GCVW in either direction on a 40% grade (21.8 degrees) longitudinal slope on a dry, hard surface and free from loose material. Systems or components outside the service brake system cannot be used to augment the braking force during this test.
PDFOV-8015	Venting of the JLTV-T supply line (if it occurs), shall not commence until the energy in the supply line falls below 51 psi (350 kPa), or if the energy in the supply line is reducing at a rate of not less than 100 kPa/sec until the energy in the supply line falls below 61 psi (420 kPa).
PDFOV-8354	The JLTV-T service brakes shall meet the requirements of FMVSS 121.
PDFOV-8355	The JLTV-T shall be equipped with service brakes as specified per Australian Design Rules (ADR) 38/03 Trailer Brake Systems for TB Class Trailer (Light Trailer) or TC Class Trailer (Medium Trailer).
PDFOV-8356	The JLTV-T shall be provided with indicator(s) that communicate trailer service brake malfunctions and error messages to the driver.
PDFOV-1008	3.3.1.5.2 Parking Brakes
PDFOV-3924	The JLTV parking brake shall be capable of holding the JLTV at GVW in either direction on a 60% (30.96 degrees) longitudinal slope using the JLTV parking brake with the engine off on a dry, hard surface and free from loose material. Systems or components outside the parking brake system cannot be used to augment the braking force during this test.
PDFOV-8005	At least two separate and distinct movements shall be required to disengage the parking brake.
PDFOV-8006	The parking brake system shall compensate for any increased movement of its components arising from wear.
PDFOV-6819	The JLTV parking brake shall have a manual release in the event of an electrical, hydraulic, or pneumatic system failure. "Caging" of air brake chambers is acceptable to meet this requirement.
PDFOV-8008	The pressure in the supply line shall be restored to normal when the parking brake system is released.
PDFOV-8009	If an independent control is fitted to release the trailer parking brake control, it shall restore the supply line to the normal condition once the pressure has dropped to below 5 psi (35 kPa) IAW Clauses 4.3.7.1 - 4.3.7.3 of ADR 35/03.
PDFOV-8010	If the parking brake indicator lamp is separate from all other lamps, at least the words 'PARK BRAKE' or 'PARKING BRAKE' or the symbol for 'PARKING BRAKE' shall be displayed as specified in ISO 2575-20.
PDFOV-8011	The parking brake indicator lamp shall be located as specified in Clause 4.2.12 of ADR 35/03.

ID	Purchase Description v2.7
PDFOV-8017	Where an additional control is fitted for the independent application of a JLTV-T parking brake system, it shall cause the pressure in the supply line to drop below 5 psi (35 kPa).
PDFOV-8018	The control described in Clause 4.5.10 of ADR 35/03 shall be marked with the words 'TRAILER EMERGENCY BRAKES' in letters not less than 5mm high.
PDFOV-1009	The combination of JLTV and JLTV-T parking brake system shall be capable of holding the vehicle at GCVW in either direction on a 40% (21.8 degrees) longitudinal slope with the engine off on a dry, hard surface and free from loose material. Systems or components outside the parking brake system cannot be used to augment the braking force during this test.
PDFOV-8357	The JLTV-T parking brakes shall hold the trailer stationary on a 30% (17.2 degrees) longitudinal grade, on a dry, paved surface, with the trailer facing in either direction, when disconnected from the prime mover.
PDFOV-1014	3.3.1.5.3 Brake Configuration
PDFOV-1015	The JLTV brakes shall conform to FMCSR 393.40 through 393.42 (b), 393.43, and 393.45 through 393.52, 393.11 and 393.55 in the tactical environment.
PDFOV-1022	3.3.1.5.3.1 Brakes for Pintle/Lunette Towed Trailers
PDFOV-1023	Air brake glad hand couplers with cover assemblies, cover securing chains, and with clear identification (color code and tags of both emergency and service line connectors), 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	3.3.1.5.3.2 Trailer Brake Control System
PDFOV-1030	A complete JLTV trailer brake control system shall be furnished with independent hand control.
PDFOV-1033	The JLTC-T BII shall be provided with 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	3.3.1.5.4 Antilock Braking System
PDFOV-7996	The traction control system, or any failure of it - except for parts common to both the traction control system and the JLTV service brake system, shall not interfere with normal braking.
PDFOV-8025	At speeds exceeding 9.3 mph (15 kph), the wheels on at least one axle in each axle group shall not lock up when a control force of 685 N is applied on the control from an initial speed of 25 mph (40 kph) and 50 mph (80 kph).
PDFOV-8026	Any electronic failure of the Antilock Braking System (ABS) shall be signaled to the driver by means of an optical warning signal located IAW Clause 4.2.12 of ADR 35/03.
PDFOV-8027	The warning device shall light up when the ABS is energized, and must go off after not less than 2 seconds or at the latest when the JLTV reaches a speed of 9.3 mph (15 kph).
PDFOV-1039	The ABS shall have built-in test and report thru the vehicle diagnostic system.

ID	Purchase Description v2.7
PDFOV-1043	The ABS Electronic Control Unit (ECU) shall include wiring provisions (via existing 12 pin/7 pin cables -STANAG 4007/J560 connectors) to transmit the trailer ABS malfunction signal per FMVSS121 requirements to the JLTV cab using PLC (Power Line Carrier - SAEJ 2497) communication technology.
PDFOV-8358	3.3.1.5.5 Breakaway
PDFOV-8359	The JLTV-T shall be equipped with a breakaway safety feature to apply JLTV-T brakes which conform to FMCSR 393.43.
PDFOV-8231	3.3.1.6 Terrain
PDFOV-8232	The JLTV-GP at GVW shall meet the NATO Reference Mobility Model (NRMM) Prediction Summary and each individual value for Cross Country and Trafficability at the various geographical locations and soil conditions shown in Table 1.
PDFOV-8233	The JLTV-SP at GVW shall meet the NRMM Prediction Summary and each individual value for Cross Country and Trafficability at the various geographical locations and soil conditions shown in Table 1.
PDFOV-8234	The JLTV-HGC at GVW shall meet the NRMM Prediction Summary and each individual value for Cross Country and Trafficability at the various geographical locations and soil conditions shown in Table 1.
PDFOV-8235	The JLTV-CCWC at GVW shall meet the NRMM Prediction Summary and each individual value for Cross Country and Trafficability at the various geographical locations and soil conditions shown in Table 1.
PDFOV-8237	The JLTV-C2OTM/FDC at GVW shall meet the NRMM Prediction Summary and each individual value for Cross Country and Trafficability at the various geographical locations and soil conditions shown in Table 1.

ID	Purchase Description v2.7			
PDFOV-8238	Table 1 Mobility Rating			
	All values are thresholds unless indicated by (O)			JLTV-GP
	NRMM Prediction Summary		Cross Country v50 (mph)	18 (T)/ 22 (O)
			Trafficability (%XC No Go)	23 (T)/ 18 (O)
	Geographical Location	Soil Condition	NRMM Attribute	JLTV-GP
	Lauterbach, Germany <small>(Map Sheet 5322)</small>	Dry Normal	Cross Country v50 (mph)	= 21
			Trafficability (%XC No Go)	= 14%
		Wet Normal	Cross Country v50 (mph)	= 18
			Trafficability (%XC No Go)	= 22%
		Snow	Cross Country v50 (mph)	= 15
			Trafficability (%XC No Go)	= 32%
	Al Mafrq, Jordan <small>(Map Sheet 3254 IV)</small>	Dry Normal	Cross Country v50 (mph)	= 23
			Trafficability (%XC No Go)	= 13%
		Sand	Cross Country v50 (mph)	= 12
			Trafficability (%XC No Go)	= 18%
Cheorweon, Korea <small>(Map Sheet 3222 III)</small>	Dry Normal	Cross Country v50 (mph)	= 13	
		Trafficability (%XC No Go)	= 38%	
	Wet Normal	Cross Country v50 (mph)	= 12	
		Trafficability (%XC No Go)	= 39%	

ID	Purchase Description v2.7																																																											
PDFOV-8239	The JLTV-UTL at GVW shall meet the NRMM Prediction Summary and each individual value for Cross Country and Trafficability at the various geographical locations and soil conditions shown in Table 2.																																																											
PDFOV-8240	<table border="1"> <thead> <tr> <th colspan="4" data-bbox="323 310 852 337">Table 2 Mobility Rating</th> </tr> <tr> <td colspan="3" data-bbox="323 337 722 365">All values are thresholds unless indicated by (O)</td> <td data-bbox="722 337 852 365">JLTV-UTL</td> </tr> </thead> <tbody> <tr> <td colspan="2" data-bbox="323 365 596 483" rowspan="2">NRMM Prediction Summary</td> <td data-bbox="596 365 722 418">Cross Country v50 (mph)</td> <td data-bbox="722 365 852 418">17 (T)/ 21 (O)</td> </tr> <tr> <td data-bbox="596 418 722 483">Trafficability (%XC No Go)</td> <td data-bbox="722 418 852 483">24 (T)/ 18 (O)</td> </tr> <tr> <th data-bbox="323 509 491 565">Geographical Location</th> <th data-bbox="491 509 596 565">Soil Condition</th> <th data-bbox="596 509 722 565">NRMM Attribute</th> <th data-bbox="722 509 852 565">JLTV-UTL</th> </tr> <tr> <td data-bbox="323 565 491 922" rowspan="6">Lauterbach, Germany (Map Sheet 5322)</td> <td data-bbox="491 565 596 683" rowspan="2">Dry Normal</td> <td data-bbox="596 565 722 618">Cross Country v50 (mph)</td> <td data-bbox="722 565 852 618">= 20</td> </tr> <tr> <td data-bbox="596 618 722 683">Trafficability (%XC No Go)</td> <td data-bbox="722 618 852 683">= 14%</td> </tr> <tr> <td data-bbox="491 683 596 802" rowspan="2">Wet Normal</td> <td data-bbox="596 683 722 737">Cross Country v50 (mph)</td> <td data-bbox="722 683 852 737">= 17</td> </tr> <tr> <td data-bbox="596 737 722 802">Trafficability (%XC No Go)</td> <td data-bbox="722 737 852 802">= 25%</td> </tr> <tr> <td data-bbox="491 802 596 922" rowspan="2">Snow</td> <td data-bbox="596 802 722 855">Cross Country v50 (mph)</td> <td data-bbox="722 802 852 855">= 16</td> </tr> <tr> <td data-bbox="596 855 722 922">Trafficability (%XC No Go)</td> <td data-bbox="722 855 852 922">= 34%</td> </tr> <tr> <td data-bbox="323 922 491 1159" rowspan="4">Al Mafrq, Jordan (Map Sheet 3254 IV)</td> <td data-bbox="491 922 596 1040" rowspan="2">Dry Normal</td> <td data-bbox="596 922 722 976">Cross Country v50 (mph)</td> <td data-bbox="722 922 852 976">= 15</td> </tr> <tr> <td data-bbox="596 976 722 1040">Trafficability (%XC No Go)</td> <td data-bbox="722 976 852 1040">= 10%</td> </tr> <tr> <td data-bbox="491 1040 596 1159" rowspan="2">Sand</td> <td data-bbox="596 1040 722 1094">Cross Country v50 (mph)</td> <td data-bbox="722 1040 852 1094">= 11</td> </tr> <tr> <td data-bbox="596 1094 722 1159">Trafficability (%XC No Go)</td> <td data-bbox="722 1094 852 1159">= 21%</td> </tr> <tr> <td data-bbox="323 1159 491 1404" rowspan="4">Cheorweon, Korea (Map Sheet 3222 III)</td> <td data-bbox="491 1159 596 1278" rowspan="2">Dry Normal</td> <td data-bbox="596 1159 722 1213">Cross Country v50 (mph)</td> <td data-bbox="722 1159 852 1213">= 12</td> </tr> <tr> <td data-bbox="596 1213 722 1278">Trafficability (%XC No Go)</td> <td data-bbox="722 1213 852 1278">= 38%</td> </tr> <tr> <td data-bbox="491 1278 596 1404" rowspan="2">Wet Normal</td> <td data-bbox="596 1278 722 1331">Cross Country v50 (mph)</td> <td data-bbox="722 1278 852 1331">= 11</td> </tr> <tr> <td data-bbox="596 1331 722 1404">Trafficability (%XC No Go)</td> <td data-bbox="722 1331 852 1404">= 40%</td> </tr> </tbody> </table>				Table 2 Mobility Rating				All values are thresholds unless indicated by (O)			JLTV-UTL	NRMM Prediction Summary		Cross Country v50 (mph)	17 (T)/ 21 (O)	Trafficability (%XC No Go)	24 (T)/ 18 (O)	Geographical Location	Soil Condition	NRMM Attribute	JLTV-UTL	Lauterbach, Germany (Map Sheet 5322)	Dry Normal	Cross Country v50 (mph)	= 20	Trafficability (%XC No Go)	= 14%	Wet Normal	Cross Country v50 (mph)	= 17	Trafficability (%XC No Go)	= 25%	Snow	Cross Country v50 (mph)	= 16	Trafficability (%XC No Go)	= 34%	Al Mafrq, Jordan (Map Sheet 3254 IV)	Dry Normal	Cross Country v50 (mph)	= 15	Trafficability (%XC No Go)	= 10%	Sand	Cross Country v50 (mph)	= 11	Trafficability (%XC No Go)	= 21%	Cheorweon, Korea (Map Sheet 3222 III)	Dry Normal	Cross Country v50 (mph)	= 12	Trafficability (%XC No Go)	= 38%	Wet Normal	Cross Country v50 (mph)	= 11	Trafficability (%XC No Go)	= 40%
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PDFOV-1049	3.3.1.7 Vehicle Cone Index																																																											

ID	Purchase Description v2.7
PDFOV-1050	The JLTV Single Pass Vehicle Cone Index (VCI1) for mud/sand/snow shall have a value no greater than 25.0 at GVW, with the tire pressure set at an appropriate reduced level, and using a corresponding increased section width. (T)
PDFOV-8518	The JLTV Single Pass VCI1 for mud/sand/snow shall have a value no greater than 20.0 at GVW, with the tire pressure set at an appropriate reduced level, and using a corresponding increased section width. (O)
PDFOV-1051	3.3.1.8 Ride Quality
PDFOV-1061	3.3.1.8.1 Ride Limiting Speeds
PDFOV-7348	The JLTV at CW and GVW shall attain no more than six (6) watts average vertical absorbed power, as measured at the base of all crew seats of the JLTV, while negotiating 1 in (2.54 cm) Root Mean Square (RMS) ride courses at 30 mph (48.3 kph) speeds, with the tires at cross-country tire pressure. (T)
PDFOV-8028	The JLTV at CW and GVW shall attain no more than six (6) watts average vertical absorbed power, as measured at the base of all crew seats of the JLTV, while negotiating 1 in (2.54 cm) RMS ride courses at 35 mph (56.3 kph) speeds, with the tires at cross-country tire pressure. (O)
PDFOV-7349	The JLTV at CW and GVW shall attain no more than six (6) watts average vertical absorbed power, as measured at the base of all crew seats of the JLTV, while negotiating 1.5 in (3.81 cm) RMS ride courses at 20 mph (32.2 kph) speeds, with the tires at cross-country tire pressure. (T)
PDFOV-8029	The JLTV at CW and GVW shall attain no more than six (6) watts average vertical absorbed power, as measured at the base of all crew seats of the JLTV, while negotiating 1.5 in (3.81 cm) RMS ride courses at 28 mph (45 kph) speeds, with the tires at cross-country tire pressure. (O)
PDFOV-7350	The JLTV at CW and GVW shall attain no more than six (6) watts average vertical absorbed power, as measured at the base of all crew seats of the JLTV, while negotiating 2 in (5.08 cm) RMS ride courses at 15 mph (24.1 kph) speeds, with the tires at cross-country tire pressure. (T)
PDFOV-8030	The JLTV at CW and GVW shall attain no more than six (6) watts average vertical absorbed power, as measured at the base of all crew seats of the JLTV, while negotiating 2 in (5.08 cm) RMS ride courses at 22 mph (35 kph) speeds, with the tires at cross-country tire pressure. (O)
PDFOV-7351	The JLTV at CW and GVW shall attain no more than six (6) watts average vertical absorbed power, as measured at the base of all crew seats of the JLTV, while negotiating 2.5 in (6.35 cm) RMS ride courses at 13 mph (20.9 kph) speeds, with the tires at cross-country tire pressure. (T)
PDFOV-8031	The JLTV at CW and GVW shall attain no more than six (6) watts average vertical absorbed power, as measured at the base of all crew seats of the JLTV, while negotiating 2.5 in (6.35 cm) RMS ride courses at 18 mph (29 kph) speeds, with the tires at cross-country tire pressure. (O)
PDFOV-1081	3.3.1.8.2 Vertical Acceleration
PDFOV-8032	The JLTV at CW and GVW shall sustain no more than 2.5-G peak vertical acceleration, as measured at each crew location while negotiating a non-deformable, half-round 4 in (10.16 cm) obstacle at the rated speed of 65 mph (104.6 kph).
PDFOV-7354	The JLTV at CW and GVW shall sustain no more than 2.5-G peak vertical acceleration, as measured at each crew location while negotiating a non-deformable, half-round 6 in (15.24 cm) obstacle at the rated speed of 18 mph (29 kph). (T)
PDFOV-8033	The JLTV at CW and GVW shall sustain no more than 2.5-G peak vertical acceleration, as measured at each crew location while negotiating a non-deformable, half-round 6 in (15.24 cm) obstacle at the rated speed of 21 mph (34 kph). (O)

ID	Purchase Description v2.7
PDFOV-7355	The JLTV at CW and GVW shall sustain no more than 2.5-G peak vertical acceleration, as measured at each crew location while negotiating a non-deformable, half-round 8 in (20.32 cm) obstacle at the rated speed of 17 mph (27 kph). (T)
PDFOV-8034	The JLTV at CW and GVW shall sustain no more than 2.5-G peak vertical acceleration, as measured at each crew location while negotiating a non-deformable, half-round 8 in (20.32 cm) obstacle at the rated speed of 20 mph (32 kph). (O)
PDFOV-7356	The JLTV at CW and GVW shall sustain no more than 2.5-G peak vertical acceleration, as measured at each crew location while negotiating a non-deformable, half-round 10 in (25.4 cm) obstacle at the rated speed of 6 mph (10 kph). (T)
PDFOV-8035	The JLTV at CW and GVW shall sustain no more than 2.5-G peak vertical acceleration, as measured at each crew location while negotiating a non-deformable, half-round 10 in (25.4 cm) obstacle at the rated speed of 7 mph (11 kph). (O)
PDFOV-1096	3.3.1.8.3 Vehicular Vibration
PDFOV-1097	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.
PDFOV-1108	3.3.1.9 Grade and Slope Operations
PDFOV-3927	The JLTV shall be capable of meeting grade and slope operations with the fuel tank at 100% full.
PDFOV-3928	The JLTV shall be capable of meeting grade and slope operations with the fuel tank at 10% of the useable left.
PDFOV-1109	3.3.1.9.1 Grade Operations
PDFOV-1111	The JLTV at GCVW shall be capable of ascending and descending on dry, hard-surfaced longitudinal slopes up to and including 40% (21.8 degrees). (T)
PDFOV-8434	The JLTV at GCVW shall be capable of ascending and descending on dry, hard-surfaced longitudinal slopes up to and including 60% (30.96 degrees). (O)
PDFOV-8435	The JLTV at GVW shall be capable of ascending and descending on dry, hard-surfaced longitudinal slopes up to and including 60% (30.96 degrees). (T)
PDFOV-8075	The JLTV at GCVW shall be capable of starting and stopping on dry, hard-surfaced longitudinal slopes up to and including 40% (21.8 degrees). (T)
PDFOV-8436	The JLTV at GCVW shall be capable of starting and stopping on dry, hard-surfaced longitudinal slopes up to and including 60% (30.96 degrees). (O)
PDFOV-8437	The JLTV at GVW shall be capable of starting and stopping on dry, hard-surfaced longitudinal slopes up to and including 60% (30.96 degrees). (T)
PDFOV-1112	At GCVW, the JLTV engine shall be capable of being turned off and restarted while on the slope to assure that there is no loss of fluids or other malfunction while parked on slopes up to and including 40% (21.8 degrees). (T)

ID	Purchase Description v2.7
PDFOV-8438	At GCVW, the JLTV engine shall be capable of being turned off and restarted while on the slope to assure that there is no loss of fluids or other malfunction while parked on slopes up to and including 60% (30.96 degrees). (O)
PDFOV-8439	At GVW, the JLTV engine shall be capable of being turned off and restarted while on the slope to assure that there is no loss of fluids or other malfunction while parked on slopes up to and including 60% (30.96 degrees). (T)
PDFOV-1118	3.3.1.9.2 Side Slopes Operations
PDFOV-1119	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% (21.8 degrees) with no degradation in driver control (at GVW). Side slope operation is performed with either side of the vehicle facing up slope and without engine malfunction or loss of vehicle fluids.
PDFOV-1122	3.3.1.10 Tires
PDFOV-1124	The JLTV rims and tires shall meet the requirements of SAE J2014 and conform to FMVSS 571.119 and 571.120.
PDFOV-8383	The JLTV-T shall be capable of using the JLTV jack, jack handle, and lug wrench for tire changes.
PDFOV-1126	The JLTV and JLTV-T tires shall be a tubeless radial design with hub piloted wheels.
PDFOV-7602	Beadlock for CTIS system shall be provided if the JLTV is equipped with CTIS.
PDFOV-7056	The JLTV shall not use any wheel rim assembly that contains a split style locking ring or any other device that relies on a single point of failure. The JLTV wheel assembly cannot rely on tire air pressure to maintain the integrity of the assembly. The JLTV tire can be safely mounted, inflated, deflated, and dismounted without the use of a safety cage or other restraining device.
PDFOV-1128	The JLTV 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-1130	The JLTV and JLTV-T shall have interchangeable wheel assemblies.
PDFOV-1145	3.3.1.10.1 Central Tire Inflation System
PDFOV-8440	The Central Tire Inflation System (CTIS) setting shall be independently selectable by the driver/commander.
PDFOV-1151	The CTIS shall allow the driver to adjust all JLTV tires to any one of four preset tire pressures (highway, cross country, mud/snow/sand, and emergency). (T)
PDFOV-8046	The CTIS shall allow the driver to adjust all JLTV and JLTV-T tires to any one of four preset tire pressures (highway, cross country, mud/snow/sand, and emergency). (O)
PDFOV-1155	The CTIS 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-8441	The CTIS shall include a warning signal to the driver when at least one or more of the vehicle tires has been isolated by the CTIS.
PDFOV-1157	In the CTIS, valves for manual inflation/deflation shall be readily accessible.
PDFOV-1159	The CTIS shall incorporate sufficient safeguards to assure that air pressure necessary to continue safe operation of the JLTV System is 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.

ID	Purchase Description v2.7
PDFOV-8382	The JLTV-T wheel/tire assembly shall be equipped with CTIS hardware if the JLTV is equipped with CTIS.
PDFOV-3977	3.3.1.10.1.1 Tire Pressure Control System
PDFOV-1166	With the CTIS in operation, tire pressure shall be checked and adjusted at intervals necessary to assure that no more than 3 psi (20.7 kPa) 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-1168	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 is required of crew personnel beyond normal shutdown to meet this requirement.
PDFOV-1163	The JLTV shall be equipped with a visual indicator to warn the driver of excessive speed-at-pressure conditions until the CTIS has adjusted each tire to the appropriate pressure.
PDFOV-1169	3.3.1.10.1.2 Time to Inflation/Deflation
PDFOV-1170	3.3.1.10.1.2.1 Deflation
PDFOV-7358	The CTIS shall be capable of deflating all JLTV tires at the same time from highway to cross-country within two (2) minutes. (T)
PDFOV-8047	The CTIS shall be capable of deflating all JLTV and JLTV-T tires at the same time from highway to cross-country within two (2) minutes. (O)
PDFOV-7359	The CTIS shall be capable of deflating all JLTV tires at the same time from cross-country to mud/snow/sand within two (2) minutes. (T)
PDFOV-8048	The CTIS shall be capable of deflating all JLTV and JLTV-T tires at the same time from cross-country to mud/snow/sand within two (2) minutes. (O)
PDFOV-7360	The CTIS shall be capable of deflating all JLTV tires at the same time from mud/snow/sand to emergency within two (2) minutes. (T)
PDFOV-8049	The CTIS shall be capable of deflating all JLTV and JLTV-T tires at the same time from mud/snow/sand to emergency within two (2) minutes. (O)
PDFOV-1190	3.3.1.10.1.2.2 Inflation
PDFOV-7362	The CTIS shall be capable of inflating all JLTV tires at the same time from cross-country to highway within six (6) minutes. (T)
PDFOV-8050	The CTIS shall be capable of inflating all JLTV and JLTV-T tires at the same time from cross-country to highway within six (6) minutes. (O)
PDFOV-7363	The CTIS shall be capable of inflating all JLTV tires at the same time from mud/snow/sand to cross-country within three (3) minutes. (T)
PDFOV-8051	The CTIS shall be capable of inflating all JLTV and JLTV-T tires at the same time from mud/snow/sand to cross-country within three (3) minutes. (O)
PDFOV-7364	The CTIS shall be capable of inflating all JLTV tires at the same time from emergency to mud/snow/sand within two (2) minutes. (T)
PDFOV-8052	The CTIS shall be capable of inflating all JLTV and JLTV-T tires at the same time from emergency to mud/snow/sand within two (2) minutes. (O)
PDFOV-1214	3.3.1.11 Turning Radius, Curb to Curb
PDFOV-8242	The turning radius of the JLTV-GP at GCVW shall not exceed 27 ft (8.2 m) curb to curb in both the right and left direction. (T)
PDFOV-8243	The turning radius of the JLTV-GP at GCVW shall not exceed 25 ft (7.6 m) curb to curb in both the right and left direction. (O)
PDFOV-8244	The turning radius of the JLTV-SP at GCVW shall not exceed 27 ft (8.2 m) curb to curb in both the right and left direction. (T)

ID	Purchase Description v2.7
PDFOV-8245	The turning radius of the JLTV-SP at GCVW shall not exceed 25 ft (7.6 m) curb to curb in both the right and left direction. (O)
PDFOV-8246	The turning radius of the JLTV-HGC at GCVW shall not exceed 27 ft (8.2 m) curb to curb in both the right and left direction. (T)
PDFOV-8247	The turning radius of the JLTV-HGC at GCVW shall not exceed 25 ft (7.6 m) curb to curb in both the right and left direction. (O)
PDFOV-8248	The turning radius of the JLTV-CCWC at GCVW shall not exceed 27 ft (8.2 m) curb to curb in both the right and left direction. (T)
PDFOV-8249	The turning radius of the JLTV-CCWC at GCVW shall not exceed 25 ft (7.6 m) curb to curb in both the right and left direction. (O)
PDFOV-8252	The turning radius of the JLTV-C2OTM/FDC at GCVW shall not exceed 27 ft (8.2 m) curb to curb in both the right and left direction. (T)
PDFOV-8253	The turning radius of the JLTV-C2OTM/FDC at GCVW shall not exceed 25 ft (7.6 m) curb to curb in both the right and left direction. (O)
PDFOV-8254	The JLTV-UTL at GCVW shall have a turning radius of 30 ft (9 m) curb to curb. (T)
PDFOV-8255	The JLTV-UTL at GCVW shall have a turning radius of 27 ft (8.2 m) curb to curb. (O)
PDFOV-1219	3.3.1.11.1 Steerable/Lockable Rear Axle
PDFOV-1220	If a steerable rear axle is used on the JLTV, transitions to and from the neutral steer position shall not adversely affect the handling of the vehicle.
PDFOV-8442	If the rear steer system fails, the rear axles shall automatically assume a neutral, locked position.
PDFOV-1216	3.3.1.12 Lane Changing
PDFOV-1217	The JLTV at GVW shall be capable of making a NATO lane change IAW AVTP 03-160W at speeds up to 45 mph (72 kph). (T)
PDFOV-8053	The JLTV at GVW shall be capable of making a NATO lane change IAW AVTP 03-160W at speeds up to 65 mph (105 kph). (O)
PDFOV-8054	The JLTV at curb weight shall be capable of making a NATO lane change IAW AVTP 03-160W at speeds up to 45 mph (72 kph). (T)
PDFOV-8055	The JLTV at curb weight shall be capable of making a NATO lane change IAW AVTP 03-160W at speeds up to 65 mph (105 kph). (O)
PDFOV-3917	The JLTV at GCVW shall be capable of making a NATO lane change IAW AVTP 03-160W at speeds up to 40 mph (64 kph). (T)
PDFOV-8056	The JLTV at GCVW shall be capable of making a NATO lane change IAW AVTP 03-160W at speeds up to 55 mph (89 kph). (O)
PDFOV-1262	3.3.1.13 Operational Range
PDFOV-7365	The JLTV shall be capable of traveling 300 mi (482.8 km) at GVW on flat, paved road at 35 mph (56 kph) on a single tank of fuel. (T)
PDFOV-8057	The JLTV shall be capable of traveling 300 mi (482.8 km) at GCVW over OMS/MP on a single tank of fuel. (O)
PDFOV-1269	3.3.1.14 Standard Obstacles
PDFOV-1271	The JLTV at GVW shall be capable of stepping up and down a vertical obstacle of 18 in (46 cm) in forward and reverse on a straight on approach without preparation or modification of the vehicle. No portion of the JLTV other than the tires (and mud flaps if fitted) can contact the ground or the obstacle. (T)

ID	Purchase Description v2.7
PDFOV-8058	The JLTV at GVW shall be capable of stepping up and down a vertical obstacle of 24 in (61 cm) in forward and reverse on a straight on approach without preparation or modification of the vehicle. No portion of the JLTV other than the tires (and mud flaps if fitted) can contact the ground or the obstacle. (O)
PDFOV-1272	3.3.1.15 Fording
PDFOV-8443	The JLTV shall have a driver/commander selectable fording mode in order to meet JLTV fording requirements, labeled 'Fording'. The JLTV is allowed to raise higher than the operational ride height in order to meet JLTV fording requirements.
PDFOV-8444	All actions required for fording shall occur when the fording mode is selected i.e. vent closures, cooling fan shut off and suspension height adjustment.
PDFOV-1273	The JLTV at GVW shall ford a 30 in (76.2 cm) salt water obstacle (plus wake) without fording kit, preparation, or other fording devices, in forward and reverse while maintaining contact with the ground and without damage to the vehicle. (T)
PDFOV-8059	The JLTV at GVW shall ford a 60 in (152.4 cm) salt water obstacle (plus wake) with fording kit, preparation, or other fording devices, in forward and reverse while maintaining contact with the ground and without damage to the vehicle. (T)
PDFOV-8060	The JLTV at GVW shall ford a 60 in (152.4 cm) salt water obstacle (plus wake) without fording kit, preparation, or other fording devices, in forward and reverse while maintaining contact with the ground and without damage to the vehicle. (O)
PDFOV-8061	The JLTV cooling fan shall not turn on during fording restart.
PDFOV-1277	Vented components shall be vented above the 60 in (152.4 cm) fording line without the fording kit.
PDFOV-1278	3.3.1.16 Towing
PDFOV-1293	3.3.1.16.1 Towed Load Braking and Lighting
PDFOV-1300	A 24 volt/12 pin male receptacle (STANAG 4007) with cover shall be mounted at the rear of the JLTV for connection when towing the companion trailer or appropriate legacy trailer.
PDFOV-8062	A 12 volt/7 pin male receptacle (SAE J560) shall be mounted at the rear of the JLTV for towing appropriate legacy trailers.
PDFOV-8063	A 24 volt/12 pin male receptacle (STANAG 4007) with cover shall be mounted at the front of the JLTV for powering the vehicle lights when it is flat towed.
PDFOV-8367	The JLTV-T shall have a blackout lighting capability that is controlled by the JLTV.
PDFOV-8368	The JLTV-T shall be capable of being equipped with a device for illumination of a rear registration plate as specified per ADR 48/00 Devices for Illumination of Rear Registration Plates for TB Class Trailer (Light Trailer) and TC Class Trailer (Medium Trailer).
PDFOV-1279	3.3.1.16.2 Like Vehicle Towing
PDFOV-1284	The JLTV shall be capable of towing another JLTV at GVW for 100 mi (160.9 km) over flat secondary roads. 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. (T)

ID	Purchase Description v2.7
PDFOV-8064	The JLTV shall be capable of towing another JLTV at GVW for 100 mi (160.9 km) over cross country terrain. 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. (O)
PDFOV-1286	3.3.1.16.3 Towing and Recovery
PDFOV-1287	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, MTRV, LVSR, FMTV, and HEMTT wreckers, with no alteration to the JLTV required.
PDFOV-7604	The JLTV shall provide tow eyes front and rear for lift-tow operations that provide two pin attachment points per side (four each front and rear) for connection to the HEMTT, MTRV, and LVSR Wrecker Multi-Use Adapter (NSN 5340-01-516-2058 (L), 5340-01-516-2059 (R)).
PDFOV-1305	The JLTV 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, Medium Tow Bar (NSN 2530-01-496-8356), and the Light Duty Tow Bar (NSN 4910-01-365-9304).
PDFOV-7331	The JLTV tow eyes shall be provided front and rear conforming to STANAG 4478.
PDFOV-1288	3.3.1.16.4 Towed Load Capability
PDFOV-7440	The JLTV shall have mechanical connections as specified per ADR 62/02 Mechanical Connections Between Vehicles for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-1291	3.3.1.16.4.1 Backward Compatibility.
PDFOV-1292	The JLTV shall be able to tow the legacy trailers M101A3 in a degraded manner, which is defined as towing that legacy trailer at the safe operating limit of the legacy trailer.
PDFOV-8065	The JLTV shall be able to tow the legacy trailers M105A2 in a degraded manner, which is defined as towing that legacy trailer at the safe operating limit of the legacy trailer.
PDFOV-8066	The JLTV shall be able to tow the legacy trailers M1101 (LTT-L) in a degraded manner, which is defined as towing that legacy trailer at the safe operating limit of the legacy trailer.
PDFOV-8067	The JLTV shall be able to tow the legacy trailers M353 in a degraded manner, which is defined as towing that legacy trailer at the safe operating limit of the legacy trailer.
PDFOV-8068	The JLTV shall be able to tow the legacy trailers M1102 (LTT-H) in a degraded manner, which is defined as towing that legacy trailer at the safe operating limit of the legacy trailer.
PDFOV-8069	The JLTV shall be able to tow the legacy trailers M116A2 in a degraded manner, which is defined as towing that legacy trailer at the safe operating limit of the legacy trailer.
PDFOV-8070	The JLTV shall be able to tow the legacy trailers M149A2 in a degraded manner, which is defined as towing that legacy trailer at the safe operating limit of the legacy trailer.
PDFOV-8071	The JLTV shall be able to tow the legacy trailers USMC M1102-MCC in a degraded manner, which is defined as towing that legacy trailer at the safe operating limit of the legacy trailer.

ID	Purchase Description v2.7
PDFOV-8072	The JLTV shall be able to tow the legacy trailers M1103 (LTT-HC) in a degraded manner, which is defined as towing that legacy trailer at the safe operating limit of the legacy trailer.
PDFOV-8256	The JLTV-UTL shall be capable of towing the M1082, M200A1 in a degraded manner, which is defined as towing that legacy trailer at the safe operating limit of the legacy trailer.
PDFOV-8257	The JLTV-UTL shall be capable of towing the M200A1 in a degraded manner, which is defined as towing that legacy trailer at the safe operating limit of the legacy trailer.
PDFOV-8258	The JLTV-UTL shall be capable of towing the M119A2 Howitzer in a degraded manner, which is defined as towing that howitzer at the safe operating limit of the howitzer.
PDFOV-8259	The JLTV-UTL shall be capable of towing the M777 Howitzer in a degraded manner, which is defined as towing that howitzer at the safe operating limit of the howitzer.
PDFOV-8073	The legacy trailers shall not be loaded to exceed the towing capacity of the JLTV.
PDFOV-1308	3.3.1.16.5 Pintle
PDFOV-1309	A swivel-type pintle shall be provided which permits a single operator wearing MOPP level IV to latch/unlatch a trailer from the JLTV within five (5) minutes.
PDFOV-6691	The JLTV pintle shall be located at the rear and centered laterally on the vehicle.
PDFOV-6693	The JLTV (including any installed shelters) shall cause no interference when towing trailers and Howitzers in a minimum turning radius (right or left) while traveling in the forward direction, or over the OMS/MP terrain.
PDFOV-6695	Provision for attachment of trailer safety chains shall be provided as per SAE J849 (per truck installation note) for single axle trailers.
PDFOV-8385	The JLTV-T shall provide an adjustable lunette which permits a single operator to hook-up to the pintle of the JLTV and existing military trucks without the need for exact truck-JLTV-T alignment.
PDFOV-8386	The JLTV-T hook-up shall be possible with the prime mover pintle offset laterally up to 7 in (17.8 cm) from the centerline of the JLTV-T. (T)
PDFOV-8419	The JLTV-T hook-up shall be possible with the prime mover pintle offset laterally up to 7 in (17.8 cm) forward of the normal towing position. (T)
PDFOV-8420	The JLTV-T hook-up shall be possible with the prime mover pintle offset laterally up to 10 in (25.4 cm) from the centerline of the JLTV-T. (O)
PDFOV-8421	The JLTV-T hook-up shall be possible with the prime mover pintle offset laterally up to 10 in (25.4 cm) forward of the normal towing position. (O)
PDFOV-8387	The JLTV-T shall have mechanical connections as specified per ADR 62/02 Mechanical Connections Between Vehicles for TB Class Trailer (Light Trailer) or TC Class Trailers (Medium Trailer).
PDFOV-8388	The JLTV-T shall be compatible with all JLTV pintles. (T)
PDFOV-8389	The JLTV-T shall be compatible with HMMWV pintle. The ground to lunette height for the HMMWV is 20 3/8 in (51.8 cm) to 29 in (73.7 cm). (O)

ID	Purchase Description v2.7
PDFOV-8390	The JLTV-T shall be compatible with FMTV pintles. The ground to lunette height for the FMTV it is 32.6 in (82.8 cm) to 39 in (99 cm). (O)
PDFOV-8391	The JLTV-T shall be compatible with HEMTT-LHS pintles. The ground to lunette height for the HEMTT-LHS is 32.6 in (82.8 cm) to 39 in (99 cm). (O)
PDFOV-8392	The JLTV-T shall be compatible with M939 pintles. The ground to lunette height for the M939 is 32.6 in (82.8 cm) to 39 in (99cm). (O)
PDFOV-8370	To protect from loss of JLTV-T control in the event of pintle or lunette failure, safety chains shall be provided on all JLTV-T's which conform to SAE J684, Class 4.
PDFOV-3438	3.3.1.17 Electronic Stability Control System
PDFOV-3439	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.
PDFOV-8076	The ESC shall control all four (4) wheels to minimize loss of JLTV control/accidents.
PDFOV-8077	The ESC shall have an on/off switch that will deactivate the system. Preference is for an integrated controller for the ABS/ESC modules.
PDFOV-1037	If the ABS becomes deactivated it shall not deactivate the ESC. (O)
PDFOV-6722	3.3.1.18 Vehicle Horn
PDFOV-6723	The JLTV shall be equipped with a horn that meets the requirements of A-A-52525 Section 3.3 for a Type II horn.
PDFOV-8078	The JLTV horn activation mechanism shall be within easy reach of the driver.
PDFOV-8079	3.3.1.19 Wheel Splash and Stone Throw Protection
PDFOV-8080	The JLTV and JLTV-T shall have the capability to accept mud flaps IAW SAE J682.
PDFOV-7041	3.3.1.20 Right Hand Drive
PDFOV-7042	The JLTV shall be capable of being produced for either Left Hand Drive or Right Hand Drive operation.
PDFOV-1310	3.3.2 Survivability
PDFOV-1569	3.3.2.1 Signature Management
PDFOV-8081	3.3.2.1.1 Visual Signature
PDFOV-8084	This equipment shall be treated by shaping, size variation or other method so as to avoid creation of visible signature cues whenever possible.
PDFOV-3208	The JLTV cab interior and upholstery shall be dark, non-reflective color.
PDFOV-7310	The external fuel covers shall visually blend in with the body of the JLTV to preclude the covers being identified as potential targets.
PDFOV-6702	3.3.2.1.2 B-Kit Armor Interchangeability

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PDFOV-1311	The JLTV hull will provide protection to the crew from a variety of threats as defined in appendix E. The provisions to provide this minimum level of protection, often called inherent armor, are defined as A-structure armor. For weight accounting purposes, A-structure armor is counted as part of Curb Weight (CW). Additional armor to meet higher level of threats as defined in appendix E, often called bolt-on or supplemental armor is defined as B-kit armor. B-kit Armor is a unique category for weight accounting purposes. EFP protection is another unique category for weight accounting purposes.
PDFOV-1323	The installation of JLTV B-kit armor (excluding GPK) shall be completed within seven (7) hours using materiel handling equipment (MHE). (T)
PDFOV-8085	The installation of JLTV B-kit armor (excluding GPK) shall be completed within five (5) hours without materiel handling equipment using a two man crew. (O)
PDFOV-6703	The JLTV B-kit armor components shall be interchangeable across the same sub-configuration.
PDFOV-6714	3.3.2.1.3 Transparent Armor
PDFOV-8086	The JLTV shall be designed to accept any transparent armor IAW Annex G of the JLTV ATPD.
PDFOV-6707	All installed transparent armor shall meet the requirements of IAW ATPD 2352.
PDFOV-6711	Windshield wipers, washers, and defroster systems shall be able to function with transparent armor IAW Annex G of the JLTV ATPD.
PDFOV-1726	3.3.2.1.4 Kinetic Damage
PDFOV-1727	The JLTV shall be capable of traveling after kinetic damage IAW Annex G of the JLTV ATPD.
PDFOV-1588	3.3.2.2 Weapon Provisions
PDFOV-1589	3.3.2.2.1 Weapons Mount
PDFOV-6957	3.3.2.2.1.1 MK-93 Weapons Mount
PDFOV-1591	The JLTV shall have the capability to accept the MK-93 weapons mount to mount the M2.
PDFOV-1592	The JLTV shall have the capability to accept the MK-93 weapons mount to mount the MK-19.
PDFOV-6958	3.3.2.2.1.2 M197 Weapons Mount
PDFOV-1594	The JLTV shall have the capability to accept the M197 weapon mount to mount the M240.
PDFOV-1595	The JLTV shall have the capability to accept the M197 weapons mount to mount the M249.
PDFOV-6960	3.3.2.2.1.3 ALGL Weapons Mount
PDFOV-1593	The JLTV shall have the capability to accept the MK-107 weapons mount to mount the Advanced Lightweight Grenade Launcher (ALGL) MK-47.
PDFOV-1596	3.3.2.2.2 Weapon Mount Integration
PDFOV-1597	The JLTV with the MK-93, M197 and MK-107 weapons mount shall permit operation of the weapon while traversing 360 degrees azimuth without interfering with crew operations.

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PDFOV-1599	The JLTV with the MK-93, M197 and MK-107 weapon mount equipped with a weapon shall be able to be operated by 5th percentile female to the 95th percentile male gunners. Operation of the weapon includes crew drills such as load, unload, perform immediate action as stated in the Weapon TM.
PDFOV-7420	Weapon BII required to operate or perform immediate action on the weapon when mounted on the JLTV shall be stowed in close proximity to the weapon so that the weapon BII is readily accessible by the gunner. Other items, such as cleaning items, or items used in ground-mounted configuration may be stored elsewhere.
PDFOV-1607	The integration of the weapons mount and weapon on the JLTV shall preclude the firing of the weapon at the main body of the vehicle.
PDFOV-1609	The weapon when mounted on the JLTV shall be capable of being elevated to +60 degrees and depressed to -20 degrees.
PDFOV-1617	A means shall be provided to prevent spent brass and links from entering the crew compartment.
PDFOV-1618	3.3.2.2.3 Gunner's Protection Kit
PDFOV-1619	3.3.2.2.3.1 Gunner's Protection Kit Integration
PDFOV-1620	The JLTV-GP shall integrate a GFE GPK IAW Annex K of the JLTV ATPD.
PDFOV-8445	The JLTV-SP shall integrate a GFE GPK IAW Annex K of the JLTV ATPD.
PDFOV-8446	The JLTV-HGC shall integrate a GFE GPK IAW Annex K of the JLTV ATPD.
PDFOV-1629	3.3.2.2.3.2 Gunner's Protection Kit Assembly and Installation
PDFOV-1630	The GPK shall be installable (to include assembly) with MHE using two (2) maintainers plus an MHE operator within four (4) hours. (T)
PDFOV-8091	The GPK shall be installable (to include assembly) with MHE using two (2) maintainers plus an MHE operator within two (2) hours. (O)
PDFOV-1639	3.3.2.2.3.3 Gunner's Restraint System
PDFOV-6843	The JLTV gunner's restraint system shall prevent the gunner from being ejected during off-road operations or in an accident.
PDFOV-8092	The JLTV gunner's restraint shall allow the gunner to duck back inside the vehicle during a vehicle rollover.
PDFOV-6845	The JLTV gunner's restraint system shall allow weapons operation of the gunner in full combat equipment for a duration of at least two (2) hours.
PDFOV-7273	The JLTV 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-8094	The JLTV gunner's restraint system shall incorporate a release mechanism to permit emergency extrication of the gunner.
PDFOV-7312	The JLTV gunner's restraint system shall enable the gunner to maintain 360 degree visibility with only his/her head/kevlar exposed.
PDFOV-8448	The JLTV gunner's restraint and gunner's sling webbing shall meet the requirements of FMVSS 209 Sections S4.1 (d)-(f), S4.1(h)-(k), S4.2, S4.3(a)-(e), and S4.4(a).

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PDFOV-8449	The JLTV gunner's restraint and gunner's sling anchorages, attachment hardware, and attachment bolts shall meet the requirements of FMVSS 210 Sections S4.2 for a Type I seat belt assembly.
PDFOV-1640	3.3.2.2.4 Storage
PDFOV-1641	The JLTV and JLTV-T shall store and transport Commodity Class V (ammunition and missiles) IAW the Defense Ammunition Center certification requirements for the JLTV FoV mission profile.
PDFOV-1643	Ammunition storage provisions shall have a readily accessible quick release.
PDFOV-1645	The JLTV shall have designated stowage locations, protected to either the level of ballistic, blast and fragmentation protection as provided by the vehicle and the GPK; or shock, vibration and weather protection, and securable, for the ammunition quantities listed in Annex E.
PDFOV-1671	3.3.2.2.5 Common Remotely Operated Weapons Station
PDFOV-6847	The JLTV shall have a man-sized opening to facilitate manual operation of the Common Remotely Operated Weapons Station (CROWS).
PDFOV-1354	3.3.2.3 Fire Extinguishing
PDFOV-1396	3.3.2.3.1 Cylinder Requirements
PDFOV-1397	The fire extinguisher cylinders shall meet all applicable Department of Transportation (DOT) CFR Title 49 Part 173.309 requirements.
PDFOV-8095	The fire extinguisher cylinders shall meet the fragmentation resistance requirements of MIL-DTL-7905 "Cylinders, Steel, Compressed Gas, Non-Shatterable, Seamless, 1800 PSI and 2100 PSI" section 3.3.9
PDFOV-8096	The fire extinguisher cylinders shall be marked and color coded IAW MIL-STD-101 Color Code for Pipelines and for Compressed Gas Cylinders.
PDFOV-7631	3.3.2.3.2 Automatic Fire Extinguishing System
PDFOV-1355	The JLTV shall be equipped with Automatic Fire Extinguishing Systems (AFES) or systems to protect the crew cabin and engine compartment. (T)
PDFOV-8098	The AFES shall meet UL 2166.
PDFOV-1408	3.3.2.3.2.1 Extinguishing Agent
PDFOV-1409	HFC-227ea (heptafluoropropane) with 5%-10% sodium bicarbonate powder by weight shall be used as the AFES extinguishing agent.
PDFOV-7598	Agent concentrations shall not exceed the exposure limits of Table 1.5.1.2.1 (c) of NFPA 2001, Standard on Clean Agent Fire Extinguishing Systems under worse case vehicle operating condition (hatches and doors closed, engine running, Heating, Ventilation, Air Conditioning (HVAC) in recirculate mode with fan on high).
PDFOV-1400	3.3.2.3.2.2 Extinguisher Refill/Recharge
PDFOV-1401	For refillable AFES tanks the refill capabilities and procedures shall be compatible with military recharge equipment (NSN 4210-01-474-6206).
PDFOV-1388	3.3.2.3.2.3 Accidental Discharge
PDFOV-1389	Mounting provisions shall be provided on the extinguisher mounting bracket to secure the anti-recoil plugs after removal.

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PDFOV-1404	3.3.2.3.2.4 Crew Incapacitation Level
PDFOV-1405	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-1410	3.3.2.3.2.5 Extinguisher Discharge
PDFOV-1411	The AFES extinguisher nozzles shall not discharge directly at any normally occupied crew position IAW NFPA 2001 section 7.7.2.2.7.
PDFOV-1358	3.3.2.3.2.6 Battery Back-up
PDFOV-1359	The AFES shall remain energized for ten (10) minutes following JLTV shut down.
PDFOV-1364	3.3.2.3.2.7 Status Indicators
PDFOV-1365	System status indicators, independent of the DSDU, shall be provided that visually inform crew that the AFES is powered and operational.
PDFOV-1362	3.3.2.3.2.8 Extinguishing Activation
PDFOV-1363	The AFES shall be capable of both automatic sensing and extinguishing Fires IAW MIL-PRF-62546 section 3.3.3.
PDFOV-8450	The manual means of AFES operation required in UL2166 Section 9.2 shall meet the control protection requirements of MIL-STD-1472 Section 5.4.1.8.4 method b, c, or d.
PDFOV-8451	The manual means of AFES operation required in UL2166 Section 9.2 shall be located within reach of the driver and commander.
PDFOV-1366	3.3.2.3.2.9 Maintenance
PDFOV-1367	A means shall be provided to disconnect AFES power to permit safe maintenance IAW NFPA 2001 section 4.3.6.
PDFOV-1368	3.3.2.3.2.10 False Activation Prevention
PDFOV-1369	Automatic protection shall be provided to preclude false activation of any extinguisher(s) during removal or replacement of any AFES component IAW MIL-DTL-62545 section 3.3.8.
PDFOV-8099	The removal of any individual fire sensor or extinguisher shall not render the remainder of the system inoperative IAW MIL-DTL-62545 section 3.3.8.
PDFOV-1379	3.3.2.3.2.11 Radiation Stimuli Response
PDFOV-1380	The fire detectors shall not respond to any of the radiation stimuli identified in MIL-PRF-62546 Table 1 - False alarm susceptibility at distances greater than or equal to those specified.
PDFOV-1402	3.3.2.3.2.12 AFES Performance within Crew Compartment
PDFOV-1403	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 within ten (10) seconds to prevent crew incurring second-degree or greater burns.
PDFOV-1414	3.3.2.3.2.13 AFES Engine Compartment Fire Suppression
PDFOV-1415	The POL fires in the engine compartment shall be detected and extinguished within ten (10) seconds of ignition to minimize JLTV damage.

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PDFOV-1422	3.3.2.3.3 Portable Extinguisher
PDFOV-8100	The JLTV portable fire extinguisher shall meet UL 299 requirements.
PDFOV-1423	The JLTV shall be equipped with at least one portable, dry chemical extinguisher with a minimum 10B:C rating per UL 711 that is mounted within easy reach of the driver.
PDFOV-1390	3.3.2.3.3.1 Extinguisher Charge Status
PDFOV-1391	This extinguisher pressure gauge or charge indicator device indicator shall be clearly visible to vehicle crew when the extinguishers are installed in the JLTV.
PDFOV-1416	3.3.2.3.4 Fuel Tank Protection
PDFOV-1417	3.3.2.3.4.1 Self-Sealing Requirement
PDFOV-1418	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	3.3.2.3.4.2 Portable Fuel Carrying Capacity
PDFOV-1266	The JLTV shall be able to accommodate two (2) standard jerry cans on the vehicle exterior.
PDFOV-1419	3.3.2.3.4.3 Fixed Fuel Tanks
PDFOV-1420	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.
PDFOV-8101	The JLTV design shall incorporate layering protection for fuel tanks where fixed fuel tanks shall be shielded by the JLTV structure.
PDFOV-6893	3.3.2.3.4.4 Crew Ingress/Egress
PDFOV-6894	The fuel tanks, including jerry cans, shall be positioned away from the JLTV's egress points to allow for safe egress of the crew in the event of a fuel fire.
PDFOV-8102	A fire protection method shall be provided to prevent any sustained fuel fires when the fuel tanks are penetrated by any of the ballistic and/or blast events listed in Annex E.
PDFOV-1700	3.3.2.4 Chemical, Biological, Radiological/Nuclear, and Explosive Incidents
PDFOV-1704	3.3.2.4.1 Chemical Protection
PDFOV-1706	The JLTV shall provide an environment where the crew can operate in MOPP IV (as described in FM 3-11) gear for six (6) hours. (T)
PDFOV-8103	The JLTV shall provide an environment where the crew can operate in MOPP IV (as described in FM 3-11) gear for 12 hours. (O)
PDFOV-1711	3.3.2.4.2 CBRN Detection
PDFOV-1703	The JLTV shall have the capability to accept a sensor (GFE) compliant with the Common CBRN Sensor Interface (CCSI) document.
PDFOV-1718	3.3.2.4.3 Decontamination
PDFOV-1719	The JLTV shall be capable of being decontaminated to the Operational decon levels (as defined by FM 3-11 and FM 3-5) using current existing decon methodology and performance standards. (T)

ID	Purchase Description v2.7
PDFOV-8104	The JLTV shall be capable of being decontaminated to the Thorough decon levels (as defined by FM 3-11 and FM 3-5) using current existing decon methodology and performance standards. (O)
PDFOV-1728	3.3.3 Transportability
PDFOV-1732	3.3.3.1 Cargo Tiedowns
PDFOV-1733	The JLTV and JLTV-T shall be equipped with cargo tiedowns (recessed tie-downs where applicable) IAW MIL-STD-209.
PDFOV-1734	3.3.3.2 Lifting and Tiedown Provisions
PDFOV-1735	The JLTV and JLTV-T shall meet lifting and tiedown provision requirements per MIL-STD-209.
PDFOV-3992	The lifting and tiedown provisions shall be permanently marked.
PDFOV-1736	3.3.3.3 Air Transport
PDFOV-1738	3.3.3.3.1 Fixed Wing Transport
PDFOV-1739	The JLTV with B-kit armor (no GPK) installed, shall be air transportable at GVW in C-130 aircraft IAW MIL-STD-1366 as described in MIL-HDBK-1791. If an adjustable height suspension is implemented on the JLTV, this requirement must be met without adjusting the ride height during the boarding process.
PDFOV-8194	Two (2) JLTV, with B-kit armor (no GPK) installed, shall be transportable by C-130 aircraft.
PDFOV-8195	Two (2) JLTV, at GVW, shall be transportable by C-130 aircraft. (O)
PDFOV-7605	The JLTV with GPK installed, shall be air transportable at GVW in C-17 aircraft IAW MIL-STD-1366 as described in MIL-HDBK-1791. If an adjustable height suspension is implemented on the JLTV, this requirement must be met without adjusting the ride height during the boarding process.
PDFOV-7606	The JLTV with GPK installed, shall be air transportable at GVW in C-5 aircraft IAW MIL-STD-1366 as described in MIL-HDBK-1791. If an adjustable height suspension is implemented on the JLTV, this requirement must be met without adjusting the ride height during the boarding process.
PDFOV-7607	The JLTV shall not exceed 102 in (259 cm) in height measured from the ground to the highest point on the vehicle with the GPK installed (excluding antennas). If applicable, the vehicle's suspension height may be reduced to meet this requirement. (O)
PDFOV-7608	For C-130 transportability, the JLTV single axle loads must not exceed 13,000 lbs at GVW.
PDFOV-7609	The JLTV at GVW shall be able to negotiate and crest a 15 degree ramp in both the forward and reverse directions. If an adjustable height suspension is implemented on the JLTV, this requirement must be met with the vehicle in transport configuration.
PDFOV-7610	The JLTV at GCVW shall be able to negotiate and crest a 15 degree ramp in both the forward and reverse directions. If an adjustable height suspension is implemented on the JLTV, this requirement must be met with the vehicle in transport configuration.
PDFOV-8196	The JLTV at GCVW shall be air transportable in C-130 aircraft IAW MIL-STD-1366 as described in MIL-HDBK-1791. (O)
PDFOV-7611	The JLTV-T with full payload, shall be air transportable in C-130 aircraft IAW MIL-STD-1366 as described in MIL-HDBK-1791.

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PDFOV-7612	The JLTV-T with full payload, shall be air transportable in C-17 aircraft IAW MIL-STD-1366 as described in MIL-HDBK-1791.
PDFOV-7613	The JLTV-T with full payload, shall be air transportable in C-5 aircraft IAW MIL-STD-1366 as described in MIL-HDBK-1791.
PDFOV-3938	3.3.3.3.1.1 Low Velocity Aerial Delivery
PDFOV-4019	The JLTV at GVW, excluding GPK, shall be capable of Low Velocity Aerial Delivery (LVAD) from C-130 aircraft and meet the requirements of MIL-HDBK-669, MIL-STD-814, MIL-HDBK-1791, and MIL-STD-1366.
PDFOV-8105	The JLTV at GVW, excluding GPK, shall be capable of LVAD from C-17 aircraft and meet the requirements of MIL-HDBK-669, MIL-STD-814, MIL-HDBK-1791, and MIL-STD-1366.
PDFOV-8106	The JLTV at GVW, excluding GPK, shall be capable of LVAD from C-5 aircraft and meet the requirements of MIL-HDBK-669, MIL-STD-814, MIL-HDBK-1791, and MIL-STD-1366.
PDFOV-8107	The JLTV-T with full payload shall be capable of LVAD from C-130 aircraft and meet the requirements of MIL-HDBK-669, MIL-STD-814, MIL-HDBK-1791, and MIL-STD-1366.
PDFOV-8108	The JLTV-T with full payload shall be capable of LVAD from C-17 aircraft and meet the requirements of MIL-HDBK-669, MIL-STD-814, MIL-HDBK-1791, and MIL-STD-1366.
PDFOV-8109	The JLTV-T with full payload shall be capable of LVAD from C-5 aircraft and meet the requirements of MIL-HDBK-669, MIL-STD-814, MIL-HDBK-1791, and MIL-STD-1366.
PDFOV-8110	The JLTV at GVW, excluding GPK, and JLTV-T with full payload shall be capable of LVAD simultaneously on the same platform from C-130 aircraft (O).
PDFOV-4020	The JLTV shall be capable of LVAD without shelters installed. (T)
PDFOV-8111	The JLTV shall be capable of LVAD with shelters. (O)
PDFOV-8112	The rigged load for LVAD shall not exceed 100 in (254 cm) in height. The rigged load includes the airdrop platform, energy-dissipating material, and JLTV. (T)
PDFOV-8113	The rigged load for LVAD shall not exceed 96 in (243.8 cm) in height. The rigged load includes the airdrop platform, energy-dissipating material, and JLTV. (O)
PDFOV-8114	The rigged load for LVAD shall not exceed 108 in (274.3 cm) in width. The rigged load includes the airdrop platform, energy-dissipating material, and JLTV. (T)
PDFOV-8115	The rigged load for LVAD shall not exceed 103 in (261.6 cm) in width. The rigged load includes the airdrop platform, energy-dissipating material, and JLTV. (O)
PDFOV-1764	The JLTV shall be ready for operation after LVAD within 15 minutes. Time to remount the shelter is not included in this time period. (T)
PDFOV-8116	The JLTV shall be ready for operation after LVAD within 10 minutes. Time to remount the shelter is not included in this time period. (O)
PDFOV-1748	3.3.3.3.2 Rotary Wing Aircraft

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PDFOV-1749	The JLTV and JLTV-T shall be air-transportable by military rotary wing aircraft IAW air transport requirements of MIL-STD-1366, with the exception of the rotary-wing aircraft external load capabilities listed in tables 42-44.
PDFOV-8197	One (1) JLTV (excluding Recon/Scout) shall be transportable external to a CH-53E. Payload will be added to the vehicle to achieve a transport weight of 16,800 lb (7,620.4 kg) for CH-53E testing. (T)
PDFOV-8198	Two (2) JLTV (excluding Recon/Scout and Utility) shall be transportable external to a CH-53K. Payload will be added to each vehicle to achieve a combined transport weight of 32,500 lb (14,741.8 kg) for testing. (O)
PDFOV-8199	One (1) JLTV shall be transportable external to a CH -47F. Payload will be added to the vehicle to achieve a transport weight of 15,639 lb (7,093.7 kg) for CH-47F testing. (T)
PDFOV-8200	One (1) JLTV at GVW shall be transportable external to a CH -47F. (O)
PDFOV-8360	One (1) JLTV-T with full payload, and without the soft top kit installed, shall be externally transportable by CH-53E. (T)
PDFOV-8432	One (1) JLTV-T with full payload, and without the soft top kit installed, shall be externally transportable by CH-47F. (T)
PDFOV-8433	One (1) JLTV-T with full payload, and without the soft top kit installed, shall be externally transportable by MV-22 Block C. (T)
PDFOV-8361	Two (2) JLTV-T with full payload, and without the soft top kit installed, shall be externally transportable by CH-53E. (O)
PDFOV-4025	3.3.3.3.2.1 Slings
PDFOV-4026	The JLTV shall be equipped with lifting provisions that meet the requirements of MIL-STD-913 for Helicopter Sling Lift (HSL).
PDFOV-1754	3.3.3.4 Highway Transport
PDFOV-1755	The JLTV and JLTV-T must meet USA and NATO highway legal limits.
PDFOV-1756	3.3.3.5 Rail Transport
PDFOV-1757	The JLTV and JLTV-T shall be rail transportable IAW MIL-STD-1366. Preparation of the JLTV FoV for rail transport may include removal of antennas, securing canvas items, and folding mirrors.
PDFOV-4036	3.3.3.5.1 Dimensional Requirements
PDFOV-4038	The JLTV and JLTV-T shall meet the dimensional requirements of the Association of American Railroads (AAR) outline diagram when loaded on a 51 in (129.5 cm) deck-height railcar.
PDFOV-7614	The JLTV and JLTV-T shall meet the dimensional requirements of the Gabarit International de Chargement (GIC) gauge when placed on a 51.4 in (130.5 cm) high railcar.
PDFOV-4035	3.3.3.5.2 Rail Impact
PDFOV-7615	The JLTV at GVW shall withstand the rail impact test specified in MIL-STD-810.
PDFOV-4039	The JLTV at GCVW shall withstand the rail impact test specified in MIL-STD-810.
PDFOV-4040	The JLTV-T, with full payload, shall withstand the rail impact test specified in MIL-STD-810.

ID	Purchase Description v2.7
PDFOV-1758	3.3.3.6 Sealift Transport
PDFOV-4043	The JLTV and JLTV-T shall be transportable on all classes of ocean-going transport ships IAW MIL-STD-1366.
PDFOV-8452	The JLTV shall be capable of entering and exiting the "58'-0 Platform" (78" high deck space) on the following Military Sealift Command ships: T-AK 3005, T-AK 3006, and T-AK 3007. Removal of the weapon, GPK, any shelter, and antennas is permitted to meet this requirement.
PDFOV-8453	The JLTV shall be capable of entering and exiting the A and G decks on the following Military Sealift Command ships: T-AK 3008, T-AK 3009, T-AK 3010, T-AK 3011, and T-AK 3012. Removal of the weapon, GPK, any shelter, and antennas is permitted to meet this requirement.
PDFOV-4048	The JLTV shall meet sealift transport requirements coupled or un-coupled to the JLTV-T.
PDFOV-3934	The JLTV and JLTV-T shall be transportable by Amphibious Ships, MPF, Afloat Pre-positioning Ship (APS) and Roll-On Roll-Off (RORO) ships as defined in MIL-STD-1366.
PDFOV-1759	The JLTV and JLTV-T shall be transportable by Landing Craft Air-Cushioned (LCAC), Joint High Speed Vessel (JHSV), Landing Craft Utility (LCU), Logistic Support Vehicle (LSV), and Improved Navy Lighterage System (INLS) IAW MIL-STD-1366.
PDFOV-3389	The JLTV system shall be capable of withstanding external saltwater spray while on-board an LCAC during typical LCAC operations for periods up 60 minutes at a time, without essential function failure. (T)
PDFOV-8117	The JLTV system shall be capable of withstanding external saltwater spray while on-board an LCAC during typical LCAC operations for periods up 120 minutes at a time, without essential function failure. (O)
PDFOV-7298	3.3.3.7 Adjustable Height Suspension
PDFOV-8454	The JLTV shall have only one operational ride height to meet all mobility and force protection requirements.
PDFOV-8455	The JLTV shall have a driver/commander selectable transport mode in order to meet JLTV transportability requirements, labeled 'Transport' (if applicable).
PDFOV-8456	The JLTV may have a maintainer selectable administrative mode only for non-operational administrative pavement movement if the JLTV is able to reduce lower than the operational ride height in order to improve JLTV handling and/or fuel economy, labeled 'Administrative'.
PDFOV-8457	The JLTV administrative mode shall only be selectable via the DSDU while in the maintainer setting.
PDFOV-8458	The JLTV shall have a physical means to lock out the adjustable height suspension system to be used by maintainers when servicing the underside of the vehicle.
PDFOV-7302	The adjustable height suspension shall be raised to its highest position or lowered to its lowest position within two (2) minutes.
PDFOV-7304	The activation mechanism for suspension height adjustment shall incorporate at least two distinct safety features that the driver or commander 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-8459	The controls to activate the door assist mechanism shall meet the protection requirements of MIL-STD-1472 Section 5.4.1.8.4 method b, c, or d.

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PDFOV-7306	The suspension height selections shall be disabled while the JLTV and/or JLTV-T are in motion.
PDFOV-7308	Indicator(s) shall be provided that visually informs the driver/commander of the current suspension height position, and that sends a notification if the suspension travel fails to reach the targeted height.
PDFOV-1768	3.3.3.8 Preparation Time.
PDFOV-1769	The JLTV and JLTV-T shall be configured for embarkation on all modes of transportation, and reassembly after, in 30 minutes by two persons, one of which is a 5th percentile female. Installation and removal of shelters, GPK, or rigging are not included in the preparation time.
PDFOV-8118	The JLTV and JLTV-T shall be reduced to transport configuration and reassembled to operational configuration using only on-board Basic Issue Items (BII) - excluding removal and reinstallation of the GPK and shelters.
PDFOV-8119	All parts required to be removed from the JLTV and JLTV-T prior to transport shall be capable of being stowed on or in the vehicle during transport (excluding GPK and shelters).
PDFOV-1770	3.3.4 Vehicle Electrical and Command, Control, Communications, Computers, Intelligence, Surveillance & Reconnaissance/ Electronic Warfare Systems
PDFOV-7480	<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>

ID	Purchase Description v2.7
PDFOV-1772	This section specifies integration of C4ISR and 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.
PDFOV-1779	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 JLTV during vehicle production, B-Kit electronics refers to the components which get installed onto the JLTV at a later date and may be optional based on vehicle mission.
PDFOV-7632	3.3.4.1 Environmental Survivability and Reliability
PDFOV-7634	All JLTV electrically powered equipment requiring 28VDC power shall utilize the MIL-STD-1275 bus. This requirement excludes GFE equipment that has been identified to utilize the MIL-STD-704 (28VDC) bus.
PDFOV-2690	There shall be neither unacceptable response nor malfunction of any JLTV system or subsystem due to electromagnetic interference (EMI) produced by any or all of the JLTV systems and sub-systems.
PDFOV-7635	The JLTV shall comply with MIL-STD-464 section S5.2 Intra-system electromagnetic compatibility (EMC).
PDFOV-7636	The JLTV shall comply with MIL-STD-464 section S5.3 External RF EME (ground systems).
PDFOV-7637	The JLTV shall comply with MIL-STD-464 section S5.4 Lightning - near strike.
PDFOV-7638	The JLTV shall comply with MIL-STD-464 section S5.6 Subsystems and equipment electromagnetic interference (EMI) - S5.6.1 Non-developmental items (NDI) and commercial items.
PDFOV-7639	The JLTV shall comply with MIL-STD-464 section S5.7 Electrostatic charge control - S5.7.1 Vertical lift and S5.73 Ordnance sub-systems.
PDFOV-7640	The JLTV shall comply with MIL-STD-464 section S5.8 Electromagnetic radiation hazards (EMRADHAZ) - S5.81 HERP, S5.82 HERF, S5.83 HERO.
PDFOV-7641	The JLTV shall comply with MIL-STD-464 section S5.9 Life cycle, E3 hardness.
PDFOV-7642	The JLTV shall comply with MIL-STD-464 section S5.10 Electrical bonding (excluding plastic housing and enclosures).
PDFOV-7643	The JLTV shall comply with MIL-STD-464 section S5.12 TEMPEST.
PDFOV-7644	3.3.4.1.1 Electrostatic Discharge
PDFOV-7645	The JLTV subsystems shall be compliant to MIL-STD-1275 ESD.
PDFOV-7646	The JLTV shall be compliant to SAE J551-15 Vehicle Electromagnetic Immunity-Electrostatic Discharge (ESD).
PDFOV-2771	3.3.4.1.2 Radiated Susceptibility
PDFOV-2772	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.

ID	Purchase Description v2.7
PDFOV-2773	Frequencies and field strengths shall be 10 kHz to 2 MHz at 20 V/m.
PDFOV-2774	Frequencies and field strengths shall be 2 MHz to 40 GHz at 50 V/m.
PDFOV-2775	3.3.4.1.3 Radiated Emissions
PDFOV-2776	The JLTV (including 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	3.3.4.1.4 Conducted Susceptibility
PDFOV-2779	The JLTV systems and sub-systems shall meet the Conducted Susceptibility requirements of MIL-STD-461 (CS101, Figure CS101-1) via Signal or Power entry points of the JLTV.
PDFOV-2780	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-7647	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 MHz.
PDFOV-2782	3.3.4.1.5 Co-site Interference
PDFOV-2784	The JLTV platforms shall mitigate cosite interference from multiple co-located antennas with simultaneous adjacent channel transmitting frequencies and harmonics.
PDFOV-2727	3.3.4.1.6 Grounding
PDFOV-2729	The JLTV shall provide an electrical distribution subsystem and equipment bonding strategy that is compliant with the Electromagnetic Environment and Electrical Safety requirements in accordance with MIL-STD-464 section 5.11 -Bonding and designed with guidance from MIL-HDBK-1857.
PDFOV-2731	The JLTV shall come equipped with a connection point to connect a ground rod for use while the vehicle is halted in accordance with MIL-HDBK-419 vol.2 section 1.11 Military Mobile Facilities and MIL HDBK 1857 section 3.2.7.
PDFOV-8460	The Export Power kit shall come equipped with a connection point to connect a ground rod for use while the vehicle is halted in accordance with MIL-HDBK-419 vol.2 section 1.11 Military Mobile Facilities and MIL HDBK 1857 section 3.2.7.
PDFOV-2758	The 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	Equipment grounding shall comply with the requirements of CECOM TR 98-6.
PDFOV-7648	Hinges and slides shall not be relied upon as the sole means of grounding.
PDFOV-7649	3.3.4.1.7 Environmental and Design Reliability
PDFOV-7650	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.

ID	Purchase Description v2.7
PDFOV-7651	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 3.3 ft (1 m).
PDFOV-7652	The power distribution subsystems (harness, connectors, plugs, switching, bus bars, etc.) shall be protected against power wash/spraying to IP66.
PDFOV-6576	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	All electrical/electronic components/devices subject to submersion shall meet IP67 for locations less than 1m of submersion and IP68 for locations greater than 3.3 ft (1 m).
PDFOV-7654	All electrical/electronic components/devices shall be protected against power wash/spraying to IP66.
PDFOV-1849	3.3.4.1.7.1 Connectors, Harness and Routing
PDFOV-1855	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	All electrical wiring, cables and harnesses shall comply with MIL-STD-681. Circuit Identification labeling are required for wiring classified as System IV, and V.
PDFOV-7655	Identification shall include brief but intuitive description of wiring function and intended connection devices.
PDFOV-7656	All receptacle connections shall be labeled with intended component connection identifiers.
PDFOV-7657	Unused electrical cables, leads and receptacles shall include covers to prevent accidental contact and/or damage.
PDFOV-7658	Nearby electrical connectors shall include positive means (keying) to prevent the inadvertent reversing or mismatching connectors.
PDFOV-7659	All harnesses and connector wiring shall be strain relieved to prevent physical damage due to harness and connector movement.
PDFOV-7660	All connectors shall utilize MIL grade connectors (power, signal, etc), unless approved through a waiver/deviation.
PDFOV-7661	3.3.4.2 Base Vetronics System
PDFOV-7662	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-7664	The DSDU shall be integrated within usable distance and not blocking any of the windshield or other indicators and switches. (T)
PDFOV-7663	The DSDU shall be integrated into the JLTV instrument panel. (O)
PDFOV-7665	The DSDU shall be common across all JLTV configurations.
PDFOV-7666	3.3.4.3 Scalable C4ISR/EW Solutions - Options
PDFOV-7667	The Commanders Smart Display Unit (CSDU), when equipped, shall be usable from the commander's location and not block any portion of the windshield.

ID	Purchase Description v2.7
PDFOV-7668	The Auxiliary Smart Display Unit (ASDU) - if equipped and Auxiliary Display Unit (ADU) - if equipped shall be located near the rear seat occupant positions between 20 in (50.8 cm) and 25 in (63.5 cm) away from the operators face horizontally, no further than 21 in (53.3 cm) away laterally, and between 14 in (35.6 cm) to 25 in (63.5 cm) above the sitting surface.
PDFOV-7669	The CSDU hardware shall be common across all JLTV configurations (if equipped).
PDFOV-7670	The JLTV 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	3.3.4.4 JLTV FoV Configurations
PDFOV-7672	The DSDU shall be included in all configurations.
PDFOV-7673	The JLTV shall be capable of accepting the DSDU, CSDU - Single Security Enclave configuration (included, but not limited to).
PDFOV-7674	The JLTV shall be capable of accepting the DSDU, CSDU - Dual Security Enclave configuration (included, but not limited to).
PDFOV-7675	The JLTV shall be capable of accepting the DSDU, CSDU, ASDU - Dual Security Enclave configuration (included, but not limited to).
PDFOV-7676	The JLTV 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	3.3.4.5 Cross Domain Access
PDFOV-7678	The JLTV shall be capable of independently displaying and controlling multiple security enclaves from the CSDU, ASDU, and ADU/EMCU, using a cross domain access solution. This capability is a scalable option, provided for JLTV mission variants as needed. (T)
PDFOV-7679	The JLTV shall be capable of concurrently displaying and controlling multiple security enclaves from the CSDU, ASDU, and ADU/EMCU, using a cross domain access solution. This capability is a scalable option, provided for JLTV mission variants as needed. (O)
PDFOV-7680	The JLTV will be capable of passing data between different C4ISR/EW security enclaves using a cross domain transfer solution. This capability is a scalable option, provided for JLTV mission variants as needed.
PDFOV-2166	3.3.4.6 Expansion/ Growth
PDFOV-2181	The JLTV shall be designed to allow C4ISR/EW A-Kit electronics, B-Kit electronics and GFE radios to be replaced with equipment of equivalent SWAP. (T)
PDFOV-8461	The JLTV shall be designed to allow C4ISR/EW A-Kit electronics, B-Kit electronics and GFE radios to be replaced with 10% above equivalent SWAP. (O)
PDFOV-7681	3.3.4.7 Data Distribution
PDFOV-1797	3.3.4.7.1 JLTV Data Bus Architecture Requirements
PDFOV-7241	The JLTV Data Bus architecture shall include a C4ISR/EW Data Bus(es) and a Vehicle Sensor Data Bus(es).
PDFOV-7243	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.

ID	Purchase Description v2.7
PDFOV-7246	The JLTV shall be in compliance with all applicable DoD IPv6 policies and the DoD IPv6 Capable definitions as specified in the DoD CIO Memorandum, DoD Internet Protocol Version 6 (IPv6) Definitions, dated 26 June 2008.
PDFOV-7247	The Vehicle Sensor Data Bus(es) shall be compliant with appropriate industry standards (e.g. SAE J1708, J1939, IEEE 1451, IEEE 802.3ab, IEEE 802.3z) in order to enable and facilitate the exchange and update of vehicle diagnostics data.
PDFOV-7682	All device/sensor data from the Vehicle Sensor Data Bus(es) 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	All device/sensor data from the Vehicle Sensor Data Bus(es) shall be accessible (bi-directional) on the DSDU without any manual reconnection.
PDFOV-1832	3.3.4.7.1.1 Growth
PDFOV-1844	The C4ISR/EW bus routing/switching functionality shall provide a minimum one (1) spare ports per enclave (UNCLASSIFIED, SECRET, etc.) more than the maximum JLTV B-Kit electronics requirement to provide connections to additional routing/switching.
PDFOV-7684	All Vehicle Sensor Data Bus(es) individually shall not exceed 75% maximum sustained utilization.
PDFOV-7685	No link on the C4ISR/EW Data Bus shall exceed 70% sustained link utilization, regardless of the installed B-Kit electronics.
PDFOV-1874	3.3.4.7.1.2 Timing Latency and Jitter
PDFOV-1876	The C4ISR/EW data bus timing distribution shall provide 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	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-1882	3.3.4.7.1.3 Failsafe Mode
PDFOV-1883	The electrical components that are controlled and/or configured from the JLTV data buses shall provide for failsafe operation (causing no personnel harm, eg. no unintended acceleration, no quit on road, and no operation without input) if any segment of the C4ISR/EW and Vehicle Sensor Data Bus primary bus fails.
PDFOV-1782	3.3.4.7.2 C4ISR/EW Data Bus Architecture Requirements

ID	Purchase Description v2.7
PDFOV-1786	The C4ISR/EW architecture shall provide the ability to transfer data from onboard C4ISR/EW subsystems to networks external to the JLTV IAW Annex K of the JLTV ATPD.
PDFOV-6860	The C4ISR/EW architecture shall perform a graceful shutdown of critical systems in the event of vehicle ignition being commanded off.
PDFOV-1821	The C4ISR/EW vehicle routing/switching functionality shall be configured and monitored from the CSDU, ASDU and ADU.
PDFOV-7686	The JLTV shall have an external signal entry point connection that is rated to IP66 if above the fording line and rated to IP66/IP67 if below the fording line and is accessible near the rear of the vehicle (rear seat occupant compartment wall) for each C4ISR/EW data bus network enclave and include a means to disable the port from inside the vehicle.
PDFOV-1981	3.3.4.8 Security and Information Assurance
PDFOV-8462	<p>All accounts will support individual accountability and role based access control. For each role, the account will be granted the most restrictive set of privileges that still allow the user to perform authorized tasks.</p> <p>Common roles include:</p> <p>User - User is the default mode of operation for all systems. The user role will not be permitted to make changes that affect the overall security or stability of the system. The user may have read-only access to status and diagnostic information for systems and applications; the user may also be granted read and write access to data files as required.</p> <p>Maintainer - The maintainer role will be granted access to functions necessary to diagnose and support system operation. Examples of maintainer functions include access to audit, configurations and application logs; and manage software updates. Accounts used for audit log management will not be used for other activities.</p> <p>Administrator - The administrator will be granted full root level access to the system, including the ability to create and delete accounts. Activities of the administrator will be logged for audit review.</p> <p>Additional roles may be necessary if they are justified in supporting separation of duties and do not increase the administrative and maintenance burden.</p>
PDFOV-8463	The CSDU and EMCU shall incorporate an external dual action zeroize switch that clears the memory and renders the device not usable until being reimaged.

ID	Purchase Description v2.7
PDFOV-8464	Open Standards: In order to ensure compatibility and interoperability across the current and future military equipment portfolio, the JLTV requires adherence to established industry standards. Various national and international standards bodies, such as the Society for Automotive Engineers (SAE), American National Standards Institute (ANSI), International Organization for Standardization (ISO), Institute of Electrical and Electronics Engineers (IEEE), Internet Engineering Task Force (IETF), and International Telecommunication Union-Telecommunication Standardization Sector (ITU-T), develop a variety of protocol and service specifications that are similar to requirements defined here. National and international groups also publish “implementers’ agreements” capturing a body of implementation-specific detail concerned with the practical application of their standards. All of these are considered to be “open external standards” for the purposes of the JLTV requirements definition.
PDFOV-7687	3.3.4.8.1 Physical Security
PDFOV-7688	All Controlled Cryptographic Items (CCI) shall have a means of being physically locked in its mounted position.
PDFOV-1998	3.3.4.8.2 Classification
PDFOV-1999	The C4ISR/EW architecture shall be capable of processing the following type of data: Unclassified, Secret, and NATO Secret.
PDFOV-1982	3.3.4.8.3 Information Assurance Capabilities
PDFOV-1984	The JLTV shall be certified and accredited IAW DoDD 8500.01 (Information Assurance) and DoDI 8500.2 (Information Assurance Implementation) implementing the corresponding IA controls as described in DoDI 8510.01 (DoD Information Assurance Certification and Accreditation Process).
PDFOV-1988	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	3.3.4.8.4 Information Description
PDFOV-2007	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 Unified INFOSEC Criteria (UIC).
PDFOV-2042	3.3.4.8.5 Management of System Security policies
PDFOV-2043	The C4ISR/EW architecture shall include a single interface to manage the system security policies implemented for all IA products.
PDFOV-2060	3.3.4.8.6 End Crypto Unit Management
PDFOV-2065	The C4ISR/EW architecture shall not exceed requirements necessary to be handled as CCI when un-keyed.
PDFOV-2080	The JLTV crew shall have the capability to zeroize Red and Black keys on each filled device.
PDFOV-2083	3.3.4.8.6.1 Key Management

ID	Purchase Description v2.7
PDFOV-2107	All Contractor Furnished Equipment (CFE) C4ISR/EW devices that require key loading shall implement Electronic Key Management System (EKMS) Simple Key Loading, AN/CYZ-10 devices or newly approved KMI key loading specifications.
PDFOV-2115	All CFE C4ISR/EW devices that require key loading shall implement EKMS defined: Key Update, Key Rollover, Over-The-Air-Functions (OTAF) (Over-the-Air-Rekeying (OTAR), Over-the-Air-Key-Transfer (OTAT), Over-the-Air-Key Distribution (OTAD), Over-The-Air-Zeroize (OTAZ)), Compromise, Recovery, and Zeroize.
PDFOV-7689	3.3.4.9 Vehicle Command and Control Systems - Display and Onboard Computing Resources
PDFOV-7691	The JLV display and processing subsystem solutions will consist of a combination of the following: DSDU - shared display and processing unit; CSDU - shared display and processing unit; ASDU - shared display and processing unit; ADU(s) - display only and uses external central vehicle computer system for processing - EMCU; EMCU - dedicated expandable computer processing for specialized applications.
PDFOV-1912	3.3.4.9.1 Common Display Requirements
PDFOV-4010	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 in (30.7 cm).
PDFOV-7692	The JLV displays greater than 12.1 in (30.7 cm) shall provide resolution greater than 1024 x 768 pixels.
PDFOV-1924	The JLV 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	The JLV 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	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	There shall be no contrast or color or grey reversal within the viewing angle cone.
PDFOV-7696	The JLV displays white-to-black contrast ratio for a dark ambient light environment (< 0.1 foot-lamberts (fL)) shall have a minimum contrast ratio of 400:1.
PDFOV-7697	The JLV 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	The JLV displays 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-85762 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	The JLV displays shall include adjustable contrast and brightness controls.

ID	Purchase Description v2.7
PDFOV-1930	The JLTV displays shall include vertical and horizontal image adjustment controls.
PDFOV-1934	The JLTV displays (for both analog and digital signals) shall include the power indicator, and a front panel indicator or pop-up message to indicate "sync operation" or no video signal.
PDFOV-7231	The JLTV 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 0.03 mi (50 m) or by Night Vision Goggles (AN/PVS-7 & AN/PVS-14) at ranges greater than 0.3 mi (500 m) from the host vehicle under clear atmospheric conditions and starlight. All JLTV displays, indicators, and lighted buttons dim to the above levels when blackout mode is enabled.
PDFOV-1940	The JLTV displays luminance shall be dimmable to 0.05 fL or less. Light security filter is permissible.
PDFOV-6862	The JLTV displays shall permit viewing under blue and red lighting.
PDFOV-6743	3.3.4.9.1.1 Controls
PDFOV-1914	The JLTV 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	The JLTV display's HMI shall be operable in MOPP IV and cold weather gear.
PDFOV-1941	3.3.4.9.1.2 The Display Interfaces
PDFOV-1943	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	The JLTV 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	The JLTV 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	The JLTV display interface electronics shall have the ability to display full motion video information.
PDFOV-1951	The JLTV display interface electronics shall have the ability to display interlace and progressive scanning inputs.
PDFOV-1953	The JLTV 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	The JLTV 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	The JLTV 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	The JLTV 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-7700	3.3.4.9.1.3 Driver Smart Display Unit

ID	Purchase Description v2.7
PDFOV-7701	The JLTV DSDU shall provide an active viewing area, measured diagonally greater than 8 in (20.3 cm).
PDFOV-7702	The JLTV DSDU shall be a combined display and processor unit.
PDFOV-7703	The JLTV DSDU shall be operated without the use of an external hardware keyboard, except for maintenance.
PDFOV-7705	3.3.4.9.1.3.1 Security and Enclave Classification
PDFOV-8465	The JLTV DSDU shall not require an operator log-in for user mode operation.
PDFOV-7706	The classification state of JLTV DSDU shall meet minimum requirements to process unclassified J1939 data.
PDFOV-7707	The JLTV DSDU shall not be connected to the C4ISR/EW Data Bus to maintain physical separation.
PDFOV-7708	The classification state of the JLTV DSDU shall be unclassified.
PDFOV-7709	The JLTV DSDU shall require authentication prior to data transfers to or from the DSDU.
PDFOV-7710	The JLTV DSDU shall include roles based access and incorporate least privilege access control.
PDFOV-7711	There shall be no root access to the operating system for non-administrators.
PDFOV-7712	3.3.4.9.1.3.2 Functionality and Application Hosting
PDFOV-7713	The JLTV DSDU's primary function is to support the operational needs of the JLTV driver.
PDFOV-7714	The JLTV shall be able to continue operation (basic vehicle operations - starting, accelerating, steering, braking must function if the DSDU is damaged) in the event that a DSDU fails.
PDFOV-7715	The JLTV DSDU hardware shall be capable of running approved Microsoft Windows and Linux operating systems and applications (if required).
PDFOV-7716	From JLTV start/ignition on or accessory power on, the DSDU shall automatically startup in less than 30 seconds. The conclusion of startup occurs when the user is able to interact with DSDU full functionality.
PDFOV-7717	The JLTV DSDU shall host and display the Health Management System software application.
PDFOV-7718	The JLTV DSDU shall be able to concurrently execute/run all functionalities specified in this section.
PDFOV-7720	The JLTV DSDU shall provide a graceful power down/up (i.e. no errors/file corruptions) during rapid ignition run/start/off cycling or abrupt power loss.
PDFOV-7721	The JLTV DSDU shall enable the display and control of power and mobility functions, including, but not limited to: power management, tire pressure, lighting, suspension.
PDFOV-8466	The JLTV DSDU shall provide operator Electronic Technical Manuals (ETM) that are electronically text searchable.
PDFOV-7723	The JLTV DSDU shall host JLTV unclassified Interactive Electronic Technical Manuals (IETM). (O)
PDFOV-7724	The JLTV DSDU shall enable transfer of CBM and bulk data to the at-platform maintenance devices (Maintenance Support Device (MSD) and Vehicle Automated Diagnostic System (VADS)).
PDFOV-7725	The JLTV DSDU shall be software upgradable without removing the display.
PDFOV-7726	The JLTV DSDU shall interoperate with MSD and VADS diagnostic tools.

ID	Purchase Description v2.7
PDFOV-8467	The JLTV DSDU shall be able to display the temperature of the external environment in both Celsius and Fahrenheit.
PDFOV-7727	3.3.4.9.1.3.3 Hardware and Interfaces
PDFOV-7728	The JLTV DSDU shall provide a minimum of one (1) J1939/CAN interface(s).
PDFOV-7729	The JLTV DSDU shall provide a minimum of two (2) IEEE 802.3 compliant Gigabit Ethernet Interfaces.
PDFOV-7829	The JLTV DSDU shall provide one (1) easily accessible, hard mounted and environmentally protected Ethernet port to provide high capacity transfer of stored CBM data from the DSDU to the MSD and VADS.
PDFOV-7731	The JLTV DSDU shall provide a minimum of two (2) USB interfaces in locations accessible to the operator without requiring display removal.
PDFOV-7732	The JLTV DSDU shall provide an upgradeable solid state hard drive/storage with memory cell wear leveling capabilities that is sufficient to run all operating systems, applications, and provide a minimum of 20GB of CBM data storage.
PDFOV-7734	3.3.4.9.1.3.4 Growth and Expansion
PDFOV-7735	To permit future growth the DSDU processor(s) shall not exceed 50% maximum sustained utilization (typical running configuration).
PDFOV-7736	To permit future growth the DSDU processor RAM shall not exceed 50% sustained utilization (typical running configuration).
PDFOV-8468	3.3.4.9.1.3.5 Health Management System
PDFOV-8469	A Health Management System (HMS) software application will be used to provide a user interface to the vehicle health. The HMS provides the user diagnostics, fault notifications, CBM data storage, and vehicle configuration data.
PDFOV-8470	The HMS shall provide a view of major subsystem health with the ability to select any subsystem to reveal more detail on component fault codes, and display a readable description of the fault condition and impact to vehicle performance.
PDFOV-8471	The HMS shall provide a reference to the relevant section of the ETM in the fault code detail description.
PDFOV-8472	The HMS shall provide a method for the operator to enter information/notes about vehicle issues/concerns, which can be accessed by maintainers to assist troubleshooting.
PDFOV-8473	3.3.4.9.1.3.5.1 Notifications
PDFOV-8474	3.3.4.9.1.3.5.1.1 CBM Data Storage
PDFOV-8475	All CBM data shall be capable of storage for a minimum of 96 engine hours without overwrite or data loss.
PDFOV-8476	The CBM data shall use ABCD format for bulk data transfers to at-platform diagnostic devices (MSD and VADS).
PDFOV-8477	3.3.4.9.1.3.5.1.2 Vehicle Embedded Diagnostics Software
PDFOV-8478	The JLTV embedded diagnostic software shall detect faults by utilizing information from any existing embedded diagnostic capabilities included in the subsystems, components, and modules resident on the vehicle.
PDFOV-8479	The JLTV embedded diagnostic software shall automatically isolate faults to a single component/LRU/LRM and its associated wiring.
PDFOV-8480	The JLTV embedded diagnostic software false alarm occurrences shall be less than 1% of failure notifications.

ID	Purchase Description v2.7
PDFOV-7737	3.3.4.9.2 Commander Smart Display Unit
PDFOV-4009	The CSDU shall provide an active viewing area, measured diagonally of at least 12 in (30.5 cm).
PDFOV-7738	The CSDU shall be a combined display and processor unit.
PDFOV-7739	The CSDU shall utilize its touch screen, stylus, bezel buttons, and keyboard (virtual and physical) as the HMI.
PDFOV-7740	All electrical devices shall use open system standards.
PDFOV-7741	3.3.4.9.2.1 Security and Enclave Classification
PDFOV-7742	The CSDU common hardware shall be software configurable (re-image) to support UNCLASSIFIED, SECRET, or BOTH SECRET/UNCLASSIFIED security enclaves depending on mission role.
PDFOV-7743	The CSDU shall provide a minimum 128GB removable solid state hard drive/storage with memory cell wear leveling capabilities and be compatible with HD cloning hardware (Greystone DF-5 disk duplicator).
PDFOV-7745	3.3.4.9.2.2 Functionality and Application Hosting
PDFOV-7747	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	The CSDU shall host and be able to display the approved Windows and Linux operating systems and GFE applications.
PDFOV-7749	The CSDU shall host and be able to display all Core Services and a single Primary Application (as defined below) concurrently.
PDFOV-7750	The CSDU shall host and be able to display and control the intercom (Core Service).
PDFOV-7751	The CSDU shall host and be able to display and control the military radio remote control (Core Service).
PDFOV-7752	The CSDU shall host and be able to display and control the electronic warfare (EW) system (if capable) (Core Service).
PDFOV-7753	The CSDU shall host and be able to display the situational Awareness (SA) video feeds eg. redundant Driver Vision Enhancer (DVE), external cameras, CROWS, ITAS/TOW/LRAS, etc. (Core Service).
PDFOV-7754	The CSDU shall integrate, display, and control the network device(s) in the C4ISR enclave. The CSDU will serve as the interface for management, maintenance, and control the enclave network equipment (Core Service).
PDFOV-7755	The CSDU shall host and be able to display the CBRNE sensors data (Core Service).
PDFOV-7756	The CSDU shall 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	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	The CSDU shall display the diagnostics and system health status of any component connected to the C4ISR/EW data bus (Core Service).
PDFOV-7759	The CSDU shall integrate a Cross Domain Solution kit to provide data access and transfer across security domains, when equipped (Core Service).

ID	Purchase Description v2.7
PDFOV-7760	The CSDU shall be able to integrate, display, and control mobile shot detection system(s) (Core Service).
PDFOV-7761	The CSDU shall host and be able to display the LVOSS status (Core Service).
PDFOV-2341	3.3.4.9.2.2.1 Joint Capabilities Release
PDFOV-7762	The CSDU shall be reconfigurable without reimaging for different JCR configurations e.g. FBCB-2 L-Band or FBCB-2 EPLRS or FBCB-2 L-Band with KGV-72 or MTS-ES L-Band.
PDFOV-8481	If GPS information is available, the CSDU shall be able to display a compass that includes N, S, E, W, NE, NW, SE, and SW.
PDFOV-2346	The C4ISR/EW Data Bus shall be the interface between the GFE JCR software and the GFE JCR hardware, and GFE radios. JCR shall have the ability to communicate over the JCR satellite network with or without the KGV-72.
PDFOV-7763	3.3.4.9.2.2.2 Advanced Field Artillery Tactical Data System
PDFOV-7764	The CSDU shall host and integrate the Advanced Field Artillery Tactical Data System (AFATDS) (Windows based) system (Primary Application).
PDFOV-7765	The CSDU shall transmit AFATDS data via SINCGARS.
PDFOV-7766	3.3.4.9.2.2.3 One System Remote Video Terminal
PDFOV-7767	The CSDU shall host and integrate the One System Remote Video Terminal (OSRVT) system (Primary Application).
PDFOV-7768	The CSDU shall receive antenna feeds per the OSRVT ICD.
PDFOV-7769	3.3.4.9.2.3 Hardware and Interfaces
PDFOV-7772	The CSDU shall provide a minimum of three (3) IEEE 802.3 compliant Gigabit Ethernet interfaces.
PDFOV-7773	The CSDU shall provide a minimum of three (3) RS232/RS422 serial interfaces.
PDFOV-7774	The CSDU shall provide a minimum of four (4) easily accessible (without display removal) USB interfaces to include one specifically for the Mission Data Loader (MDL).
PDFOV-7775	The CSDU shall provide a minimum 128GB removable solid state hard drive/storage with memory cell wear leveling capabilities and be compatible with HD cloning hardware (Greystone DF-5 disk duplicator).
PDFOV-7776	The CSDU shall provide two (2) PCMCIA interfaces.
PDFOV-7778	The CSDU shall provide a minimum of one (1) VGA video input to produce a minimum of 1024 x 768 pixel color image interface.
PDFOV-7779	The CSDU shall provide a minimum of one (1) RS170 video input.
PDFOV-7782	3.3.4.9.2.4 Growth and Expansion
PDFOV-7783	To permit future growth the CSDU processor(s) shall not exceed 50% maximum sustained utilization (typical running configuration - core and primary services/applications).
PDFOV-7784	To permit future growth the processor(s) RAM shall not exceed 50% sustained utilization (typical running configuration - core and primary services/applications).
PDFOV-7785	3.3.4.9.3 Auxiliary Smart Display Unit

ID	Purchase Description v2.7
PDFOV-7786	The ASDU and CSDU shall utilize common hardware and meet all specified functionality requirements of the CSDU.
PDFOV-7787	3.3.4.9.4 Auxiliary Display Unit
PDFOV-7788	The ADU (when paired with the enhanced modular computing unit) shall meet all the CSDU display functionality requirements (not computing/interface requirements).
PDFOV-7789	3.3.4.9.5 Enhanced Modular Computing Unit
PDFOV-7790	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 ADU provides rear seat occupants battle command workstations and additional processing to the CSDU and ASDU.
PDFOV-7791	The DSDU, CSDU, ASU, ASDU, and EMCU shall be open standards systems.
PDFOV-7792	The EMCU shall be a modular (at the component board / subsystem level) computing platform.
PDFOV-7793	The EMCU shall provide dedicated multiple processor assets (blades) to distribute the application processing loads.
PDFOV-7794	The EMCU usability startup time (user can interact with full functionality of the displays) shall be less than four (4) minutes from power on. (T)
PDFOV-8482	The EMCU usability startup time (user can interact with full functionality of the displays) shall be less than two (2) minutes from power on. (O)
PDFOV-7795	3.3.4.9.5.1 Security and Enclave Classification
PDFOV-7796	The EMCU (and internal processor blades) shall be individually configurable to support UNCLASSIFIED, SECRET, or BOTH SECRET/UNCLASSIFIED security enclaves depending on mission role.
PDFOV-7797	The EMCU shall incorporate removable hard drive(s) for data at rest.
PDFOV-7799	3.3.4.9.5.2 Functionality and Application Hosting
PDFOV-7800	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) within the same domain/enclave or through a cross domain solution when equipped.
PDFOV-7801	The EMCU shall not automatically power-up with the JLTV ignition in the run state.
PDFOV-7802	The EMCU shall host and be able to display (with ADU, CSDU, ASDU) all specified services/applications concurrently.
PDFOV-7803	The EMCU shall host and be able to display and control (with ADU, CSDU, ASDU) the intercom (Core Service).
PDFOV-7804	The EMCU shall host and be able to display and control (with ADU, CSDU, ASDU) the military radio remote (Core Service).
PDFOV-7805	The EMCU shall be able to display (with ADU, CSDU, ASDU) the situational Awareness (SA) networked video feeds e.g. DVE, external cameras, CROWS, ITAS/TOW/LRAS, etc. without direct feeds to the EMCU (Core Service).
PDFOV-7806	The EMCU shall integrate, display, and control the network device(s) in the C4ISR enclave. The EMCU will serve as the interface for management, maintenance, and control the enclave network equipment (Core Service).
PDFOV-7807	The EMCU shall integrate display sharing and remote control (view and/or control) of other C4I display and processing assets (ASDU, EMCU, ADU) within the same security domain/enclave or through a cross domain solution when equipped (Core Service).

ID	Purchase Description v2.7
PDFOV-7808	The EMCU shall host and be able to display (with ADU, CSDU, ASDU) the virtualized operating systems (Virtual Machines) for both Microsoft Windows and Linux or as specified by application ICD (Core Service).
PDFOV-7809	The EMCU shall display the diagnostics and system health status of any component connected to the C4ISR/EW data bus (Core Service).
PDFOV-7810	The CSDU shall integrate a Cross Domain Solution - when equipped (Core Service).
PDFOV-7811	The EMCU shall host and be able to display (with ADU, CSDU, ASDU) the WIN-T network management (Core Service).
PDFOV-7812	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	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	The EMCU shall be able to concurrently integrate, host, display (with ADU, CSDU, ASDU), and control all core services in addition to the following applications (Core Services) AFATDS and OSRVT or C2PC/JTCW.
PDFOV-7815	3.3.4.9.5.3 Hardware and Interfaces
PDFOV-7816	The EMCU processor(s) shall be compatible with hypervisor kernel and virtualization.
PDFOV-7818	The EMCU shall provide IEEE 802.3 compliant Gigabit Ethernet interfaces.
PDFOV-7819	The EMCU shall provide a minimum of two (2) RS232/RS422 serial interfaces.
PDFOV-7820	The EMCU shall provide a minimum of two (2) easily accessible (without display removal) USB interfaces.
PDFOV-7821	The EMCU shall provide a minimum 256 GB solid state hard drive/storage with memory cell wear leveling capabilities.
PDFOV-7822	The EMCU shall provide one (1) PCMCIA interface.
PDFOV-7823	The EMCU shall provide microphone/speaker audio I/O.
PDFOV-7824	3.3.4.9.5.4 Growth and Expansion
PDFOV-7825	The EMCU processor(s) shall not exceed 50% maximum sustained utilization (typical running configuration - core services/applications) per application (when an application is allocated multiple blades) or blade (when a blade is allocated to one or multiple applications).
PDFOV-7826	The EMCU processor RAM shall not exceed 50% sustained utilization (typical running configuration - core and primary services/applications).
PDFOV-7827	The EMCU shall provide a minimum of two (2) spare slots for adding additional boards.
PDFOV-7248	3.3.4.9.5.5 At-Platform Diagnostics
PDFOV-7250	The JLTV shall be compatible with the U.S. Army MSD, with the auxiliary Internal Combustion Engine (ICE) test hardware.
PDFOV-7252	The JLTV shall be compatible with the USMC VADS.
PDFOV-7254	The JLTV At-Platform diagnostic connectors shall be easily accessible, hard mounted and environmentally protected.
PDFOV-2128	3.3.4.10 Electronically Aided Survivability
PDFOV-2553	3.3.4.10.1 Driver's Visual Aid Capability (includes DVE)

ID	Purchase Description v2.7
PDFOV-7830	The installed GFE DVE (with associated bracketry) display shall be positioned directly in front of the driver at eye level for a 50% adult male when lowered from the stow position for operational use.
PDFOV-2557	The hardware to secure the DVE sensor and Pan & Tilt Module to the vehicle shall not inhibit the driver's vision.
PDFOV-2510	3.3.4.10.2 Counter Radio-Controlled Improvised Explosive Device Electronic Warfare
PDFOV-7063	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) and visibility of all error messages.
PDFOV-4312	The CREW Remote Control Unit shall be integrated in the crew compartment and be accessible to the driver/commander for operation.
PDFOV-2189	3.3.4.11 Communication Capability
PDFOV-2190	3.3.4.11.1 Military Radio Capability
PDFOV-7831	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	All military radios (capable of voice communication) shall utilize the JLV intercom system headsets for voice communications (if equipped).
PDFOV-7834	All military radios that support data shall transmit all data through the C4ISR/EW Data Bus.
PDFOV-2228	3.3.4.11.2 Intercom System
PDFOV-2230	The JLV intercom shall be able to expand to add 1 additional position, two (2) positions. (O)
PDFOV-7839	The JLV intercom system shall provide the crew (accessible from each position) local display and control of the intercom and radio assets independent of the CSDU, ASDU, and ADU.
PDFOV-7840	The JLV intercom crew stations shall be able to take control precedence over CSDU, ASDU, and ADU intercom control.
PDFOV-2244	The JLV 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	Noise canceling headsets with side tone suppression and echo cancellation compatible with Advanced Combat Helmet (ACH), Enhanced Combat Helmet (ECH) and Lightweight Helmet (LWH) shall be provided.
PDFOV-2250	Side tone suppression and echo cancellation shall be included.
PDFOV-2248	The electrical interface shall provide for radio and intercom push-to-talk.
PDFOV-2252	A connection for at least one adjustable volume level, external speaker shall be provided.
PDFOV-2254	The JLV intercom subsystem shall be configurable by the user to connect the crew together as an intercom in any combination and to connect any or all crew to any voice capable radio or transmission system that is connected to the C4ISR/EW Data Bus.
PDFOV-2256	The JLV intercom subsystem 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-2528	3.3.4.12 Position and Timing Capability (includes GPS)

ID	Purchase Description v2.7
PDFOV-2548	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, NMEA 0183 and ICD-GPS-153C.
PDFOV-7842	The C4ISR/EW architecture shall provide GPS data and timing to all subsystems using a single GB-GRAM.
PDFOV-2570	3.3.4.13 Power Management and Distribution Capability
PDFOV-2571	3.3.4.13.1 General
PDFOV-2573	The JLTV power management and distribution subsystem 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.
PDFOV-2579	The JLTV power distribution subsystem shall incorporate safety features. For example; protective covers, grounding, interlocks, leakage detection to mitigate electric shock potential to vehicle operators and maintainers.
PDFOV-2581	The JLTV power management and distribution subsystem shall contain an isolated electrical bus IAW MIL-STD-1275 for On Board Vehicle Power (OBVP).
PDFOV-7843	The JLTV power management and distribution subsystem's MIL-STD-704 (28 VDC) voltage bus (if kit is installed) shall be able to interconnect with the MIL-STD-1275 voltage bus in emergency situations for starting.
PDFOV-2583	The JLTV power management and distribution subsystem shall be capable of transitioning between on board power sources without any loss of functionality.
PDFOV-4316	The JLTV power management and distribution subsystem shall provide for electrical isolation between all AC voltage buses and grounded DC voltage buses.
PDFOV-4318	The JLTV power management and distribution subsystem shall provide protection from voltage reversals, short circuits, and arcing.
PDFOV-7844	The JLTV power management, generation and distribution subsystems shall prevent sympathetic tripping due to any system fault.
PDFOV-2623	3.3.4.13.2 Low Voltage Distribution
PDFOV-7847	The JLTV power management and distribution system shall provide and control power to all electrical devices.
PDFOV-1222	3.3.4.13.3 Power Generation
PDFOV-1223	3.3.4.13.3.1 DC Power Source/ On-board Electrical Power Requirement
PDFOV-1224	The JLTV shall be capable of providing 15 kW sustained electrical power to on-board vehicle subsystems, in addition to the power required for the JLTV hotel loads. (T)
PDFOV-8488	Hotel loads are all electrical loads that are required in order to operate the JLTV 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.

ID	Purchase Description v2.7
PDFOV-1226	The On-board power generation shall be simultaneously provided as the JLTV is charging the batteries and/or capacitors consistent with the specifications of the component manufacturer.
PDFOV-1228	The On-board power generation shall be provided on the move. During situations where the power generation subsystem is drawing large amounts of power and JLTV mobility requires large amounts of power, the JLTV mobility performance is allowed to degrade in order to maintain the power generation subsystem output at a level that will not offset the energy balance of the power system.
PDFOV-7848	The On-board power generation shall be provided at the halt with engine at tactical idle. (T)
PDFOV-7849	The On-board power generation shall be provided at the halt with engine at normal idle. (O)
PDFOV-1233	3.3.4.13.3.2 Exportable Electrical Power
PDFOV-1234	The JLTV shall be capable of providing 10 kW of sustained electrical export power, with engine running at tactical idle speed and when the JLTV is moving, to an external power customer and be provided simultaneously with the on board power generation requirements. This capability can be provided as a JLTV add on kit. (T)
PDFOV-7616	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.
PDFOV-7617	The JLTV shall be capable of stacking export power kits in blocks of 10 kW up to a maximum of 30 kW 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	When providing power > 10 kW, 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-1238	The JLTV exportable power shall be IAW MIL-STD-1332 for a type 1, class 1, mode 1 generator and be tested IAW MEP-STD-001 (for AC voltages) and MIL-STD-705.
PDFOV-1252	3.3.4.13.3.3 Depleted Battery Engine Start
PDFOV-1253	The JLTV power management subsystem shall provide a means of disengaging the batteries (or other storage devices) from the bus before they are depleted below the charge level required to start the JLTV when the batteries are providing on board power during silent watch or when the engine is off.
PDFOV-1255	The JLTV combat override switch when engaged shall allow the batteries (or other storage devices) to remain connected and supplying power to the bus even when they have reached and gone below the level required to start the vehicle. A warning indicator shall illuminate to warn the operator when the batteries have reached and gone past this level of charge.
PDFOV-1258	3.3.4.13.3.4 Energy Storage
PDFOV-1259	The JLTV energy storage devices shall be maintenance free.
PDFOV-6872	The JLTV energy storage devices shall be secured for protection from shock, vibration, and weather, and be readily accessible for service.

ID	Purchase Description v2.7
PDFOV-8489	The surface temperatures of the JLTV energy storage device case exposed to crew during normal operation or maintenance shall not exceed the limits specified in MIL-STD-1472 5.13.4.6 thermal contact hazards.
PDFOV-6868	The JLTV energy storage enclosures shall not be vented into the cab.
PDFOV-6866	Under any operating condition, including abuse conditions such as ballistic events (see Appendix X for definition), short circuit, and overcharge, energy storage devices shall not present a hazard to the crew or make the JLTV inoperable.
PDFOV-6864	The JLTV energy storage terminal connectors shall be of such material as to prevent terminal corrosion while maintaining good conductivity.
PDFOV-8490	The JLTV energy storage device shall have a minimum service life of three (3) years with no maintenance. (T)
PDFOV-8491	The JLTV energy storage device shall have a minimum service life of five (5) years with no maintenance. (O)
PDFOV-6982	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-8492	The JLTV energy storage system shall comply with form factor requirements specified in NATO STANAG 4015.
PDFOV-8531	The JLTV shall be able to utilize Lead-Acid Starting, Lighting, and Ignition (SLI) batteries of a 6T form factor and meet the requirements of MIL-PRF-32143 and NATO STANAG 4015 to start and operate the vehicle.
PDFOV-2584	3.3.4.13.4 Power Management System
PDFOV-2586	The DSDU shall provide power management via the Vehicle Sensor Data Buses to control and collect the status of the power generation, energy storage, SOC, and power control/distribution components.
PDFOV-2588	The JLTV shall be capable of dynamic load prioritization and load shedding and shall be re-configurable and allow the crew to prioritize and shed unneeded loads during operations.
PDFOV-8493	When JLTV mobility is degraded for electrical power generation, the driver shall be notified and given the option to shed loads to recover full mobility.
PDFOV-8494	The JLTV battery management subsystem shall supply overcharge protection in compliance with ISO12405-1, Section 9.3.
PDFOV-909	3.3.4.13.4.1 Capacitor Starting
PDFOV-910	If a capacitor is used for JLTV starting, the capacitor shall have a minimum service life of 500,000 cycles.
PDFOV-2607	3.3.4.13.5 Power Connector/Interfaces
PDFOV-8495	The JLTV-UTL shall include a dedicated, secured for shock and vibration, weather protected, and accessible for use by an attached shelter, 250A MIL-STD-1275 28 VDC power connector that meets the requirements of IEC 60309.
PDFOV-8362	The JLTV-T electrical system shall be fully compatible with both 24-volt and 12-volt JLTV electrical systems.
PDFOV-8364	The JLTV-T 24-volt/12 pin interconnecting coil-type electrical cable shall be hard wired on the trailer side.
PDFOV-8365	The JLTV-T electrical system shall be fully compatible with, and be fully operational, when connected to the appropriate intra-vehicular cable receptacles of prime movers equipped with SAE seven-pin electrical connectors, SAE J560.

ID	Purchase Description v2.7
PDFOV-8366	Interconnecting coil-type electrical cable shall be provided as JLTV-T BII for 12-volt/7 pin operation.
PDFOV-8496	The JLTV shall include a dedicated power source at the front of the vehicle for rhino counter-IED devices. Control for the power source will be accessible to the driver.
PDFOV-2614	3.3.4.13.6 Power Interface for COTS
PDFOV-7394	The 120VAC power outlets shall meet design requirements IAW SAE J2698.
PDFOV-7851	The JLTV 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	The JLTV shall accept as a convenience outlet both Type B NEMA 5-15 North American 120V and Type I AS-NZS 3112 AUS 10/240V. Only Type B NEMA 5-15 North American 120V is provided per JLTV.
PDFOV-8497	There shall be a minimum total of 15A available for the 120VAC circuit or 10A for the 240VAC.
PDFOV-8498	The second convenience outlet provided on the JLTV-UTL shall be a dedicated, secured for shock and vibration, weather protected, and accessible for an attached shelter, 15A 120VAC power connector (located in the same mounting location as the DC power connector for the shelter).
PDFOV-7853	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	The JLTV 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-2622	The JLTV power management and distribution subsystem will provide at least one 5A 24 VDC outlet accessible by the crew.
PDFOV-2636	3.3.4.13.7 Battery Management
PDFOV-7856	The JLTV battery management State of Charge (SOC) indication shall be not less than 95% accurate.
PDFOV-2651	3.3.4.13.8 NATO Slave Interface
PDFOV-2653	The JLTV shall be equipped with a standard NATO slave interface as defined by STANAG No. 4074.
PDFOV-2655	The NATO slave interface shall provide slave starting the host or another vehicle, support recharging of all energy storage on the vehicle, provide 28 VDC electrical power input into the host vehicle and 28 VDC electrical power output to another vehicle.
PDFOV-2657	The JLTV power distribution system will provide 28 VDC through NATO slave interfaces located externally at the front of the vehicle.
PDFOV-7619	The NATO slave interface shall be protected from environmental and fording events.
PDFOV-1247	The JLTV shall be equipped with a NATO Intervehicle Power Cable IAW STANAG 4074 with Type 1 plugs that is at least 12 ft (3.7 m) in length.
PDFOV-1249	The JLTV shall be capable of being jump started with or without the batteries connected using a standard NATO power cable and plug assembly.

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PDFOV-1251	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-8363	The JLTV-T electrical system shall be fully compatible with, and be fully operational, when connected to the appropriate intra-vehicular cable receptacles of prime movers equipped NATO twelve-pin electrical connectors (ref: STANAG 4007).
PDFOV-2662	3.3.4.13.9 High Voltage Distribution
PDFOV-2672	The JLTV shall be designed and manufactured to mitigate the effects of High Voltage Corona (HVC) per requirements defined in MIL-HDBK-454, Guideline 45 for altitudes up to 15,000 ft (4572 m).
PDFOV-7396	The JLTV electrical distribution subsystem shall be designed to mitigate the occurrence of Accidental Contact to both crew and maintenance personnel IAW MIL-HDBK-454B Guideline 1 Sections 4.5.3 and 5.2.4 Accidental Contact.
PDFOV-7398	The high voltage JLTV electrical distribution subsystem shall meet the requirements specified in SAE J1673.
PDFOV-7402	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	3.3.4.14 Lighting
PDFOV-2819	3.3.4.14.1 General
PDFOV-8500	The JLTV side marker lamps shall be located to meet both FMVSS 108 and ADR 13 requirements.
PDFOV-8499	The JLTV shall be equipped with three (3) side marker lamps (front, rear, and mid) which meet FMVSS 108 requirements.
PDFOV-8501	The JLTV shall accept side marker lamps which meet the requirements of ADR 13, ADR 45, and ADR 74.
PDFOV-8125	FMVSS 108 Table I shall supersede ADR 45/01 45.3.1 for the color of the emitted light of the side marker lamps.
PDFOV-8126	FMVSS 108 Table X shall supersede ADR 45/01 Section 45.3.1.2.1 "Side-Marker Lamp, Minimum Light Intensity".
PDFOV-8127	FMVSS 108 Table X shall supersede ADR 45/01 Section 45.3.1.3.2 "Side-Marker Lamp, Forward/Backward facing visible Angle, Maximum/Minimum Starting Sweep Angle from Vertical Centreline".
PDFOV-8122	FMVSS 108 Tables VI-a and Table VI- b shall supersede ADR Appendix A Section 6.1 for front facing indicators.
PDFOV-8123	FMVSS 108 Table VII shall supersede ADR Appendix A Section 6.1 Rear Facing Indicators.
PDFOV-7454	In addition to US FMVSS 108 standards the JLTV shall be equipped with direction indicators as specified per Australian Design Rules (ADR) 06/00 "Direction indicators for NB Class Vehicles (Medium Goods Vehicles), TB Class Trailer (Light Trailer) and TC Class Trailer (Medium Trailer)".
PDFOV-7456	In addition to US FMVSS 108 standards the JLTV shall have installed lights and light-signaling devices as specified per ADR 45/01 "Lighting & Light Signaling Devices not covered by ECE Regulations for NB Class Vehicles (Medium Goods Vehicles), TB Class Trailer (Light Trailer) and TC Class Trailer (Medium Trailer)".
PDFOV-8121	All direction indicators (turn signals) specified in ADR 06/00 shall be amber to meet ADR indicator color requirements.

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PDFOV-7460	The JLTV 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 Trailer (Medium Trailer).
PDFOV-8124	The JLTV shall not have type "2b" "Direction indicators with two levels of intensity for the rear of the vehicle" as described in Annex 1 of Appendix A of ADR 06/00 (UN/ECE REGULATION NO. 06/00).
PDFOV-7465	The JLTV shall be equipped with headlamp cleaners as specified per ADR 75/00 Headlamps Cleaners for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-7455	The JLTV shall have installed lights and light-signaling devices as specified per ADR 13/00 Installation of Lighting and Light-Signaling Devices on other than L-Group Vehicles for NB Class Vehicles (Medium Goods Vehicles), TB Class Trailer (Light Trailer) and TC Class Trailer (Medium Trailer).
PDFOV-2821	All clearance lights, marker lights and military composite lights shall be LED.
PDFOV-2825	The JLTV exterior and interior lights shall be protected to preclude any damage when interfacing with other vehicles or ancillary equipment and is protected from terrain and natural obstacles while traveling cross-country.
PDFOV-2895	The JLTV shall have one (1) map light located at each occupant seat with individual switches.
PDFOV-8532	The JLTV map lights shall be over-riden during blackout mode.
PDFOV-7073	The JLTV shall be equipped with an emergency flasher system.
PDFOV-2832	3.3.4.14.2 Headlights
PDFOV-2836	The headlights shall meet the illumination requirements of FMVSS 108. The headlight height restrictions of FMVSS 108 do not apply.
PDFOV-2857	3.3.4.14.3 Secure Lighting
PDFOV-2858	The JLTV shall be equipped with controls to enter blackout mode, which will over-ride all interior and exterior lights, turn on blackout lights, disable audible alerts, and put displays and other light sources into blackout settings.
PDFOV-2862	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	During blackout mode, all JLTV illumination sources shall be compatible with night vision devices (i.e. night goggles) in use at time of fielding.
PDFOV-2866	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	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	Colored warning lights shall be maintained as necessary while meeting the above requirements.

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PDFOV-2871	3.3.4.14.4 Crew Indicators
PDFOV-8502	The JLTV controls and displays shall meet the requirements of FMVSS 101.
PDFOV-8503	The JLTV controls and displays that are not regulated by FMVSS 101 shall meet the size, spacing, labeling, and activation force requirements of MIL-STD-1472 sections 5.4 and 5.5.
PDFOV-2873	The JLTV shall be equipped with gauges/indicators that shall be readily visible to the driver and illuminated for night operation.
PDFOV-2875	Speed, tach, engine coolant temperature, oil pressure and fuel indicators shall be dedicated gauges that continue to operate if the driver DSDU fails. Gauges/indicators can be replaced by the driver DSDU.
PDFOV-2877	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, DC Bus Voltage, DC Bus Current, Indication whether Battery is charging or discharging, air pressure (air assist vehicle/trailer brakes), brake warning, park brake on and air filter gauge.
PDFOV-2879	The JLTV speedometer shall display both miles per hour (MPH) and kilometers per hour (KPH).
PDFOV-2881	The JLTV shall be equipped with an odometer that is capable of being switched between miles and kilometers.
PDFOV-7467	The JLTV shall be equipped with instrumentation as specified per ADR 18/03 Instrumentation for NB Class Vehicles (Medium Goods Vehicles).
PDFOV-2885	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	The audible warning indicators shall be inactive while in the blackout mode except for head-set/intercom sound.
PDFOV-2889	The JLTV shall be equipped with self canceling turn indicators.
PDFOV-7075	The JLTV shall be equipped with controls to operate outside lights and to adjust instrument panel lights.
PDFOV-2891	Gauges and switches shall use coded indicators such as color, position, text and other approaches to indicate information type. E.g.) desirable operating range in a green circle; cautious, undesirable, or ineffective usage in a yellow triangle; dangerous or harmful operating level in a red square.
PDFOV-2893	Lenses shall not discolor throughout the life of the JLTV.
PDFOV-2903	3.3.5 Supportability
PDFOV-7234	3.3.5.1 Measurement Standard
PDFOV-7235	The JLTV shall use only one measurement standard, either Metric or U.S. English.
PDFOV-7334	The JLTV shall use only the Metric measurement standard. (O)
PDFOV-2904	3.3.5.2 Reliability, Availability, and Maintainability
PDFOV-2905	3.3.5.2.1 Reliability

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PDFOV-2907	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 Reliability, Availability, and Maintainability (RAM) requirements for the JLTV do not include government furnished equipment or mission specific equipment such as radios, weapons, C4, medical, etc.
PDFOV-2908	3.3.5.2.1.1 Mean Miles Between Hardware Mission Failure
PDFOV-2909	The JLTV and JLTV-T shall demonstrate at a minimum, a 5,550 Mean Miles Between Hardware Mission Failure (MMBHMF) with 80% statistical confidence level. (T)
PDFOV-8132	The JLTV and JLTV-T shall demonstrate at a minimum, a point estimate of 25,000 MMBHMF. (O)
PDFOV-8133	For full rate production, the JLTV shall demonstrate at a minimum, a point estimate of 10,000 MMBHMF. (T)
PDFOV-2917	3.3.5.2.2 Operational Availability
PDFOV-2918	The JLTV shall demonstrate the operational availability (Ao) of 95%. (T)
PDFOV-8134	The JLTV shall demonstrate the operational availability (Ao) of 98%. (O)
PDFOV-2919	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	$Ao = \text{Uptime} / \text{Total Time} = 1 - \text{Downtime} / \text{Total Time} = 1 - (\text{OM} / \text{TT}) * (\text{ALDT} / \text{MMBOMF} + \text{MR} / \text{K})$ <p>Where,</p> <p>OM = Operational Miles per Year (11,000 miles/year Wartime) TT = Total Time in Clock Hours (8760 hours/year) MMBOMF = Mean Miles Between Operational Mission Failure (Miles/OMF) MR = Field Level Maintenance Ratio in Maintenance Man-hours per Operating Mile (MMH/Mile) ALDT = Administrative and Logistics Downtime (96 Clock Hours/OMF =) K = Ratio of Maintenance Man-hours to Clock-Hours (MMH/CH = 1.123)</p>
PDFOV-2921	Uptime is that time when the system is considered to be ready for use and is either operating, in standby, or off.
PDFOV-2922	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	3.3.5.2.2.1 Service Life

ID	Purchase Description v2.7
PDFOV-3126	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	3.3.5.2.3 Maintainability
PDFOV-4304	3.3.5.2.3.1 Installation of Mission Kits
PDFOV-4305	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	3.3.5.2.3.2 Maintenance Ratio (Field Level)
PDFOV-3947	The JLTV and JLTV-T shall demonstrate a Field Level Maintenance Ratio of 0.005 maintenance man hours per operating mile (MMH/OM) for the OMS/MP mission profile. (T)
PDFOV-8135	The JLTV and JLTV-T shall demonstrate a Field Level Maintenance Ratio of 0.0036 MMH/OM. (O)
PDFOV-6732	3.3.5.2.3.2.1 Definition of Field Level Maintenance
PDFOV-2933	Field Level Maintenance is repair and return to the user. Maintenance operations assigned to Field Maintenance include: (1) Performance of preventive maintenance checks and services (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-2970	3.3.5.2.3.3 Time to Repair
PDFOV-2971	3.3.5.2.3.3.1 Mean Time to Repair
PDFOV-2972	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." (T=O)

ID	Purchase Description v2.7
PDFOV-2975	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	3.3.5.2.3.3.2 Maximum Time to Repair Field Level
PDFOV-3953	That time below which a specified percentage of all corrective maintenance tasks must be completed. Maximum Time to Repair (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-2977	The JLTV shall have a MaxTTR for Crew/Operator maintenance tasks of half (0.5) clock-hours.
PDFOV-3956	The JLTV shall have a MaxTTR for field level maintenance tasks performed by a Military Occupant Speciality (MOS) Mechanic(s) of 2.5 clock-hours. (T)
PDFOV-8136	The JLTV shall have a MaxTTR for field level maintenance tasks performed by a MOS Mechanic(s) of two (2) clock-hours. (O)
PDFOV-3000	3.3.5.2.3.3.3 Removal and Replacement
PDFOV-3001	The JLTV shall be designed so the power-pack can be removed from the vehicle and replaced in under two and half (2.5) clock hours by two (2) maintainers. (T)
PDFOV-8137	The JLTV shall be designed so the power-pack can be removed from the vehicle and replaced in under two (2) hours by two (2) maintainers. (O)
PDFOV-7620	All vehicle variants of this family shall be designed so that each of the following (if applicable) can be removed from the power-pack (once the power-pack is removed) and replaced in under 1.0 clock hours (T) and 0.5 hour (O) by 2 maintainers.
PDFOV-3002	a. Transfer Case (if applicable)
PDFOV-3003	b. Engine (only)
PDFOV-3004	c. Transmission (only)
PDFOV-3005	d. Integrated Starter Generator (ISG)
PDFOV-3964	3.3.5.2.3.4 Tools
PDFOV-3970	The JLTV shall be capable of being maintained by 20 total common tools for both Crew/Operator and mechanics. The tools include two (2) sets (screw driver set and a socket driver handle set).
PDFOV-3971	The operator tool set shall include no more than 10 common tools, including BII.
PDFOV-3092	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-3976	The JLTV 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-3094	No special tools or TMDE shall be required at the operator level.

ID	Purchase Description v2.7
PDFOV-2946	3.3.5.2.3.5 Component Accessibility and Identification.
PDFOV-2948	All reservoirs, filters, drains, vents, valves, and fuses requiring regularly scheduled maintenance, per Tech Manual specifications, shall be easily accessible and identified for inspection and servicing.
PDFOV-2950	Drain plugs installed in engine, transmission, transfer case, axles, and hydraulic reservoir shall be of the permanent magnet type and compliant with MIL-STD-1472 accessibility guidelines.
PDFOV-2952	The function of all drains, vents and valve openings shall not permit the draining fluids to adversely affect the function of or damage to any other vehicle component (i.e. battery box).
PDFOV-2978	3.3.5.2.3.6 Preventive Maintenance Checks and Services
PDFOV-2983	The PMCS results shall be displayed to the crew/operators.
PDFOV-2989	The PMCS in total shall require no more than 10 minutes to complete.
PDFOV-3007	The 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-3038	3.3.5.2.3.7 Automotive Filters
PDFOV-3046	All filters within the JLTV for water, fuel, oil, hydraulic, pneumatic and air shall be directly accessible by the operator/maintainer/crew (with or without B-kit armor installed).
PDFOV-3047	Life of all filters within the JLTV for water, fuel, oil, hydraulic, pneumatic and air shall be displayed through the diagnostic system by using a time based algorithm.
PDFOV-3048	The filter elements shall be able to be changed in five (5) minutes with the use of onboard tools by the operator or crew. (T)
PDFOV-8138	The filter elements shall be able to be changed in one minute or less without the use of tools by the operator or crew. (O)
PDFOV-3043	The engine air filter system (if applicable) shall meet MIL-PRF-46736 for a 200 hour service life capacity.
PDFOV-3051	3.3.5.2.3.7.1 Air Cleaner
PDFOV-3053	The JLTV 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.
PDFOV-3055	The air filtration system shall achieve a minimum of 99.9% filtration with SAE coarse test dust.
PDFOV-3057	The air filtration system shall achieve a minimum filtration of 99.5% with SAE fine test dust.
PDFOV-3060	3.3.5.2.3.8 Interactive Electronic Technical Manuals
PDFOV-3097	Each JLTV DSDU shall host and operate full IETM that include operator and maintainer technical manuals (TM) and Repair Parts and Special Tool Lists (RPSTL) for all onboard equipment, including GFE items. (O)
PDFOV-3099	The JLTV DSDU shall host and operate an embedded training system to assist the mechanic/operator in performing maintenance tasks and diagnosis. (O)

ID	Purchase Description v2.7
PDFOV-3103	The JLTV IETM software platform shall allow the operator/maintainer to view actual video coverage of Field and Sustainment Level Maintenance Tasks. (O)
PDFOV-3105	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-3107	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-3109	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-3111	The video shall be formatted using memory-reduced compression, and can be viewed through the DSDU. (O)
PDFOV-6543	3.3.5.3 Safety
PDFOV-7445	The JLTV shall meet ADR 42/04 General Safety Requirements for NB Class Vehicles (Medium Goods Vehicles), TB Class Trailer (Light Trailer) and TC Class Trailer (Medium Trailer). Except for ADR 42/04 Clause 7.1.1, 10.3 and 18.2.
PDFOV-8504	The JLTV hood or access panels for service shall have a mechanism to hold the hood/panel open during service or maintenance.
PDFOV-3161	3.3.5.3.1 Cab Crush Protection
PDFOV-3162	The JLTV cab shall have a crush resistant roof capable of withstanding the JLTV's GVWR (excluding GPK and RWS) when loaded IAW SAE J2422 Section 5 and 6. (T)
PDFOV-8139	The JLTV cab shall have a crush resistant roof capable of withstanding 150% of the JLTV's GVWR (excluding GPK and RWS) when loaded IAW SAE 2422 Section 5 and 6. (O)
PDFOV-3176	3.3.5.3.2 Crew Restraint System (seat belts)
PDFOV-3177	Each JLTV crew seat shall have a combined seat and restraint device.
PDFOV-6920	The front and rear JLTV seats shall conform to FMVSS 207.
PDFOV-7448	In addition to US FMVSS 207 standards the JLTV 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-3179	The JLTV seat restraints shall be a minimum of a five (5) point system (Type 3 seat belt system as defined by SAE AS8043 section 2.2.1.3).
PDFOV-8506	The JLTV seat restraint shall adjust to fit small female to large male wearing combat gear and MOPP IV protection.
PDFOV-8140	The Type 3 JLTV seat belt assemblies shall conform to requirements of FMVSS 209 as described for a Type 2 seat belt assembly.
PDFOV-8141	The JLTV seat belt anchorages shall conform to FMVSS 210, with the requirements for a Type 2 seat belt assembly to be met by the JLTV Type 3 seat belt system.
PDFOV-7450	In addition to US FMVSS 207 standards the JLTV 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).

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PDFOV-8507	Under normal operations, the JLTV seat restraint shall be able to be donned and properly adjusted within 20 seconds when the crew is seated in the vehicle. (T)
PDFOV-8508	Under normal operations, the JLTV seat restraint shall be able to be donned and properly adjusted within 10 seconds when the crew is seated in the vehicle. (O)
PDFOV-8509	The JLTV seat restraint quick release mechanism shall be sized such that it can be operated while wearing cold weather or MOPP IV gloves.
PDFOV-8510	The JLTV seat restraint locking mechanism shall be operable by one (1) hand in one (1) direction.
PDFOV-8142	The JLTV seat restraints shall not contain a "loop" that will snag the crews gear upon release of the restraint.
PDFOV-3181	The JLTV seat restraints shall be able to be released by a single movement of the hand.
PDFOV-3187	The JLTV seat restraint system shall allow vehicle and crew operation without hindrance or the need to loosen and/or remove the restraint.
PDFOV-6849	3.3.5.3.3 Crew Ingress
PDFOV-6851	The JLTV crew ingress time includes the time it takes for the crew to open the door(s), step up into the JLTV, sit in assigned seat, close the door, and fully latch the seatbelt.
PDFOV-6854	The total JLTV crew ingress time for a crew of six (6) shall be 45 seconds or less, with crew in combat gear.
PDFOV-6856	The total JLTV crew ingress time for a crew of four (4) shall be 30 seconds or less with crew in combat gear.
PDFOV-6850	3.3.5.3.4 Crew Egress
PDFOV-3155	The JLTV (regardless of armor configuration) one (1) - two (2) crew, in combat equipment, during combat or normal operations shall be able to disengage seat restrains, open doors, and exit the vehicle within six (6) seconds. (T)
PDFOV-8143	The JLTV (regardless of armor configuration) one (1) - two (2) crew, in combat equipment, during combat or normal operations shall be able to disengage seat restrains, open doors, and exit the vehicle within four (4) seconds. (O)
PDFOV-3156	The JLTV (regardless of armor configuration) three (3) crew, in combat equipment, during combat or normal operations shall be able to disengage seat restrains, open doors, and exit the vehicle within nine (9) seconds. (T)
PDFOV-8144	The JLTV (regardless of armor configuration) three (3) crew, in combat equipment, during combat or normal operations shall be able to disengage seat restrains, open doors, and exit the vehicle within six (6) seconds. (O)
PDFOV-3157	The JLTV (regardless of armor configuration) four (4) crew, in combat equipment, during combat or normal operations shall be able to disengage seat restrains, open doors, and exit the vehicle within 13 seconds. (T)
PDFOV-8145	The JLTV (regardless of armor configuration) four (4) crew, in combat equipment, during combat or normal operations shall be able to disengage seat restrains, open doors, and exit the vehicle within nine (9) seconds. (O)
PDFOV-7236	3.3.5.3.5 Toxic Gases
PDFOV-7237	3.3.5.3.5.1 Carbon Monoxide

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PDFOV-7238	Personnel, while occupying, operating, or maintaining the JLTV, shall not be exposed to Carbon Monoxide (CO) concentrations emitted by the vehicle that result in Carboxyhemoglobin (COHB) blood levels greater than 10%.
PDFOV-7239	3.3.5.3.5.2 Other Toxic Gases
PDFOV-7240	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	3.3.5.3.5.3 Organic Material
PDFOV-7452	The JLTV components that are susceptible to ingress of insects, seeds and micro-organisms (i.e. components made of organic materials) shall be replaceable.
PDFOV-3131	3.3.5.4 Human Systems Integration / Manpower and Personnel Integration
PDFOV-3132	3.3.5.4.1 Human Factor Engineering
PDFOV-3138	All JLTV 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-1572	The JLTV shall comply with the MIL-STD-1474 Table 2 "Category C" steady state noise limits at all crew locations. If steady state noise levels are 85dBA or greater, noise hazard cautions signs and hearing protection are required.
PDFOV-913	3.3.5.4.1.1 Heating, Ventilation, Air Conditioning and Defroster
PDFOV-914	3.3.5.4.1.1.1 Heater
PDFOV-916	The heater shall be capable of raising the crew compartment temperature from -25°F (-32°C) to 41°F (5°C) within 45 minutes after the heater has been turned on IAW MIL-STD-1472, section 12.6. (T)
PDFOV-8146	The heater shall be capable of raising the crew compartment temperature from -25°F (-32°C) to 41°F (5°C) within 45 minutes after the heater has been turned on IAW MIL-STD-1472, section 12.6. (O)
PDFOV-8147	The heater shall be capable of raising the crew compartment temperature from -40°F (-40°C) to 41°F (5°C) within 60 minutes after the heater has been turned on. An arctic kit may be used to assist the JLTV heating system to achieve the threshold. (T)
PDFOV-8148	The heater shall be capable of raising the crew compartment temperature from -40°F (-40°C) to 41°F (5°C) within 45 minutes after the heater has been turned on. An arctic kit may be used to assist the JLTV heating system to achieve the threshold. (O)
PDFOV-937	3.3.5.4.1.1.2 Ventilation
PDFOV-922	The control of the air flow from blower shall operate independent of the heater and air condition temperature controls.
PDFOV-920	The JLTV 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 crew to completely off crew.
PDFOV-6989	The JLTV 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.

ID	Purchase Description v2.7
PDFOV-927	3.3.5.4.1.1.3 Air Conditioning
PDFOV-928	The JLTV air conditioning system after initial cool down (as defined in PDFOV-8150) shall be capable of maintaining average temperature of not greater than 85°F (29.5°C) at any seating positions after 60 minutes from initial cool down final temperature.
PDFOV-8149	The JLTV air conditioning system after initial cool down (as defined in PDFOV-8150) shall be capable of maintaining average temperature of not greater than 76°F (24° C) at any seating positions after 60 minutes from initial cool down final temperature.
PDFOV-6987	During initial cool down, the JLTV air conditioning system shall be capable of lowering the crew compartment temperature to 90°F within 60 minutes of AC system starting and at any engine speed, when the outside of vehicle ambient air temperature is 120°F (48.9°C). (T)
PDFOV-8150	During initial cool down, the JLTV air conditioning system shall be capable of lowering the crew compartment temperature to 90°F within 40 minutes of AC system starting and at any engine speed, when the outside of vehicle ambient air temperature is 120°F (48.9°C). (O)
PDFOV-932	The JLTV air conditioner shall operate using refrigerant with a global warming potential (GWP) less than or equal to 1300 over a 100 year time horizon IAW IPCC Third Assessment Report: Climate Change 2001. (T)
PDFOV-8151	The JLTV air conditioner shall operate using refrigerant with a global warming potential (GWP) less than or equal to 10 over a 100 year time horizon IAW IPCC Third Assessment Report: Climate Change 2001. (O)
PDFOV-8163	All refrigerant connections, hose joints, and seals refrigerant permeation shall be less than 1.5kg/m2/year @ 176°F (80°C) testing per SAE J2064.
PDFOV-923	3.3.5.4.1.1.4 Defroster
PDFOV-924	The windshield shall be capable of being defrosted within 30 minutes IAW SAE J381 (exception: ambient temperature shall be at -50°F (-46°C) with arctic heater kit and -25°F (-32°C) without arctic heater kit).
PDFOV-7430	3.3.5.4.1.1.5 Integration
PDFOV-7431	The JLTV airflow controls and distribution system shall incorporate variable airflow for crew space air distribution, with no less than three (3) (e.g. off, low, and high) selectable airflow settings (speed). (T)
PDFOV-8152	The JLTV airflow and control distribution system shall incorporate variable airflow for crew space air distribution, with no less than four (4) (e.g. off, low, med and high) selectable airflow settings (speed). (O)
PDFOV-8153	The JLTV airflow and control distribution system shall provide directional airflow for the crew.
PDFOV-3147	3.3.5.4.2 Crew Compartment
PDFOV-6921	3.3.5.4.2.1 Interior Occupant Protection
PDFOV-6923	The interior components of the JLTV shall not have sharp edges (radius of curvature must be >3.2 mm).
PDFOV-3163	3.3.5.4.2.2 Seating
PDFOV-3165	The driver seat shall be individually adjustable fore and aft and up and down, to the occupants height. (T)
PDFOV-8154	All crew seats shall be individually adjustable fore and aft and up and down, to the occupants height. (O)

ID	Purchase Description v2.7
PDFOV-3169	Each seat and restraint system on the JLTV shall be designed to accommodate a crew 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-7031	All seats shall recline a sufficient amount such that a crew wearing full body armor will not be seated in a position where his upper body leans forward beyond an upright, vertical position.
PDFOV-6924	3.3.5.4.2.3 Seat Head Restraints
PDFOV-6925	Head restraints shall be provided at each designated seating.
PDFOV-8155	The head restraint, when adjusted to its fully extended design position, and measured parallel to the torso line, the top of the head restraint must not be less than 700 mm above the seating reference point.
PDFOV-8156	The head restraint, when adjusted to its fully extended design position, and measured either 64 mm below the top of the head restraint or 635 mm above the seating reference point (which ever is greater), the lateral width of the head restraint must be not less than 170 mm.
PDFOV-8157	The back set (distance from the head/helmet to the head restraint) when the head restraint is adjusted to its fully extended height shall not exceed 100 mm.
PDFOV-3170	3.3.5.4.2.4 Re-configurable/Removable Seats
PDFOV-3171	The JLTV shall be fitted with removable/re-configurable rear seats that the vehicle operator can remove/reconfigure with on-board tools.
PDFOV-3175	The JLTV crew compartment shall be capable of safely securing one Talon II litter (NSN 6530-01-504-9051) with patient in support of non-standard casualty evacuation. The seats can be reconfigured and the handles of the Talon II folded to allow the Talon and occupant to be transported.
PDFOV-3188	3.3.5.4.2.5 Windshield and Windows
PDFOV-3190	Windshield and windows shall satisfy optical requirements listed in ATPD 2352, paragraph 3.4.
PDFOV-3194	The JLTV visors or other means shall provide coverage across the entire width of the windshield and side windows to protect the driver and commander from glare.
PDFOV-3196	Visors shall have a mechanical detent to prevent movement while in the stowed position.
PDFOV-3201	3.3.5.4.2.6 Windshield Wipers and Washers
PDFOV-3202	The JLTV shall be equipped with multi-speed windshield wipers with an adjustable, intermittent wiper setting.
PDFOV-8158	The JLTV shall be equipped with windshield washing system.
PDFOV-3204	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-3206	Windshield wipers and washers shall conform to FMVSS 571.104 and SAE J198, and be compatible to all thicknesses of windshield transparent armor protection.
PDFOV-3213	3.3.5.4.2.7 Cab Floor Drains

ID	Purchase Description v2.7
PDFOV-3220	The JLTV shall be designed to prevent unintended accumulation and containment of fluids and other materials, while maintaining crew protection performance against PD Annex E threats.
PDFOV-3231	3.3.5.4.2.8 M4/M16/F88 AUSTEYR Rifle Mounting
PDFOV-3232	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 crew without hindrance or the need to loosen and/or remove the seat restraint.
PDFOV-7069	The JLTV shall provide stowage of one rifle per crew member.
PDFOV-3235	3.3.5.4.2.9 Beverage Holders
PDFOV-3236	The JLTV shall be equipped with rugged, cup holders for the driver and commander 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-3242	3.3.5.4.2.10 Rear View Mirrors
PDFOV-3243	Exterior Mirrors shall conform to A-A-52432, FMCSR 393.80, FMVSS 111, and ADR 14/02.
PDFOV-8159	Exterior Mirrors shall incorporate a convex mirror on the lower portion of each side mirror.
PDFOV-8487	Mirror mounts shall be of sufficient strength to prevent failure of the mounting during any performance or RAM testing.
PDFOV-3244	3.3.5.4.2.11 Stowage
PDFOV-3245	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-6548	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 storage, with a minimum size additional storage area no less than 4 cubic ft, and be enclosed storage space that is protected from the elements, e.g. rain, snow, etc. suitable for the storage of personal gear, sleeping bags, non-mounted mission equipment and other supplies.
PDFOV-3251	Provisions shall be included that inhibit contents of BII from obstructing the drain holes.
PDFOV-3252	3.3.5.4.2.12 Crew Compartment Integration
PDFOV-3253	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	3.3.5.4.2.13 Door and Entry Point Operation
PDFOV-3281	All JLTV doors and entry points shall self latch securely in the closed position without occupant input above and beyond effort needed to close door.
PDFOV-8511	All JLTV entry doors and hatches shall be sealed to minimize sand, dust, and water intrusion.

ID	Purchase Description v2.7
PDFOV-8512	The JLTV shall have jam resistant doors such that the 5% female crew can open at least one door or hatch and escape the vehicle after a roll-over, IED, or mine strike event .
PDFOV-8513	The JLTV doors that use a powered assist mechanism shall provide safety feature(s) to prevent pinch/entrapment of users during closing operations.
PDFOV-3283	All JLTV doors and entry points shall be capable of being locked from the inside.
PDFOV-8161	All JLTV doors and entry points shall be capable of being unlocked from the outside with rescue tool per drawing, 6437086, CAGE CODE, 6W728, per attachment J.
PDFOV-3285	Provision shall be made to prevent inadvertent actuation of door and entry point handles while entering or leaving the platform, performing routine mission duties, or performing maintenance on the platform.
PDFOV-6910	The JLTV crew 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-3287	The JLTV crew doors, without B-kit armor installed, shall be capable of being opened and closed by 5th-95th percentile military personnel on 60% (30.96 degrees) slope (facing up and down) and on 40% (21.8 degrees) side slope without injury or vehicle damage. This requirement applies to all other vehicles entrance/exit point as well.
PDFOV-6940	The JLTV crew doors, without B-kit armor installed, shall be capable of being opened and closed by 5th-95th percentile crew on 30% slope (facing up and down) and side slopes without injury or vehicle damage. This requirement applies to all other vehicles entrance/exit point as well. (T)
PDFOV-8162	The JLTV crew doors, without B-kit armor installed, shall be capable of being opened and closed by 5th-95th percentile crew on 40% (21.8 degrees) slope (facing up and down) and side slopes without injury or vehicle damage. This requirement applies to all other vehicles entrance/exit point as well. (O)
PDFOV-940	The JLTV crew compartment shall allow the driver and passengers to collectively maintain 360 degree visibility around the vehicle, with and without B-kit armor.
PDFOV-7278	The JLTV-T shall be visible from the driver's position when tracking directly behind the JLTV.
PDFOV-8353	When towed on level primary roads, the JLTV-T and the JLTV shall be capable of maintaining posted speed limits and conform to Federal Motor Carrier Safety Regulation 393.70 which limits trailer oscillation.
PDFOV-3394	3.3.5.5 Vehicle Security
PDFOV-3395	The JLTV shall have a means to provide vehicle security (e.g., door locks, locking hatches and fuel tanks, etc.).
PDFOV-3396	3.3.5.5.1 Security System
PDFOV-3397	The security system shall provide the capability to lock the entry points from inside the JLTV without inhibiting a quick exit from the vehicle.
PDFOV-3379	3.3.5.6 Paint and Corrosion

ID	Purchase Description v2.7
PDFOV-6573	3.3.5.6.1 Paint
PDFOV-6574	The JLTV interior and exterior shall be cleaned, pretreated, primed, and top coated IAW MIL-DTL-53072, using primer MIL- P-53030, MIL-DTL-53084, A-A-52474 , or an ARL-approved powder coat, and topcoat MIL-DTL-64159 Type II. For A-A-52474 primer, apply a topcoat dry film thickness that is greater than or equal to 50.8 µm (2.0 mils) and less than or equal to 63.5 µm (2.5 mils).
PDFOV-3384	3.3.5.6.2 Corrosion Resistance
PDFOV-3385	The JLTV shall meet its OMS/MP without functional corrosion failures throughout its 20 year service life, with JLTV scheduled cleaning, maintenance, storage, and shipping procedures.
PDFOV-6941	3.3.5.7 Markings and Data Plates
PDFOV-6942	3.3.5.7.1 Markings
PDFOV-6943	The JLTV shall be marked IAW MIL-STD-642.
PDFOV-8160	All painted markings shall be IAW with MIL-DTL-64159.
PDFOV-8278	The JLTV-T shall be capable of having markings as specified per ADR 61/02 Vehicle Markings for TB Class Trailer (Light Trailer) and TC Class Trailer (Medium Trailer).
PDFOV-6944	3.3.5.7.2 Data Plates
PDFOV-6945	Instruction, caution, identification, operating and data plates shall be provided IAW A-A-50271 and installed in a readily visible location.
PDFOV-6954	The JLTV shall have an identification plate IAW MIL-STD-1223.
PDFOV-6951	The JLTV shall have a weight classification sign installed IAW TB 43-0147.
PDFOV-3440	3.3.5.8 Kits
PDFOV-3441	The JLTV and JLTV-T shall operate IAW the specification requirements after installation of and use of the kits specified herein.
PDFOV-8164	The JLTV and JLTV-T 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.
PDFOV-8165	The JLTV and JLTV-T shall have space and power allocation to accept installation of all or any combination of the kits described herein.
PDFOV-3442	3.3.5.8.1 Kit Installation
PDFOV-3443	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)
PDFOV-8166	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 0.5 hours. (O)
PDFOV-3446	3.3.5.8.2 Engine Arctic Kit
PDFOV-3447	The JLTV shall provide an engine arctic kit IAW the Operating Parameters of this ATPD.
PDFOV-3400	3.3.5.8.3 Winch Kit

ID	Purchase Description v2.7
PDFOV-8167	The JLTV shall be equipped with a winch mounting/receiver and power supply provisions located at the front of the vehicle.
PDFOV-3401	The winch kit shall consist of the winch kit with cable, chain, shackle, and snatch block.
PDFOV-3409	The winch and winch accessories shall be able to withstand and overcome loads equal to 1.5 times the GVWR of the JLTV. (T)
PDFOV-8168	The winch and winch accessories shall be able to withstand and overcome loads equal to 2 times GVWR. (O)
PDFOV-3411	The winch cable shall be long enough to reach an anchor 45 feet from the JLTV and return (using the snatch block) to enable self-recovery with a 2:1 mechanical advantage. (T)
PDFOV-8169	The winch cable shall be long enough to reach an anchor 75 feet from the JLTV and return (using the snatch block) to enable self-recovery with a 2:1 mechanical advantage. (O)
PDFOV-3415	The JLTV winch kit shall provide control for outside-vehicle operations.
PDFOV-7433	The JLTV winch kit shall receive all electrical power from the vehicle power management/distribution system.
PDFOV-8486	The JLTV winch shall meet the specifications in SAE J706 Section 4.
PDFOV-8170	3.3.5.8.3.1 Flat Tow Kit
PDFOV-8171	The JLTV shall be capable of receiving a flat tow kit (that includes a light towbar and pin assemblies, all specified in TM 9-4910-593-12P) to successfully tow like vehicles.
PDFOV-2850	3.3.5.8.4 Convoy Warning Light Kit
PDFOV-2852	The JLTV shall be capable of mounting and connecting a commercial, yellow strobe type LED convey warning light, per NSN 2590-01-107-9696, suitable for operation in all locations.
PDFOV-1573	3.3.5.8.5 Light Vehicle Obscuration Smoke System Kit
PDFOV-1574	3.3.5.8.5.1 Installation of LVOSS Components
PDFOV-1575	The JLTV shall have the ability to install the Light Vehicle Obscuration Smoke System (LVOSS) kit consisting of up to four (4) Discharger, Grenade, Smoke, Countermeasure: Lightweight, M7 (NSN 1040-01-454-1625), with associated grenades, arming/firing unit (AFU), mounting brackets and hardware.
PDFOV-6889	3.3.5.8.5.1.1 Dischargers
PDFOV-6890	The M7 dischargers installed on the JLTV shall not impair the vehicle operational capabilities.
PDFOV-8088	The M7 dischargers shall not obstruct the crews field of view from normal operation.
PDFOV-1578	3.3.5.8.5.1.2 Electrical Interface
PDFOV-1579	The JLTV shall be equipped with an integral electrical interface to connect the M7 discharger(s) to the appropriate AFU when kit is installed.
PDFOV-8089	The M7 electrical interface shall be compatible with the overall JLTV electronic/data architecture.
PDFOV-8090	The M7 electrical interface shall not have connectors susceptible to damage when the M7 discharger(s) and AFU are not installed.

ID	Purchase Description v2.7
PDFOV-6891	3.3.5.8.5.1.3 Dischargers Wiring
PDFOV-6892	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-6676	3.3.5.8.6 Fording Kit
PDFOV-6677	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	3.3.5.8.7 Exportable Power Kit
PDFOV-6679	The JLTV shall be capable of accepting a exportable power kit IAW the Exportable Electrical Power section of this document.
PDFOV-6737	3.3.5.8.8 Rocket Propelled Grenade Protection Kit
PDFOV-6738	The JLTV shall be capable of accepting a Rocket Propelled Grenade (RPG) protection kit IAW Annex G of the JLTV ATPD.
PDFOV-6739	3.3.5.8.9 Silent Watch Energy Storage Kit
PDFOV-6740	The JLTV shall be capable of accepting a rechargeable silent watch energy storage kit (if kitted) IAW vehicle specific annexes.
PDFOV-1261	The JLTV 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 when undergoing the load described in Annex K throughout a 32°F (0°C) to 131°F (55 °C) ambient temperature range. Silent watch systems/loads/duty cycles are defined in Annex K. This capability may be kitted. (T)
PDFOV-8120	The JLTV 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 four (4) hours when undergoing the load described in Annex K throughout a 32°F (0°C) to 131°F (55 °C) ambient temperature range. Silent watch systems/loads/duty cycles are defined in Annex K. This capability may be kitted. (O)
PDFOV-7857	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-1135	3.3.5.8.10 Spare Tire Kit
PDFOV-1136	The JLTV shall be capable of carrying a spare wheel/tire assembly kit, with spare wheel/tire identical to that employed on the vehicle.
PDFOV-1138	A device, capable of operating independent of vehicle power, shall be provided on each JLTV to facilitate spare tire loading and unloading from stowed position by two (2) crew members. (T)
PDFOV-8040	A device, capable of operating independent of vehicle power, shall be provided on each JLTV to facilitate spare tire loading and unloading from stowed position by one (1) crew member. (O)
PDFOV-1140	A two (2) person JLTV crew shall be capable of completing a field tire change on the JLTV and companion trailer, using only BII, within 30 minutes per tire while the vehicle is on a flat, hard surface without unhitching any towed load.
PDFOV-1141	3.3.5.8.11 Run-Flat Capability Kit
PDFOV-6901	The run-flat device shall not damage the JLTV's tires, wheels or suspension components when run at highway, off-road or cross-country inflation levels.

ID	Purchase Description v2.7
PDFOV-1142	The JLTV run-flat capability shall permit driving for a total of 30 mi (48.3 km) over the OMS/MP terrain after loss of air pressure in any two (2) tires for the JLTV or one (1) tire for the JLTV-T. Reduction in speed is allowable while utilizing the run-flat device. (T)
PDFOV-8041	The JLTV run-flat capability shall permit driving for a total of 60 mi (96.6 km) over the OMS/MP terrain after loss of air pressure in any two (2) tires for the JLTV or one (1) tire for the JLTV-T. Reduction in speed is allowable while utilizing the run-flat device. (O)
PDFOV-8042	The JLTV accumulation of mileage shall be IAW 12.0 mi (19.3 km) Cross Country with an average speed of 12 mph (19 kph).
PDFOV-8043	The JLTV accumulation of mileage shall be IAW 9.0 mi (14.4 km) Secondary Road with an average speed of 21 mph (34 kph).
PDFOV-8044	The JLTV accumulation of mileage shall be IAW 9.0 mi (14.4 km) Paved Road with an average speed of 30 mph (48 kph).
PDFOV-8371	3.3.5.8.12 120 mm Quickstow Mortar Kit
PDFOV-8372	The JLTV-T shall be configured to accept the 120mm Quickstow Mortar Kit.
PDFOV-8373	3.3.5.8.13 Soft Top Kit
PDFOV-8374	The soft top kit shall contain a one-piece tarpaulin that can be installed and fastened on the JLTV-T by two (2) crew without MHE.
PDFOV-8375	In the JLTV-T, the tarpaulin material shall be vinyl-coated nylon conforming to type II, class 2 of MIL-PRF-20696 or equivalent.
PDFOV-8376	In the JLTV-T, the front of the tarpaulin shall be contour sewn such that there is no opening at the corners.
PDFOV-8377	The tarpaulin shall form-fit the front end of the JLTV-T.
PDFOV-8378	In the JLTV-T, a bolt-on weather resistance stowage box shall be provided to stow the soft top kit.
PDFOV-8379	In the JLTV-T, the bottom of the box shall be located no lower than the frame.
PDFOV-8380	The JLTV-T shall provide stowable tarp bows for use with the soft top kit.
PDFOV-8381	The JLTV-T stowable tarp bows shall provide the soft top kit with a height of approximately equal to that of the base vehicle and fit two Joint Modular Intermodal Containers (JMIC) in its internal volume. The JMIC dimensions are 43.75 in x 51.75 in x 43 in (L x W x H).
PDFOV-8484	3.3.5.8.14 Power Expansion Kit
PDFOV-8485	The JLTV shall be able to include, as a power management expansion kit, spare (connectorized, switchable and controllable through the DSDU) auxiliary 28 VDC power connections (three 75A and three 30A) to permit adding additional equipment without changing the DSDU user interface.
PDFOV-8516	3.3.5.8.15 MIL-STD-704 Power Kit
PDFOV-7845	The JLTV low voltage system shall provide a minimum of 5 kW of clean MIL-STD-704 quality power as part of a kit.
PDFOV-3325	3.3.5.9 Fuel
PDFOV-3328	The primary fuel to start and operate the JLTV shall be JP-8 per MIL-DTL-83133.
PDFOV-8180	The JLTV shall be capable of operating on DF2 diesel fuel per A-A-52557 or ASTM D975.

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PDFOV-3330	The JLTV shall be capable of operating with alternate fuels as defined by AR-70-12 with minimal operational impact except for the gasoline like fuels.
PDFOV-3336	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 -25°F (-32°C) a 60/40 Propylene Water Mixture is used.
PDFOV-3337	3.3.5.9.1 Fuel Efficiency
PDFOV-3338	The JLTV shall achieve 10 payload ton-mpg at GVW over representative OMS/MP terrain. (T)
PDFOV-8181	The JLTV shall achieve 15 payload ton-mpg at GVW over representative OMS/MP terrain. (O)
PDFOV-8192	The JLTV shall have a maximum of a 1.6 Gallon/Hour idle fuel consumption rate while providing 10kW of total 28v DC power. (T)
PDFOV-8193	The JLTV shall have a maximum of a 1.0 Gallon/Hour idle fuel consumption rate while providing 10kW of total 28v DC power. (O)
PDFOV-3345	3.3.5.10 Lubricants
PDFOV-3359	Grease lubrication fittings shall conform to SAE J534.
PDFOV-3472	3.3.5.11 Engine/Drive Train
PDFOV-3473	3.3.5.11.1 Engine Cooling System
PDFOV-3474	The cooling system shall meet the requirements of SAE J1436 except for inspection of fluid fill levels is accomplished without removal of caps from coolers or surge tanks.
PDFOV-3478	The JLTV shall have front-end / underbody protection and ruggedized external components to prevent structural 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.
PDFOV-3484	Given clean heat exchanger(s), the required cooling shall be provided continuously at all ambient conditions between -50°F (-46°C) and 130°F (55°C), full radiant heat load and at 750 mm HG:
PDFOV-3485	a. Under all operating conditions within the maximum tractive effort (TE) to weight vs speed defined by:
PDFOV-3486	i. TE/projected vehicle combat loaded weight = 0.6 to maximum forward speed.
PDFOV-3487	ii. Gear engaged idle and high idle operations.
PDFOV-3488	b. For all conditions specified under the Braking and Speed on Grade Section of this ATPD.
PDFOV-3489	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	3.3.5.11.2 Fan Clutch

ID	Purchase Description v2.7
PDFOV-3491	If a fan clutch is used, a positive lockup shall be provided in case of a clutch or a control system failure.
PDFOV-3493	The cooling fan shall be designed so that it will not experience aerodynamic stall with a 30% cooler face area blockage.
PDFOV-3495	The fan shall be equipped with a control so that fan use is minimized when not required for cooling.
PDFOV-3496	3.3.5.11.3 Oil Filtration
PDFOV-6762	Spin-on type oil filters shall be used for engine oil filtration.
PDFOV-3504	3.3.5.11.4 Engine Speed Control
PDFOV-3507	The tactical idle (≤ 1800 RPM Engine speed) control shall operate only when the vehicle is in park or neutral and automatically disengage when the vehicle is placed in gear.
PDFOV-3526	3.3.5.11.5 Exhaust System
PDFOV-3527	The exhaust system shall conform to FMCSR 83.
PDFOV-8182	The exhaust system shall be configured to prevent entry of water.
PDFOV-8183	The exhaust mufflers and exhaust pipes shall be made of corrosion resistant material.
PDFOV-8184	The exhaust mufflers and exhaust pipes shall be furnished with adequate guards/shielding to prevent personnel contact.
PDFOV-8185	The exposed surface of the exhaust guards/shields shall not exceed the surface temperatures defined in MIL-STD-1472 Section 5.13.4.6
PDFOV-3532	3.3.5.11.6 Transmission (If Applicable)
PDFOV-3533	The transmission shall be automatic.
PDFOV-8186	The transmission shall have a gear range capable of meeting the performance specified in this Purchase Description.
PDFOV-3537	The transmission shall include starter interlock that is inoperative whenever the engine is running or anytime the transmission shift lever is in a forward or reverse drive position.
PDFOV-3538	The transmission shall include a means to manually select and identify the gear range.
PDFOV-3540	3.3.5.11.7 Transfer Case (If Applicable)
PDFOV-3511	The accelerator control system shall conform to FMVSS 124.
PDFOV-3541	If applicable, the transfer case shall have the ability to provide torque proportioning full time all-wheel drive.
PDFOV-8187	If utilized, the transfer case shall incorporate a two-wheel drive mode of operation. The driver will be able to switch between two-wheel drive (2WD) and all-wheel drive (AWD) using a switch on the dash that provides a visible indicator to which mode the vehicle is in.
PDFOV-3543	A multi-speed transfer case, if used, shall possess a low range speed of at least 20 mph (32 kph).
PDFOV-3544	3.3.5.11.8 Steering
PDFOV-3545	Power assist steering shall be furnished and provide full limit steer when the JLTV is stationery on paved surface.

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PDFOV-8483	The minimum clearance around the JLTV steering wheel shall be 3 in (7.6 cm).
PDFOV-3547	The steering system shall have a mechanical linkage between the steering system and the wheels.
PDFOV-3549	In the event power assist is lost, the system shall be manually steerable.
PDFOV-3553	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-7434	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	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 met under the test conditions specified by FMVSS 205 S5.
PDFOV-3583	3.3.5.11.9 Engine EPA Emissions Requirements
PDFOV-3584	The JLTV 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-3588	The JLTV shall meet National Security Exemption labeling requirements IAW EPA regulations.
PDFOV-3592	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-6744	3.3.5.12 Fuel System
PDFOV-6747	The fuel system shall meet the requirements of FMCSR 393 and incorporate the Standard Army Refueling System (SARS) components.
PDFOV-6748	The fuel system shall include an automatic water separator.
PDFOV-6752	A shutoff valve between the tanks, if more than one tank, shall be furnished.
PDFOV-6759	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-6760	Fuel tank ports must be a minimum of 2.25 in (5.7 cm) inside diameter, and shall be compatible with NATO dispensing nozzles having a nominal outside diameter of 2 in (51 mm).
PDFOV-3560	3.3.5.13 Hydraulic Reservoir (if applicable)
PDFOV-3562	Filter(s) shall be readily accessible for cleaning or replacement without draining the reservoir in all hydraulic circuits.
PDFOV-8188	Bypasses shall be furnished where necessary, to protect filters and ensure components are adequately lubricated during cold temperature operation.
PDFOV-3564	A visual means shall be provided to confirm hydraulic fluid level, i.e., dip stick, sight gage; and pressure vented type filler cap of no less than 5 psi (35 kPa).

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PDFOV-3566	Reservoir shall allow for hydraulic maintenance without draining the systems. (O)
PDFOV-3568	3.3.5.14 Hydraulic Hoses and Fittings (if applicable)
PDFOV-3569	High-pressure hoses and fittings shall conform to the requirements of SAE J516, SAE J517 and SAE J343.
PDFOV-3574	3.3.5.15 Hazardous Materials Usage
PDFOV-3576	Asbestos, beryllium, Class I and Class II Ozone Depleting Substances, radioactive materials, hexavalent chromium, cadmium, mercury, lead or other highly toxic or carcinogenic materials, as defined in 29 CFR 1910.1200 (Appendix A), shall not be used in the manufacture, assembly, maintenance or sustainment of the JLTV. Lead-acid batteries and lead solder may be used without prior approval from the Government.
PDFOV-8189	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.
PDFOV-3597	3.3.5.16 Disposal
PDFOV-3598	The JLTV and JLTV-T shall be designed such that the users have the ability to dispose of the system in full compliance with applicable U.S., foreign and international environmental quality laws and regulations.
PDFOV-8279	3.4 JLTV Sub-Configuration Requirements
PDFOV-8280	3.4.1 JLTV-GP
PDFOV-8281	There are no vehicle specific requirements for JLTV-GP.
PDFOV-8282	3.4.2 JLTV-SP
PDFOV-8283	There are no vehicle specific requirements for JLTV-GP.
PDFOV-8284	3.4.3 JLTV-HGC
PDFOV-8285	3.4.3.1 Primary and Secondary Weapon Operation
PDFOV-8286	The JLTV-HGC shall mount one (1) primary weapon (M2 or MK-19) and one (1) secondary weapon (M240B or M249) at the same time. Only one (1) primary weapon and one (1) secondary weapon will be carried at a time. Simultaneous operation of both weapons is not required.
PDFOV-8519	The weapons when mounted on the JLTV-HGC shall be capable of being elevated to +80 degrees and depressed to -20 degrees. (O)
PDFOV-8520	3.4.3.2 Long Range Advance Scout Surveillance System
PDFOV-8521	The JLTV-HGC shall have the capability to mount the Long Range Advance Scout Surveillance System (LRAS3) and one (1) secondary weapon (M240B or M249) at the same time.
PDFOV-8287	3.4.3.3 HGC Stowage
PDFOV-8288	The JLTV-HGC shall provide a designated stowage location for the M3 Tripod when not in operational use.
PDFOV-8289	3.4.4 JLTV-CCWC
PDFOV-8290	3.4.4.1 Primary and Secondary Weapon Operation

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PDFOV-8291	The JLTV-CCWC shall mount one (1) primary weapon (TOW Improved Target Acquisition System (ITAS)/Saber, M2 50 cal or MK-19 40mm) and one (1) secondary weapon (M240B or M249) at the same time. Only one (1) primary weapon and one (1) secondary weapon will be carried at a time. Simultaneous operation of both weapons is not required.
PDFOV-8292	3.4.4.2 TOW ITAS/Saber Integration
PDFOV-8293	The design of the JLTV-CCWC shall prevent injury to the crew and damage to the vehicle or missile/system damage due to missile launch, backblast area, fin deployment, and missile drop.
PDFOV-8294	The JLTV-CCWC shall provide a means to safely fire the missile by: warning the crew of vehicle related obstructions to the missile and missile backblast, or disable missile firing due to obstructions and to the missile backblast, or the vehicle shall be designed such that no obstructions to missile backblast/missile launch are present.
PDFOV-8295	The JLTV-CCWC shall provide the capability to mount an antenna protection system which lowers the antennas on the JLTV-CCWC so that the antennas are neither obstructions for missile firing nor damaged by the missile backblast.
PDFOV-8296	3.4.4.3 TOW ITAS/ Saber Traverse/Elevation/Depression
PDFOV-8297	The TOW ITAS/Saber when mounted on the JLTV-CCWC shall permit +20 degrees elevation and -10 degrees depression. (T)
PDFOV-8298	The TOW ITAS/Saber when mounted on the JLTV-CCWC shall permit +30 degrees elevation and -20 degrees depression. (O)
PDFOV-8299	3.4.4.4 TOW ITAS/Saber Service Functionality
PDFOV-8300	The JLTV-CCWC with the TOW ITAS/Saber mounted, shall allow the crew to perform all crew service functions (e.g. loading, firing, immediate action, reloading, unloading) on the TOW ITAS/SABER.
PDFOV-8301	3.4.4.5 TOW ITAS/Saber Stowage
PDFOV-8302	The JLTV-CCWC shall provide a designated stowage location, shock, vibration and weather protected, and secure, for the TOW ITAS/Saber Target Acquisition System (TAS) (58 lbs) when not in operational use.
PDFOV-8303	The JLTV-CCWC shall provide a designated stowage location, shock, vibration and weather protected, and secure, for the TOW ITAS/Saber Position Attitude Determining System (PADS) when not in operational use.
PDFOV-8304	The JLTV-CCWC shall provide a designated stowage location, shock, vibration and weather protected, and secure, for the TOW ITAS/Saber Fire Control System FCS in Stow bag (40 lbs) when not in operational use.
PDFOV-8305	The JLTV-CCWC shall provide a designated stowage location, shock, vibration and weather protected, and secure, for the TOW ITAS/Saber Traversing Unit (TU) (72 lbs) when not in operational use.
PDFOV-8306	The JLTV-CCWC shall provide a designated stowage location, shock, vibration and weather protected, and secure, for the TOW ITAS/Saber Lithium-Ion Battery Box (65 lbs) when not in operational use.
PDFOV-8307	The JLTV-CCWC shall provide a designated stowage location, shock, vibration and weather protected, and secure, for the TOW ITAS/SABER Vehicle Mounted Charger (VMC) (17 lbs) when not in operational use.

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PDFOV-8308	The JLTV-CCWC shall provide a designated stowage location, shock, vibration and weather protected, and secure, for the TOW ITAS/SABER Launch tube (11 lbs) when not in operational use.
PDFOV-8309	The JLTV-CCWC shall provide a designated stowage location, shock, vibration and weather protected, and secure, for the TOW ITAS/Saber Display when not in operational use.
PDFOV-8342	The JLTV-CCWC shall provide a designated stowage location for the TOW ITAS/Saber Tripod (27 lbs) when not in operational use.
PDFOV-8310	3.4.4.6 TOW ITAS/Saber Display
PDFOV-8311	The gunners view through the TOW-ITAS/SABER sighting system shall be accessible to the vehicle commander via the Display and Control Subsystem. The display shall present imagery, messages, and icons from the ITAS/Saber FLIR sensor (RS170 video). (T)
PDFOV-8312	3.4.4.7 TOW ITAS/Saber GPK
PDFOV-8313	The JLTV-CCWC shall integrate the TGPK IAW the TOW ITAS/Saber GPK (TGPK) ICD.
PDFOV-8317	3.4.5 JLTV-C2OTM/FDC
PDFOV-8318	3.4.5.1 Occupants
PDFOV-8319	JLTV-C2OTM/FDC shall provide for a C2 workstation environment that facilitates efficient operator use while the vehicle is underway, minimizing workstation induced dizziness and motion sickness.
PDFOV-8320	JLTV-C2OTM/FDC shall not be outfitted with a weapons mount or GPK.
PDFOV-8321	3.4.6 JLTV-UTL
PDFOV-8323	3.4.6.1 Cargo Covering Kit
PDFOV-8324	The JLTV-UTL shall be capable of accepting a cargo covering kit with a tarpaulin conforming to MIL-PRF-20696, Type I, Class 2 and necessary supports.
PDFOV-8325	3.4.6.2 Cargo Bed
PDFOV-8326	The JLTV-UTL cargo bed shall have sidewalls, headboard and a fold down tailgate.
PDFOV-8327	The JLTV-UTL cargo bed sidewalls, headboard, or tailgate panels that are hinged shall not detach from the vehicle while operating the hinge mechanism.
PDFOV-8328	The JLTV-UTL cargo bed sidewalls and tailgate shall be removable without use of tools.
PDFOV-8329	The removable components shall have specific recesses or handles to facilitate their removal.
PDFOV-8330	3.4.6.3 Shelter Transport
PDFOV-8331	The JLTV-UTL shall be capable of transporting the S-250 Shelter by use of an interface kit. (T)
PDFOV-8332	The JLTV-UTL shall be capable of transporting the S-250 Shelter by directly mounting the shelters to the vehicle. (O)
PDFOV-8333	The JLTV-UTL shall be capable of transporting the S-250E Shelter by use of an interface kit. (T)
PDFOV-8334	The JLTV-UTL shall be capable of transporting the S-250E Shelter by directly mounting the shelters to the vehicle. (O)

ID	Purchase Description v2.7
PDFOV-8335	The JLTV-UTL shall be capable of transporting the S-788 Lightweight Multipurpose Shelter (LMS) by use of an interface kit. (T)
PDFOV-8336	The JLTV-UTL shall be capable of transporting the S-788 Lightweight Multipurpose Shelter (LMS) by directly mounting the shelters to the vehicle. (O)
PDFOV-8337	The JLTV-UTL shall be capable of transporting the S-787 Shelter by use of an interface kit. (T)
PDFOV-8338	The JLTV-UTL shall be capable of transporting the S-787 Shelter by directly mounting the shelters to the vehicle. (O)
PDFOV-8339	The JLTV-UTL shall be capable of transporting the S-832 Shelter by use of an interface kit. (T)
PDFOV-8343	The JLTV-UTL shall be capable of transporting the S-832 Shelter by directly mounting the shelters to the vehicle. (O)
PDFOV-8344	The JLTV-UTL shall be capable of transporting the S-842 Standardized Integrated Command Post System (SICPS) by use of an interface kit. (T)
PDFOV-8345	The JLTV-UTL shall be capable of transporting the S-842 Standardized Integrated Command Post System (SICPS) by directly mounting the shelters to the vehicle. (O)
PDFOV-8393	3.4.7 JLTV-T
PDFOV-8394	3.4.7.1 Tailgate
PDFOV-8395	The JLTV-T shall be equipped with a fold down, removable tailgate.
PDFOV-8396	The JLTV-T tailgate shall be the full width across the rear of the cargo opening.
PDFOV-8397	The JLTV-T tailgate shall be capable of maintaining a horizontal open position which can support an evenly distributed minimum load of 1,000 pounds (static).
PDFOV-8398	Chains or other hardware used in the JLTV-T tailgate assembly shall have noise dampening material.
PDFOV-8399	3.4.7.2 JLTV-T Cargo Bed
PDFOV-8400	The JLTV-T shall meet all performance requirements of this specification both with and without the cargo bed attached.
PDFOV-8401	The JLTV-T cargo bed shall be secured to the chassis using four ISO container locks.
PDFOV-8402	The JLTV-T shall be capable of securing cargo to the chassis, which includes a tactical quiet 10 kW generator sets with dimensions: 62 in x 32 in x 37 in (L x W x H).
PDFOV-8403	For the purposes of sizing the trailer, the JLTV-T (trailer) shall be capable of carrying two Joint Modular Intermodal Containers (JMIC) on the floor of the trailer bed. The JMIC dimensions are 43.75 in x 51.75 in x 43 in (L x W x H).
PDFOV-8522	The JLTV-T shall be capable of carrying the same shelters as the JLTV-UTL. (O)
PDFOV-8404	3.4.7.3 Sidewalls and Endwalls
PDFOV-8405	The JLTV-T shall be equipped with removable sidewalls and endwalls that have a minimum height of 18 in (45.7 cm).
PDFOV-8406	The JLTV-T sidewalls and endwalls that are hinged shall not detach from the trailer while operating the hinge mechanism.
PDFOV-8407	3.4.7.4 JLTV-T BII Storage Compartment
PDFOV-8408	The JLTV-T shall provide a weather-resistant storage compartment for the JLTV-T BII.

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PDFOV-8384	In the JLTV-T, all operator maintenance actions shall be accomplished using the BII for the JLTV.
PDFOV-2964	The JLTV shall have mounting and stowage provisions for all Basic Issue Items (BII) and onboard tools that is operationally accessible and securable.
PDFOV-8409	3.4.7.5 Wheel Splash and Stone Throw Protection
PDFOV-8410	The JLTV-T shall provide rigid fenders or flexible splash shields.
PDFOV-8411	3.4.7.6 Pedestal/Retractable Landing Device
PDFOV-8412	An adjustable leg shall be provided to allow a JLTV-T without prime mover to be leveled on longitudinal slopes from zero to plus or minus 10 percent.
PDFOV-8413	The landing device shall possess a combination wheel and ground pad. The ground pad shall have sufficient ground contact area to support the JLTV-T at GVW under wet and muddy conditions.
PDFOV-8415	3.4.7.7 Rear Stabilizer Legs
PDFOV-8416	Rear stabilizer legs shall be provided which stabilize the JLTV-T on longitudinal slopes from zero to plus or minus 10 percent.
PDFOV-8417	The capacity of each stabilizer leg shall be a minimum of 50 percent of the JLTV-T payload.
PDFOV-8418	The ground pad on each rear stabilizer leg shall have sufficient ground contact area to support the JLTV-T at GVW under wet and muddy conditions.

