

DRAFT ANNEX A

PAYLOAD CATEGORY – A

TO

PURCHASE DESCRIPTION (PD)

FOR

JOINT LIGHT TACTICAL VEHICLE (JLTV)

VERSION 2.3

15TH APRIL 2010

1 SCOPE.

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

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

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

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

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

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

1.1 Overview

This annex defines the Joint Light Tactical Vehicle, Payload Category A (JLTV-A), physical and performance capabilities required to support the Battlespace Awareness (BA) functional mission roles. The JLTV-A sub-configurations defined herein shall meet all requirements of the JLTV Family of Vehicles Purchase Description (unless otherwise indicated) and all requirements of this annex.

1.2 General Description.

The JLTV-A will serve BA mission roles by providing protected, networked mobility for USMC and USA general command and control purposes. The JLTV-A will be capable of towing trailers.

1.2.1 Sub-Configurations

The JLTV-A sub-configuration is defined as follows:

1.2.1.1 JLTV-A General Purpose (GP)

When configured in the general purpose command and control role, the JLTV-A-GP will provide a highly mobile platform for the general command and control purposes of unit leaders. The general purpose command and control role will include mounting capability for rapid installation of the B armor kit, a crew served weapons mount, and a joint communications system.

2 Applicable Documents

There are no Applicable Documents specific to the JLTV-A. Refer to section 2.0 Applicable Documents of the JLTV FoV Purchase Description.

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ID	POC	DRAFT Annex A (JLV-A) v2.3 Requirements
PDA-12		3 VEHICLE REQUIREMENTS.
PDA-224	L	The JLV is defined as a System of Systems to include the truck chassis, the Companion Trailer, and applicable sub-components listed hereunder. All vehicle variants shall meet the general requirements of section 3 of this specification. Payload Category and Companion Trailer specific requirements are contained in the respective vehicle specific annex for each JLV sub-configuration. If a conflict arises between Section 3 of this specification and the vehicle specific annex, the callout in the vehicle specific annex shall take precedence. If not otherwise specified, all requirements are threshold values (T). Objective values, which are desired capabilities, are labeled with an (O).
PDA-13		3.1 Physical Requirements
PDA-14		3.1.1 Weight.
PDA-122	L	The JLV-A-GP vehicle weights shall be consistent with achieving the performance, transportability and mission capabilities defined in the FoV section of the ATPD and this annex.
PDA-152		3.1.1.1 Essential Combat Configuration.
PDA-153	L	See Annex K for ECC per sub-configuration.
PDA-18		3.1.2 Payload
PDA-19	L	The JLV-A-GP shall be capable of meeting performance requirements while in the following configurations:
PDA-20	L	1)Transporting payload of 3,500 lbs with B armor kit attached (T)
PDA-21	L	2)Transporting payload of 4,500 lbs without B armor kit (T),
PDA-22	L	3)Transporting payload of 3,400 lbs with B armor kit attached (O)
PDA-23	L	4)Transporting payload of 5,100 lbs without B armor kit (O).
PDA-24		3.1.2.1 Occupants
PDA-25	L	The JLV-A-GP shall provide the capability to accommodate and transport a total of four (4) occupants.
PDA-30		3.1.3 Dimensions.
PDA-132	L	Interior and exterior dimensions of the JLV-A-GP shall be consistent with achieving the performance, transportability and mission capabilities defined in the FoV section of the ATPD and this annex. Dimensional limitations and requirements shall be applicable with vehicle configured with inherent armor and B armor kit installed.
PDA-33		3.1.3.1 Height.
PDA-34	L	The JLV-A shall have a transportable height of 76 inches.
PDA-37		3.2 Performance Requirements
PDA-38		3.2.1 MOBILITY
PDA-39		3.2.1.1 Terrain.
PDA-40	H	The JLV-A-GP 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 A-1.

ID	POC	DRAFT Annex A (JLV-A) v2.3 Requirements			
PDA-223	L	Table A-1 Mobility Rating			
		All values are thresholds unless indicated by (O)			JLV-A-GP
		NRMM Prediction Summary		Cross Country v50 (mph)	18 (T)/ 22 (O)
				Traffability (%XC No Go)	23 (T)/ 18 (O)
		Geographical Location	Soil Condition	NRMM Attribute	JLV-A-GP
		Lauterbach, Germany (Map Sheet 5322)	Dry Normal	Cross Country v50 (mph)	≥ 21
				Traffability (%XC No Go)	≤ 14%
			Wet Normal	Cross Country v50 (mph)	≥ 18
				Traffability (%XC No Go)	≤ 22%
			Snow	Cross Country v50 (mph)	≥ 15
				Traffability (%XC No Go)	≤ 32%
		Al Mafrq, Jordan (Map Sheet 3254 IV)	Dry Normal	Cross Country v50 (mph)	≥ 23
				Traffability (%XC No Go)	≤ 13%
			Sand	Cross Country v50 (mph)	≥ 12
Traffability (%XC No Go)	≤ 18%				
Cheorweon, Korea (Map Sheet 3222 III)	Dry Normal	Cross Country v50 (mph)	≥ 13		
		Traffability (%XC No Go)	≤ 38%		
	Wet Normal	Cross Country v50 (mph)	≥ 12		
		Traffability (%XC No Go)	≤ 39%		
PDA-42		3.2.1.2 Speed			

ID	POC	DRAFT Annex A (JLTV-A) v2.3 Requirements																				
PDA-43		3.2.1.2.1 Speed on Grade.																				
PDA-44	L	The JLTV-A-GP shall be capable of continuously ascending a 5-percent grade at 45 MPH at GVW (T), 60 MPH at GVW (O).																				
PDA-237		3.2.1.2.3 0-30 mph Acceleration Dash Speed.																				
PDA-238	L	The JLTV-A 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)/7 seconds (O)																				
PDA-49		3.2.1.3 Turning Radius.																				
PDA-50	M	The turning radius of the JLTV-A-GP and companion trailer combination at GCVW shall not exceed 25 ft (T), 16 ft (O) curb to curb in both the right and left direction.																				
PDA-59		3.2.1.4 Towing.																				
PDA-60	L	The JLTV-A-GP shall be capable of towing the JLTV Trailer as defined in Annex D.																				
PDA-167		3.2.1.4.1 Backward Compatibility.																				
PDA-168	L	The JLTV-A-GP shall be able to tow the legacy trailers shown in Table A-2 in a degraded manner, which is defined as towing that legacy trailer at the safe operating limit of the legacy trailer. The legacy trailers shall not be loaded to exceed the towing capacity of the JLTV.																				
PDA-220	L	Table A-2 Legacy Trailers Required for JLTV-A-GP																				
PDA-222	L	<table border="1"> <thead> <tr> <th>Legacy Trailer</th> <th>Threshold</th> <th>Objective</th> </tr> </thead> <tbody> <tr> <td>M101A3</td> <td>X</td> <td></td> </tr> <tr> <td>M105A2</td> <td>X</td> <td></td> </tr> <tr> <td>M1101 (LTT-L)</td> <td>X</td> <td></td> </tr> <tr> <td>M353</td> <td>X</td> <td></td> </tr> <tr> <td>M149A2</td> <td></td> <td>X</td> </tr> </tbody> </table>			Legacy Trailer	Threshold	Objective	M101A3	X		M105A2	X		M1101 (LTT-L)	X		M353	X		M149A2		X
Legacy Trailer	Threshold	Objective																				
M101A3	X																					
M105A2	X																					
M1101 (LTT-L)	X																					
M353	X																					
M149A2		X																				
PDA-61		3.2.2 SURVIVABILITY.																				
PDA-62	L	The JLTV-A-GP shall provide ballistic and blast protection as required in Annex E.																				
PDA-72		3.2.3 TRANSPORTABILITY.																				
PDA-73		3.2.3.1 Fixed Wing Aircraft.																				
PDA-74	L	The JLTV-A-GP shall be transportable by C-130E/H aircraft in the quantity of one JLTV-A-GP at GVW per C-130 (T), two JLTV-A-GP at GVW per C-130 (O), and shall not exceed 19,950 pounds at GVW (T), 19,000 pounds at GVW (O).																				
PDA-239		3.2.3.1.1 Low Velocity Aerial Delivery (LVAD)																				
PDA-240	L	The JLTV- A at GVW (excluding GPK) and companion trailers at GVW shall be individually capable of LVAD from C-130, C-17 and C-5 aircraft (T). The JLTV-A at GVW (excluding GPK) and companion trailers at GVW shall be capable of LVAD simultaneously (on the same platform) from C-130, C-17 and C-5 aircraft (O).																				
PDA-77		3.2.3.2 Rotary Wing Aircraft.																				
PDA-78	L	The JLTV-A-GP shall be transported in the following configurations:																				
PDA-213	L	1) One JLTV-A-GP at GVW External to a CH-53K (T).																				

ID	POC	DRAFT Annex A (JLV-A) v2.3 Requirements
PDA-81	H	2) One JLV-A at ECC External to a CH -47F (T) - For the JLV-A the lift capacity of the CH-47F shall be limited to 15,639 pounds.
PDA-82	L	3) One JLV-A at ECC External to a CH-53E (T).
PDA-216	L	4) Two JLV-A at ECC External to a CH-53K (O).
PDA-217		3.2.3.3 Sealift Transport.
PDA-219	L	The JLV-A-GP at GVW and GCVW shall be capable of being loaded into all deck spaces of the prepositioning and force projection naval ships where current HMMWVs are loaded, including height restricted deck spaces (decks A and G) of the AMSEA class ships.
PDA-87		3.2.4 VEHICLE COMMAND, CONTROL, COMMUNICATIONS AND COMPUTERS & INTELLIGENCE
PDA-157	L	The JLV-A-GP shall be able to integrate the C4I equipment as defined in Annex K.
PDA-88		3.2.5 SUPPORTABILITY
PDA-89		3.2.5.1 Reliability, Availability and Maintainability (RAM)
PDA-90		3.2.5.1.1 Reliability
PDA-91		3.2.5.1.1.1 Mean Miles Between Hardware Mission Failure.
PDA-92	H	The JLV-A-GP shall demonstrate at a minimum, a point estimate of 6,170 (T), 25,000 (O) Mean Miles Between Hardware Mission Failure (MMBHM). For full rate production, the JLV-A-GP shall demonstrate at a minimum, a point estimate of 10,000 (T) Mean Miles Between Hardware Mission Failure (MMBHM).
PDA-93		3.2.5.1.2 Maintainability.
PDA-94		3.2.5.1.2.1 Maintenance Ratio (Field Level).
PDA-95	H	The JLV-A-GP shall demonstrate a Field Level Maintenance Ratio of 0.004 (T); 0.003 (O) maintenance man hours per operating mile (MMH/OM).
PDA-96		3.2.5.1.2.2 Maintenance (Sustainment Level).
PDA-97	H	The JLV-A-GP shall have a Sustainment Level Maintenance Ratio of 0.0009 maintenance man-hours per operating mile (MMH/OM).
PDA-233		3.2.5.1.3 Fuel Efficiency.
PDA-234	H	The JLV-A shall meet a fuel efficiency of 60(T), 90(O), ton-miles per gallon based on maximum GVW, including armor. Fuel efficiency will be measured over the Munson Standard Fuel Consumption course per TOP 2.2.603.
PDA-241		3.2.6 JLV-A SUB-CONFIGURATION REQUIREMENTS:
PDA-242		3.2.6.1 Close Combat Weapons/TOW ITAS Carrier (JLV-A-CCWC).
PDA-243	L	When configured in the close combat weapons carrier role, the JLV-A-CCWC will provide capability to serve as a TOW (ITAS) carrier. The Close Combat Weapons Carrier will be configured for employment of TOW (ITAS) to provide standoff for the force by use of its precision long-range missile to destroy enemy armor and materiel beyond the effective range of enemy weapons.
PDA-244		3.2.6.2 Heavy Guns Carrier (JLV-A-HGC).
PDA-245	L	When configured in the Heavy Guns carrier role, the JLV-A-HGC will provide the capability to serve as a heavy guns carrier. The Heavy Guns Carrier will accommodate mounting weapons (machine guns, grenade launchers, etc.) with a gun turret and will be the principal light vehicle employed for overwatch and base of fire during infantry attack, convoy escort, and security (military police).
PDA-246		3.2.6.3 Reconnaissance (JLV-A-REC).
PDA-247	L	When configured in the reconnaissance role, the JLV-A-REC will provide an armored scout/Knight capability in a protected light vehicle; this will allow reconnaissance elements to conduct their mission and survive on the battlefield.

ID	POC	DRAFT Annex A (JLTV-A) v2.3 Requirements
PDA-248		3.2.6.4 Close Combat Weapons/TOW ITAS/SABER Carrier Requirements (JLTV-A-CCWC).
PDA-249		3.2.6.4.1 Occupants.
PDA-250	M	The JLTV-A-CCWC shall accommodate and transport four (4) occupants and their personal equipment with individual weapon.
PDA-251		3.2.6.4.2 Primary and Secondary Weapon Operation.
PDA-252		3.2.6.4.2.1 Weapons.
PDA-253	L	The JLTV-A-CCWC shall mount one (1) primary weapon (TOW Improved Target Acquisition System (ITAS)/SABER, M2 or MK19) 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.
PDA-254	L	The weapon mount equipped with a weapon shall be able to be operated by a 5th to 95th percentile male soldier/marine.
PDA-255		3.2.6.4.2.2
PDA-256	L	The integration of the M2, MK19, M240B and M249 onto the JLTV-A-CCWC shall meet the requirements stated in the FoV Weapons Provision section.
PDA-257		3.2.6.4.2.3
PDA-258	L	In addition to the ammunition stowage quantities listed in Annex G, the JLTV-A-CCWC shall have designated stowage locations, protected to the level of ballistic, blast and fragmentation protection as provided by the vehicle for the ammunition quantities listed in Annex G.
PDA-259		3.2.6.4.2.4 TOW-ITAS/SABER Weapon.
PDA-260		3.2.6.4.2.4.1
PDA-261	L	The JLTV-A-CCWC shall integrate the TOW-ITAS/SABER system IAW the TOW-ITAS/SABER ICD.
PDA-262		3.2.6.4.2.4.2
PDA-263	L	The design of the JLTV-A-CCWC shall not degrade the performance of the TOW-ITAS/SABER mounted on the vehicle.
PDA-264		3.2.6.4.2.4.3
PDA-265	L	The design of the JLTV-A-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.
PDA-266		3.2.6.4.2.4.4
PDA-267	M	The JLTV-A-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.
PDA-268		3.2.6.4.2.4.5 Weapon Traverse/Elevation/Depression.
PDA-269	L	The TOW-ITAS/SABER when mounted on the JLTV-A-CCWC shall permit +20 degrees elevation and -10 degrees depression (T) +30 degrees elevation and -20 degrees depression (O).
PDA-270		3.2.6.4.2.4.6 Weapon Service Functionality.
PDA-271	M	The TOW-ITAS/SABER weapon operational mounting position on the JLTV-A-CCWC shall allow the crew to perform all crew service functions (e.g. reloading, immediate action) on the weapon from a protected area. (See Annex G)
PDA-272		3.2.6.4.2.5 TOW-ITAS/SABER Missile Storage.
PDA-273		3.2.6.4.2.5.1 TOW-ITAS/SABER Reloading.

ID	POC	DRAFT Annex A (JLV-A) v2.3 Requirements
PDA-274	L	The stowage configuration of the JLV-A-CCWC shall allow reloading of the missile system... (See Annex G)
PDA-275		3.2.6.4.2.5.2 TOW ITAS/SABER Stowage.
PDA-276	M	The JLV-A-CCWC shall provide designated stowage locations, protected to the level of ballistic, blast and fragmentation protection as provided by the vehicle, for the missile system components when not in operational use:
PDA-277	L	1) Target Acquisition System (TAS)(58 lbs)
PDA-278	L	2) Position Attitude Determining System (PADS)
PDA-279	L	3) Fire Control System FCS in Stow bag (40 lbs)
PDA-280	L	4) Traversing Unit (TU) (72 lbs)
PDA-281	L	5) Lithium-Ion Battery Box (65 lbs)
PDA-282	L	6) Vehicle Mounted Charger (VMC) (17 lbs)
PDA-283	L	7) Launch tube (11 lbs)
PDA-284	L	8) Display.
PDA-285	L	9) Lithium Ion AC Charger (LIAC)
PDA-286	L	The JLV-A-CCWC shall provide a designated stowage location for the Tripod (27 lbs) missile system component when not in operational use.
PDA-287		3.2.6.4.2.6 TOW-ITAS/SABER Display.
PDA-288	L	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 (T) and Day sight (O).
PDA-289		3.2.6.5 Heavy Guns Carrier Requirements (JLV-B-HGC).
PDA-290		3.2.6.5.1 Occupants.
PDA-291	H	The JLV-A-HGC shall accommodate and transport four (4) occupants and their personal equipment with individual weapon.
PDA-292		3.2.6.5.2 Primary and Secondary Weapon Operation.
PDA-293		3.2.6.5.2.1 Weapons.
PDA-294	L	The JLV-A-HGC shall mount one (1) primary weapon (M2 or MK19) and one (1) secondary weapon (M240B or M249 SAW) 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.
PDA-295		3.2.6.5.2.2
PDA-296	L	The integration of the M2, MK19, M240B and M249 onto the JLV-A-HGC shall meet the requirements stated in the FoV Weapons Provision section.
PDA-297		3.2.6.5.2.3 Ammunition Stowage
PDA-298	L	The JLV-A-HGC shall have designated stowage locations, protected to the level of ballistic, blast and fragmentation protection as provided by the vehicle, for the ammunition quantities listed in Annex G.
PDA-299		3.2.6.5.2.4 Heavy Guns Carrier Storage.
PDA-300		3.2.6.5.2.4.1

ID	POC	DRAFT Annex A (JLTV-A) v2.3 Requirements
PDA-301	M	The JLTV-A-HGC shall have designated stowage locations, protected inside the vehicle, for the assigned equipment when not in operational use:
PDA-302	L	1) MK93 MOD 4 Mount
PDA-303	L	2) Pintle Adapter
PDA-304	L	3) M3 Tripod
PDA-305	L	4) M197 Mount
PDA-306	L	5) M2 or MK19
PDA-307	L	6) M240 or M249
PDA-308		3.2.6.6 Reconnaissance Requirements (JLTV-A-REC).
PDA-309		3.2.6.6.1 JLTV-A-REC Scout.
PDA-310		3.2.6.6.1.1 Occupants.
PDA-311	L	The JLTV-A-REC-Scout shall accommodate and transport (4) occupants and their personal equipment with individual weapon.
PDA-312		3.2.6.6.1.2 Long Range Advance Scout Surveillance System (LRAS3).
PDA-313	L	The JLTV-A-REC-Scout shall integrate the LRAS-3 System IAW the LRAS-3 ICD.
PDA-314		3.2.6.6.1.3
PDA-315	L	The LRAS-3 Integration shall receive all power from the vehicle power management/distribution system.
PDA-316		3.2.6.6.1.4
PDA-317	L	The LRAS-3 Integration shall transmit all intra-vehicle data through the C4I/EW Data Bus.
PDA-318		3.2.6.6.1.5
PDA-319	L	The LRAS-3 view shall be accessible to the vehicle commander via the Display and Control Subsystem.
PDA-320		3.2.6.6.1.6
PDA-321	L	All error messages for the LRAS-3 Integration shall be visible through Display and Control Subsystem.
PDA-322		3.2.6.6.1.7
PDA-323	L	The vehicle design shall be capable of mounting a weapon, as defined in the FoV Weapons Provisions section, and a LRAS-3 at the same time.