Critical LFT&E Issues – Aircraft Example

3.6.1.1 Critical LFT&E Issues.

Issue Number	Critical LFT&E Issue	Evaluation Method PD: Prior Data: test, modeling, or combat EA/LF: Engineering Analysis MS/LF: Modeling & Simulation/LFT&E T: Testing D: Developmental Testing O: Operational Testing L: Live Fire Testing			
		PD	EA/LF	MS/LF	T
3.2	Susceptibility				
3.2.1	Take-off and Landing (MANPADS)				
3.2.1.1	Threat capabilities to target and hit JSTARS on take-off departure and landing approach.	TTPs, TOs		MOSAIC	
3.2.1.2	Effectiveness of susceptibility-reduction, take-off and landing procedures, and airfield protection TTPs in reducing threat engagements.	TTPs, TOs		MOSAIC or HITL	
3.2.1.3	Threat hit points on JSTARS in successful engagements.	TTPs, TOs		MOSAIC or HITL	
3.2.2	Mid-mission				
3.2.2.1	Capabilities of expected kinetic threats to detect, target, engage and hit JSTARS Recap across the range of likely mission sets.	Intel	X		
3.2.2.2	Capabilities of JSTARS Recap with supporting assets to avoid or escape threat engagements.	CONOPS, TOs, TTPs		X	OT
3.2.2.3	Effectiveness of JSTARS supporting assets in identifying threats to JSTARS, providing timely threat warning and directing other supporting assets to intercede.	CONOPS, TOs, TTPs		X	OT
3.2.2.4	Effectiveness of mission planning in preventing JSTARS from being engaged by threats on independent missions	CONOPS, TTPs	X		OT
3.2.2.5	Effectiveness of Broadcast Intelligence in providing JSTARS with real time threat information on independent missions	CONOPS, TTPs	X		OT
3.3	Vulnerability				
3.3.1	Direct threat induced damage.	X	X	X	
3.3.2	Major airframe structural component damage (wings, fuselage, empennage).	X		X	LF

Critical LFT&E Issues – Aircraft Example

Issue Number	Critical LFT&E Issue	Evaluation Method PD: Prior Data: test, modeling, or combat EA/LF: Engineering Analysis MS/LF: Modeling & Simulation/LFT&E T: Testing D: Developmental Testing O: Operational Testing L: Live Fire Testing			
		PD	EA/LF	MS/LF	T
3.3.3	Fuel system:				
3.3.3.1	Fuel tank damage.	x		x	
3.3.3.2	Fuel tank hydrodynamic-ram.	x		x	
3.3.3.3	Fuel tank ullage fire and explosion.	x		x	
3.3.3.4	Fuel tank dry bay fire.	x		x	
3.3.3.5	Fuel line damage, including aerial refueling lines	x		x	
3.3.3.6	Fuel starvation	x	x		
3.3.4	Propulsion system:				
3.3.4.1	Engine damage	x		x	
3.3.4.2	Uncontained engine debris damage.	x		x	LF
3.3.4.3	Engine nacelle damage (fuel & hydraulic lines).	x		x	
3.3.5	Other flight critical systems:				
3.3.5.1	Flight controls and flight control surfaces.	x		x	LF
3.3.5.2	Hydraulic systems (leak and fire).	x		x	LF
3.3.5.3	Avionics/electronic systems.	x		x	
3.3.5.4	Auxiliary power unit systems.		x		LF
3.3.6	Vulnerabilities associated with cascading damage to non-flight critical systems.				
3.3.6.1	Mission avionics/electronic systems.	x		x	
3.3.6.2	Installed and carry-on oxygen systems	x		x	
3.3.7	Nuclear, biological, and chemical (NBC) threat vulnerabilities				

Critical LFT&E Issues – Aircraft Example

Issue Number	Critical LFT&E Issue	Evaluation Method PD: Prior Data: test, modeling, or combat EA/LF: Engineering Analysis MS/LF: Modeling & Simulation/LFT&E T: Testing D: Developmental Testing O: Operational Testing L: Live Fire Testing			
		PD	EA/LF	MS/LF	T
3.3.7.1	Effectiveness of personnel protective gear in protecting crewmembers while allowing operational functions	x			DT
3.3.8	Cyber threat vulnerabilities		DT, OT		
3.3.9	Low-power laser threat vulnerabilities				
3.3.9.1	Crewmembers	x		x	
3.3.9.2	Sensor systems	x		x	
3.3.9.3	Effectiveness of crew protection systems	x	x		
3.3.10	Electromagnetic Pulse (EMP) vulnerabilities				
3.4	Force Protection				
3.4.1	Casualties due to direct exposure to threats	x	x		
3.4.2	Casualties due to loss-of-aircraft events	x	x		
3.5	Recoverability				
	None				