AFV DESIGN REQUIREMENTS

MASTER FILE

1 = Highest, essential
4 = Desirable, but only for future consideration

TEAM	RATING	REQUIREMENT	DESIGN VALUE	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Group 9	Group 10	Group 11	Group 12	MEAN	SCALED	C. Green
A		Ability to operate on US highway		1	3	4	2	4	3	4		3	3	4	3	**3.1**	**3.7**	4
B		Acoustic Signature		2	2	2	1	2	1	2		1	4	2	2	**1.9**	**2.0**	4
C		Amphibious	3 mph	1	3	2	1	4	4	4		4	3	3	4	**3.0**	**3.6**	4
D		Anti-Tamper		2	2	2	1	2	1	4		2	4	3	3	**2.4**	**2.7**	4
E		Ballistic Protection for small caliber		3	2	1	2	3	4	1		2	2	3	3	**2.4**	**2.7**	4
F		Continuous Speed on level hard surface	20 mph	3	1	2	2	1	1	1		1	1	1	1	**1.4**	**1.3**	1
A		Dash Speed	30 mph	4	1	2	2	2	1	3		2	2	2	3	**2.2**	**2.4**	1
B		Drive Redundancy		2	3	2	2	2	2	1		2	4	1	4	**2.3**	**2.6**	4
C		Fail-safe designs		1	1	1	2	2	1	2		2	3	1	1	**1.5**	**1.5**	4
D		Fording depth without preparation	18 inches	2	1	2	3	3	2	2		1	2	3	2	**2.1**	**2.3**	4
E		Gap Crossing	34 inches	1	1	2	2	3	1	3		2	2	3	2	**2.0**	**2.2**	2
F		Grade / Slope Climbing	60%	1	3	3	2	2	1	2		2	2	4	2	**2.2**	**2.4**	1
A		Gross Vehicle Weight	< 5,000 lbs	1	2	2	1	1	1	1		1	1	1	1	**1.2**	**1.0**	1
B		Ground Clearance	18 inches	2	1	2	2	1	2	1		1	1	2	2	**1.5**	**1.5**	2
C		Ground Pressure	< 2.5 psi	3	2	2	1	4	2	3		1	1	4	2	**2.3**	**2.6**	1
D		Lights (headlights, brake, side markers)		4	1	3	3	4	4	4		1	4	4	1	**3.0**	**3.6**	4
E		Operating Environment	120 °F Ambient air	1	1	2	3	3	2	1		1	3	1	1	**1.7**	**1.8**	2
F		Payload Fraction (%GVW)	40% = 2,000 lbs	1	2	2	2	1	1	1		2	1	3	1	**1.5**	**1.5**	1
A		Payload Space: ease of loading, tiedown		1	2	2	2	1	1	2		2	2	1	1	**1.5**	**1.5**	4
B		Plug Power (Stationary auxiliary power)	10 - 15 kW	4	1	3	3	4	2	1		1	4	2	2	**2.5**	**2.8**	1
C		Power Density (HP/GVW)	30 HP/ton	1	1	2	1	1	1	1		1	1	3	1	**1.3**	**1.1**	1
D		Preparation = Walk up use		4	3	2	1	2	2	2		3	2	1	2	**2.2**	**2.4**	4
E		Range - Silent mode (20 min @ 3 mph)	1 mile	2	1	1	1	1	3	1		1	1	2	1	**1.4**	**1.3**	1
F		Range Cross Country (10 hr @ 7.5 mph)	75 miles	2	1	1	1	1	1	1		1	1	2	1	**1.2**	**1.0**	1
A		Range on Road (10 hr @ 20 mph)	200 miles	2	3	1	2	3	1	2		1	2	2	1	**1.8**	**1.9**	1
B		Reliability		1	2	1	1	1	1	2		1	2	1	1	**1.3**	**1.1**	3
C		Robustness		1	2	2	2	2	1	2		1	2	1	2	**1.6**	**1.7**	2
D		Safety (shutdown)		1	2	1	2	2	1	3		1	3	1	1	**1.6**	**1.7**	1
E		Side Slope	40%	3	2	1	2	2	2	3		2	1	2	2	**2.0**	**2.2**	2
F		Side Step Clearance Height	24 inches	3	3	1	4	3	3	3		3	3	2	2	**2.7**	**3.2**	2
A		Speed that can be towed at	55 mph	4	2	2	3	4	2	1		2	4	1	3	**2.5**	**3.0**	2
B		Stability / Rollover Resistance		1	1	1	1	2	1	2		1	2	1	2	**1.4**	**1.3**	2
C		Survivability from anti-personal mine		2	1	2	1	2	1	3		3	4	4	3	**2.4**	**2.7**	4
D		Thermal Signature		2	2	4	1	4	1	4		2	4	3	2	**2.6**	**3.1**	4
E		Tow / Lift Points		3	1	4	3	2	1	1		1	2	1	1	**1.8**	**1.9**	4
F		Tractive Effort / GVW	1.0	1	3	3	2	3	2	3		2	2	3	1	**2.3**	**2.6**	1
A		Transportability in V-22 Osprey	60 in. width max	1	2	2	2	3	1	2		1	1	1	1	**1.5**	**1.5**	2
B		Tree knockover	3 inch dia.	4	4	3	2	3	4	4		1	4	4	3	**3.3**	**4.0**	2
C		Turning Radius	16 ft curb-to-curb	2	3	2	2	2	2	3		1	3	1	1	**2.0**	**2.2**	3
D		Vehicle Profile	< 4 ft high	3	2	2	1	3	1	3		1	3	2	1	**2.0**	**2.2**	3
E		Vertical Step	24 inches	1	3	2	2	3	2	2		1	3	3	1	**2.1**	**2.3**	2
F		Wearout		2	2	1	2	3	1	2		2	3	1	2	**1.9**	**2.0**	3

max	3.3
min	1.2