



NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

January 30, 2015

Group Chairman's Factual Report

STRUCTURES

DCA13MA081

Attachment 8

**Internal Air Transport Certification (ATTLA) – 2007.07.18.01
August 6, 2009**



Internal Air Transport Certification



ASC/ENFC (ATTLA)
2530 Loop Road West
WPAFB, OH 45433-7101
<https://afkm.wpafb.af.mil/ATTLA> (direct)
<https://wwwd.my.af.mil/afknprod/ATTLA> (AF Portal)

Date: 6 August 2009

Item Nomenclature: Cougar 4x4 CAT I with Independent Suspension System (ISS)

File Number: 2007.07.18.01

Requestor: MARCORSYSCOM [REDACTED]

NOTE: This certification is for base model vehicles with independent suspension, wheel, and tire upgrades only. Certification of this vehicle is contingent on vehicle compliance with paragraph 6.

Item Description: Force Dynamics Cougar Mine Resistant Ambush Protected (MRAP) vehicles are identified to be two axle rubber tired multi-tasked armored engineering vehicles equipped with independent suspension system. The two axle Cougar CAT I vehicles are reported to be approximately 255" L x 102" W x 129" H. The reported gross vehicle weight is 40,230 lbs with a gross vehicle weight rating of 44,600 lbs. Reported front axle weight is 18,895 lbs with a rated capacity of 21,600 lbs. Reported rear axle weight is 21,335 lbs with a rated capacity of 23,000 lbs.



Figure 1: Cougar 4x4 CAT I w/ISS

Note: Upgraded independent suspension system, wheels and tires are illustrated above

Certified Aircraft: USAF C-5 and C-17

Conditions of Certification:

1. Maximum Weight for Air Transport

a. Gross Vehicle Weight:

- 1) 44,600 lbs - vehicle equipped with figure 2 front end tiedown provisions (limited by the gross vehicle weight rating)
- 2) 44,180 lbs - vehicle equipped with figure 3 front end tiedown provisions (limited by vertical restraint capability)

b. Axle Limits:

- 1) Front Axle – 21,600 lbs (sleeper shoring limit/axle limit)
- 2) Aft Axle – 23,000 lbs (sleeper shoring limit/axle limit)

2. Item Preparation:

- a. Tire inflation shall not exceed 100 psi.
- b. Rear vehicle entry ladder shall be raised and secured.
- c. Shipper provided sleeper shoring required, see paragraph 5.
- d. C-5: Shipper provided parking shoring required (with exception), see paragraph 5.
- e. All hazardous materials (to include fuel level, batteries, etc.) must be prepared and certified for airlift in accordance with TM 38-250/AFMAN 24-204(I). Do not consider this air transport certification as approval for hazardous materials. Authorization for airlifting hazardous material is the responsibility of 401 SCMS/GUMAA [REDACTED].

3. Loading Instructions:

- a. Load vehicle in accordance with normal TO 1C-XX-9/-1 procedures.
- b. Sleeper shoring is required, see paragraph 5.
- c. C-5: Parking shoring required (with exception), see paragraph 5.

4. Restraint requirements: The Cougar MRAP equipped with ISS and all accompanying cargo must be restrained to meet MIL-HDBK-1791 requirements of 3G forward, 1.5G aft and lateral, and 2G up. In addition, stored or installed equipment must meet these requirements and be capable of withstanding a 4.5G down load. Tiedown provision locations and rated capacities are listed in Table 1. Note that there are two separate front end tiedown provision configurations with different capacities that drive maximum vehicle weight limit as per paragraph 1. Separate front end tiedown configuration ratings are identified by figure 2 or figure 3 in table 1 and respective figures.

Table 1: Cougar w/ISS Tiedown Provision Location & Rated Capacities

Provision Location	Longitudinal	Lateral L/R	Vertical
Front Left (Fig 2)	94,506 lbs	33,366 lbs	23,152 lbs
Front Right (Fig 2)	94,506 lbs	33,366 lbs	23,152 lbs
Front Left (Fig 3)	84,280 lbs	29,830 lbs	20,290 lbs
Front Right (Fig 3)	84,280 lbs	29,830 lbs	20,290 lbs
Rear Left (Fig 4)	94,506 lbs	34,734 lbs	23,891 lbs
Rear Right (Fig 4)	94,506 lbs	34,734 lbs	23,891 lbs
Pintle Hitch	30,000 lbs	Zero	Zero



Figure 2

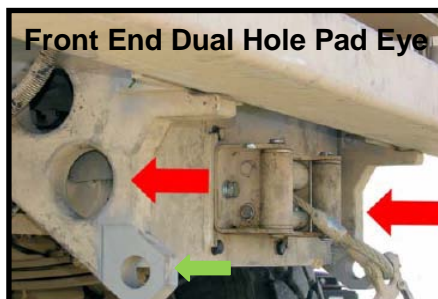


Figure 3



Figure 4

CAUTION: Do not use the small holes for restraint purposes. The small holes are designed and rated for installation of a towing mechanism (green arrows in figures 2-4).

NOTE: Vehicles equipped with original tiedown provisions are not approved for use with ISS equipped Cougars in this letter and are illustrated below for informational purposes only. Use ATTLA certification letter (2005.04.24) for vehicles equipped with tiedown provisions illustrated in figure 5.



Figure 5: Original Tiedown Provisions

5. Sleeper Shoring Dimensions & Placement:

a. Four stacks of sleeper shoring are required. Minimum base dimensions shall be 23" L x 16" W. Two stacks shall be placed adjacent to each axle (or respective vehicle end), one stack on each side. Shoring shall be stacked to within 1/2" of frame/chassis structure and will be secured with cargo straps. Note that sleeper shoring placement shall be symmetrical for subject vehicle. It is permissible to utilize one large shoring stack on one or both ends of vehicle. Recommend the use of two sleeper shoring stacks at each end of vehicle if possible. When one stack is used, length dimension remains the same and width dimension is doubled (base dimension).

b. C-5: Parking shoring is required unless sleeper shoring is stacked snug under vehicle frame/chassis structure. When necessary, parking shoring shall be centered under each tire. Minimum dimensions will be 20" L x 20" W x 2" H.

6. Validation Load: A validation loading is required to verify loading, restraint and sleeper shoring methods for subject vehicle and may be accomplished in conjunction with first scheduled air transport. The primary loadmaster is requested to note back to the Aerial Delivery (ATTLA) POC below with any recommended changes to these procedures.

Required Distribution:

1. Shipper shall give a copy of this certification to the ATOC representative when the item is presented for airlift. This memo shall be part of the official cargo manifest documentation package and shall be briefed to the aircraft loadmaster prior to loading this item.
2. AMC/A3V.
3. SDDCTEA.

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