



Internal Air Transport Certification



ASC/ENFC (ATTLA)
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Date: 30 November 2010
Item Nomenclature: CAT 613C Armored Scraper
File Number: 2010.06.30 Rev.3
Requestor: NFELC (Knut Aakhus)
Superseded Certification Date: 26 August 2010

New Information Summary: This revision adds information about shims and hydraulic arm locks that need to be put in place by the shipper after loading the scraper and prior to airlift. It also adds information about fuselage station location limits on C-17 when transporting two CAT 613C vehicles.

Item Description: The subject item is identified to be an up-armored variant of the CAT 613C Scraper. Its approximate dimensions are 441" L x 107" W x 130" H. The vehicle has a gross weight of 37,450 lbs with a gross vehicle weight rating (GVWR) of 65,195 lbs. The front axle is reported to weigh 26,550 lbs with a rating of 31,935 lbs. The rear axle is reported to weigh 10,900 lbs with a rating of 33,263 lbs.



Figure 1: Armored CAT 613C

Certified Aircraft: USAF C-17 and C-5

Conditions of Certification:

1. Maximum Weight for Air Transport:

- a. Gross Vehicle Weight: 41,000 lbs (actual weight plus scale tolerance)
- b. Axle Limits: 1st Axle: 29,000 lbs (reported actual weight plus scale tolerance)
2nd Axle: 12,000 lbs (reported actual weight plus scale tolerance)

2. Item Preparation:

- a. User provided sleeper shoring as listed in paragraph 5 is required. Approach shoring might be required as per paragraph 3.

b. 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(l). Do not consider this air transport certification as approval for hazardous materials. Authorization for airlifting hazardous material is the responsibility of 401 SCMS/GUMAA (DSN 787-4503 or COM (937) 257-4503).

3. Loading Instructions:

a. C-5: The scraper can be loaded front or aft end first into the aircraft. No shoring is required when the scraper is loaded over the aft ramp with the aircraft configured in the aft kneel configuration. Some adjustment to the forward ground clearance might be accomplished by adjusting the height of the scraper section. Approach shoring as shown in paragraph 5 would be required when loading the scraper over the forward ramp with the aircraft in the forward kneel configuration if the adjustment of the scraper section does not provide adequate clearance.

b. C-17: The scraper can be loaded front or aft end first into the aircraft. Approach shoring as listed in paragraph 5 will be required if the adjustment of the scraper section height does not provide adequate clearance. When two CAT 613C's are transported on C-17, they must be transported in the configuration shown in Figure 2 in order to meet aircraft floor limitations,.

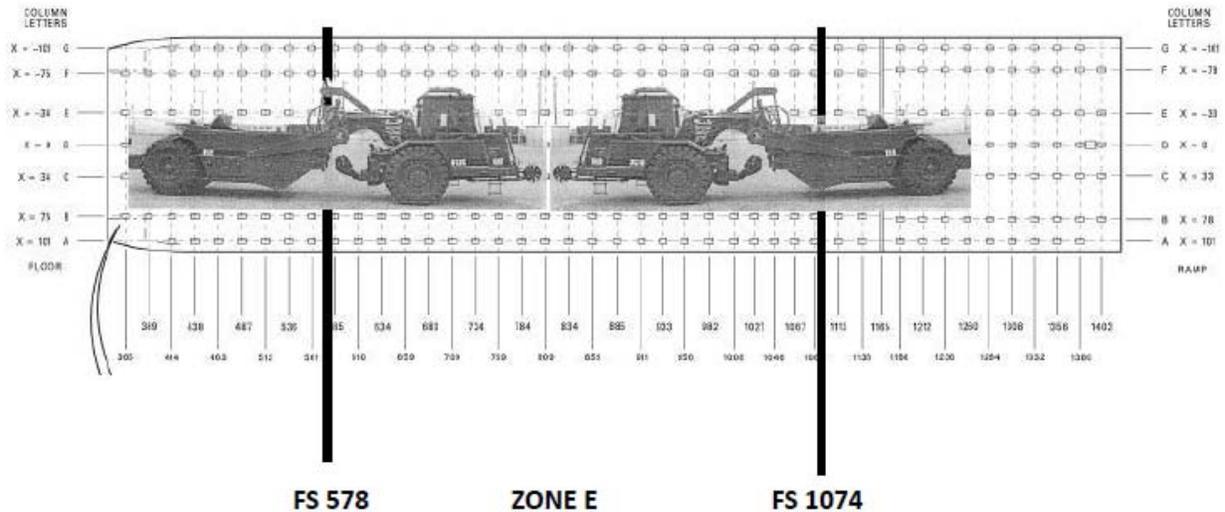


Figure 2: Two Vehicle Configuration on C-17

c. After loading, but prior to airlift, shims and hydraulic ram locks must be put in place by the shipper as shown in Figures 3 and 4 below:



Figure 3: Shim Placement

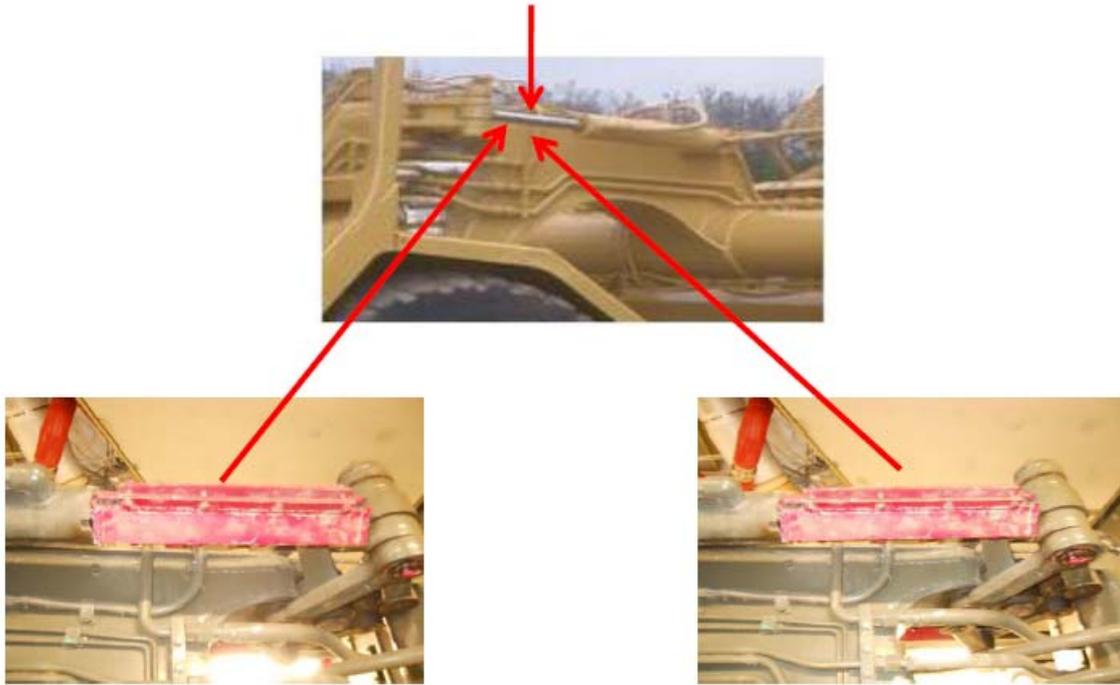


Figure 4: Hydraulic Ram Locks

d. Sleeper shoring is required. Place two stacks under the front axle or under the frame in the vicinity of the axle (one per side), and two stacks under the scraper section (one per side), as shown in Figure 6 below. See section 5 for shoring minimum base dimensions.

4. Restraint Requirements: The Armored CAT 613C 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. There are eight tie-down rings per side as shown in Figure 5. Each ring is rated at 15,840 lbs in all directions. In addition, restraint can be applied to the scraper axles up to their rated capacity as listed in section 1.

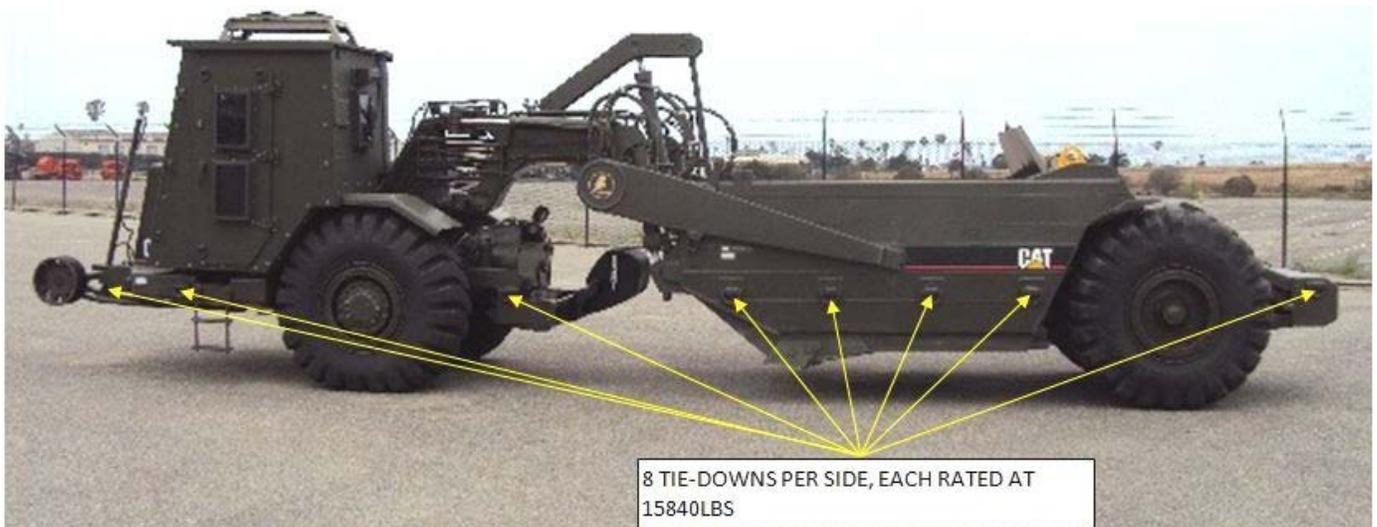
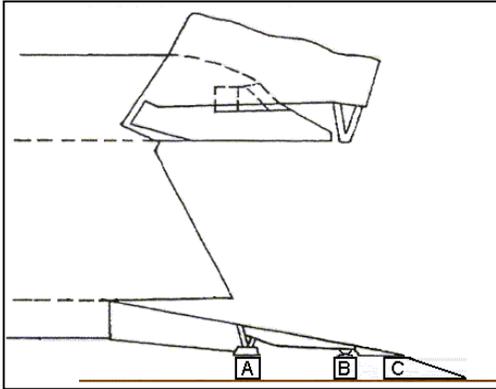


Figure 5: Tie-Down Rings

5. Required Shoring Dimensions & Diagrams: Approach shoring dimensions shown below are recommended in the event the scraper section cannot be adjusted sufficiently to overcome approach angles.

- a. Approach Shoring: Minimum recommended dimensions for 9° approach angle, requirements for other configurations are in the applicable aircraft loading manual.



C-5 Forward Shoring (Forward Kneel)

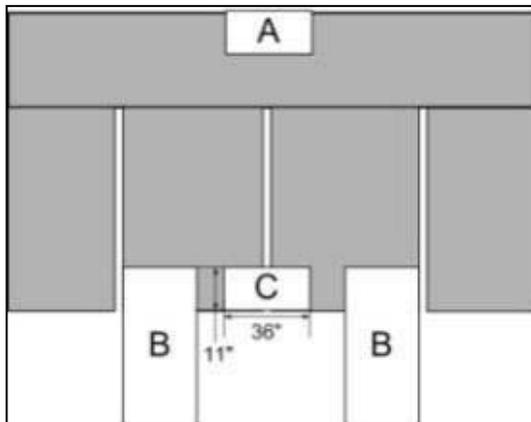
Pedestal Shoring

- "A" 16" L x 13" W x 4" H (2 each inboard)
18" L x 15" W x 4" H (2 each outboard)
- "B" 15" L x 15" W x 10" H (4 each)

Approach Shoring

- "C" 92" L x 30" W x 13" H (2 required)
(Ramp toe end shall be supported by the approach shoring – min 11" L)

(C-5) CAUTION: Width of approach shoring "C" in the area under the toe must be as wide as the ramp toe it is placed under.

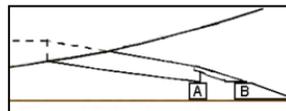


C-17 Shoring

Ramp Pedestal Shoring

- "A" None
- Approach Shoring
- "B" 72" L x 30" W x 11" H (2 required)
- "C" 11" L x 36" W x 11" H

(Ramp toe end shall be supported by the approach shoring – min 11" L)



- b. Sleeper Shoring - must be stacked to within ½" of axles or vehicle structure and secured with cargo straps:

- (1) Font Axle: Two stacks with a base of 20" L x 20" W.
- (2) Scraper Section: Two stacks with a base of 12" L x 12" W.

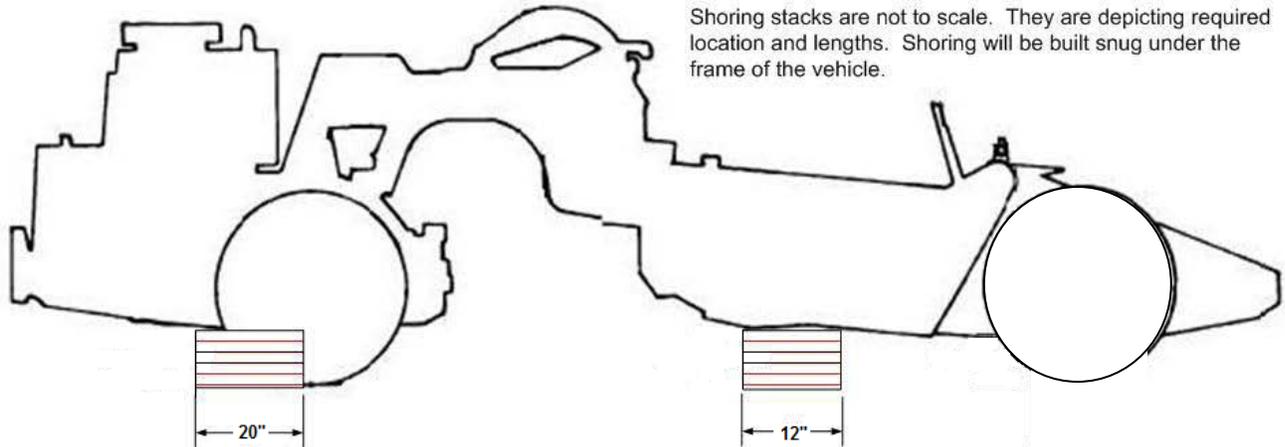


Figure 6: Sleeper Shoring Placement

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.

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