

CHAPTER 7

CERTIFIED DUAL-POINT RIGGING PROCEDURES FOR MISSILE SYSTEMS

7-1. INTRODUCTION

This chapter contains rigging procedures for dual-point missile system loads that have been certified for sling load. Each rigging procedure is found in a paragraph that includes a description of the load, materials required for rigging, and steps to complete the procedure. An applicability paragraph is also a part of each paragraph and identifies the certified loads. The certified dual-point rigging

procedures for missile system loads are in this section. Paragraphs 7-2 through 7-14 give detailed instructions for rigging loads.

NOTE: Reach Pendants may be used on dual point loads. Place a Reach Pendant on each apex fitting. A static discharge person is not required when using a Reach Pendant.

7-2. M54A1/M54A2 Chaparral Launch Station

a. Applicability. The following items in Table 7-1 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 7-1. M54A1/M54A2 Chaparral Launch Station

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
M54A1 Launch Station	13,000	25K	3/3	CH-47	100
M54A2 Launch Station	13,000	25K	3/3	CH-47	100

b. Materials. The following materials are required to rig this load:

- (1) Sling set (25,000-pound capacity) with one additional apex fitting.
- (2) Tape, adhesive, pressure-sensitive, 2-inch wide roll.
- (3) Cord, nylon, Type III, 550-pound breaking strength.
- (4) Webbing, cotton, 1/4-inch, 80-pound breaking strength.

c. Personnel. Two persons can prepare and rig this load in 20 minutes.

d. Procedures. The following procedures apply to this load:

(1) Preparation. Prepare the load using the following steps:

- (a) Prepare the launch station for sling loading in accordance with TM 9-1425-2585-10-1.
- (b) Rotate the missile pedestal 90 degrees from the centerline to avoid sling interference.

(2) Rigging. Rig the load according to the steps in Figure 7-1.

(3) Hookup. Two hookup teams are required for this load. The hookup teams stand on the back of the gunner's compartment. The static wand person discharges the static electricity with the static wand. The forward hookup person places apex fitting 1 onto the forward cargo hook. The aft hookup person places apex fitting 2 onto the aft

cargo hook. The hookup teams then carefully dismount the missile platform and remain close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup teams quickly exit the area underneath the helicopter to the designated ren-

dezvous point.

(4) **Derigging.** Derigging is the reverse of the preparation and rigging procedures in steps d (1) and d (2).

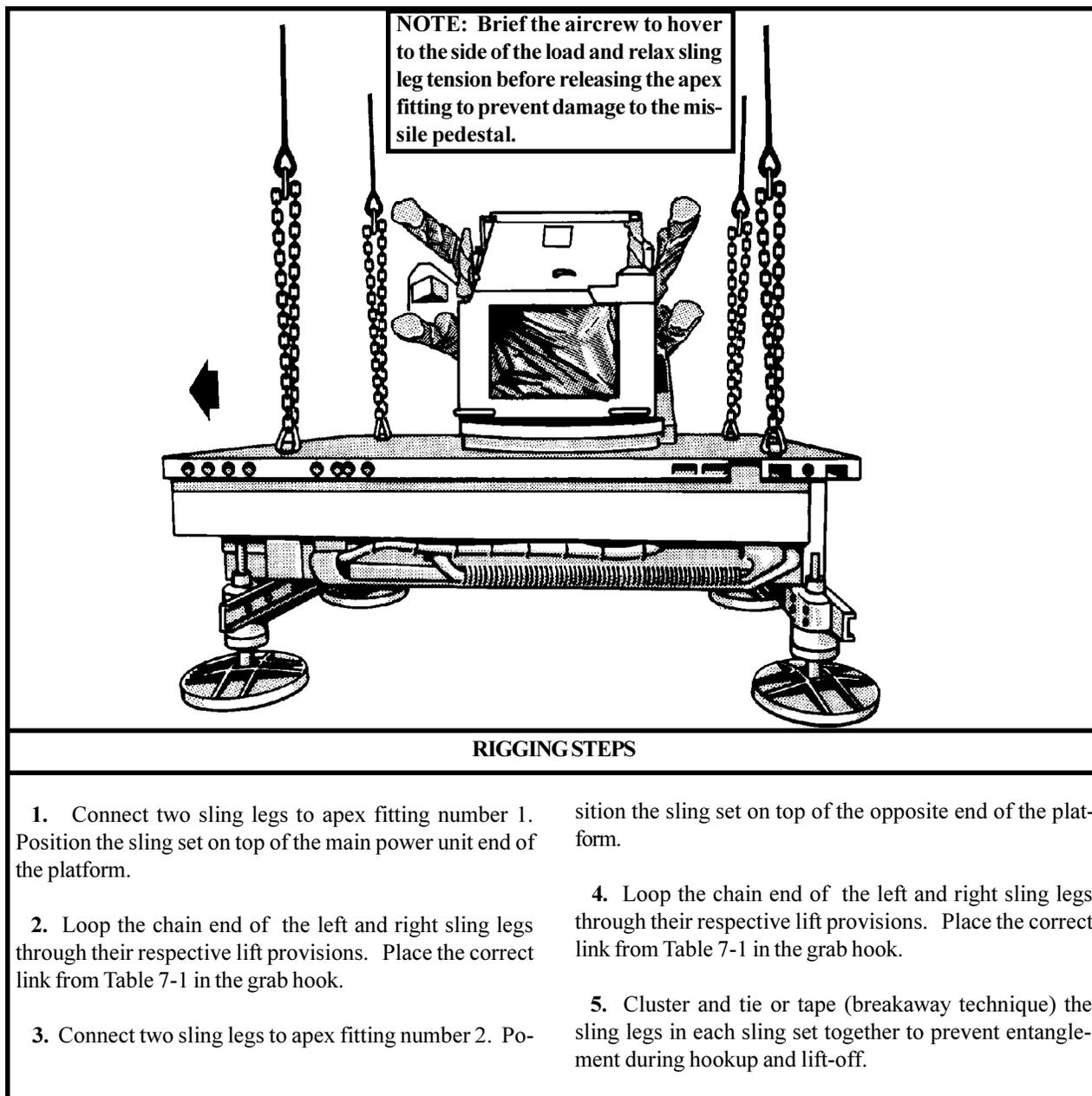


Figure 7-1. M54A1/M54A2 Chaparral Launch Station

RIGGING STEPS

1. Place two sling legs on apex fitting number 1. Connect an additional chain length to each sling leg chain using the coupling links. Position apex fitting number 1 on top of the shelter on the lunette end.

2. Route the chain end of the left sling leg down through the upper lifting ring on the top left corner of the shelter, through the trailer lifting provision located on the front left corner of the trailer chassis, and back up through the upper lifting ring on the top left corner of the shelter. Place the correct link from Table 7-12 in the grab hook.

3. Repeat the above procedures using the right sling leg and the right lifting provision.

NOTE: Do not route the chain ends through the towing provision on the base of the shelter.

4. Choker hitch a 12-foot line around the rear left leveling jack stand on the trailer chassis. Ensure the loop of the knot is facing to the rear of the trailer. Route the free end of the 12-foot multiloop line up through the lifting ring on the top corner of the shelter. Ensure the choker hitch is tight around the jack stand and the individual

plies of the multiloop line remain aligned. Tape or tie the multiloop line as necessary.

NOTE: Do not route the 12-foot multiloop line through the towing provision on the base of the shelter.

5. Repeat the above procedures on the right side of the shelter using the remaining 12-foot multiloop line.

6. Place two sling legs on apex fitting number 2. Position apex fitting number 2 on top of the IFF end of the shelter.

7. Loop the chain end of the left sling leg through the open loop at the free end of the 12-foot multiloop line on the left rear corner of the shelter. Place the correct link from Table 7-12 in the grab hook. Secure the excess chain with tape or Type III nylon cord.

8. Repeat the above procedure using the right multiloop line and the right sling leg.

9. Cluster and tie or tape (breakaway technique) the sling legs in each sling set together to prevent entanglement during hookup and lift-off.

Figure 7-12. Platoon Command Post/Battery Command Post (continued)

7-14. Stinger, Pedestal-Mounted on M1097/M1097A1/M1097A2 HMMWV(Avenger) with ECU and PPU with or without Bustle Box Stowed on Roof

a. Applicability. The following item in Table 7-13 is certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 7-13. Avenger with ECU and PPU on M1097/M1097A1/M1097A2 HMMWV

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Stinger, Pedestal-Mounted with ECU and PPU on M1097, (Avenger)	9,800	10K 25K	50/3 40/5	CH-47	90
Stinger, Pedestal-Mounted with ECU and PPU on M1097A1, (Avenger)	9,800	10K 25K	50/3 40/5	CH-47	90
Stinger, Pedestal-Mounted with ECU and PPU on M1097A2, (Avenger)	10,300	25K	40/5	CH-47	90

b. Materials. The following materials are required to rig this load:

(1) Sling set (25,000-pound capacity) with one additional apex.

(a) Chain length, part number 38850-00053-102, from a 25,000-pound capacity sling set (4 each).

(b) Coupling link, part number 664241, from a 25,000-pound capacity sling set (4 each).

OR

(2) Sling set (10,000-pound capacity) with one additional apex.

(a) Chain length, part number 38850-00053-101, from a 10,000-pound capacity sling set (4 each).

(b) Coupling link, part number 557-0615, from a 10,000-pound capacity sling set (4 each).

(3) Tape, adhesive, pressure-sensitive, 2-inch wide roll.

(4) Cord, nylon, Type III, 550-pound breaking strength.

(5) Webbing, cotton, 1/4-inch, 80-pound breaking strength.

c. Personnel. Two persons can prepare and rig this load in 15 minutes.

d. Procedures. The following procedures apply to this load:

(1) **Preparation.** Prepare the load using the following steps:

(a) Fold the mirrors inward and secure with Type III nylon cord.

(b) Ensure the Avenger fire unit is secured to the truck. Secure all equipment inside the fire unit with tape, lashings, or Type III nylon cord. Close and secure the door.

(c) Disconnect the standard vehicle-mounted launcher connectors from the missile pods and secure them to the fire unit with tape or Type III nylon cord.

(d) Secure all equipment inside the vehicle with tape or Type III nylon cord. Secure the doors shut (if installed).

(e) Ensure the fuel tank is not over 3/4 full. Inspect the fuel tank cap, oil filler cap, and battery caps for proper installation.

(f) Secure the bustle box to the box rack on the roof of the vehicle using the tiedown straps (if needed).

Note: The bustle box can only be carried if the roof rack is installed on the roof.

(g) Engage the vehicle parking brake and place the transmission in neutral.

(h) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel using the securing device attached under the dashboard or Type III nylon cord.

(2) **Rigging.** Rig the load according to the steps in Figure 7-13.

(3) **Hookup.** Two hookup teams are required for this load. The hookup teams stand on top of the firing unit. The static wand person discharges the static electricity with the static wand. The forward hookup person places apex fitting 1 onto the forward cargo hook. The aft hookup person places apex fitting 2 onto the aft cargo hook. The hookup teams then carefully dismount the vehicle and remain close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup teams quickly exit the area underneath the helicopter to the designated rendezvous point.

(4) **Derigging.** Derigging is the reverse of the preparation and rigging procedures in steps d (1) and d (2).

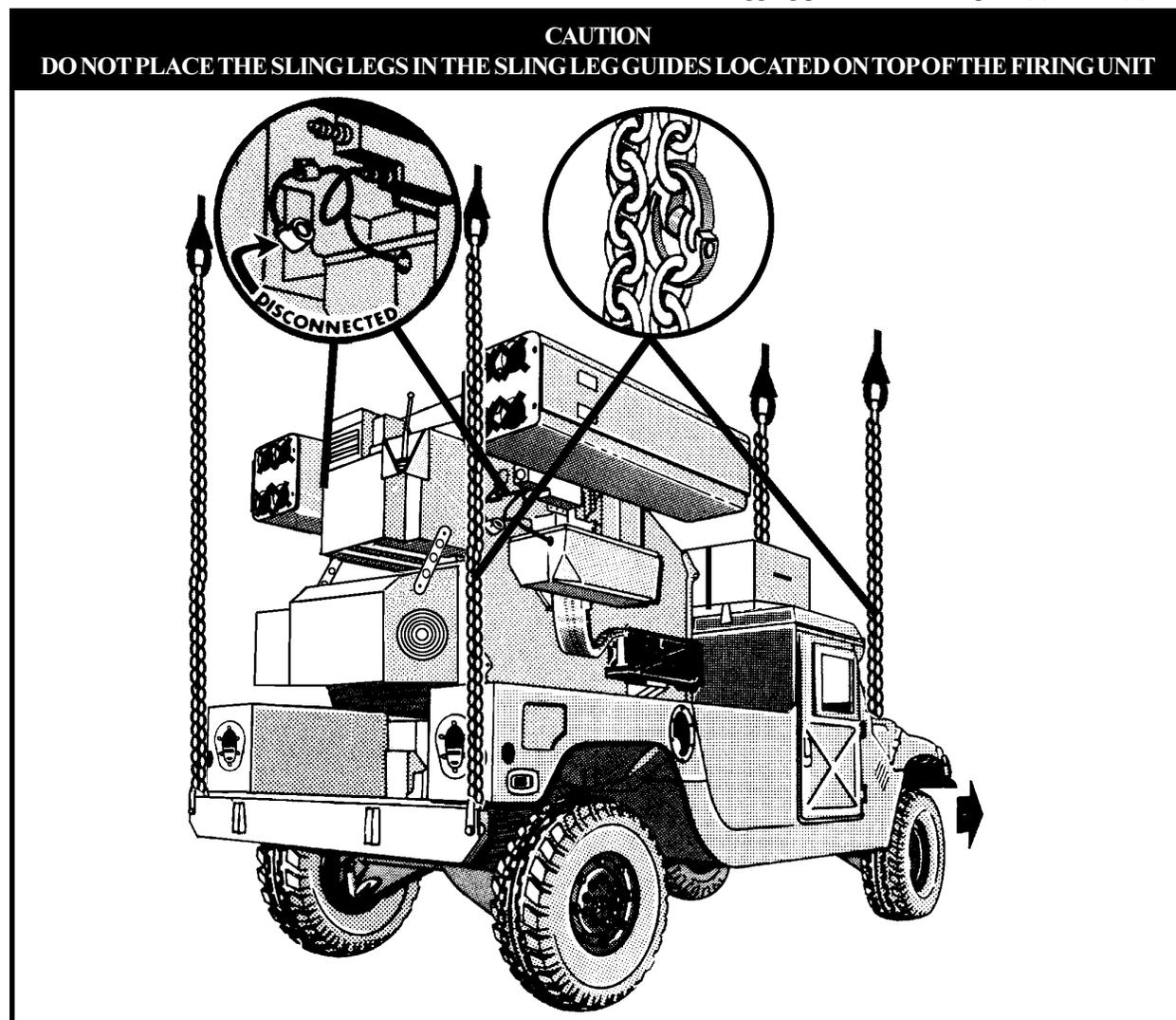


Figure 7-13. Pedestal-Mounted Stinger on M1097/M1097A1/M1097A2 HMMWV (Avenger) with ECU and PPU

RIGGING STEPS

1. Place two sling legs on apex fitting number 1. Attach an additional chain length to each chain using coupling links. Position apex fitting number 1 on top of the vehicle roof or bustle box (if used).

2. Loop the chain end of the left and right sling legs through their respective lift provisions that protrude through the hood of the vehicle. Place the correct link from Table 7-13 in the grab hook. Secure excess chain with tape or Type III nylon cord.

3. Place two sling legs on apex fitting number 2. Attach an additional chain length to each chain using coupling links. Position apex fitting number 2 on top of the firing unit.

4. Loop the chain end of the left and right sling legs through their respective lift provisions located on outside end of the rear bumper. Place the correct link from Table 7-13 in the grab hook.

CAUTION

DO NOT PLACE THE SLING LEGS IN THE SLING LEG GUIDES LOCATED ON TOP OF THE FIRING UNIT.

5. Cluster and tie or tape (breakaway technique) the sling legs in each sling set together to prevent entanglement during hookup and lift-off.

Figure 7-13. Pedestal-Mounted Stinger on M1097A2 HMMWV (Avenger) with ECU and PPU (continued)

CAUTION

DO NOT USE THE LIFT SHACKLES LOCATED NEAR THE CENTER OF THE REAR BUMPER FOR SLING LOAD LIFT PROVISIONS.