

**CHAPTER 2**

**CERTIFIED DUAL-POINT RIGGING PROCEDURES FOR WHEELED VEHICLES**

**2-1. INTRODUCTION**

This chapter contains rigging procedures for dual-point wheeled vehicle 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 wheeled vehicles are in this section.

Paragraphs 2-2 through 2-30 give detailed instructions for rigging loads. The paragraphs also contain a description of each load and the materials required for rigging it.

**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.**

**2-2. M996/M997/M997A2 Truck, Ambulance (HMMWV)**

**a. Applicability.** The following items in Table 2-1 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-1. Truck, Ambulance (HMMWV)**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Truck, Ambulance, M996, HMMWV	7,400	10K 25K	80/45 66/38	CH-47	130
Truck, Ambulance, M997, HMMWV	7,400	10K 25K	80/45 66/38	CH-47	130
Truck, Ambulance, M997A1, HMMWV, 4-Litter	7,600	15K 40K	25/3 30/9	CH-53	120
Truck, Ambulance, M997A2, HMMWV	10,300	25K	66/38	CH-47	130

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

(1) Sling set (see table) with one additional apex fitting or web ring for the sling set being used.

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

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

(4) Spreader bar assembly (component of vehicle).

(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 forward in front of the windshield and tie together with Type III nylon cord.

(b) Remove the spreader bar from under the right-hand seat inside the ambulance.

(c) Secure all equipment inside the rear compartment with tape, nylon cord, and/or lashings. Close and secure the door.

(d) Secure all other equipment inside the vehicle with tape, nylon cord, and/or lashings. Close and secure the doors.

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

(f) Engage the vehicle parking brake. Place the transmission in neutral.

(g) Ensure the front wheels are pointed straight

ahead. Tie down the steering wheel using the securing device attached under the dashboard.

(h) Secure the Red Cross insignia covers in the closed position.

(i) Remove the keeper from the spreader bar and extend the bar so the holes line up. Reinstall pin and engage keeper. Use the sighting hole in the tube to assist in aligning holes for the pin. See top view insert in Figure 2-1.

(j) Position the spreader bar across the rear end of the vehicle roof. Attach the spreader bar check cables to the eyebolts located on the aft exterior sidewall of the rear compartment. See rear view insert in Figure 2-1.

(k) Install lift provisions on the outer ends of the rear bumper.

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

(3) **Hookup.** The static wand person discharges the static electricity with the static wand. The forward hookup person stands on the hood and places apex fitting 1 onto the forward cargo hook. The aft hookup person stands on the roof and places apex fitting 2 onto the aft cargo hook. The hookup team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).

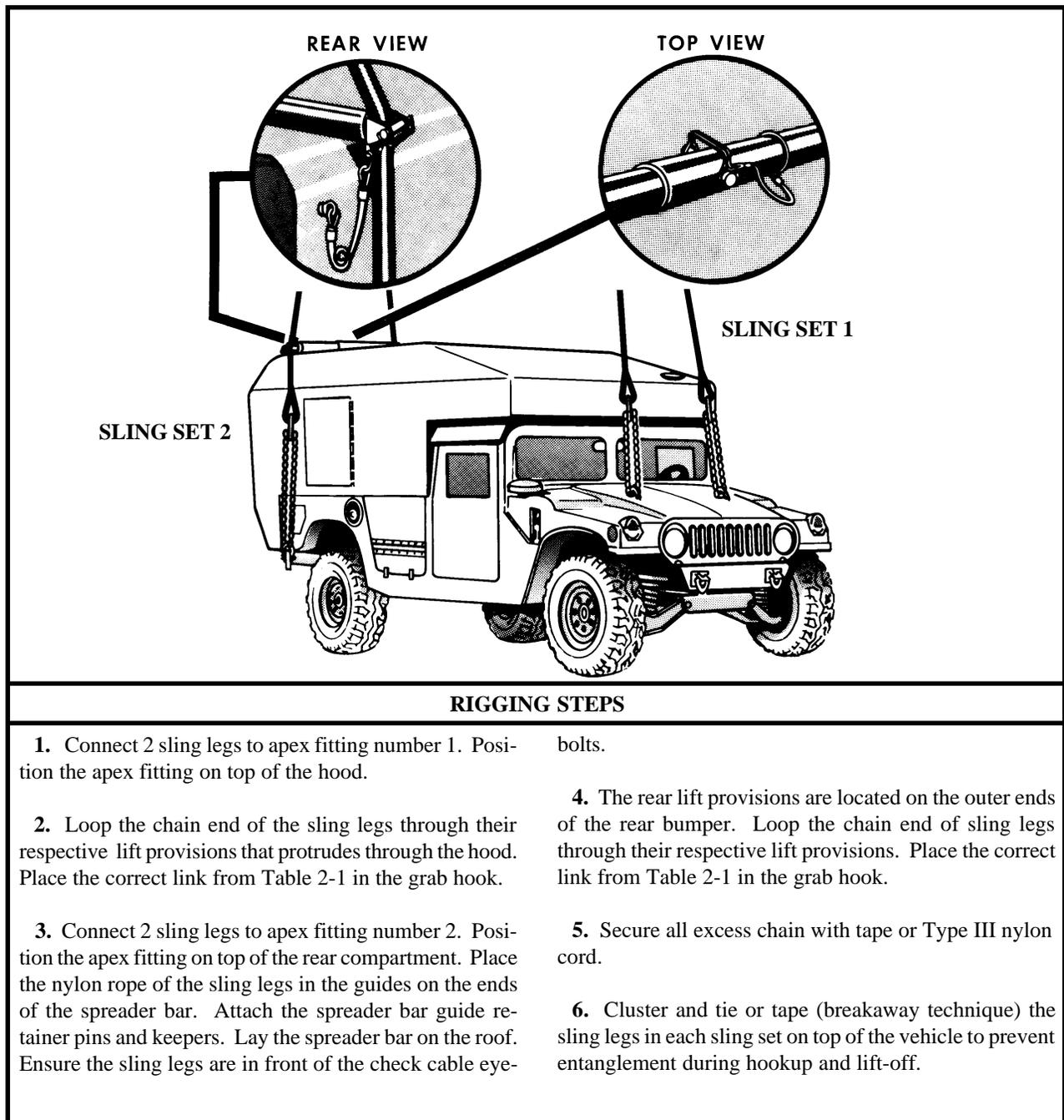


Figure 2-1. M996/M997/M997A2 Ambulance (HMMWV)

**CAUTION**

Do not use the lift shackles located near the center of the rear bumper for sling load lift provisions.

**2-3. M966/M1036/M1045/M1045A2/M1046 TOW Missile Carrier (HMMWV)  
M1025/M1025A2/M1026/M1043/M1043A2/M1044 Armament Carrier (HMMWV)**

**a. Applicability.** The following items in Table 2-2 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-2. TOW Missile/Armament Carrier (HMMWV)**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
TOW Missile Carrier (HMMWV), M966/M1036/M1045/M1046	Varies by Model	10K 15K 40K	80/45 25/3 30/9	CH-47 CH-53	130
TOW Missile Carrier, HMMWV, M1045A2	10,300	25K 15K 40K	65/36 25/3 30/9	CH-47 CH-53	130
Armament Carrier, HMMWV, M1025/M1026	8,200	15K 40K	25/3 40/9	CH-53	130
Armament Carrier, HMMWV, M1043/M1044	8,400	15K 40K	25/3 40/9	CH-53	130
Armament Carrier, HMMWV, M1025A2/M1043A2	10,300	15K 40K	25/3 40/9	CH-53	130

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

(1) Sling set (10,000-pound capacity, 25,000-pound capacity, or 40,000-pound capacity) with one additional apex fitting for the sling set being used.

**OR**

(2) Multileg sling set (15,000-pound capacity) (2 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 mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord.

(b) Secure all equipment and cargo inside the vehicle with tape, nylon cord, or lashings. Remove antennas and stow inside vehicle.

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

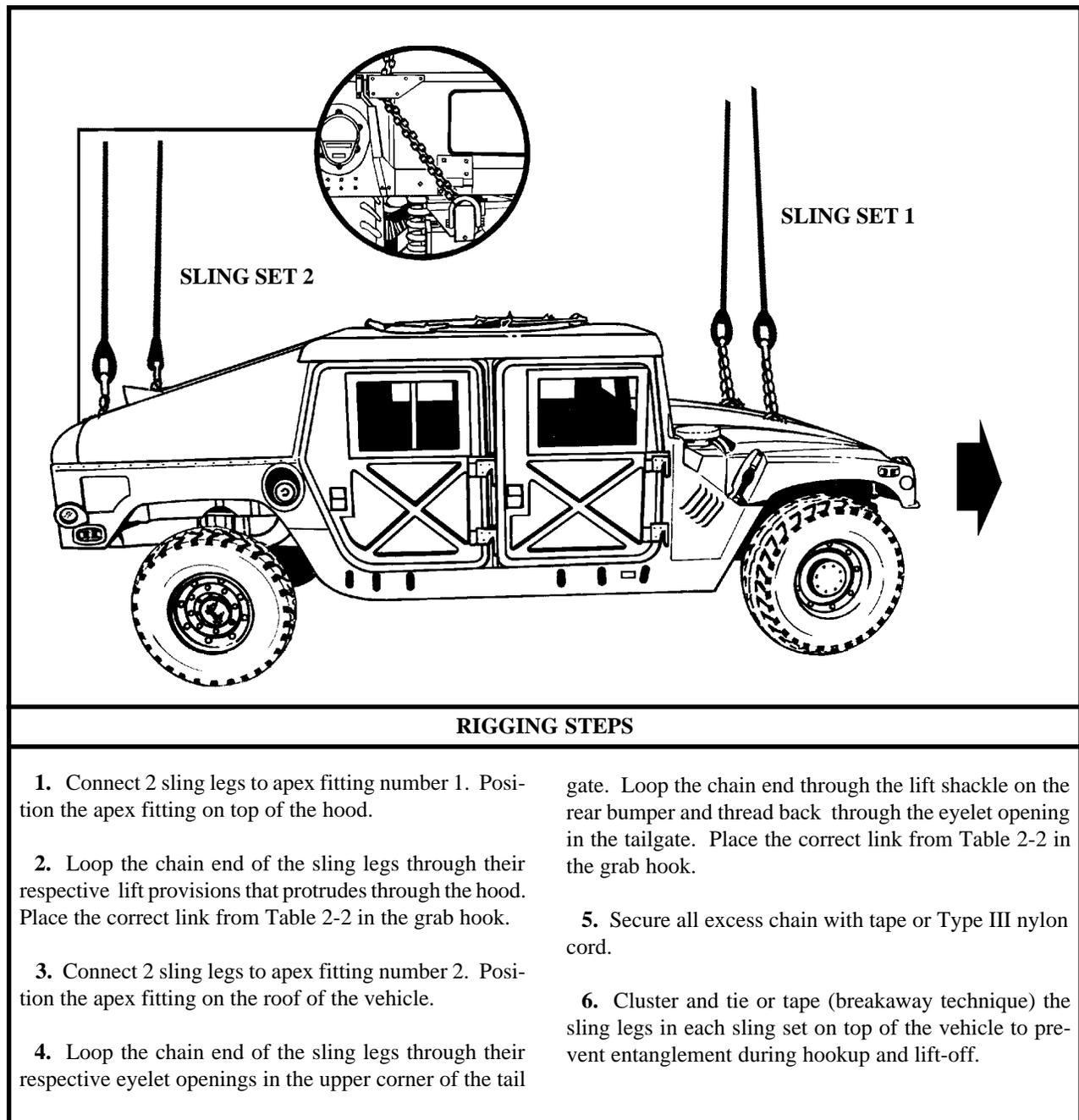
(d) Engage the vehicle parking brake and place the transmission in neutral.

(e) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel, using the securing device attached under the dashboard.

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

(3) **Hookup.** The hookup team stands on the roof of the vehicle. 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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 2-2. TOW Missile Carrier (HMMWV)*

**2-4. M998/M1037 Modified (GVW 9,400 lbs)/M1038/M1097/M1097A2 Truck, Cargo, 1 1/4-ton (HMMWV)**

**a. Applicability.** The following items in Table 2-3 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-3. 1 1/4-Ton Cargo Truck (HMMWV)**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Truck, 1 1/4-ton, HMMWV, M998/M1038	7,700	10K 15K 40K	80/45 25/3 30/9	CH-47 CH-53	125 130
Truck, 1 1/4-ton, HMMWV, M998 with AN/MRC-110A Radio Set	7,700	10K 15K 40K	80/45 25/3 30/9	CH-47 CH-53	125 130
Truck, 1 1/4-ton, HMMWV, M998A1, Joint Surveillance Target Attack Radar (JSTAR), Support Vehicle	7,500	10K	80/45	CH-47	125
Truck, 1 1/4-ton, HMMWV, Modified, (GVW 9,400 lbs), M1037	9,400	10K	80/25	CH-47	125
Truck, 1 1/4-ton, Heavy HMMWV, Cargo Variant, M1097	10,001	25K	60/10	CH-47	125
Truck, 1 1/4-ton, Heavy HMMWV, Cargo Variant, M1097A2	10,300	25K	60/10	CH-47	125

**WARNING**  
**THIS CARGO VEHICLE (M1037 MODIFIED, 9,400-LB GVW) SHOULD NOT BE CONFUSED WITH THE SHELTER CARRIER (M1037, 8,600-LB GVW). THE M1037 MODIFIED HAS IMPROVED LIFT PROVISIONS WHICH ALLOWS IT TO BE LIFTED AT HIGHER GROSS VEHICLE WEIGHTS.**

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

capacity, or 40,000-pound capacity) with one additional apex fitting for the sling set being used.

**OR**

- (1) Sling set (10,000-pound capacity, 25,000-pound

(2) Multileg sling set (15,000-pound capacity) (2 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 mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord. If installed, remove canvas covering over the bed of the truck. Remove the doors. If time permits, fold canvas top and tie to windshield for added protection.

(b) Secure all equipment and cargo inside the ve-

hicle with tape, nylon cord, or lashings. Remove antennas and stow inside vehicle.

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

(d) Engage the vehicle parking brake and put the transmission in neutral.

(e) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel, using the securing device attached under the dashboard.

(2) **Rigging.** Rig the load according to the steps in Figure 2-3.

(3) **Hookup.** The static wand person discharges the static electricity with the static wand. The forward hookup person stands in the drivers compartment and places apex fitting 1 onto the forward cargo hook. The aft hookup person stands in the bed of the truck and places apex fitting 2 onto the aft cargo hook. The hookup team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).

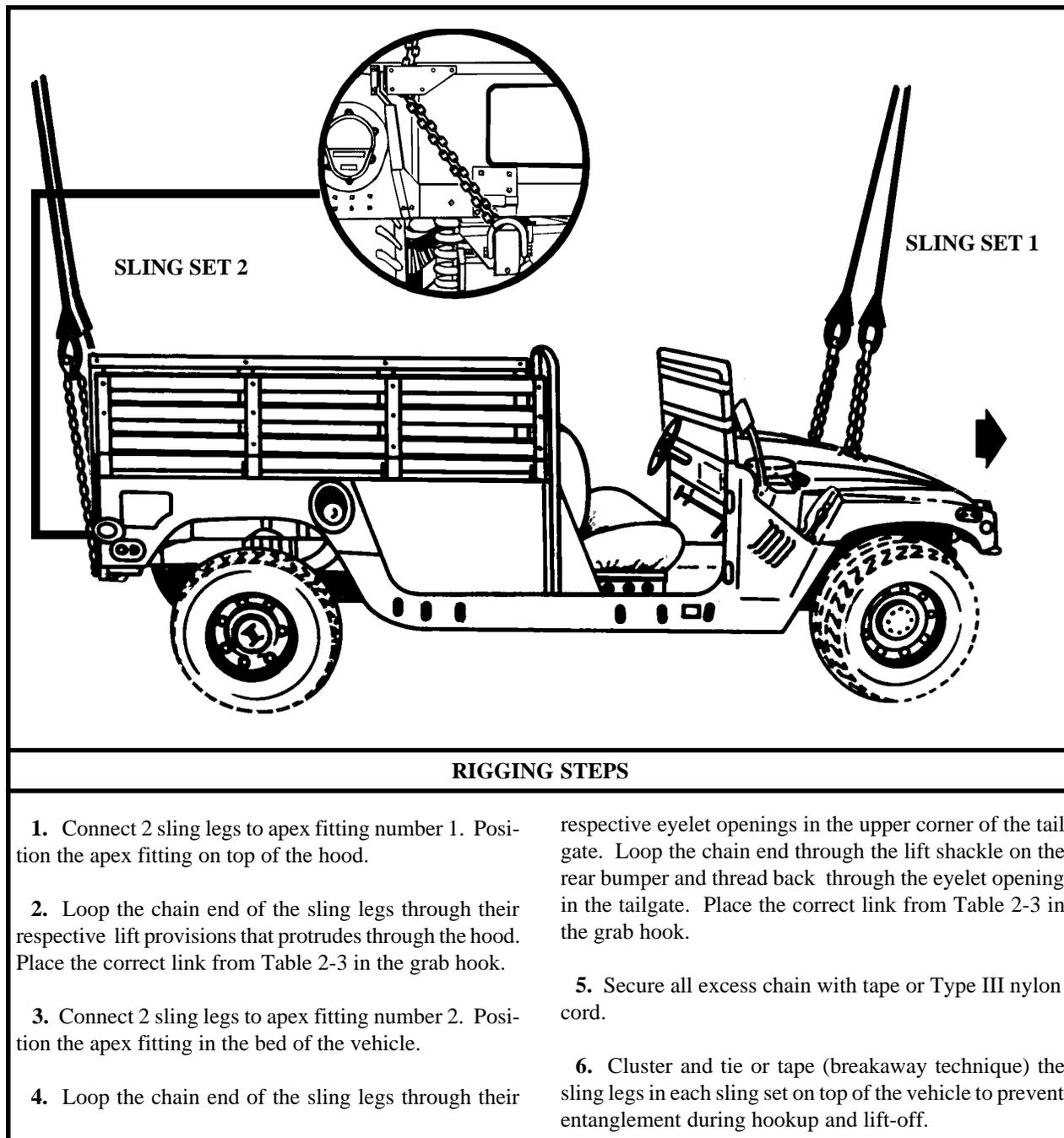


Figure 2-3. 1 1/4-Ton Cargo Truck (HMMWV)

**2-5. M1037 Shelter Carrier (HMMWV) With S-250 or S-250E Shelter**

**a. Applicability.** The following items in Table 2-4 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-4. Shelter Carrier (HMMWV) With S-250/S-250E Shelter**

<b>NOMENCLATURE</b>	<b>MAX WEIGHT (POUNDS)</b>	<b>SLING SET</b>	<b>LINK COUNT FRONT/ REAR</b>	<b>TYPE OF AIRCRAFT</b>	<b>RECOMMENDED AIRSPEED (KNOTS)</b>
NC Operations	8,800	10K	80/45	CH-47	120
NC Switch	8,513	10K	80/45	CH-47	120
NC LOS (V3)	8,611	10K	80/45	CH-47	120
NC Management	8,800	10K	80/45	CH-47	120
NC Support Vehicle	8,400	10K	80/45	CH-47	120
LEN Operations	8,800	10K	80/45	CH-47	120
LEN Switch	8,800	10K	80/45	CH-47	120
LEN LOS (V4)	8,800	10K	80/45	CH-47	120
LEN Management	8,800	10K	80/45	CH-47	120
LEN Cable Vehicle	8,180	10K	80/45	CH-47	120
SCC Command	8,800	10K	80/45	CH-47	120
SCC Planning	8,300	10K	80/45	CH-47	120
SCC Technical	8,507	10K	80/45	CH-47	120
LOS (V1)	8,800	10K	80/45	CH-47	120
LOS (V2)	8,500	10K	80/45	CH-47	120
Radio Access Unit	8,800	10K	80/45	CH-47	120
SEN (V1)	8,800	10K	80/45	CH-47	120
SEN (V2)	8,800	10K	80/45	CH-47	120
Maintenance #1	8,084	10K	80/45	CH-47	120
Maintenance #2	8,350	10K	80/45	CH-47	120

**Table 2-4. Shelter Carrier (HMMWV) With S-250/S-250E Shelter (Continued)**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Battalion Spares	8,800	10K	80/45	CH-47	120
Company Spares	7,850	10K	80/45	CH-47	120
AN/TLQ-17	8,200	10K	80/45	CH-47	120
AN/TLQ-17A (V3)	8,040	10K	80/45	CH-47	120
Deployable Media Production Center	7,840	10K	80/45	CH-47	120
Operational Control Group (OCG) /Firefinder AN/TPQ-36 (V) Block IIB	7,500	10K 15K	80/45	CH-47 CH-53	120

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

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

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

(3) Coupling link, part number 577-0615, from a 10,000-pound sling set (4 each).

**OR**

(4) Multileg sling set (15,000-pound capacity) with one additional web ring.

(5) Chain length, part number 34080-4, from a 15,000-pound capacity sling set (4 each).

(6) Coupling link, part number 31611, from a 15,000-pound sling set (4 each).

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

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

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

(10) Felt sheet, cattle hair, Type IV, 1/2-inch or suitable padding.

**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) Connect one additional chain length to each chain of the sling set with the coupling link.

(b) Fold mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord.

(c) Secure the shelter to the truck using wire rope or tie-down assemblies. Secure all equipment inside the shelter with tape, nylon cord, or lashings; close and secure the door.

(d) Secure all equipment and cargo inside the vehicle with tape, nylon cord, or lashings. Secure the doors shut if installed.

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

(f) Engage the vehicle parking brake and put the transmission in neutral.

(g) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel, using the securing device attached under the dashboard.

(h) Install the lift provisions on the outer ends of the rear bumper by removing the tiedown provisions lo-

cated inboard of the bumper end and installing them on the outer ends of the rear bumper.

(2) **Rigging.** Rig the load according to the steps in Figure 2-4.

(3) **Hookup.** The hookup team stands on top of the shelter. The static wand person discharges the static electricity with the static wand. The hookup person places the apex fitting onto the aircraft cargo hook. The hookup team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).

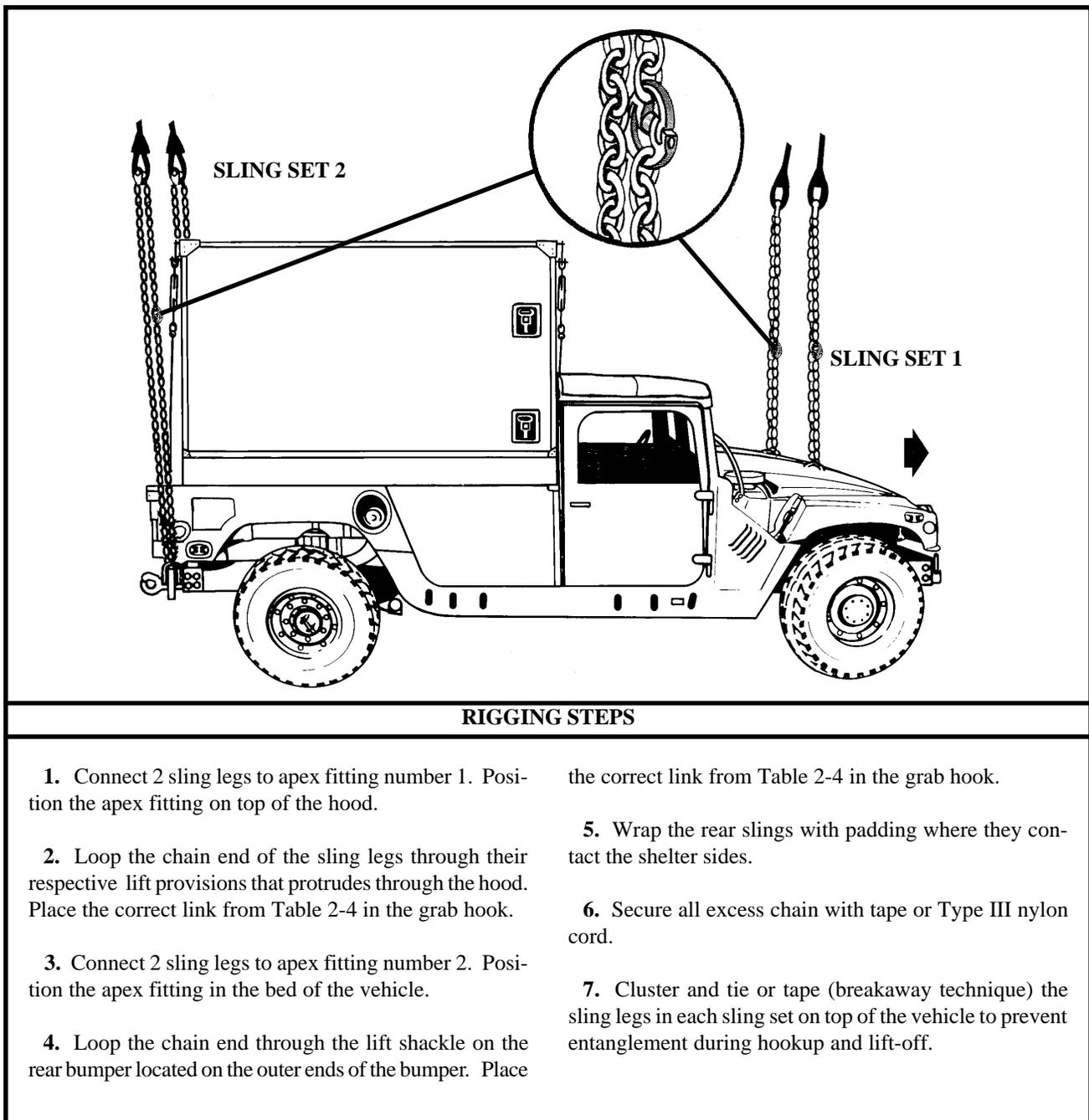


Figure 2-4. M1037 Shelter Carrier with S-250/S-250E Shelter

**CAUTION**

**Do not use the lift shackles located near the center of the rear bumper for sling load lift provisions.**

**2-6. M1097 Shelter Carrier, Heavy HMMWV, With S-250 or S-250E Shelter**

**a. Applicability.** The following items in Table 2-5 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-5. Shelter Carrier, (Heavy HMMWV), With S-250/S-250E Shelter**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
S-250/S-250E	10,001	25K	60/10	CH-47	120
AN/TRC-170 Communication Shelter	9,240	15K	40/3	CH-53	130
TRQ-32, Intelligence and Electronic Warfare (IEW) System	9,700	10K	60/10	CH-47	120
Platoon Operations Center (POC), Intelligence and Electronic Warfare (IEW) System	9,700	10K	60/10	CH-47	120
Mobile Subscriber Equipment Contingency Communications Package/Light Forces Contingency Communications Package in S-250E	9,993	10K	60/10	CH-47	120
Mobile Subscriber Equipment Contingency Communications Package/Light Forces Contingency Communications Package in S-250	8,913	10K	60/10	CH-47	120

**NOTE: All certified shelters in paragraph 2-5 (M1037) Shelter Carrier, HMMWV, With S-250/S-250E Shelter) are certified for sling loading on the M1097 Shelter Carrier with an increased maximum weight of 300 pounds.**

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

(1) Sling set (10,000-pound capacity or 25,000-pound capacity) with one additional apex fitting for the sling set being used.

**OR**

(2) Multileg sling set (15,000-pound capacity for the CH-53E only) with one additional web ring.

(3) Additional chain lengths from the sling set being used (4 each).

(4) Additional coupling links from the sling set being used (4 each).

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

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

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

(8) Felt sheet, cattle hair, Type IV, 1/2-inch or suitable padding.

**c. Personnel.** Two persons can prepare and rig this load in 15 to 25 minutes.

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

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

(a) Connect one additional chain length to each chain of the sling set with the coupling link.

(b) Fold mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord.

(c) Secure the shelter to the truck using wire rope or tie-down assemblies. Secure all equipment inside the shelter with tape, nylon cord, or lashings; close and secure the door.

(d) Secure all equipment and cargo inside the vehicle with tape, nylon cord, or lashings. Secure the doors

shut if installed.

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

(f) Engage the vehicle parking brake and put the transmission in neutral.

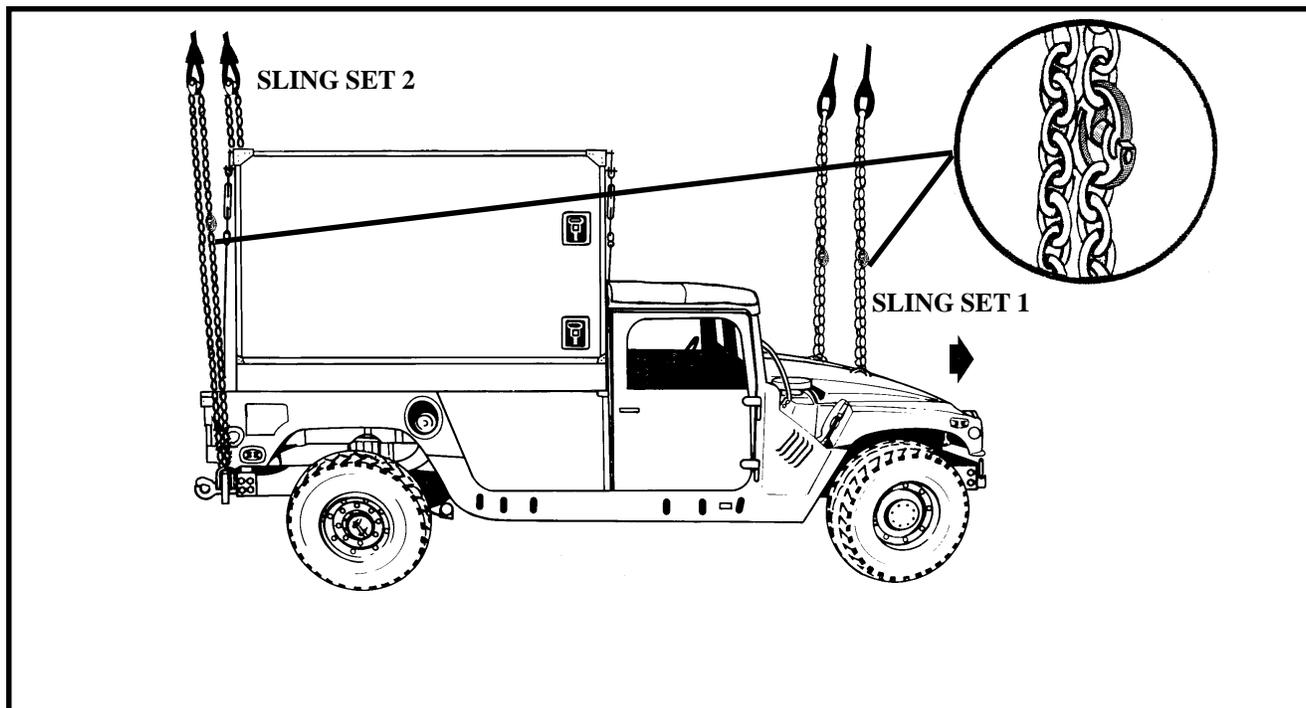
(g) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel, using the securing device attached under the dashboard.

(h) Install the lift provisions on the outer ends of the rear bumper.

(2) **Rigging.** Rig the load according to the steps in Figure 2-5.

(3) **Hookup.** The hookup team stands on top of the shelter. 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).



#### RIGGING STEPS

1. Connect 2 sling legs to apex fitting number 1. Position the apex fitting on top of the hood.
2. Loop the chain end of the sling legs through their respective lift provisions that protrudes through the hood. Place the correct link from Table 2-5 in the grab hook.
3. Connect 2 sling legs to apex fitting number 2. Position the apex fitting in the bed of the vehicle.
4. Loop the chain end through the lift shackle on the rear bumper located on the outer ends of the bumper.
5. Wrap the rear slings with padding where they contact the shelter sides.
6. Secure all excess chain with tape or Type III nylon cord.
7. Cluster and tie or tape (breakaway technique) the sling legs in each sling set on top of the vehicle to prevent entanglement during hookup and lift-off.

Figure 2-5. M1097 Shelter Carrier with S-250/S-250E Shelter

#### CAUTION

Do not use the lift shackles located near the center of the rear bumper for sling load lift provisions.

**2-7. M1097 Shelter Carrier (HMMWV) With Lightweight Multipurpose Shelter (LMS)**

**a. Applicability.** The following items in Table 2-6 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-6. Lightweight Multipurpose Shelter (LMS)**

<b>NOMENCLATURE</b>	<b>MAX WEIGHT (POUNDS)</b>	<b>SLING SET</b>	<b>LINK COUNT FRONT/ REAR</b>	<b>TYPE OF AIRCRAFT</b>	<b>RECOMMENDED AIRSPEED (KNOTS)</b>
High Mobility Downsized (HMD) Direct Air Support Central	8,420	15K	40/3	CH-53	120
Operations Central (OC) Group Firefinder AN/TPQ-36 (V) 8	8,620	10K	40/3	CH-47 CH-53	120 120
Integrated Meteorological Systems (IMETS), Block I & II	9,050	10K	40/3	CH-53	120
Enhanced Position Location Reporting System (EPLRS) Downsized Net Control Station (NCS-E(D))	10,000	15K	40/3	CH-53	120
Digital Group Multiplexer (DGM) AN/TRC-138C	9,020	10K	40/3	CH-47	120
High Mobility Digital Group Multiplexer Assemblage (HMDA) AN/TRC-173B, AN/TRC-174B, AN/TRC-175B	9,100	10K	40/3	CH-47	120
High Frequency Communications Central AN/TRC 120	8,765	15K	40/3	CH-53	150
Marine Expeditionary Force Intelligence Analysis System (IAS)	9,220	15K	40/3	CH-47	120
Spare Equipment and Maintenance Shelter AN/TSQ-190 (V) 1	9,220	10K	40/3	CH-47	120
Tactical Remote Sensor System (TRSS) Sensor Mobile Monitoring System (SMMS)	7,685	15K	40/3	CH-53	120
Meteorological Measuring Set AN/TMQ-41	7,770	15K 10K	40/3 40/3	CH-53 CH-47	110 110

**Table 2-6. Lightweight Multipurpose Shelter (LMS) (Continued)**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Air Defense Communications Platform AN/MSQ-124	10,000	15K	40/3	CH-53	120
Forward Area Air Defense Command Control System AN/TSQ-183	7,561	10K	40/3	CH-47	90
Forward Area Air Defense Command Control System AN/TSQ-184	7,297	10K	40/3	CH-47	90
Mobile Radio Broadcasting Subsystem (MRBS)	9,746	10K	40/3	CH-47	120
Mobile Radio (MR) Cargo Vehicle	9,907	10K	40/3	CH-47	120
Mobile Television Broadcasting Subsystem (MTBS)	9,295	10K	40/3	CH-47	120
Mobile Television (MT) Cargo Vehicle	9,637	10K	40/3	CH-47	120
Mission Vehicle for the Common Ground Station, Joint Surveillance Target Attack Radar (JSTAR) System	9,530	10K	40/3	CH-47	120
Marine Expeditionary Force Intelligence Analysis System S1	9,194	15K	40/3	CH-53	100
Marine Expeditionary Force Intelligence Analysis System S2	9,126	15K	40/3	CH-53	100
Tactical Control and Analysis Center	9,300	15K	40/3	CH-53	100

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

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

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

(b) Coupling link, part number 577-0615, from a 10,000-pound sling set (4 each).

**OR**

(2) Multileg sling set (15,000-pound capacity for the CH-53E only) with one additional web ring.

(a) Additional chain lengths from the multileg sling set (8 each).

(b) Additional coupling links from the multileg sling set (8 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.

(6) Felt sheet, cattle hair, Type IV, 1/2-inch or suitable padding.

(7) Padding, cellulose.

**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) Extend the sling leg chains by connecting one additional chain length to each chain on a 10,000-, 25,000- or 40,000-pound capacity sling set with coupling links. Connect two additional chain lengths to each chain on the 15,000-pound multileg sling set chain with coupling links.

(b) Fold mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord.

(c) Secure the shelter to the truck using wire rope or tie-down assemblies.

(d) Secure all equipment inside the shelter with tape, nylon cord, or lashings; close and secure shelter vents and door with nylon cord or tape.

(e) Secure environmental control unit cover with duct tape.

(f) Disconnect the power cord from the rear panel and secure it to the rear platform with Type III nylon cord. Lower the power panel door and secure the door.

(g) Secure all equipment and cargo inside the vehicle with tape, nylon cord, or lashings. Secure the doors shut if installed.

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

(i) Engage the vehicle parking brake and put the transmission in neutral.

(j) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel, using the securing device attached under the dashboard.

(k) Tape the windshield in an X formation from corner to corner.

(l) Install the lift provisions on the outer ends of the rear bumper.

(m) Remove the upper antenna mounting bracket if installed.

(2) **Rigging.** Rig the load according to the steps in Figure 2-6.

(3) **Hookup.** The hookup team stands on top of the shelter. 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful

hookup is assured, the hookup team quickly exits 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).

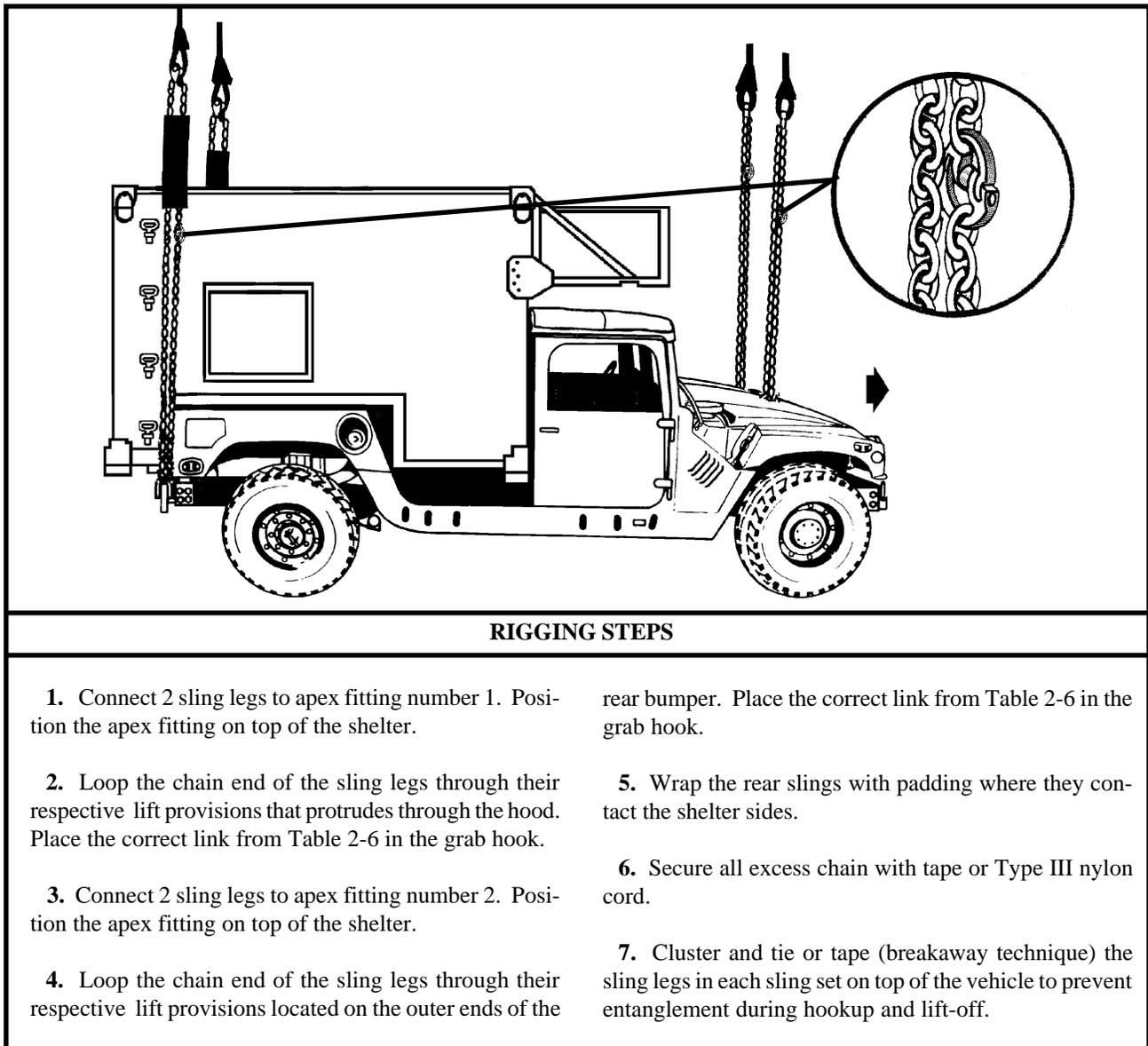


Figure 2-6. LMS Shelter Mounted on the M1097

**CAUTION**

Do not use the lift shackles located near the center of the rear bumper for sling load lift provisions.

## 2-8. M1037/M1042 Shelter Carrier (HMMWV) With Lightweight Multipurpose Shelter (LMS)

**a. Applicability.** The following items in Table 2-7 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-7. Lightweight Multipurpose Shelter (LMS) on M1037/M1042**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Digital Group Multiplexer (DGM) AN/TRC-138C	9,020	10K	40/3	CH-47	120
High Frequency Communications Central AN/TRC 120	8,765	15K	40/3	CH-53	150

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

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

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

(b) Coupling link, part number 577-0615, from a 10,000-pound sling set (4 each).

**OR**

(2) Multileg sling set (15,000-pound capacity for the CH-53E only) with one additional web ring.

(a) Additional chain lengths from the multileg sling set (8 each).

(b) Additional coupling links from the multileg sling set (8 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.

(6) Felt sheet, cattle hair, Type IV, 1/2-inch or suitable padding.

(7) Padding, cellulose.

**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) Extend the sling leg chains by connecting one additional chain length to each chain on a 10,000-, 25,000- or 40,000-pound capacity sling set with coupling links. Connect two additional chain lengths to each chain on the 15,000-pound multileg sling set chain with coupling links.

(b) Fold mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord.

(c) Secure the shelter to the truck using wire rope or tie-down assemblies.

(d) Secure all equipment inside the shelter with tape, nylon cord, or lashings; close and secure shelter vents and door with nylon cord or tape.

(e) Secure environmental control unit cover with duct tape.

(f) Disconnect the power cord from the rear panel and secure it to the rear platform with Type III nylon cord. Lower the power panel door and secure the door.

(g) Secure all equipment and cargo inside the vehicle with tape, nylon cord, or lashings. Secure the doors shut if installed.

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

(i) Engage the vehicle parking brake and put the transmission in neutral.

(j) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel, using the securing

device attached under the dashboard.

(k) Tape the windshield in an X formation from corner to corner.

(l) Install the lift provisions on the outer ends of the rear bumper.

(m) Remove the upper antenna mounting bracket if installed.

**(2) Rigging.** Rig the load according to the steps in Figure 2-6 and using the link counts in Table 2-7.

**(3) Hookup.** The hookup team stands on top of the shelter. 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).

## 2-9. M1097/M1113 Shelter Carrier (HMMWV) With Gitchner Model 1497A Shelter

**a. Applicability.** The following items in Table 2-8 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-8. Gitchner Shelter on M1097/M1113**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Joint Tactical Information Distribution System (JTIDS), AN/TYQ-JTIDS Shelter on M1097 HMMWV	10,000	10K	40/3	CH-47	120
AN/TSM-210 Electronic Shop on Enhanced Capacity Vehicle, M1113	10,360	25K	32/5	CH-47	120
Deployable Print Production Center	11,145	25K 15K	32/5 40/3	CH-47 CH-53	120

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

- (1) Sling set (see table) with one additional apex fitting.
- (a) Chain length, for the sling set being used (4 each).
- (b) Coupling link, for the sling set being used (4 each).
- (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.
- (5) Felt sheet, cattle hair, Type IV, 1/2-inch or suitable padding.
- (6) Padding, cellulose.

**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) Extend the sling leg chains by connecting one additional chain length to each chain on a 10,000- or 25,000-capacity sling set with coupling links.
  - (b) Fold mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord.
  - (c) Secure the shelter to the truck using wire rope or tie-down assemblies.
  - (d) Secure all equipment inside the shelter with tape, nylon cord, or lashings; close and secure shelter vents and door with nylon cord or tape.
  - (e) Secure environmental control unit cover with duct tape.

(f) Disconnect the power cord from the rear panel and secure it to the rear platform with Type III nylon cord. Lower the power panel door and secure the door.

(g) Secure all equipment and cargo inside the vehicle with tape, nylon cord, or lashings. Secure the doors shut if installed.

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

(i) Engage the vehicle parking brake and put the transmission in neutral.

(j) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel, using the securing device attached under the dashboard.

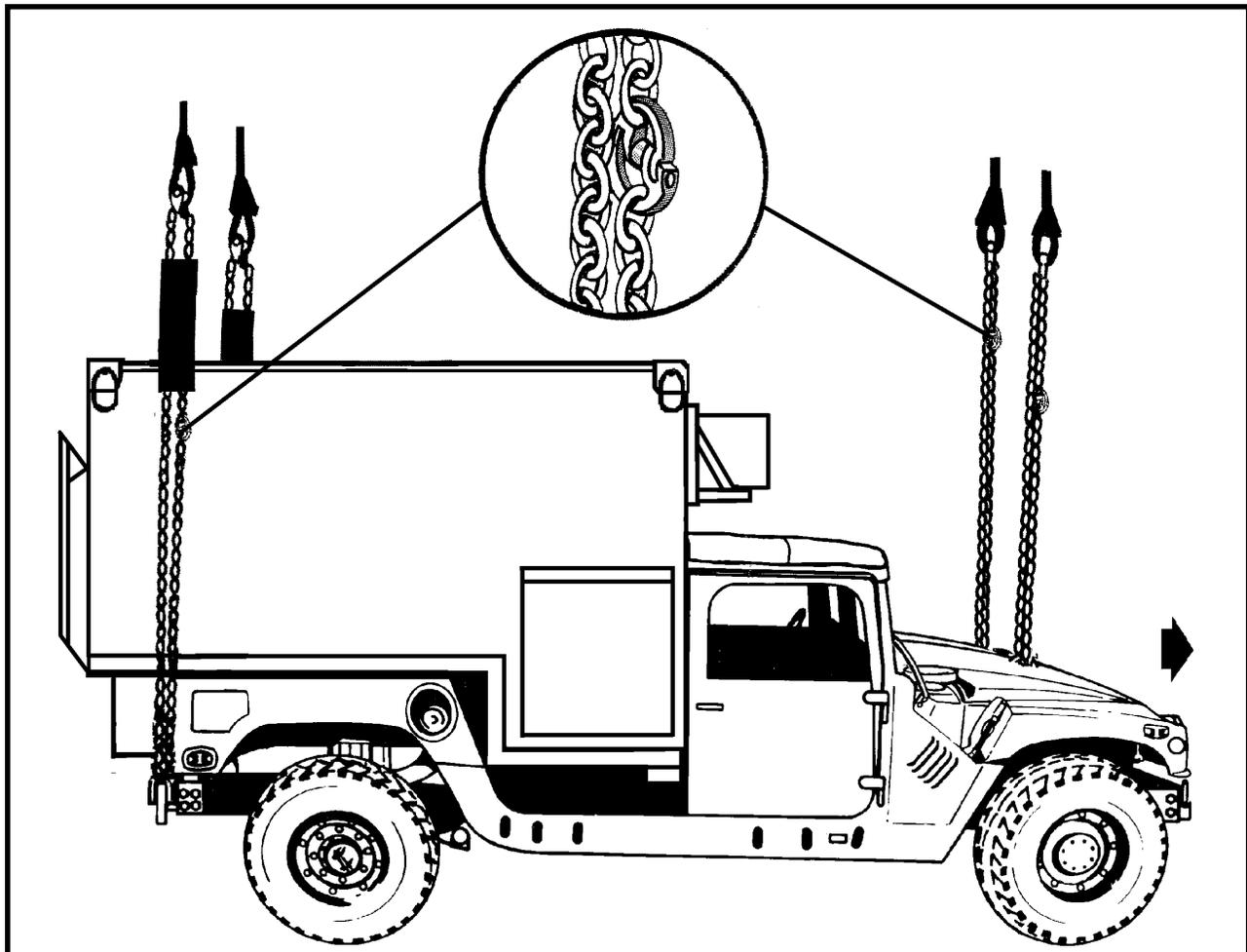
(k) Tape the windshield in an X formation from corner to corner.

(l) Install the lift provisions on the outer ends of the rear bumper.

(2) **Rigging.** Rig the load according to the steps in Figure 2-7 and using the link counts in Table 2-8.

(3) **Hookup.** The hookup team stands on top of the shelter. 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).



#### RIGGING STEPS

1. Connect 2 sling legs to apex fitting number 1. Position the apex fitting on top of the shelter.
2. Loop the chain end of the sling legs through their respective lift provisions that protrudes through the hood. Place the correct link from Table 2-8 in the grab hook.
3. Connect 2 sling legs to apex fitting number 2. Position the apex fitting on top of the shelter.
4. Loop the chain end of the sling legs through their respective lift provisions located on the outer ends of the

rear bumper. Place the correct link from Table 2-8 in the grab hook.

5. Wrap the rear slings with padding where they contact the shelter sides.

6. Secure all excess chain with tape or Type III nylon cord.

7. Cluster and tie or tape (breakaway technique) the sling legs in each sling set on top of the vehicle to prevent entanglement during hookup and lift-off.

Figure 2-7. Gitchner Shelter Mounted on the M1097/M1113

## 2-10. M1037/M1097 Shelter Carrier (HMMWV) With G15840 Smoke Generator Set, M157/ M157A1E1

**a. Applicability.** The following items in Table 2-9 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-9. G15840 Smoke Generator Set, M157, M157A1E1 on M1037/M1097**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Smoke Generator Set, M157, on M1037 HMMWV	7,400	10K	40/3	CH-47	120
Smoke Generator Set, M157, on M1097 HMMWV	8,025	10K	40/3	CH-47	120
Smoke Generator Set, M157A1E1, on M1097 HMMWV	8,035	10K	40/3	CH-47	120

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

- (1) Sling set (10,000-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.
- (5) Felt sheet, cattle hair, Type IV, 1/2-inch or suitable padding.

**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 mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord.

(b) Secure all equipment and cargo inside the vehicle with tape, nylon cord, or lashings. Secure the doors shut if installed.

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

(d) Engage the vehicle parking brake and put the transmission in neutral.

(e) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel, using the securing device attached under the dashboard.

(f) Tape the windshield in an X formation from corner to corner.

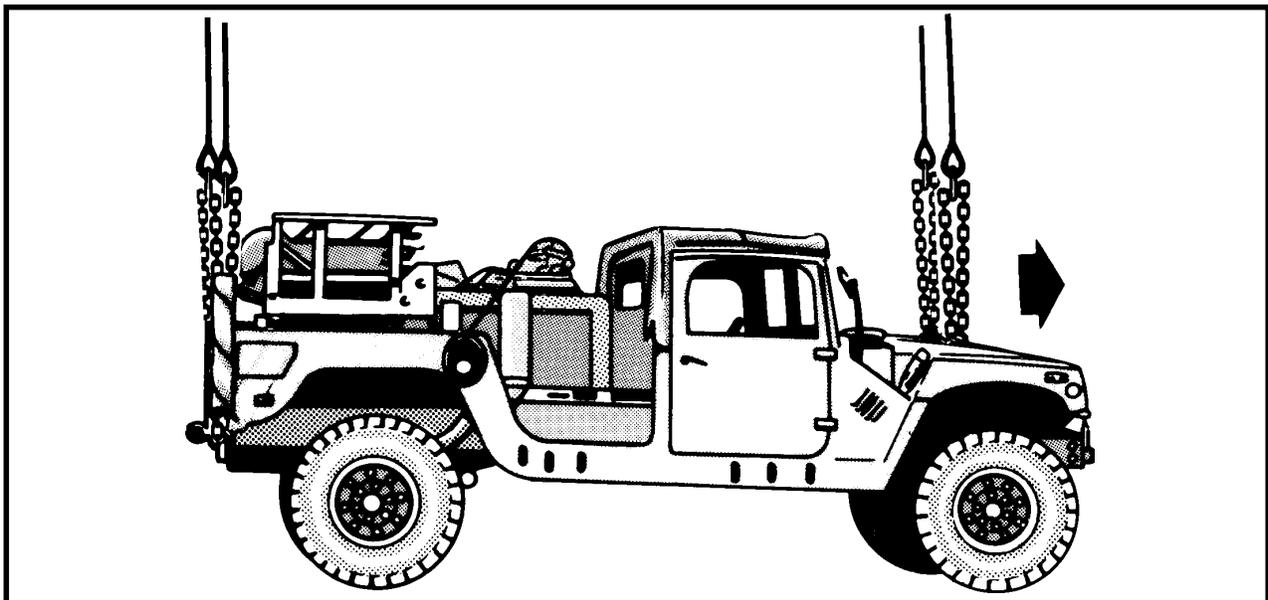
(g) Install the lift provisions on the outer ends of the rear bumper.

(2) **Rigging.** Rig the load according to the steps in Figure 2-8.

(3) **Hookup.** The hookup team stands in the bed of the vehicle. 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter

removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).



**RIGGING STEPS**

1. Connect 2 sling legs to apex fitting number 1. Position the apex fitting on the hood of the vehicle.
2. Loop the chain end of the sling legs through their respective lift provisions that protrudes through the hood. Place the correct link from Table 2-9 in the grab hook.
3. Connect 2 sling legs to apex fitting number 2. Position the apex fitting on top of the smoke generator.
4. Loop the chain end of the sling legs through their respective lift provisions located on the outer ends of the

- rear bumper. Place the correct link from Table 2-9 in the grab hook.
5. Wrap the rear slings with padding where they contact the vehicle sides.
6. Secure all excess chain with tape or Type III nylon cord.
7. Cluster and tie or tape (breakaway technique) the sling legs in each sling set on top of the vehicle to prevent entanglement during hookup and lift-off.

*Figure 2-8. M157/M157A1E1 Smoke Generator Set Mounted on the M1037/M1097*

**CAUTION**

**Do not use the lift shackles located near the center of the rear bumper for sling load lift provisions.**

## 2-11. M998 (HMMWV) With Two MRC-127 Stacks

**a. Applicability.** The following item in Table 2-10 is certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-10. M998 (HMMWV) With Two MRC-127 Stacks**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
MRC-127 Stacks (Two) on M998 HMMWV	8,010	10K	80/3	CH-47	120

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

- (1) Sling set (10,000-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.
- (5) Felt sheet, cattle hair, Type IV, 1/2-inch or suitable padding.

**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) Fold mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord. Remove the canvas covering the bed of the truck. Fold the canvas and secure it over the windshield of the vehicle. Remove the doors and secure to the seats with Type III nylon cord.

(b) Secure all equipment and cargo inside the vehicle with tape, nylon cord, or lashings. Remove the antennas and stow inside the vehicle.

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

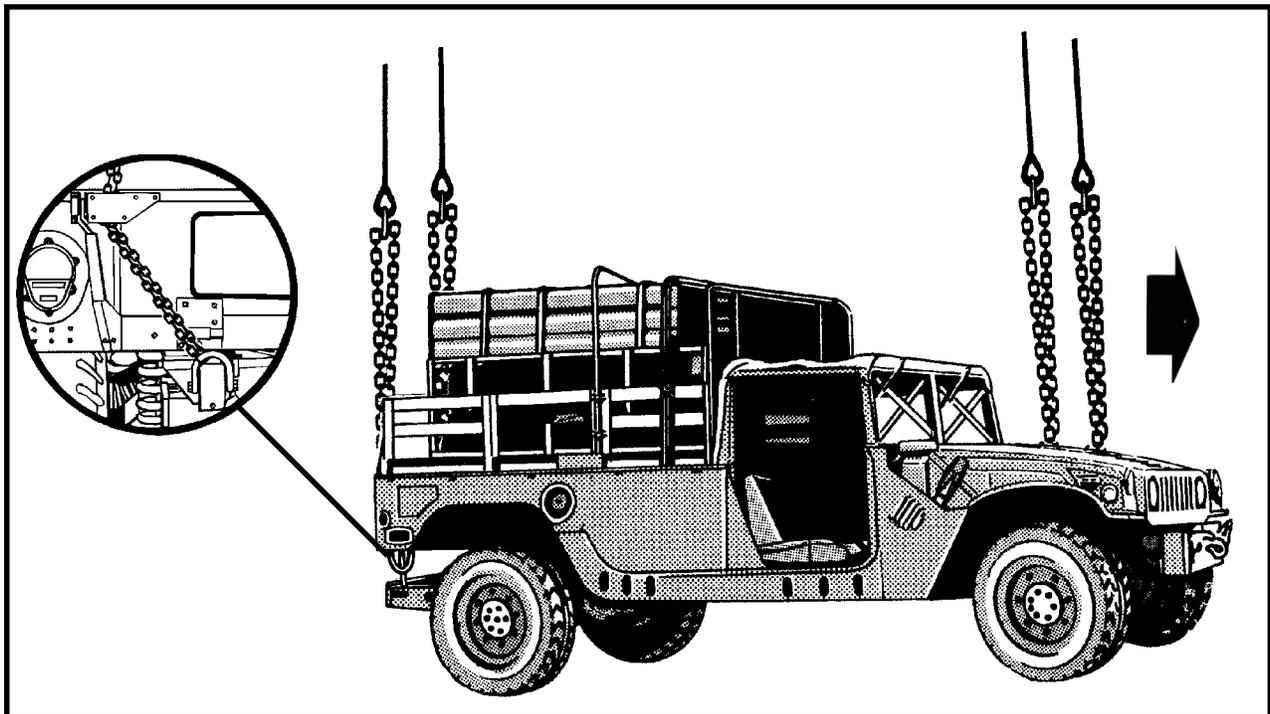
(d) Engage the vehicle parking brake and put the transmission in neutral.

(e) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel, using the securing device attached under the dashboard.

(2) **Rigging.** Rig the load according to the steps in Figure 2-9.

(3) **Hookup.** The hookup team stands in the bed of the vehicle. 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).



#### RIGGING STEPS

1. Connect 2 sling legs to apex fitting number 1. Position the apex fitting on the hood of the vehicle.
2. Loop the chain end of the sling legs through their respective lift provisions that protrudes through the hood. Place the correct link from Table 2-10 in the grab hook.
3. Connect 2 sling legs to apex fitting number 2. Position the apex fitting in the cargo bed of the vehicle.
4. Loop the chain end of the sling legs through their respective eyelet openings in the upper corner of the tailgate. Loop the chain end through the lift shackle on the rear bumper and thread back through the eyelet opening in the tailgate. Place the correct link from Table 2-10 in the grab hook.
5. Wrap the rear slings with padding where they contact the vehicle.
6. Secure all excess chain with tape or Type III nylon cord.
7. Cluster and tie or tape (breakaway technique) the sling legs in each sling set on top of the vehicle to prevent entanglement during hookup and lift-off.

*Figure 2-9. M998 (HMMWV) With Two MRC-127 Stacks*

## 2-12. M998/M1038 (HMMWV) With Lightweight Tactical Fire Control Systems (LTACFIRE)/Tactical Terminal Control Systems (TTCS)

**a. Applicability.** The following items in Table 2-11 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-11. M998/M1038 With LTACFIRE/TTCS**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
LTACFIRE, Single Station	5,297	10K	40/3	CH-47	125
LTACFIRE, Dual Station	6,215	10K	40/3	CH-47	125
AN/TSQ-198 TTCS	6,015	10K	40/3	CH-47	100

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

- (1) Sling set (10,000-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 15 minutes.

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

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

**(a)** Fold mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord. Remove the canvas cab top and the doors. Secure to the seats with Type III nylon cord.

**(b)** Secure all equipment and cargo inside the vehicle

with tape, nylon cord, or lashings.

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

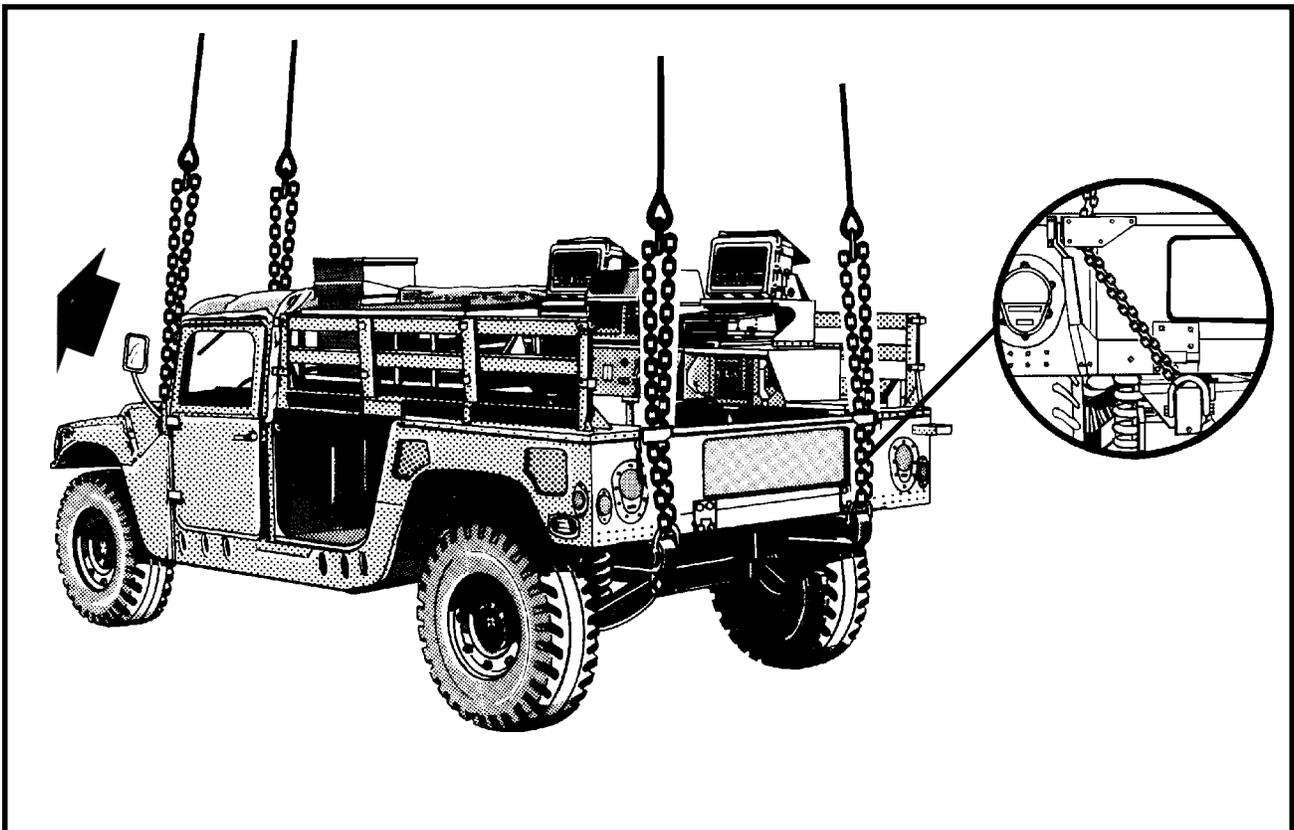
**(d)** Engage the vehicle parking brake and put the transmission in neutral.

**(e)** Ensure the front wheels are pointed straight ahead. Tie down the steering wheel, using the securing device attached under the dashboard.

**(2) Rigging.** Rig the load according to the steps in Figure 2-10.

**(3) Hookup.** The hookup team stands in the bed of the vehicle. 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).



#### RIGGING STEPS

1. Connect 2 sling legs to apex fitting number 1. Position the apex fitting on the hood of the vehicle.
2. Loop the chain end of the sling legs through their respective lift provisions that protrudes through the hood. Place the correct link from Table 2-11 in the grab hook.
3. Connect 2 sling legs to apex fitting number 2. Position the apex fitting in the cargo bed of the vehicle.
4. Loop the chain end of the sling legs through their respective eyelet openings in the upper corner of the tailgate. Loop the chain end through the lift shackle on the rear bumper and thread back through the eyelet opening in the tailgate. Place the correct link from Table 2-11 in the grab hook.
5. Secure all excess chain with tape or Type III nylon cord.
6. Cluster and tie or tape (breakaway technique) the sling legs in each sling set on top of the vehicle to prevent entanglement during hookup and lift-off.

Figure 2-10. M998/M1038 With LTACFIRE/TTCS

## 2-13. M1037 (HMMWV) With AN/TPQ-36 Firefinder Generator Pallet

**a. Applicability.** The following item in Table 2-12 is certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-12. M1037 (HMMWV) With AN/TPQ-36 Firefinder Generator Pallet**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
AN/TPQ-36 Firefinder Generator Pallet	7,700	10K	80/45	CH-47	110

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

- (1) Sling set (10,000-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 15 minutes.

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

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

(a) Fold mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord. Remove the canvas cab top and the doors. Secure to the seats with Type III nylon cord.

(b) Ensure the generator is secured to the truck. Secure all lids, doors, and vents on the generator with tape or Type III nylon cord. Safety tie all chains and hoses with tape or Type III nylon cord.

(c) Secure all equipment and cargo inside the vehicle with tape, nylon cord, or lashings.

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

(e) Engage the vehicle parking brake and put the transmission in neutral.

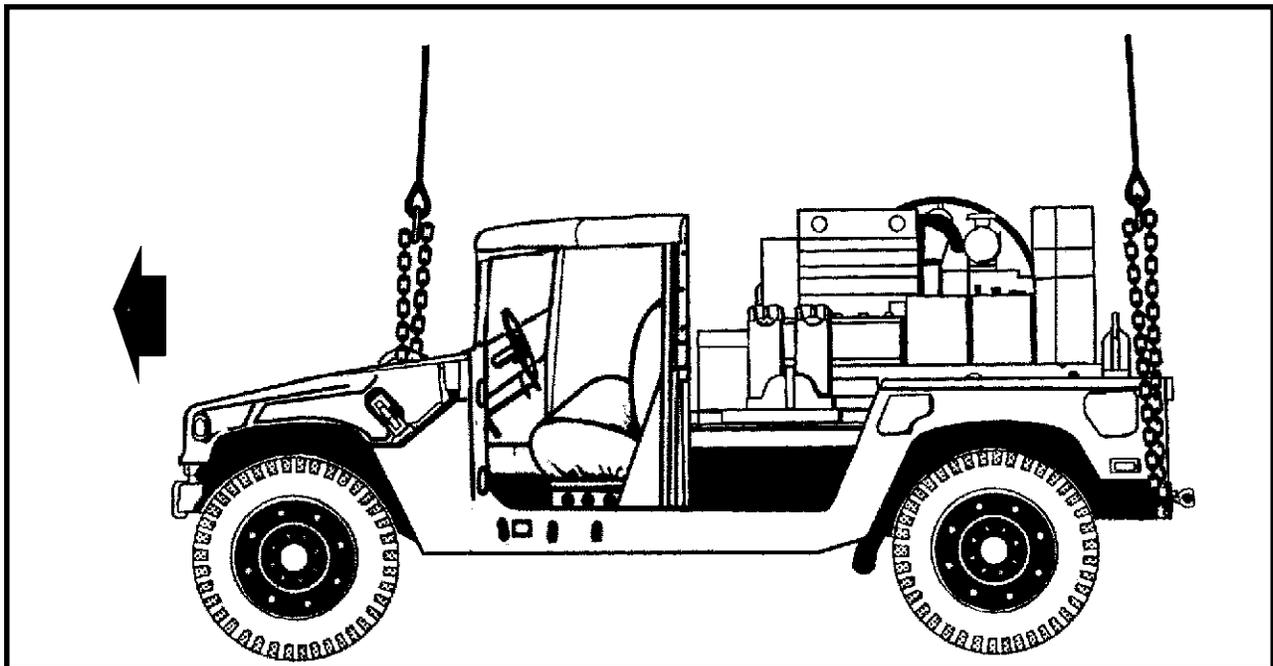
(f) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel, using the securing device attached under the dashboard.

(g) Tape the windshield in an X formation from corner to corner.

(2) **Rigging.** Rig the load according to the steps in Figure 2-11.

(3) **Hookup.** The hookup team stands in the bed of the vehicle. 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).



#### RIGGING STEPS

1. Connect 2 sling legs to apex fitting number 1. Position the apex fitting on the hood of the vehicle.
2. Loop the chain end of the sling legs through their respective lift provisions that protrudes through the hood. Place the correct link from Table 2-12 in the grab hook.
3. Connect 2 sling legs to apex fitting number 2. Position the apex fitting in the cargo bed of the vehicle.
4. Loop the chain end of the sling legs through their respective lift shackle on the outside end of the rear bumper. Place the correct link from Table 2-12 in the grab hook.
5. Secure all excess chain with tape or Type III nylon cord.
6. Cluster and tie or tape (breakaway technique) the sling legs in each sling set on top of the vehicle to prevent entanglement during hookup and lift-off.

*Figure 2-11. M1037 (HMMWV) With AN/TPQ-36 Firefinder Generator Pallet*

#### CAUTION

Do not use the lift shackles located near the center of the rear bumper for sling load lift provisions.

**2-14. M1097 (HMMWV) With High Mobility Digital Group Multiplexer (DGM)  
Auxiliary Equipment Transportation Container (AETC) in 2 and 3 Mast Configurations**

**a. Applicability.** The following items in Table 2-13 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-13. M1097 (HMMWV) With High Mobility Digital Group Multiplexer (DGM)  
Auxiliary Equipment Transportation Container (AETC) in 2 and 3 Mast Configurations**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
2 Mast AETC Configuration	8,500	10K	55/3	CH-47	120
3 Mast AETC Configuration	9,500	10K	55/3	CH-47	120

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

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

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

(b) Coupling link, part number 577-0615, from a 10,000-pound capacity sling set (4 each).

(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.

(5) Felt sheet, cattle hair, Type IV, 1/2-inch or suitable padding.

**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) Extend the sling leg chains by connecting one additional chain length to each chain on a 10,000- pound capacity sling set with coupling links.

(b) Fold mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord. Remove the canvas cab top and the doors. Secure to the seats with Type III nylon cord.

(c) Remove, fold, stow, and secure the canvas cover for the AETC using Type III nylon cord.

(d) Secure all equipment and cargo inside the vehicle with tape, Type III nylon cord, or lashings.

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

(f) Engage the vehicle parking brake and put the transmission in neutral.

(g) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel, using the securing device attached under the dashboard.

(2) **Rigging.** Rig the load according to the steps in Figure 2-12.

(3) **Hookup.** The hookup team stands on top of the container. 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful

hookup is assured, the hookup team quickly exits 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).

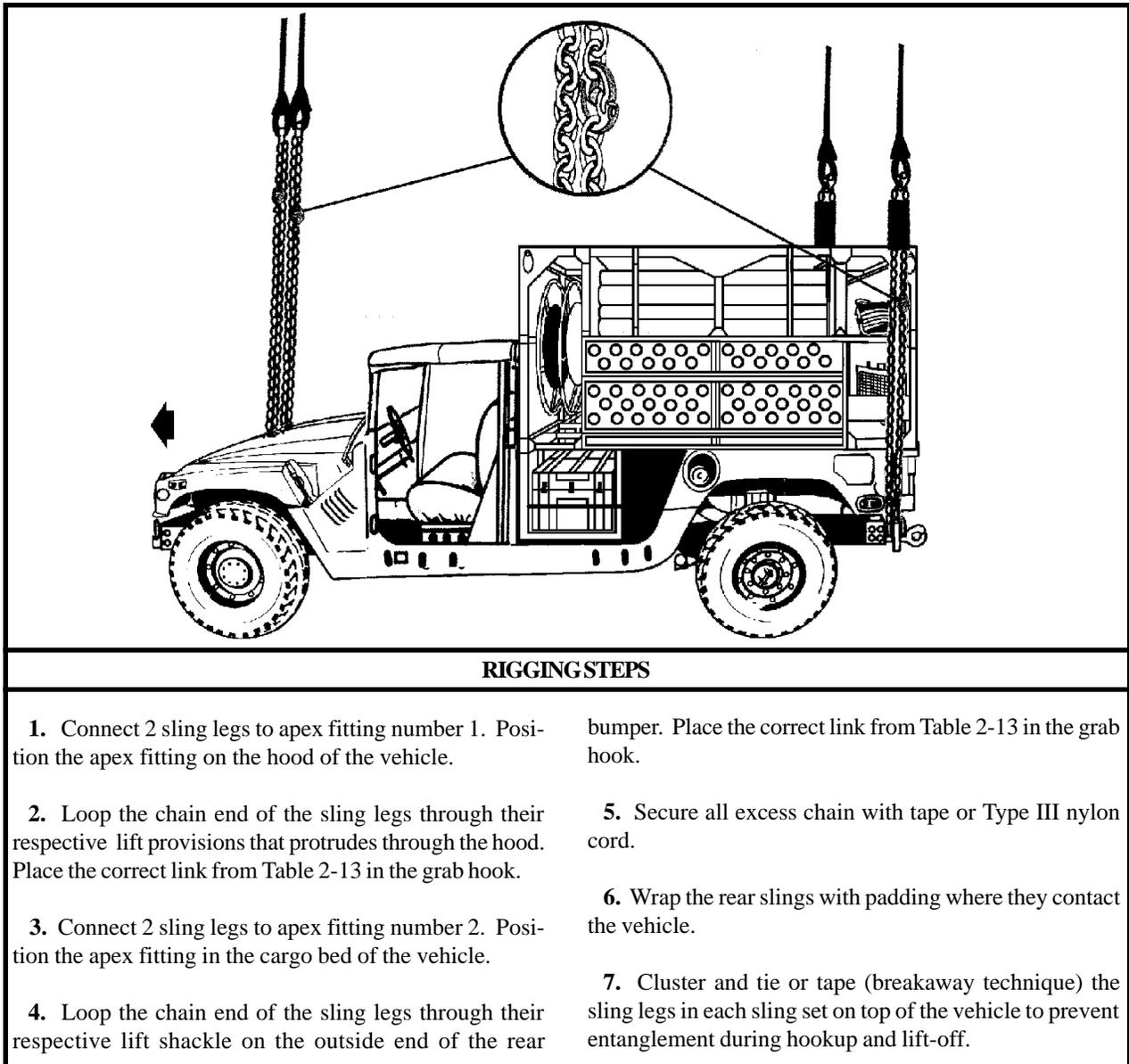


Figure 2-12. M1097 (HMMWV) With 2 or 3 Mast AETC Configuration

**CAUTION**

Do not use the lift shackles located near the center of the rear bumper for sling load lift provisions.

**2-15. M1097 (HMMWV) With Contact Maintenance Truck, Heavy (CMTH)**

**a. Applicability.** The following items in Table 2-14 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-14. M1097 (HMMWV) With Contact Maintenance Truck, Heavy (CMTH)**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
CMTH, Shop Equipment (SE) on M1097	8,760	10K	50/3	CH-47	120
CMTH, Aviation Section (AS) on M1097	9,400	10K	50/3	CH-47	100

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

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

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

(b) Coupling link, part number 577-0615, from a 10,000-pound capacity sling set (4 each).

(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.

(5) Felt sheet, cattle hair, Type IV, 1/2-inch or suitable padding.

**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) Extend the sling leg chains by connecting one additional chain length to each chain on a 10,000- pound capacity sling set with coupling links.

(b) Fold mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord. Secure the doors.

(c) Ensure the shelter is securely attached to the vehicle.

(d) Secure all equipment and cargo inside the vehicle with tape, Type III nylon cord, or lashings.

(e) Secure all equipment, doors, and drawers inside the shelter with tape, Type III nylon cord, or lashings. Close and secure all shelter doors and vents with tape or Type III nylon cord.

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

(g) Engage the vehicle parking brake and put 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.

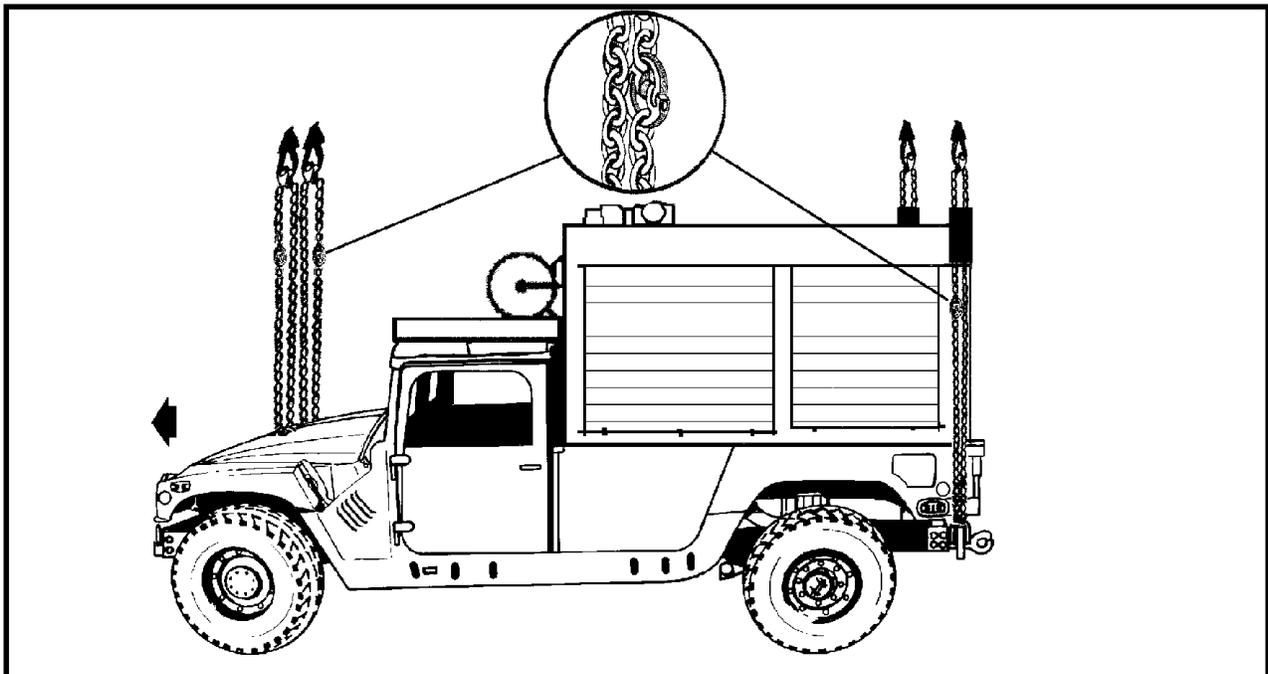
(i) Install the lift provisions on the outer ends of the bumper.

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

(3) **Hookup.** The hookup team stands on top of the cargo bed cover. 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 team then carefully dismounts

the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).



#### RIGGING STEPS

- |   |   |
|---|---|
| <p>1. Connect 2 sling legs to apex fitting number 1. Position the apex fitting on the hood of the vehicle.</p> <p>2. Loop the chain end of the sling legs through their respective lift provisions that protrudes through the hood. Place the correct link from Table 2-14 in the grab hook.</p> <p>3. Connect 2 sling legs to apex fitting number 2. Position the apex fitting on top of the shelter.</p> <p>4. Loop the chain end of the sling legs through their respective lift provisions located on the outer ends of the</p> | <p>rear bumper. Place the correct link from Table 2-14 in the grab hook.</p> <p>5. Wrap the rear slings with padding where they contact the vehicle sides.</p> <p>6. Secure all excess chain with tape or Type III nylon cord.</p> <p>7. Cluster and tie or tape (breakaway technique) the sling legs in each sling set on top of the vehicle to prevent entanglement during hookup and lift-off.</p> |
|---|---|

Figure 2-13. M1097 (HMMWV) With Contact Maintenance Truck, Heavy (CMTH)

#### CAUTION

Do not use the lift shackles located near the center of the rear bumper for sling load lift provisions.

## 2-16. M998 HMMWV With Man Portable Air Defense Systems (MANPADS)

**a. Applicability.** The following item in Table 2-15 is certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-15. M998 HMMWV With Man Portable Air Defense Systems**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Man Portable Air Defense Systems on M998	7,700	10K	40/3	CH-47	125

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

- (1) Sling set (10,000-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 15 minutes.

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

- (1) **Preparation.** Prepare the load using the following steps:
  - (a) Fold mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord. Secure the doors.
  - (b) Secure all equipment and cargo inside the vehicle with tape, Type III nylon cord, or lashings.

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

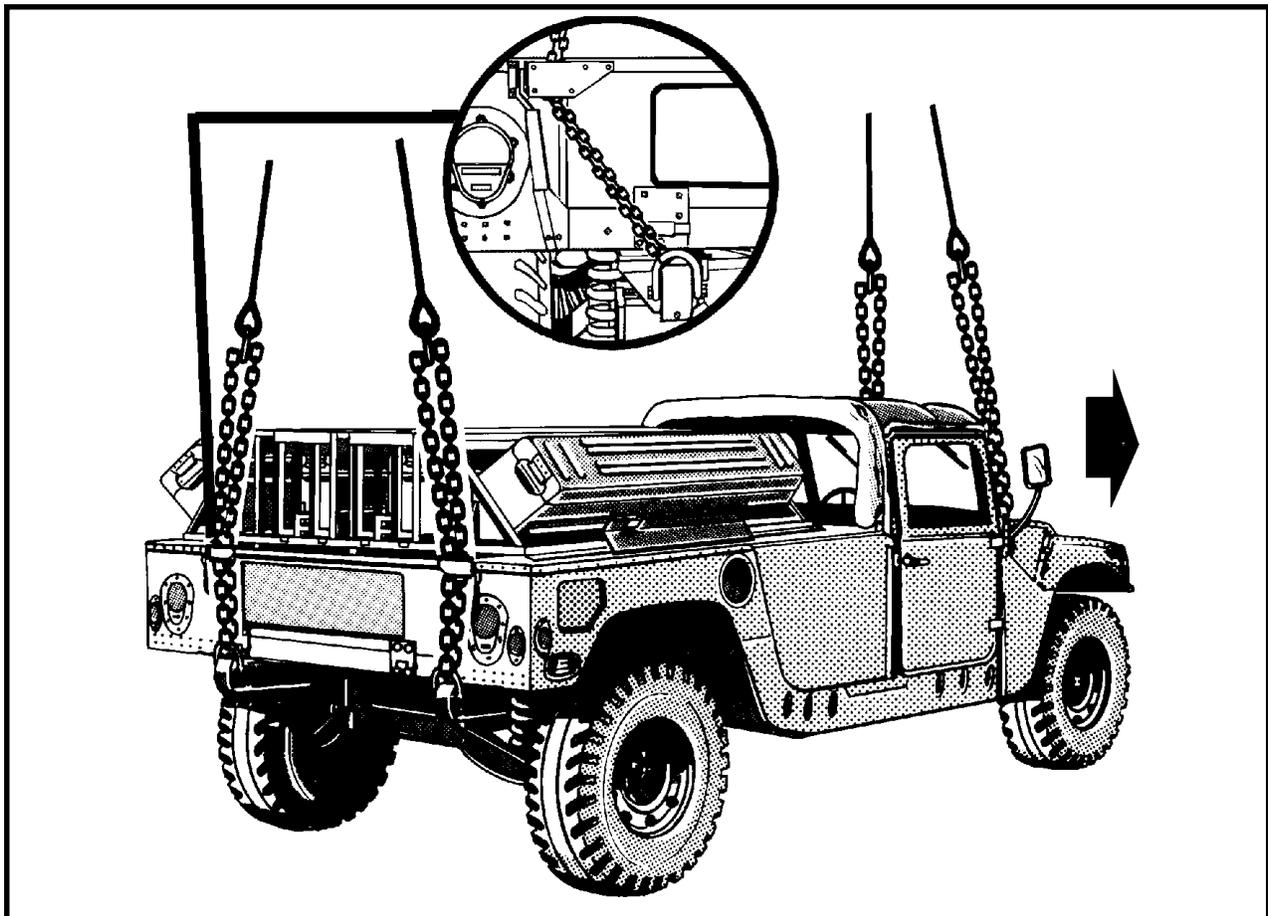
(d) Engage the vehicle parking brake and put the transmission in neutral.

(e) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel, using the securing device attached under the dashboard.

(2) **Rigging.** Rig the load according to the steps in Figure 2-14.

(3) **Hookup.** 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).



#### RIGGING STEPS

1. Connect 2 sling legs to apex fitting number 1. Position the apex fitting on the hood of the vehicle.
2. Loop the chain end of the sling legs through their respective lift provisions that protrudes through the hood. Place the correct link from Table 2-15 in the grab hook.
3. Connect 2 sling legs to apex fitting number 2. Position the apex fitting on top of the shelter.
4. Loop the chain end of the sling legs through their respective eyelet openings in the upper corner of the tailgate. Loop the chain end through the lift shackle on the rear bumper and thread back through the eyelet opening in the tailgate. Place the correct link from Table 2-15 in the grab hook.
5. Secure all excess chain with tape or Type III nylon cord.
6. Cluster and tie or tape (breakaway technique) the sling legs in each sling set on top of the vehicle to prevent entanglement during hookup and lift-off.

Figure 2-14. M998 HMMWV With Man Portable Air Defense Systems

## 2-17. M1097 (H-HMMWV) With AN/TPQ-42, Meteorological Hydrogen Generator (MHG)

**a. Applicability.** The following items in Table 2-16 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-16. M1097 (H-HMMWV) With AN/TPQ-42, Meteorological Hydrogen Generator (MHG)**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
AN/TPQ-42, Meteorological Hydrogen Generator (MHG)	10,000	10K	40/3	CH-47	120
AN/TPQ-42, Meteorological Hydrogen Generator (MHG)	10,000	15K	25/3	CH-53	120

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

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

**OR**

(2) Multileg sling set (15,000-pound capacity for the CH-53 only) with one additional web ring.

(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.** Three 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) Fold mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord.

(b) Secure all equipment and cargo inside the

vehicle with tape, nylon cord, or lashings. Secure the doors shut if installed.

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

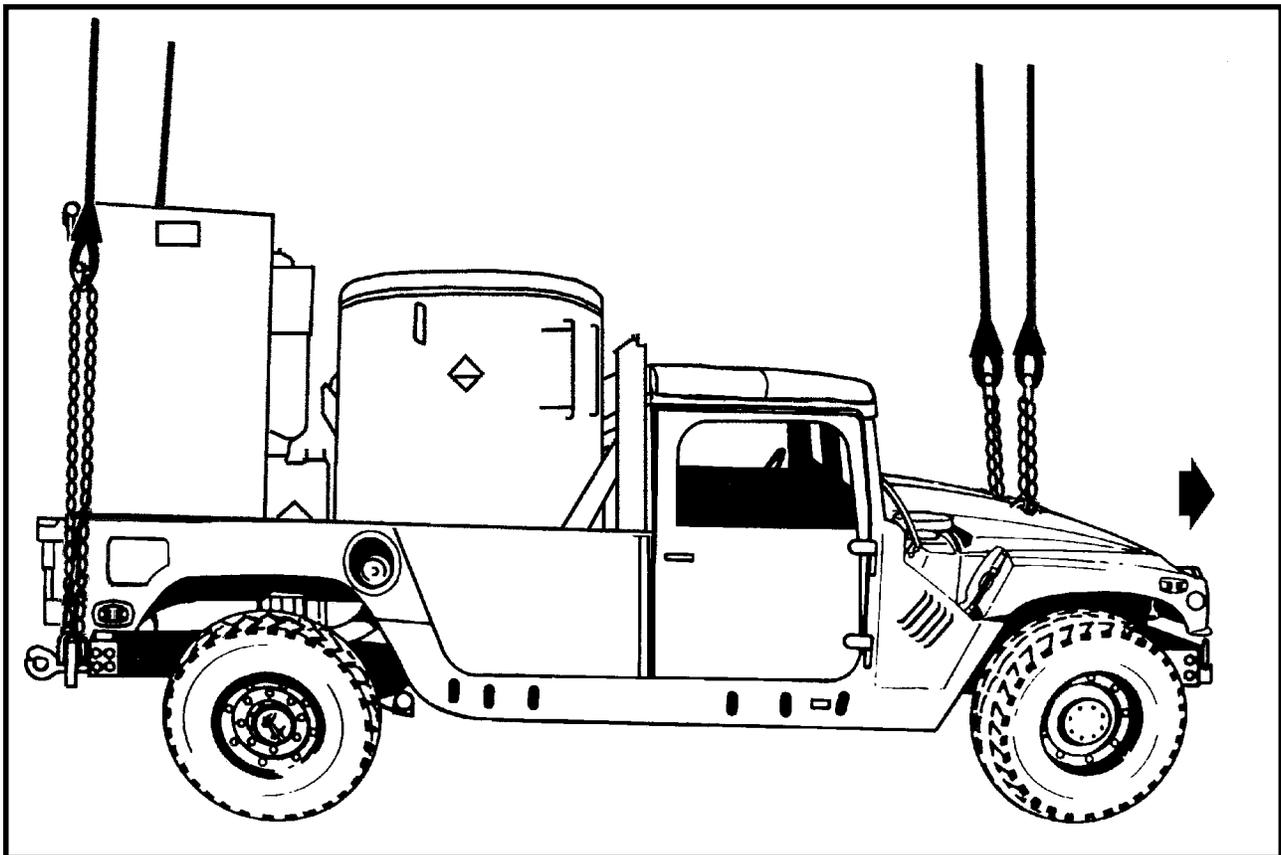
(d) Engage the vehicle parking brake and put the transmission in neutral.

(e) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel, using the securing device attached under the dashboard.

(2) **Rigging.** Rig the load according to the steps in Figure 2-15.

(3) **Hookup.** The hookup team stands in the rear of the vehicle. 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).



#### RIGGING STEPS

1. Connect 2 sling legs to apex fitting number 1. Position the apex fitting on the hood of the vehicle.
2. Loop the chain end of the sling legs through their respective lift provisions that protrudes through the hood. Place the correct link from Table 2-16 in the grab hook.
3. Connect 2 sling legs to apex fitting number 2. Position the apex fitting in the bed of the vehicle.
4. Loop the chain end of the sling legs through their respective lift shackle on the outside end of the rear bumper. Place the correct link from Table 2-16 in the grab hook.
5. Secure all excess chain with tape or Type III nylon cord.
6. Cluster and tie or tape (breakaway technique) the sling legs in each sling set on top of the vehicle to prevent entanglement during hookup and lift-off.

*Figure 2-15. M1097 (H-HMMWV) With AN/TPQ-42, Meteorological Hydrogen Generator (MHG)*

#### CAUTION

**Do not use the lift shackles located near the center of the rear bumper for sling load lift provisions.**

## 2-18. M1097 (H-HMMWV) With Enhanced Fiber Optic Guided Missile (EFOGM) Launcher

**a. Applicability.** The following item in Table 2-17 is certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-17. M1097 (H-HMMWV) With Enhanced Fiber Optic Guided Missile (EFOGM) Launcher**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Enhanced Fiber Optic Guided Missile Launcher with 8 Missiles	9,400	10K	55/3	CH-47	120

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

- (1) Sling set (10,000-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.
- (5) Felt sheet, cattle hair, Type IV, 1/2-inch or suitable substitute.
- (6) Strap, tiedown, cargo, CGU-1/B (as required).

**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 mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord.
  - (b) Remove the cab doors. Stow and secure the doors against the rear of the seats with the tiedown straps. Tape the windshield, mirrors, and all glass items.

(c) Ensure the fuel tank is not over 3/4 full. Inspect fuel tank cap (should be in the vent position), oil filler cap, and battery caps for proper installation.

(d) Engage the vehicle parking brake and put the transmission in neutral.

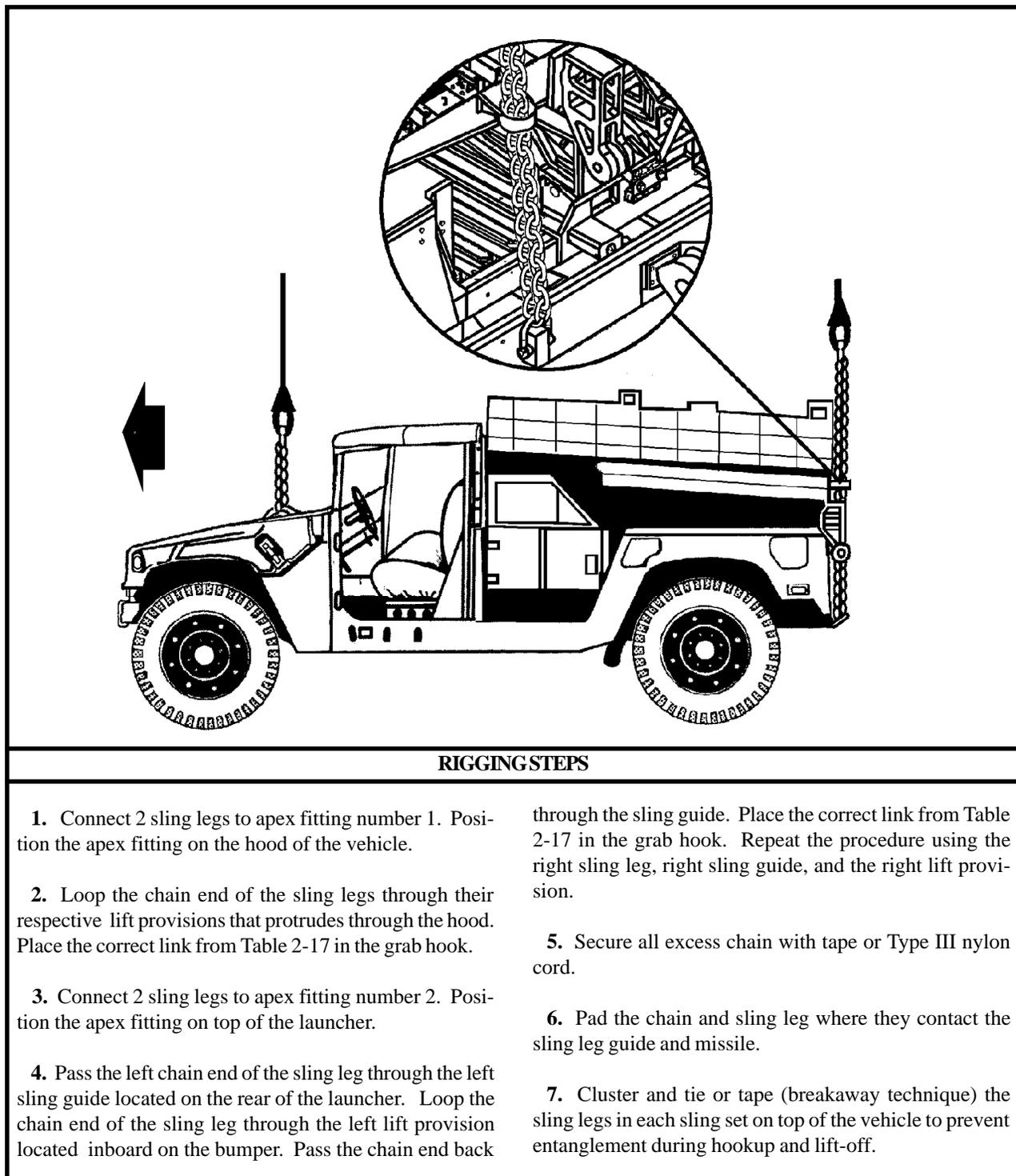
(e) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel, using the securing device attached under the dashboard.

(f) Ensure the launcher is securely attached to the truck. Secure all wiring and loose equipment on the launcher with tape, Type III nylon cord, or tiedown straps.

(2) **Rigging.** Rig the load according to the steps in Figure 2-16.

(3) **Hookup.** The hookup team stands on top of the launcher. 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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 2-16. M1097 (H-HMMWV) With Enhanced Fiber Optic Guided Missile (EFOGM) Launcher*

## 2-19. M1097A2 (H-HMMWV) With the Secure Mobile Anti-Jam Tactical Terminal (SMART-T)

**a. Applicability.** The following item in Table 2-18 is certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-18. M1097A2 (H-HMMWV) With the Secure Mobile Anti-Jam Tactical Terminal (SMART-T)**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Secure Mobile Anti-Jam Tactical Terminal (SMART-T)	8,540	10K	30/3	CH-47	120

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

- (1) Sling set (10,000-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.
- (5) Felt sheet, cattle hair, Type IV, 1/2-inch or suitable substitute.
- (6) Strap, tiedown, cargo, CGU-1/B (as required).

**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 mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord.
  - (b) Remove the cab doors. Stow and secure the doors against the rear of the seats with the tiedown straps. Tape the windshield, mirrors, and all glass items.

(c) Ensure the fuel tank is not over 3/4 full. Inspect fuel tank cap (should be in the vent position), oil filler cap, and battery caps for proper installation.

(d) Engage the vehicle parking brake and put the transmission in neutral.

(e) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel, using the securing device attached under the dashboard.

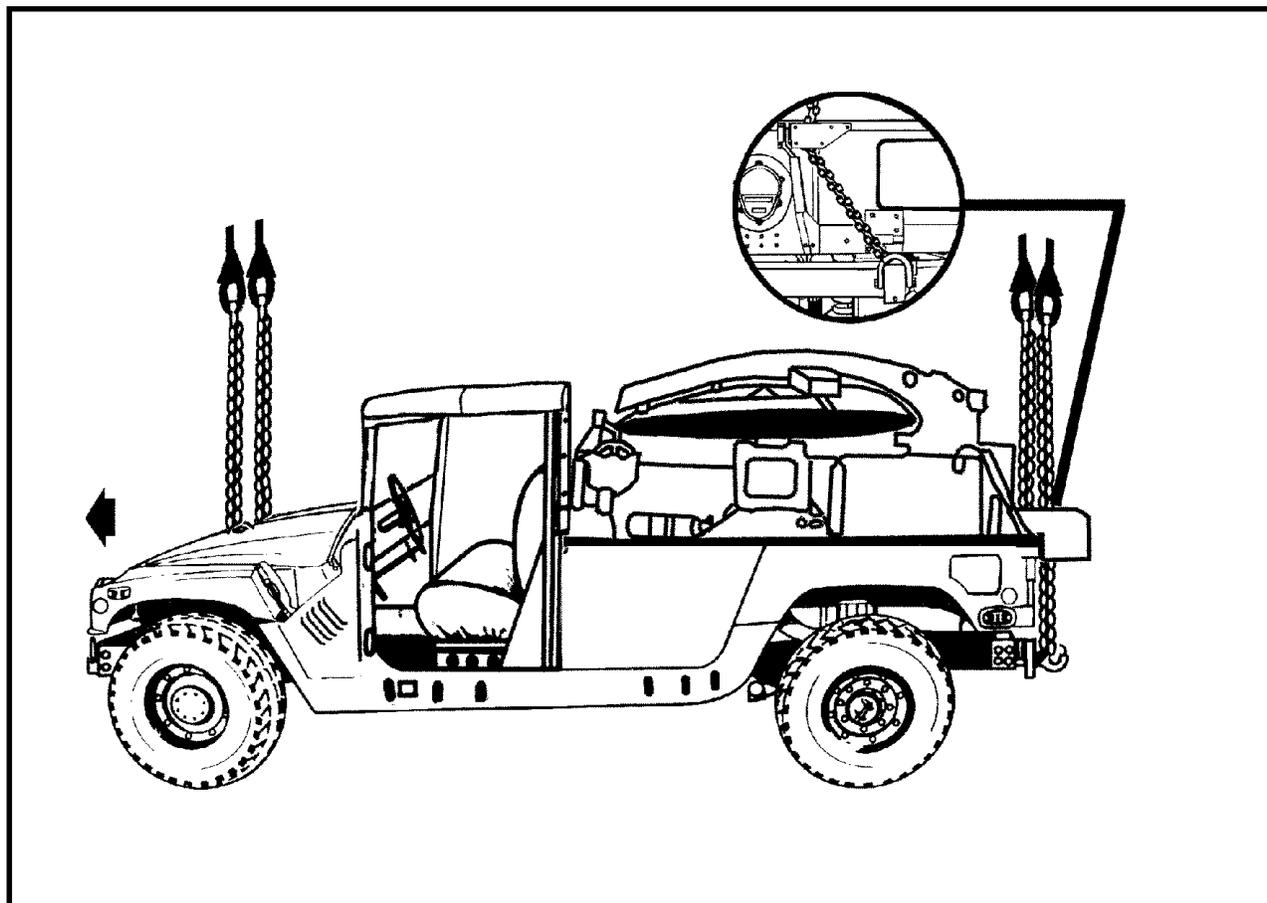
(f) Ensure the two fuel cans on the rear of the pallet are locked in place. Secure all loose equipment on the pallet with tape or Type III nylon cord.

(g) Secure the antenna dish.

(2) **Rigging.** Rig the load according to the steps in Figure 2-17.

(3) **Hookup.** The hookup team stands on truck. 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).



#### RIGGING STEPS

1. Connect 2 sling legs to apex fitting number 1. Position the apex fitting on the hood of the vehicle.
2. Loop the chain end of the sling legs through their respective lift provisions that protrudes through the hood. Place the correct link from Table 2-18 in the grab hook.
3. Connect 2 sling legs to apex fitting number 2. Position the apex fitting on top of the pallet.
4. Loop the chain end of the sling legs through their respective eyelet openings in the upper corner of the tailgate. Loop the chain end through the lift shackle on the rear bumper and thread back through the eyelet opening in the tailgate. Place the correct link from Table 2-18 in the grab hook.
5. Secure all excess chain with tape or Type III nylon cord.
6. Cluster and tie or tape (breakaway technique) the sling legs in each sling set on top of the vehicle to prevent entanglement during hookup and lift-off.

Figure 2-17. M1097A2 (H-HMMWV) With the Secure Mobile Anti-Jam Tactical Terminal (SMART-T)

## 2-20. Dual HMMWVs, Side by Side (Shotgun Method)

**a. Applicability.** The following items in Table 2-19 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**WARNING**  
**ONLY HMMWVs WITH THE 3/4-INCH FRONT LIFT PROVISIONS ARE CERTIFIED**  
**FOR SLING LOADING IN THE SIDE BY SIDE (SHOTGUN METHOD).**

**Table 2-19. Dual HMMWVs, Side by Side (Shotgun Method)**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Cargo Troop Carrier, M998	7,700	10K	Listed in Rigging Steps	CH-47	125
Cargo Troop Carrier, M1038	7,700	10K	Listed in Rigging Steps	CH-47	125
Armament Carrier, M1025	8,200	10K	Listed in Rigging Steps	CH-47	125
Armament Carrier, M1026	8,200	10K	Listed in Rigging Steps	CH-47	125
Armament Carrier, M1043	8,400	10K	Listed in Rigging Steps	CH-47	125
Armament Carrier, M1044	8,400	10K	Listed in Rigging Steps	CH-47	125
Tow Missile Carrier, M966	8,200	10K	Listed in Rigging Steps	CH-47	125
Tow Missile Carrier, M1036	8,200	10K	Listed in Rigging Steps	CH-47	125
Tow Missile Carrier, M1045	8,400	10K	Listed in Rigging Steps	CH-47	125
Tow Missile Carrier, M1046	8,400	10K	Listed in Rigging Steps	CH-47	125
M1037 Modified	9,400	10K	Listed in Rigging Steps	CH-47	125
Shelter Carrier, M1097	10,000	10K	Listed in Rigging Steps	CH-47	125

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

- (1) Sling set (10,000-pound capacity) (2 each).
- (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.
- (5) Strap, tiedown, cargo, CGU-1/B (2 each).

**c. Personnel.** Four 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 mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord. Remove the canvas bedcovers from the vehicles. Fold and secure the canvas over the windshields with Type III nylon cord. Remove the doors and secure inside the vehicle.

(b) Secure all equipment and cargo inside the vehicles with tape, nylon cord, or lashings.

(c) Ensure the fuel tanks are not over 3/4 full. In-

spect the fuel tank caps, oil filler caps, and battery caps for proper installation.

(d) Secure the vehicle camouflage net (in the bag) to each vehicle. Attach one camouflage net to the forward door post of one vehicle and the other camouflage net to the hard part of the body covering the fuel tank of the other vehicle.

(e) Position the vehicles, as close as possible, next to each other. Ensure both vehicles are facing in the same direction.

(f) Engage the vehicle parking brakes and put the transmissions in neutral.

(g) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel, using the securing device attached under the dashboard.

(2) **Rigging.** Rig the load according to the steps in Figure 2-18.

(3) **Hookup.** The hookup teams stand in the cargo bed and on the hood of the vehicles. 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).

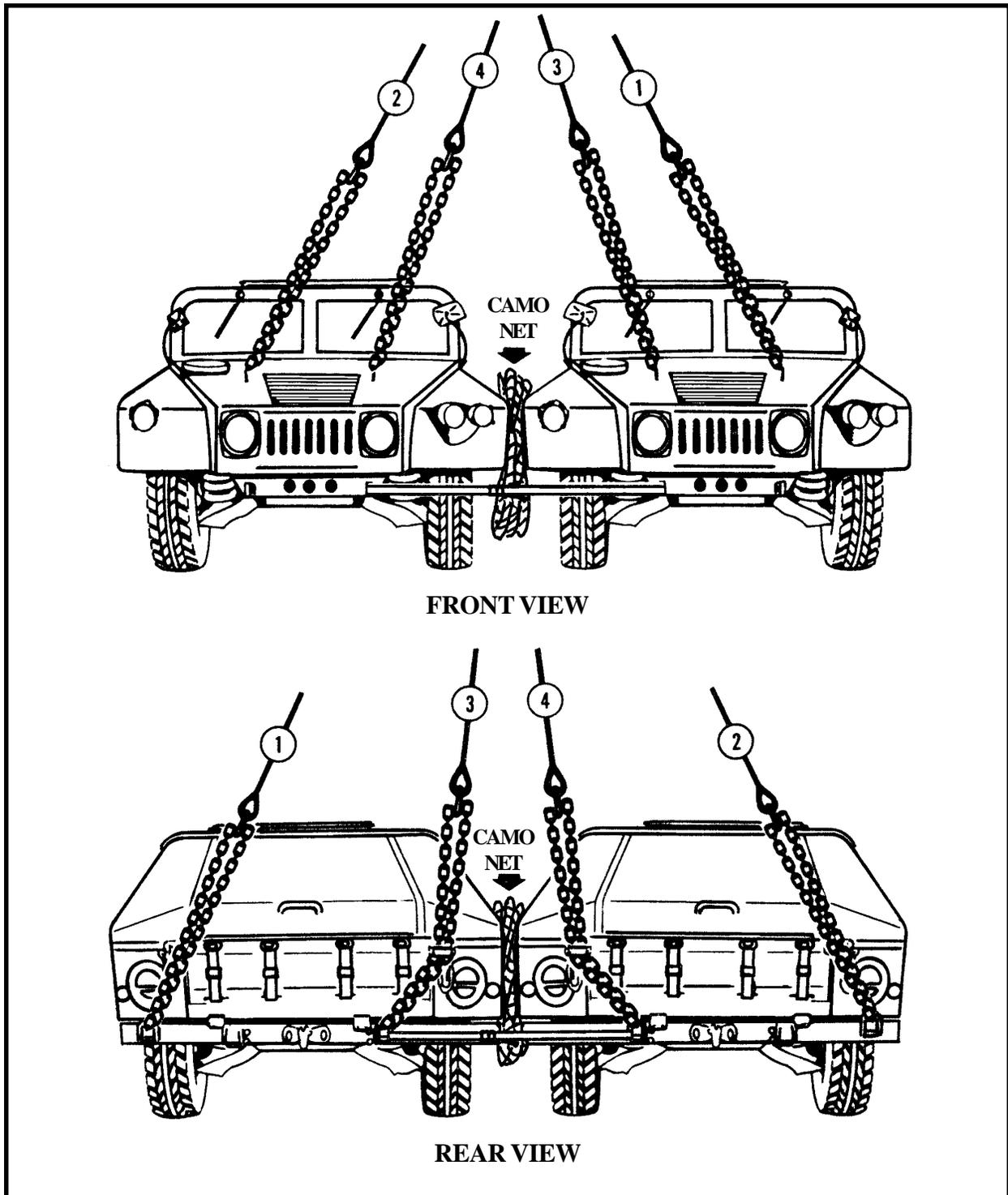


Figure 2-18. Dual HMMWVs, Side by Side (Shotgun Method)

**RIGGING STEPS**

1. Position one sling set on the hood of one of the vehicles.
2. Loop the chain end of the outside sling legs through their respective outside lift provisions that protrude through the hoods of the vehicles. Place link 30 in the grab hooks.
3. Loop the chain end of the inside sling legs through their respective inside lift provisions that protrude through the hoods of the vehicles. Place link 50 in the grab hooks.
4. Position the other sling set in the bed or on the roof of one of the vehicles.
5. Loop the chain end of the outside sling legs through their respective lift shackle on the outside end of the rear bumper. Place link 3 in the grab hooks.
6. Route the chain ends of the inside sling legs through their respective inside tailgate guides. Loop the chain ends through their respective lift provisions located on the inside of the rear bumpers and back through the tailgate guides. Place link 7 in the grab hooks.
7. Secure all excess chain with tape or Type III nylon cord.
8. Cluster and tie or tape (breakaway technique) the sling legs in each sling set on top of the vehicle to prevent entanglement during hookup and lift-off.
9. Route a CGU-1/B cargo tiedown strap from the front inside lift shackle of one vehicle, through the front inside lift shackle of the other vehicle and connect the hooks together. Tighten the strap.
10. Route a CGU-1/B cargo tiedown strap from the rear inside lift shackle of one vehicle, through the rear inside lift shackle of the other vehicle and connect the hooks together. Ensure the strap is positioned below the sling leg chains. Tighten the strap.

**CAUTION**  
**DO NOT ROUTE THE OUTSIDE SLING LEGS**  
**THROUGH THE TAILGATE SLING GUIDES.**

*Figure 2-18. Dual HMMWVs, Side by Side (Shotgun Method) (continued)*

**2-21. Medium Tactical Vehicles M1078/M1081/M1083/M1084/M1085/M1086/M1090/  
M1093/M1094**

**a. Applicability.** The following items in Table 2-20 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-20. Medium Tactical Vehicles**

<b>NOMENCLATURE</b>	<b>MAX WEIGHT (POUNDS)</b>	<b>SLING SET</b>	<b>LINK COUNT FRONT/ REAR</b>	<b>TYPE OF AIRCRAFT</b>	<b>RECOMMENDED AIRSPEED (KNOTS)</b>
Light Medium Tactical Vehicle, Cargo, M1078	23,200	25K	30/20	CH-47	110
Light Medium Tactical Vehicle, Cargo, Airdrop Variant, M1081	23,200	25K	30/20	CH-47	110
Medium Tactical Vehicle, Cargo, M1083	23,200	25K	30/20	CH-47	110
Medium Tactical Vehicle, Cargo, M1083	28,000	40K	24/16	CH-53	110
Medium Tactical Vehicle, Cargo, with Material Handling Equipment, M1084	28,000	40K	19/16	CH-53	110
Medium Tactical Vehicle, Cargo, Longbed, M1085	28,000	40K	24/16	CH-53	110
Medium Tactical Vehicle, Cargo, Longbed, with Material Handling Equipment, M1086	28,000	40K	17/16	CH-53	110
Medium Tactical Vehicle, Dump Truck, M1090	22,100	25K	30/3	CH-47	110
Medium Tactical Vehicle, Dump Truck, M1090	22,100	40K	3/10	CH-53	110
Medium Tactical Vehicle, Cargo, Airdrop Variant, M1093	23,200	25K	30/20	CH-47	110
Medium Tactical Vehicle, Dump Truck, Airdrop Variant, M1094	22,770	25K	30/3	CH-47	110

**WARNING**  
**EXCEEDING THE RECOMMENDED AIRSPEED LISTED IN TABLE 2-20 MAY RESULT IN DAMAGE TO THE WINDSHIELDS OF THE VEHICLES.**

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

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

(a) Chain length, part number 38850-00053-102, from a 25,000-pound capacity sling set (2 each).

(b) Coupling link, part number 664241, from a 25,000-pound sling set (2 each).

**OR**

(2) Sling set (40,000-pound capacity) with one additional apex fitting.

(a) Chain length, part number 607050, from a 40,000-pound capacity sling set (2 each).

(b) Coupling link, part number 577-0815, from a 40,000-pound sling set (2 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 cab sides up and fasten the roof to the cab if the cab is in the stowed/airdrop position.

(b) Extend the front lift provisions and the rear load spreaders and lock in place using the attached pin and safety pin.

(c) Roll up the windows in the cab.

(d) Tape all windows, lights, and reflectors.

(e) Remove the air intake cowling by loosening the clamp and twisting off. Place the cowling on the floor board of the passenger's side.

(f) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel using the driver's side seat belt.

(g) Fold the side view mirrors back and secure with tape or Type III nylon cord.

(h) Safety the cargo bed walls securing clips in the secured position with tape (only if the cargo bed walls are not stowed in the racks under the bed).

(i) Stow and secure the cab protector (dump trucks only).

(j) Stow the mud flaps by bending and hooking on the mud flap hooks.

(k) Engage the vehicle parking brake and put the transmission in neutral.

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

(m) Tape the filler pipes behind the cab on the driver's side to prevent the sling legs from becoming entangled.

(n) Secure any cargo in the bed of the vehicle.

(2) **Rigging.** Rig the load according to the steps in Figure 2-19.

(3) **Hookup.** The hookup team stands in the bed of the vehicle. 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).

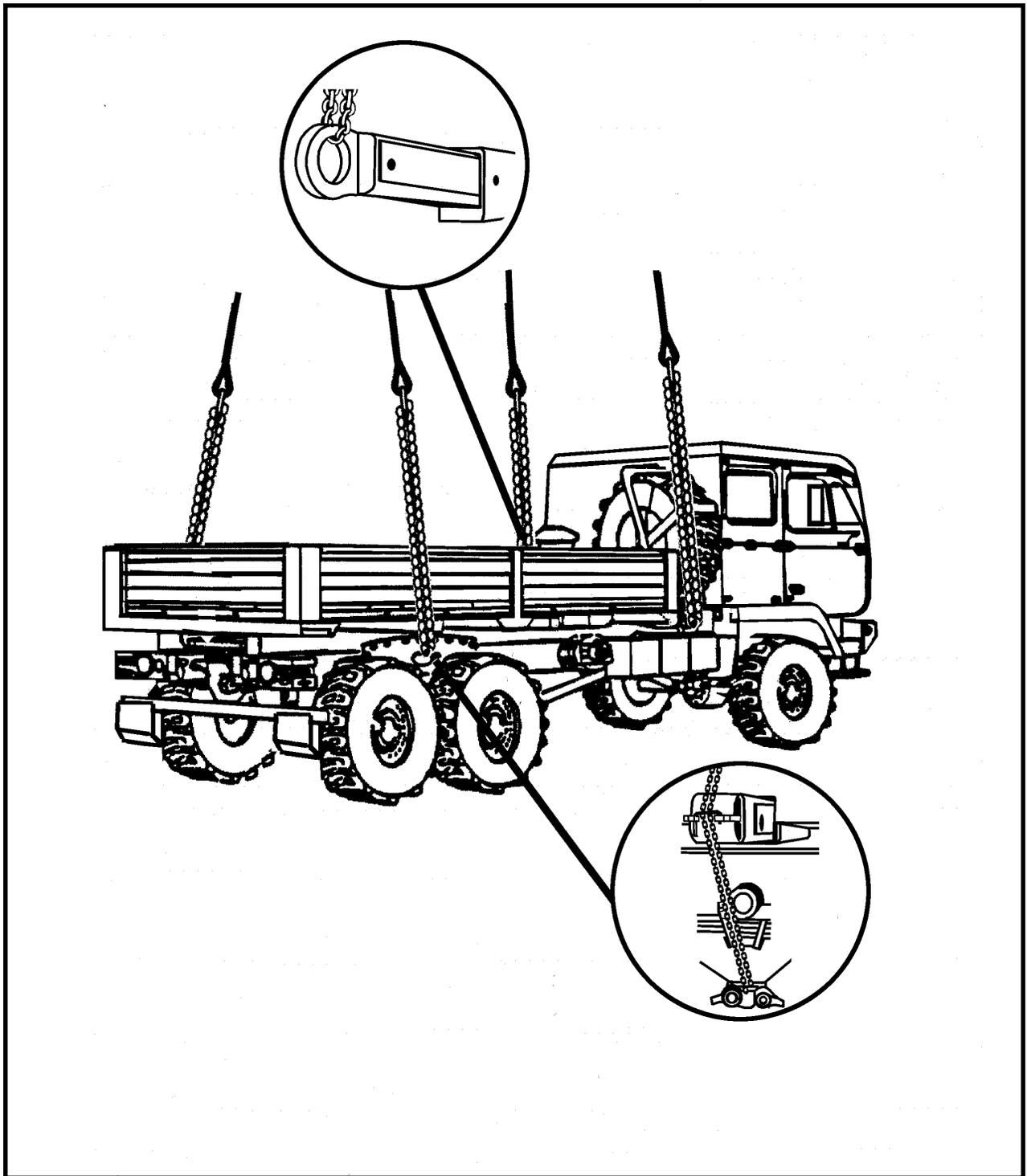


Figure 2-19. Medium Tactical Vehicles

<b>RIGGING STEPS</b>	
<p><b>1.</b> Connect 2 sling legs to apex fitting number 1. Position the apex fitting on the forward end of the bed.</p>	<p>sling leg using one coupling link. Position the apex fitting on the rear of the cargo bed.</p>
<p><b>2.</b> Loop the chain end of the sling legs through their respective lift provisions located behind the vehicle cab. Place the correct link from Table 2-20 in the grab hook and secure all excess chain with tape or Type III nylon cord.</p>	<p><b>5.</b> Route the left and right chains through their respective rear load spreader and loop the chain end of the sling legs through their respective lift ring, located on the chassis between the tires. Route the chains back through the rear load spreaders and place the correct link from Table 2-20 in the grab hook. Secure all excess chain with tape or Type III nylon cord.</p>
<p><b>3.</b> Cluster and tie or tape (breakaway technique) the sling legs on top of the spare tire to prevent entanglement during hookup and lift-off.</p>	
<p><b>4.</b> Connect 2 sling legs to apex fitting number 2. Attach one extra chain length to each existing chain on each</p>	<p><b>6.</b> Cluster and tie or tape (breakaway technique) the sling legs together to prevent entanglement during hookup and lift-off.</p>

*Figure 2-19. Medium Tactical Vehicles (continued)*

## 2-22. Medium Tactical Vehicle, Tractor, M1088

**a. Applicability.** The following items in Table 2-21 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-21. Medium Tactical Vehicles, Tractor, M1088**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Medium Tactical Vehicle, Tractor, M1088	19,740	25K	40/3	CH-47	110
Medium Tactical Vehicle, Tractor, M1088	19,740	40K	3/20	CH-53	110

### WARNING

**EXCEEDING THE RECOMMENDED AIRSPEED LISTED IN TABLE 2-21 MAY RESULT IN DAMAGE TO THE WINDSHIELDS OF THE VEHICLES.**

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

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

(a) Chain length, part number 38850-00053-102, from a 25,000-pound capacity sling set (2 each).

(b) Coupling link, part number 664241, from a 25,000-pound sling set (2 each).

**OR**

(2) Sling set (40,000-pound capacity) with one additional apex fitting.

(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) Extend the front lift provisions and lock in place using the attached pin and safety pin.

(b) Roll up the windows in the cab.

(c) Tape all windows, lights, and reflectors.

(d) Remove the air intake cowling by loosening the the clamp and twisting off. Place the cowling on the floor board of the passenger's side.

(e) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel using the driver's side seat belt.

(f) Fold the side view mirrors back and secure with tape or Type III nylon cord.

(g) Stow the mud flaps by bending and hooking on the mud flap hooks.

(h) Engage the vehicle parking brake and put the transmission in neutral.

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

(j) Tape the filler pipes behind the cab on the driver's side to prevent the sling legs from becoming entangled.

(2) **Rigging.** Rig the load according to the steps in Figure 2-20.

(3) **Hookup.** The hookup team stands on the rear of

the vehicle. 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).

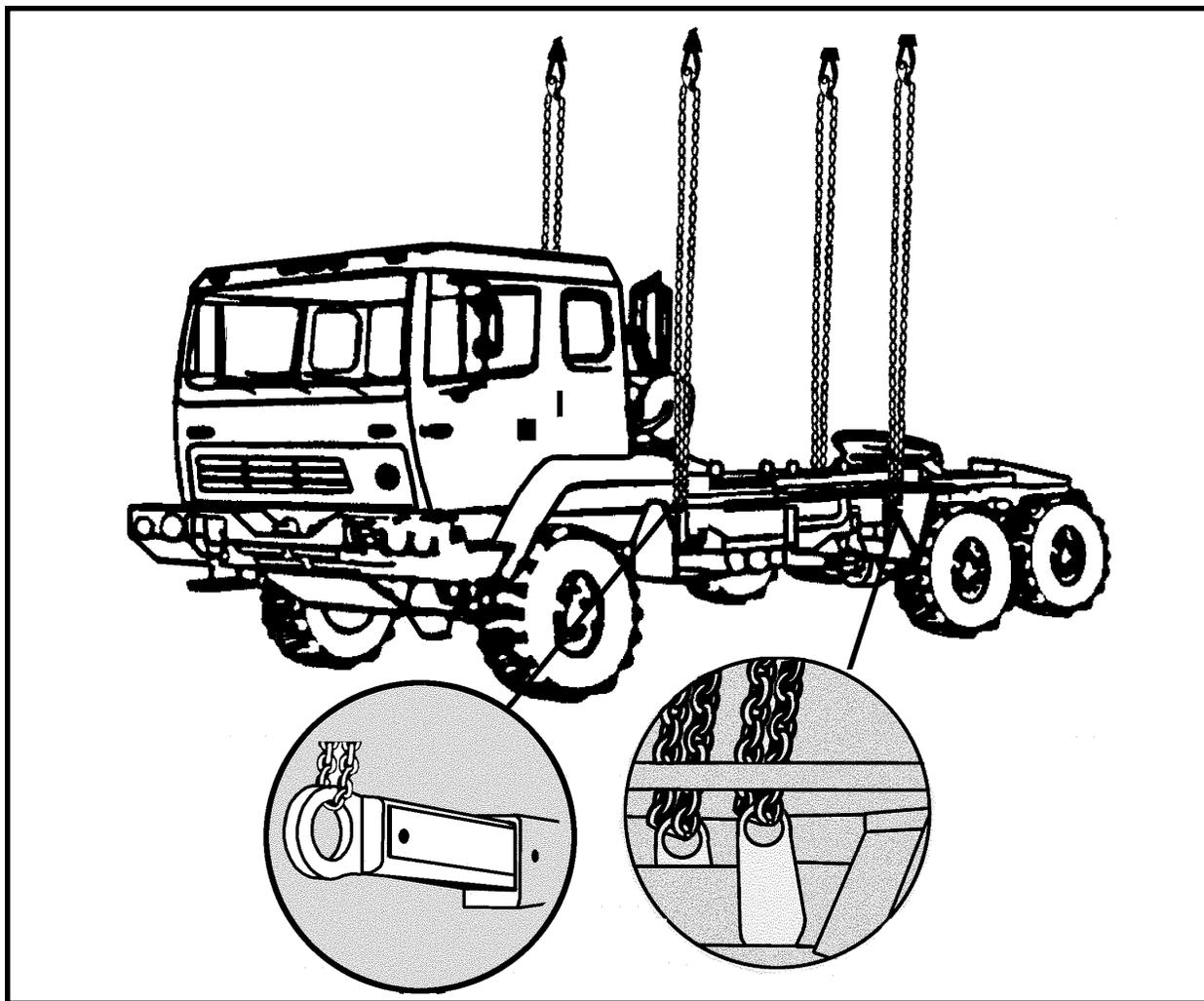


Figure 2-20. Medium Tactical Vehicles, Tractor M1088

<b>RIGGING STEPS</b>	
<p><b>1.</b> Connect 2 sling legs to apex fitting number 1. Attach one extra chain length to each existing chain on each sling leg using one coupling link (for 25,000-pound capacity sling sets only). Position the apex fitting on the forward end of the bed.</p> <p><b>2.</b> Loop the chain end of the sling legs through their respective lift provisions located behind the vehicle cab. Place the correct link from Table 2-21 in the grab hook and secure all excess chain with tape or Type III nylon cord.</p> <p><b>3.</b> Cluster and tie or tape (breakaway technique) the sling legs on top of the spare tire to prevent entanglement</p>	<p>during hookup and lift-off.</p> <p><b>4.</b> Connect 2 sling legs to apex fitting number 2. Position the apex fitting on the rear of the cargo deck.</p> <p><b>5.</b> Loop the chain end of the sling legs through their respective lift ring, located forward of the 5th wheel. Place the correct link from Table 2-21 in the grab hook. Secure all excess chain with tape or Type III nylon cord.</p> <p><b>6.</b> Cluster and tie or tape (breakaway technique) the sling legs together to prevent entanglement during hookup and lift-off.</p>

*Figure 2-20. Medium Tactical Vehicles, Tractor M1088 (continued)*

## 2-23. Light Armored Vehicle (LAV) (USMC)

**a. Applicability.** The following items in Table 2-22 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-22. Light Armored Vehicle (LAV)**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Command and Control TAMCN E0946	27,060	40K	3/45	CH-53	135
25-MM, TAMCN E0947	28,200	40K	3/20	CH-53	130
Logistics, TAMCN E0948	28,200	40K	3/45	CH-53	135
Mortar, TAMCN E0949	27,400	40K	3/20	CH-53	130
Recovery Unit, TAMCN E0950	23,400	40K	3/50	CH-53	135
Tow Anti-Tank, TAMCN E0942	27,650	40K	3/30	CH-53	130

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

- (1) Sling set (40,000-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.
- (5) Felt sheet, cattle hair, Type IV, 1/2-inch or suitable padding.

**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) Secure all loose items inside the LAV.

(b) Remove all antennae.

(c) Ensure the parking brake is set.

(d) Pad and tape all vision blocks, mirrors, and lights.

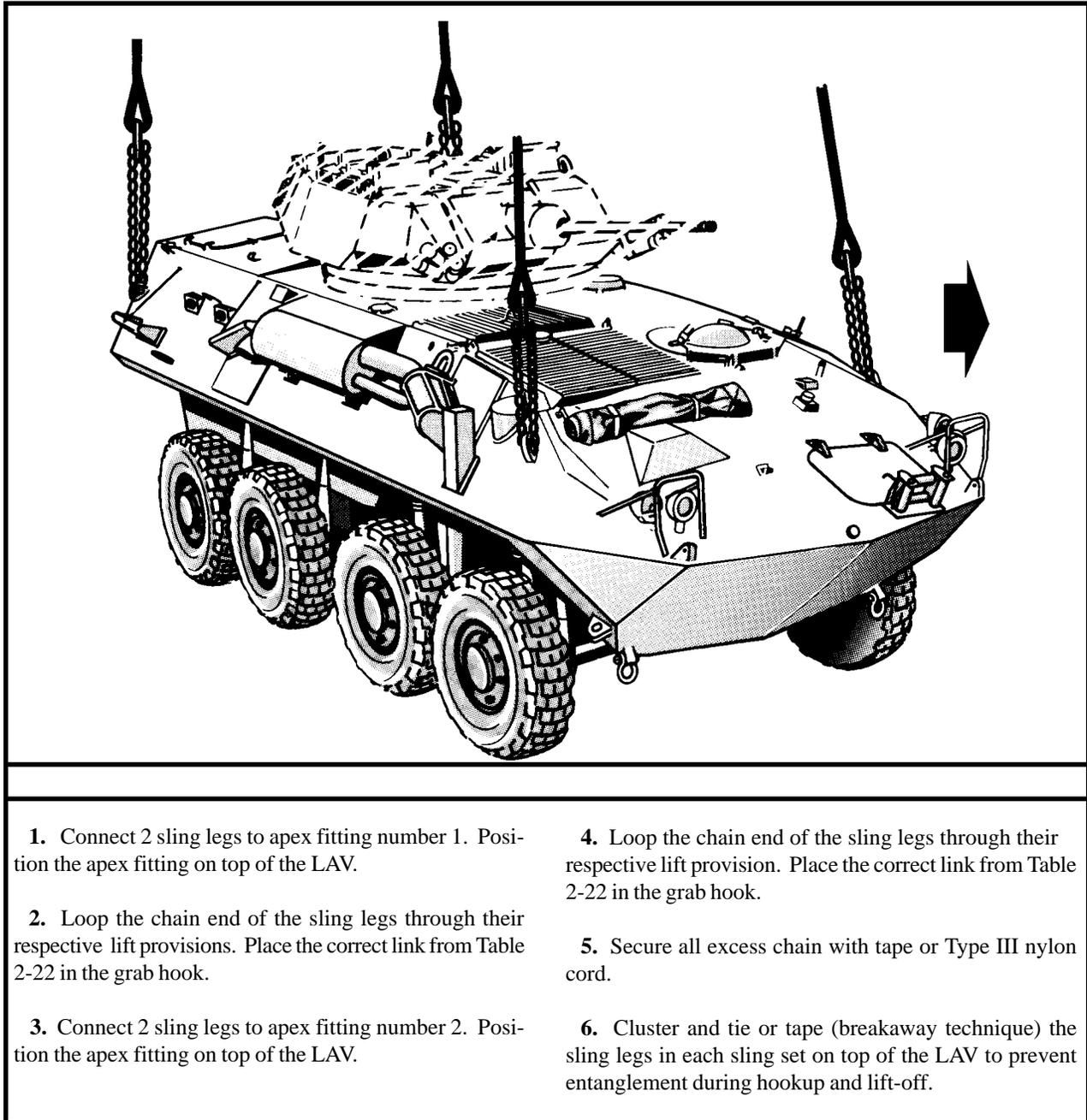
(e) Secure all hatches and panels.

(f) Ensure the boom is pinned down and tape the hydraulic cables. (Recovery Unit)

(2) **Rigging.** Rig the load according to the steps in Figure 2-21.

(3) **Hookup.** The hookup team stands on top of the vehicle. 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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 2-21. Light Armored Vehicle (LAV)*

## 2-24. Truck, Cargo, 5-ton, M813A1/M923/M925

**a. Applicability.** The following items in Table 2-23 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-23. Truck, Cargo, 5-ton, M813A1/M923/M925**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Truck, Cargo, 5-ton, w/wo winch, M813A1	21,120	40K	3/55	CH-53	110
Truck, Cargo, 5-ton, wo winch, M923	22,175	40K	3/55	CH-53	110
Truck, Cargo, 5-ton, with winch, M925	23,275	40K	3/55	CH-53	110

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

- (1) Sling set (40,000-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 15 minutes.

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

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

- (a) Remove cab top and rear canvas. Fold and secure to the truck.
- (b) Roll down the front cab windows.

(c) Remove side racks/seats and secure to the truck.

(d) Secure all loose equipment inside the truck with tape, lashings, or Type III nylon cord.

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

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

(g) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel using Type III nylon cord.

(h) Extend the front lift provisions located aft of the front tires. Insert the bolts in the holes, fasten nuts, and install locking pins

**(2) Rigging.** Rig the load according to the steps in Figure 2-22.

**(3) Hookup.** The hookup team stands in the bed of the truck. 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 team then carefully dismounts the ve

hicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits the area under-

neath 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).

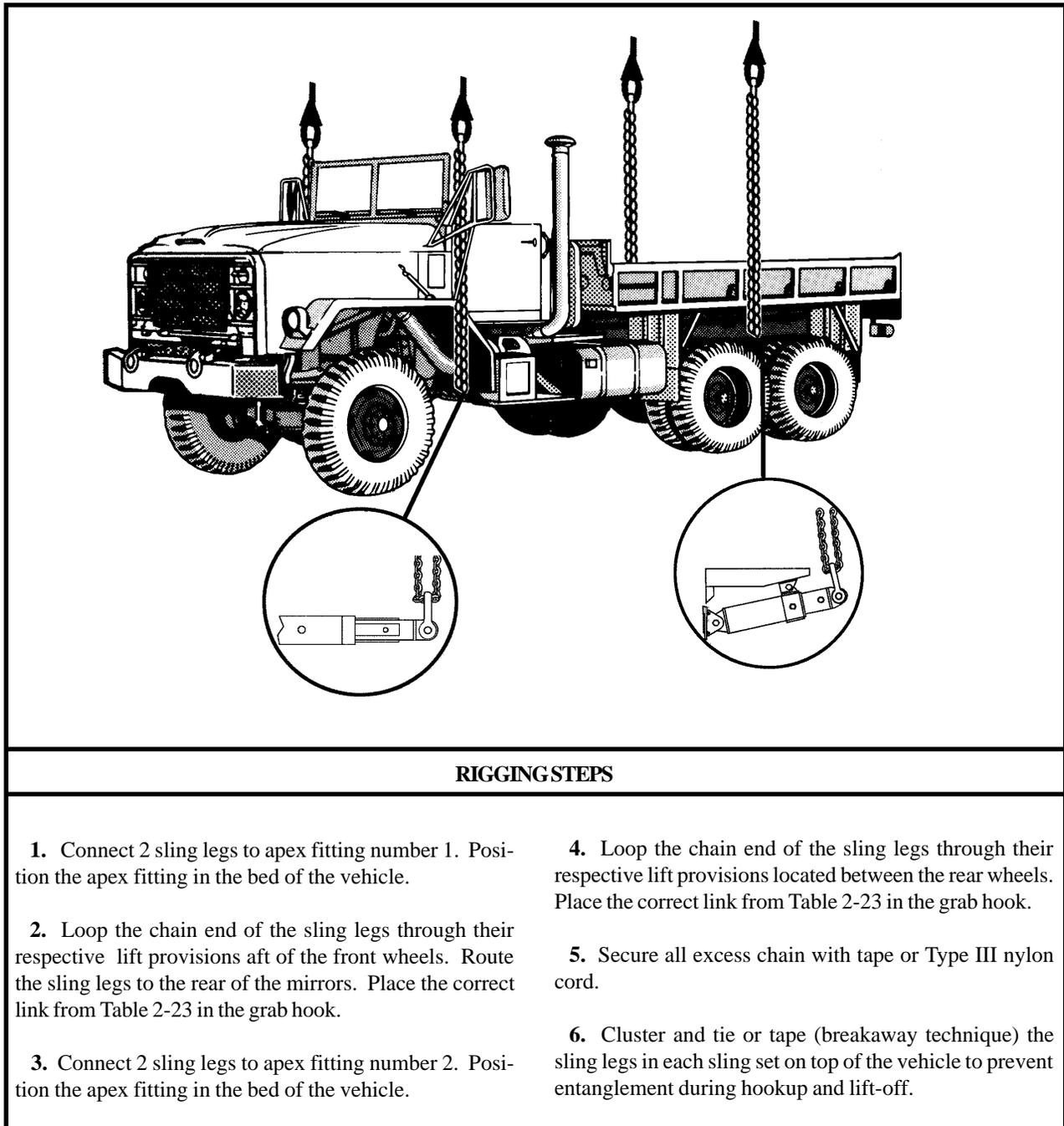


Figure 2-22. Truck, Cargo, 5-ton, M813A1/M923/M925

## 2-25. Truck, Cargo, 2 1/2-ton, M35A2 Modified, Part of an AN/MPQ-49A Forward Area Alerting Radar (FAAR) System

**a. Applicability.** The following item in Table 2-24 is certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-24. Truck, Cargo, 2 1/2-ton, M35A2 Modified**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Truck, 2 1/2-ton, modified, M35A2	10,900	25K	3/3	CH-47	130

**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.
- (5) Tie-down strap, cargo, CGU-1/B (as required).

**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) Remove the upper portion of the exhaust stack and secure it in the cab.

(b) Remove the cab's canvas top, lower the windshield, fold the canvas top over the windshield and secure with Type III nylon cord.

(c) Secure the windshield in the down position with CGU-1/B.

(d) Safety the hood closed with Type III nylon cord around the hood latch brackets and grill.

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

(f) Tie down the seats and secure the doors with Type III nylon cord.

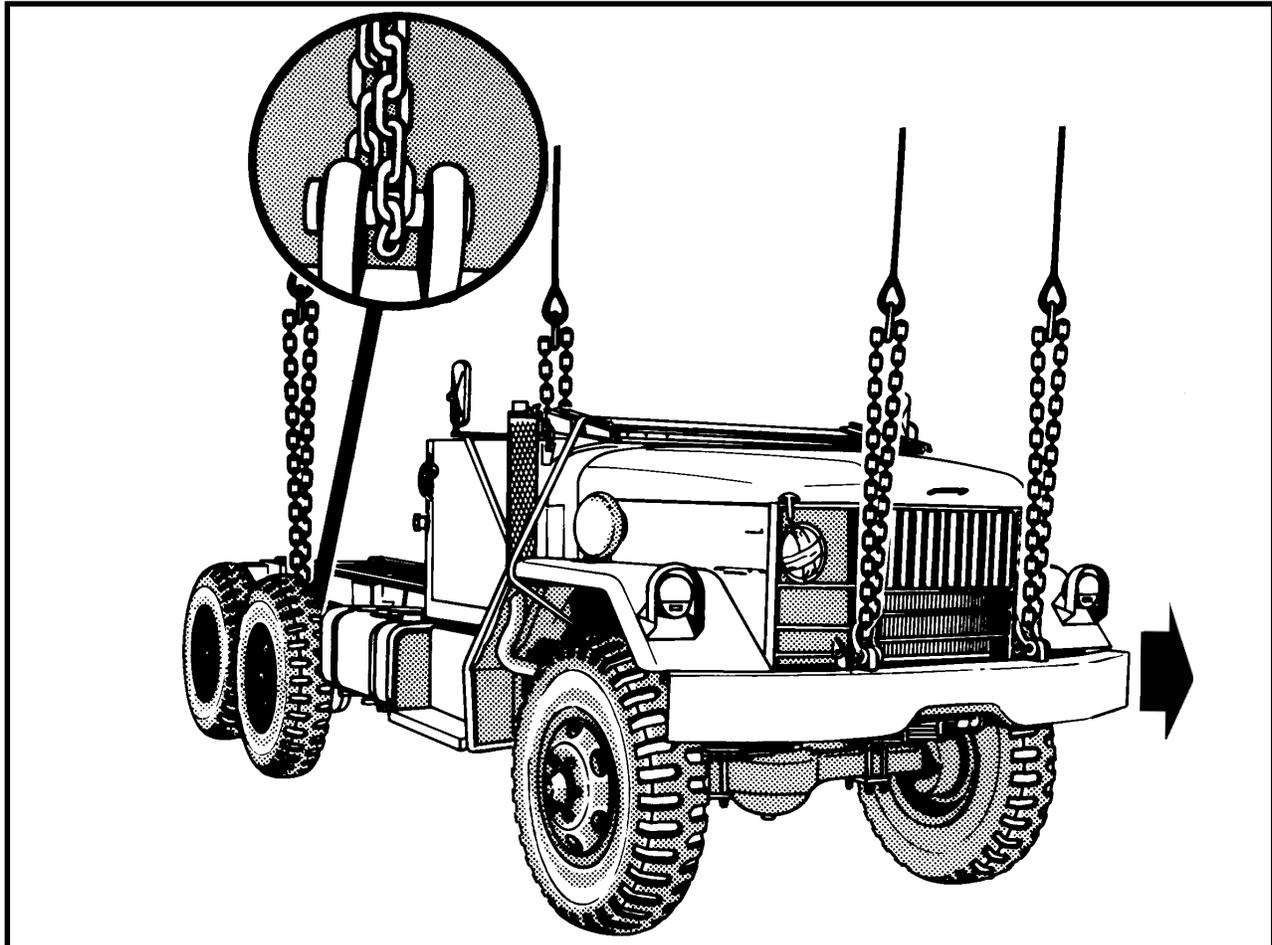
(g) Engage the parking brake and place the transmission in neutral.

(h) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel using Type III nylon cord.

(2) **Rigging.** Rig the load according to the steps in Figure 2-23.

(3) **Hookup.** The static wand person discharges the static electricity with the static wand. The forward hookup person stands on the passenger's seat and places apex fitting 1 onto the forward cargo hook. The aft hookup person stands on the chassis and places apex fitting 2 onto the aft cargo hook. The hookup team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).



**RIGGING STEPS**

1. Connect 2 sling legs to apex fitting number 1. Position the apex fitting on the hood of the vehicle.
2. Loop the chain end of the sling legs through their respective lift provisions on the front bumper. Place the correct link from Table 2-24 in the grab hook.
3. Connect 2 sling legs to apex fitting number 2. Position the apex fitting on the chassis of the vehicle.
4. Loop the chain end of the sling legs through their

respective lift provision located on top of the spring housing between the rear wheels. Place the correct link from Table 2-24 in the grab hook.

5. Secure all excess chain with tape or Type III nylon cord.

6. Cluster and tie or tape (breakaway technique) the sling legs in each sling set on top of the vehicle to prevent entanglement during hookup and lift-off.

*Figure 2-23. Truck, Cargo, 2 1/2-ton, M35A2 Modified*

## 2-26. Front Power Unit, MK48

**a. Applicability.** The following item in Table 2-25 is certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-25. Front Power Unit, MK48**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Front Power Unit, MK48	26,000	40K	Listed in Rigging Steps	CH-53	110

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

- (1) Sling set (40,000-pound capacity) with one additional apex fitting.
- (2) Chain length, part number 607050, from a 40,000-pound capacity sling set (2 each).
- (3) Coupling link, part number 577-0815, from a 40,000-pound capacity sling set (2 each).
- (4) Tape, adhesive, pressure-sensitive, 2-inch wide roll.
- (5) Cord, nylon, Type III, 550-pound breaking strength.
- (6) 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) Ensure the front wheels are pointed straight

ahead. Tie down the steering wheel using Type III nylon cord.

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

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

(d) Open the vent on top of the cab. Secure all loose equipment with tape or Type III nylon cord. Tape the turbocharger opening and all windows.

(2) **Rigging.** Rig the load according to the steps in Figure 2-24.

**Note: The power unit is rigged to fly sideways. The passenger side is designated as the front of the load. The apex fitting on the passenger side must be connected first to prevent the vehicle from tipping.**

(3) **Hookup.** The static wand person discharges the static electricity with the static wand. The forward hookup person stands on the passenger's seat and places apex fitting 1 onto the forward cargo hook. The aft hookup person stands on the chassis and places apex fitting 2 onto the aft cargo hook. The hookup team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).

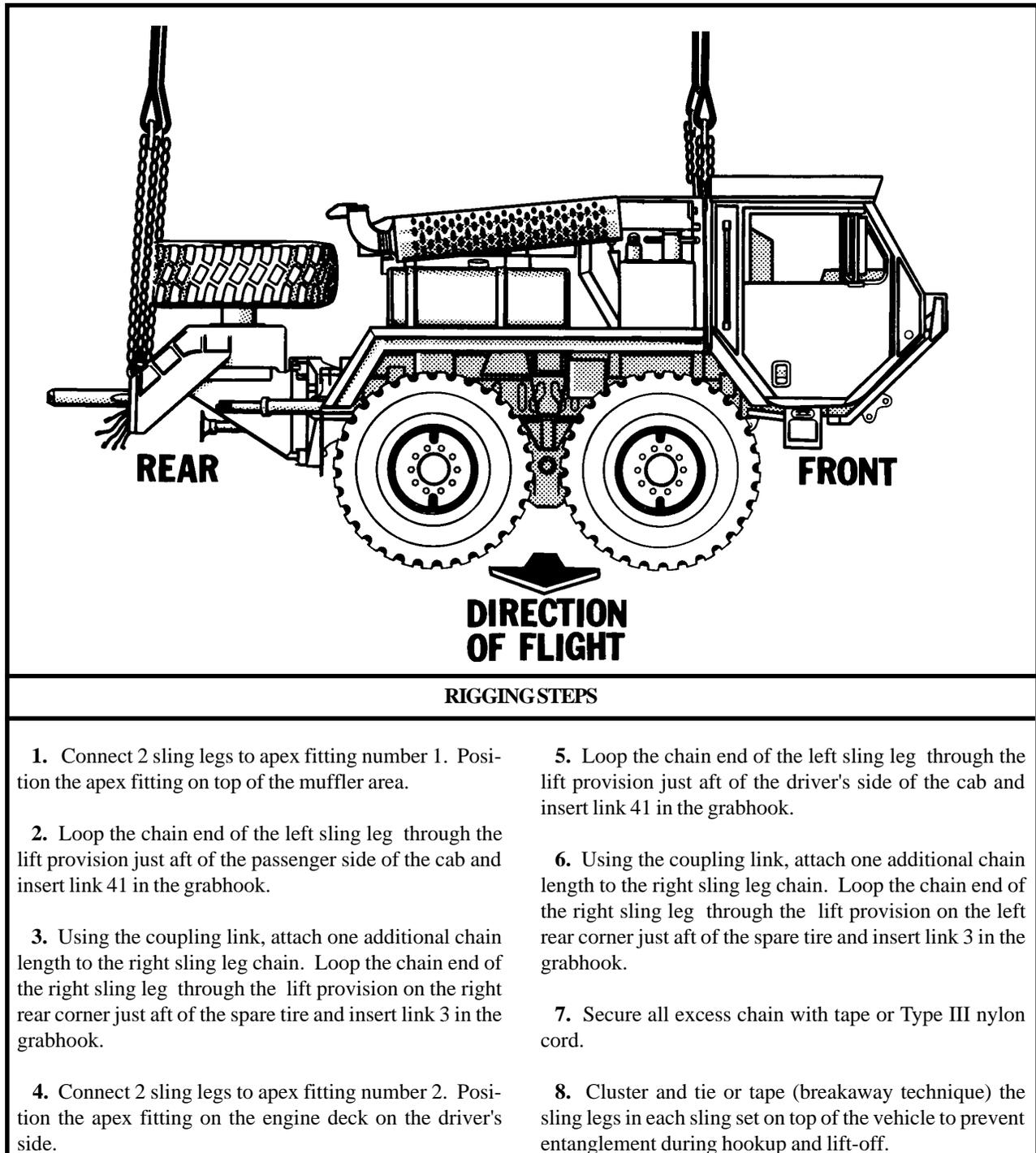


Figure 2-24. Front Power Unit, MK48

## 2-27. M1098 HMMWV with Remote Landing Site Tower (RLST)

**a. Applicability.** The following item in Table 2-26 is certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-26. M1098 HMMWV with Remote Landing Site Tower (RLST)**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Remote Landing Site Tower (RLST)	8,460	15K	60/3	CH-53	130

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

(1) Sling set (15,000-pound capacity) with one additional web ring.

(2) Chain length, part number 34080-4, from a 15,000-pound capacity sling set (8 each).

(3) Coupling link, part number 31611, from a 15,000-pound capacity sling set (8 each).

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

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

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

(7) Felt sheet, cattle hair, Type IV, 1/2-inch or suitable padding.

(8) Strap, cargo, tie-down, CGU-1/B (as required).

**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) Attach two chain lengths to each sling leg using the coupling links.

(b) Fold mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord.

(c) Remove the cab doors. Stow and secure the doors against the rear of the seats with the tiedown straps. Tape the windshield, mirrors, and all glass items.

(d) Ensure the fuel tank is not over 3/4 full. Inspect fuel tank cap (should be in the vent position), oil filler cap, and battery caps for proper installation.

(e) Engage the vehicle parking brake and put the transmission in neutral.

(f) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel, using the securing device attached under the dashboard.

(g) Install the lift provisions on the outer ends of the rear bumper by removing the tiedown provisions located inboard of the bumper end and installing them on the outer ends of the bumper.

(h) Place the RLST in the TRANSPORT mode according to the operator's manual.

(i) Ensure the RLST is securely attached to the truck. Secure all loose equipment inside the RLST with the hold down straps, tape, or Type III nylon cord. Close and secure the door.

(j) Secure the RSLT cover with the straps provided. Secure the loose ends with tape.

(2) **Rigging.** Rig the load according to the steps in Figure 2-25.

(3) **Hookup.** The hookup team stands beside the vehicle. 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).

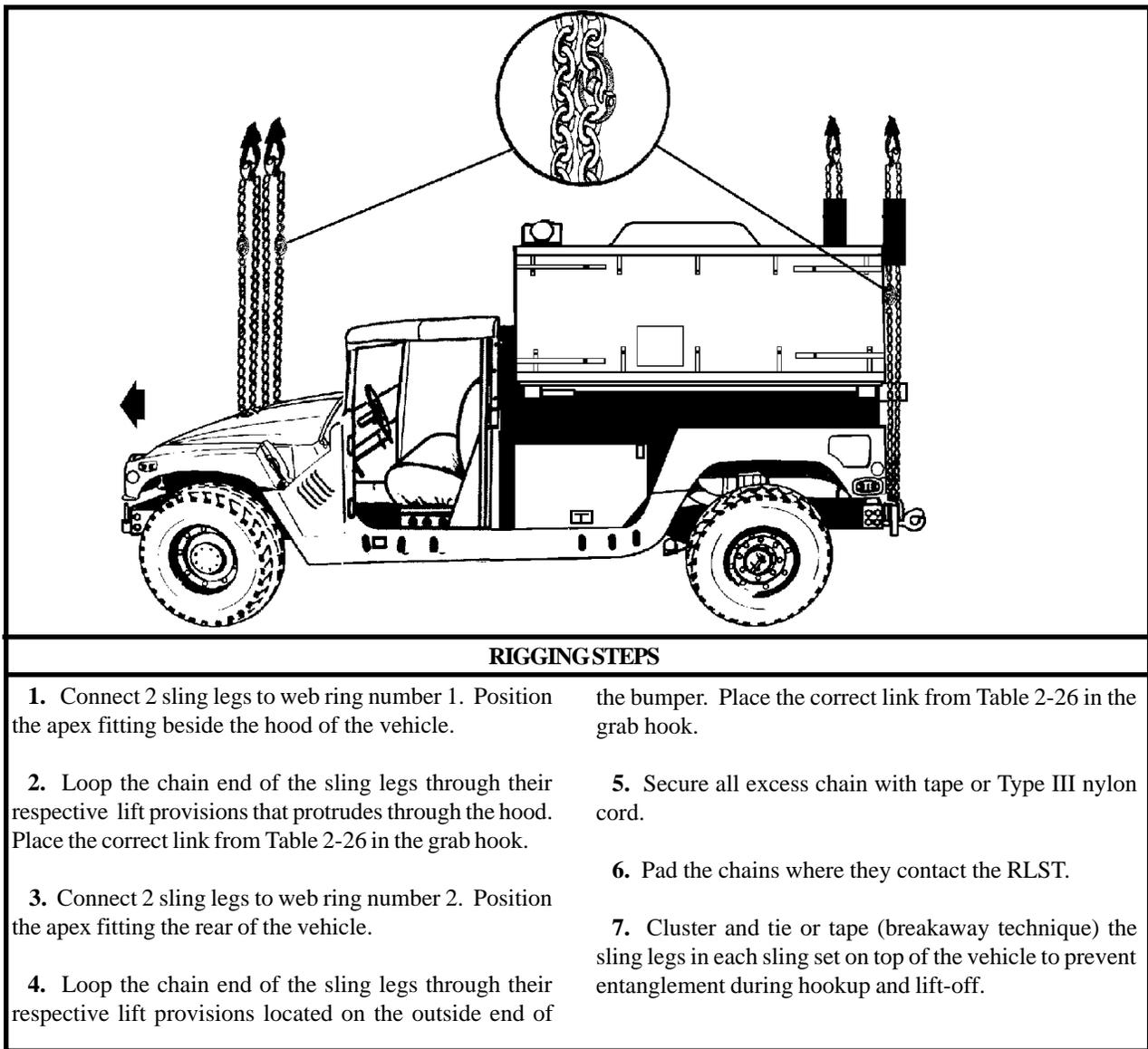


Figure 2-25. M1098 HMMWV with Remote Landing Site Tower (RLST)

## 2-28. M1097A1 (H-HMMWV) with Cargo Bed Cover (CBC), Aluminum or Fiberglass

**a. Applicability.** The following items in Table 2-27 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

**Table 2-27. M1097A1 (H-HMMWV) with Cargo Bed Cover (CBC), Aluminum or Fiberglass**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Aluminum Cover	10,000	10K	50/3	CH-47	100
Fiberglass Cover	10,000	10K	50/3	CH-47	100
Aluminum Cover	10,000	15K	62/2	CH-53	100
Fiberglass Cover	10,000	15K	62/2	CH-53	100

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

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

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

(b) Coupling link, part number 577-0615, from a 10,000-pound sling set (4 each).

### OR

(2) Multileg sling set (15,000-pound capacity for the CH-53E only) with one additional web ring.

(a) Additional chain lengths, part number 34080-4 (8 each).

(b) Additional coupling links, part number 31611 (8 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.

(6) Felt sheet, cattle hair, Type IV, 1/2-inch or suitable padding.

**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) Extend the sling leg chains by connecting one additional chain length to each chain on a 10,000-pound capacity sling set with coupling links. Connect two additional chain lengths to each chain on the 15,000-pound multileg sling set chain with coupling links.

(b) Fold mirrors forward in front of the windshield for added protection and tie together with Type III nylon cord.

(c) Secure the cargo bed cover to the truck using wire rope or tie-down assemblies. Remove the doors. Store and secure the doors in the cab or in the cargo bed cover.

(d) Secure all equipment inside the cargo bed cover with tape, nylon cord, or lashings. Close and secure shelter vents and door with nylon cord or tape.

(e) Secure all equipment and cargo inside the

vehicle with tape, nylon cord, or lashings.

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

(g) Engage the vehicle parking brake and put 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.

(i) Tape the windshield in an X formation from corner to corner.

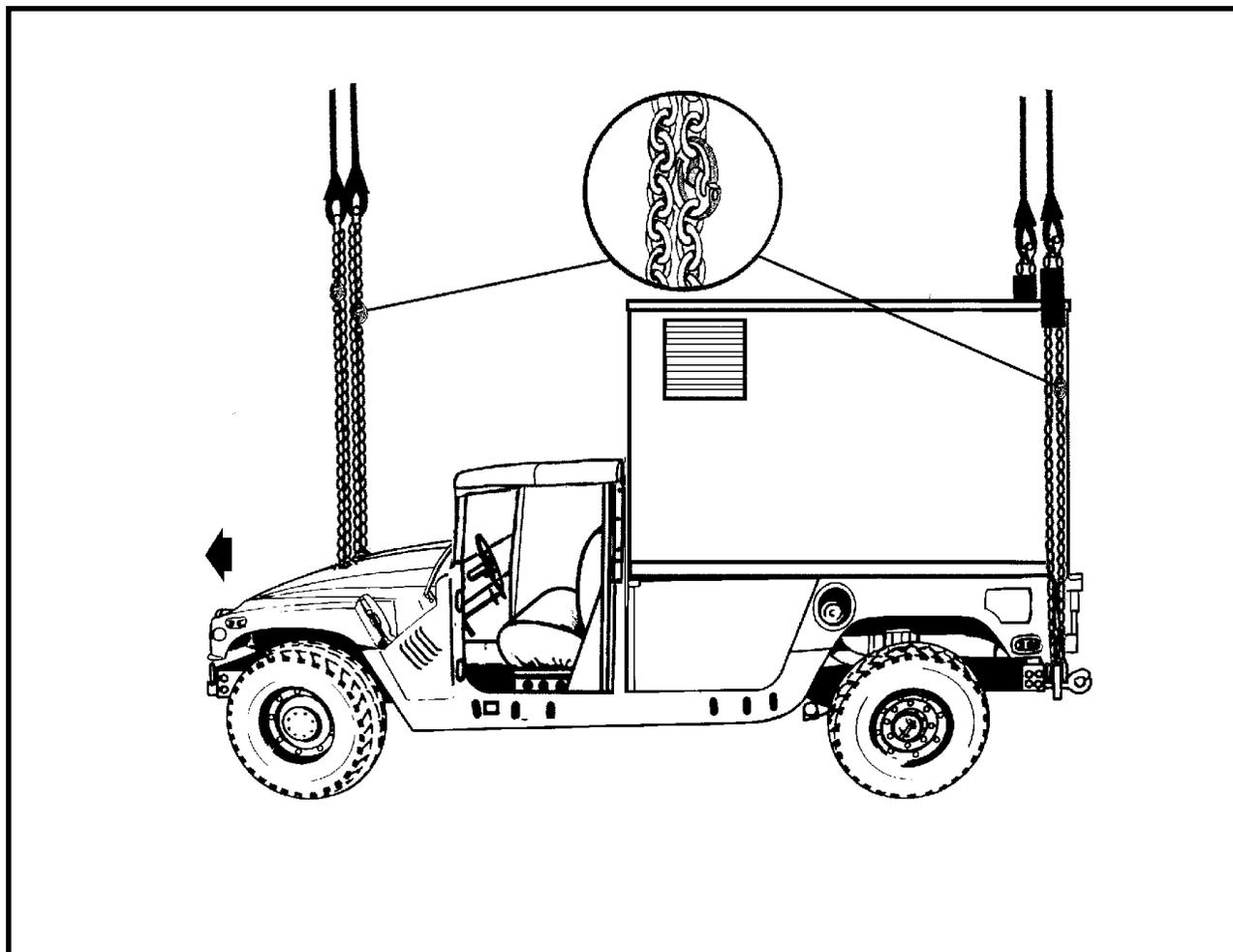
(j) Install the lift provisions on the outer ends of the rear bumper by removing the tiedown provisions located

inboard of the bumper end and installing them on the outer ends of the rear bumper.

(2) **Rigging.** Rig the load according to the steps in Figure 2-26.

(3) **Hookup.** The hookup team stands on top of the cargo bed cover. 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 team then carefully dismounts the vehicle and remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).



#### RIGGING STEPS

1. Connect 2 sling legs to apex fitting number 1. Position the apex fitting on top of the hood of the vehicle.
2. Loop the chain end of the sling legs through their respective lift provisions that protrudes through the hood. Place the correct link from Table 2-27 in the grab hook.
3. Connect 2 sling legs to apex fitting number 2. Position the apex fitting on top of the cargo bed cover.
4. Loop the chain end of the sling legs through their respective lift provisions located on the outside end of the bumper. Place the correct link from Table 2-27 in the grab hook.
5. Secure all excess chain with tape or Type III nylon cord.
6. Pad the chains where they contact the cargo bed cover.
7. Cluster and tie or tape (breakaway technique) the sling legs in each sling set on top of the vehicle to prevent entanglement during hookup and lift-off.

Figure 2-26. M1097A1 (H-HMMWV) with Cargo Bed Cover (CBC), Aluminum or Fiberglass

## 2-29. M56 Smoke Generating System on M1113 (HMMWV)

**a. Applicability.** The following item in Table 2-28 is certified for the helicopter(s) listed in the following table by the Soldier Systems Center:

**Table 2-28. M56 Smoke Generating System on M1113 (HMMWV)**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
M56 Smoke Generating System on M1113 (HMMWV)	9,387	10K	60/3	CH-47	120

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

- (1) Sling set (10,000-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.
- (5) Felt sheet, cattle hair, Type IV, 1/2-inch or suitable padding.

**c. Personnel.** Two persons can prepare and rig this load in 10 minutes.

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

- (1) **Preparation.** Prepare the load using the following steps:
  - (a) Place the transmission in neutral and set the parking brake.
  - (b) Ensure the fuel tank, the turbine fuel, and both fog oil tanks are not over 3/4 full.
  - (c) Set the three-way valve to the OFF position.

(d) Ensure the IR hopper cover latches are securely closed and the auxiliary hoses are attached to the mounting bracket at the forward end of the inboard fog oil tank.

(e) Secure all latches and doors with tape or Type III nylon cord.

(f) Ensure the front wheels are pointed straight ahead. Tie down the steering wheel, using the securing device attached under the dashboard.

(g) Fold the mirrors inward. Remove the doors and store and secure the doors in the cab with lashings or Type III nylon cord.

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

(i) Extend the spreader bar until the holes line up. Install the pin and engage the keeper.

(j) Position the spreader bar across the rear of the vehicle, resting on the power module and the weapons case. Attach the two spreader bar check cables to the larger hole openings, footman's loop, on the vehicle fenders.

(2) **Rigging.** Rig the load according to the steps in Figure 2-27.

(3) **Hookup.** The hookup team stands on the IR hopper-loading platform on the left side of the vehicle. 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 team then carefully dismounts the vehicle and

remains close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup team quickly exits 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).

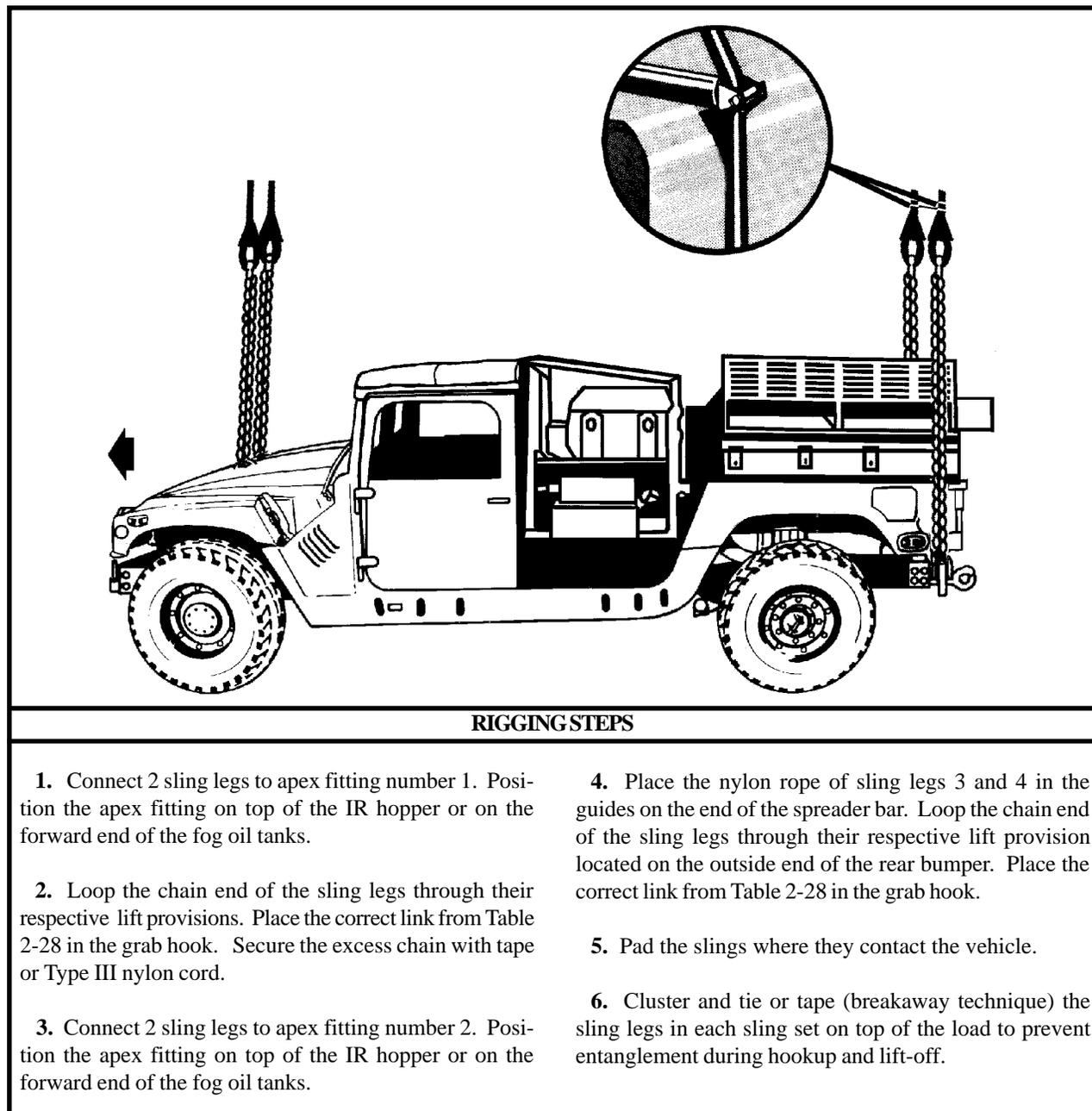


Figure 2-27. M56 Smoke Generating System on M1113

## 2-30. M35A3 2 1/2-Ton Cargo Truck

**a. Applicability.** The following item in Table 2-29 is certified for the helicopter(s) listed in the following table by the Soldier Systems Center:

**Table 2-29. M35A3 2 1/2-Ton Cargo Truck**

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Truck, Cargo, 2 1/2-Ton, M35A3	18,900	25K	3/50	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 fitting.

(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).

(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.

(5) Felt sheet, cattle hair, Type IV, 1/2-inch or suitable padding.

(6) Strap, cargo, tiedown, CGU-1/B (as required).

**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) Remove the cargo compartment canvas and bows.

Secure the canvas and bows in the bed of the truck.

(b) Remove the cab top canvas, lower the windshield, fold the canvas over the windshield, and secure with Type III nylon cord.

(c) Secure the windshield in the down position with the CGU-1/B cargo tiedown strap.

(d) Safety tie the hood closed with Type III nylon cord around the hood latch and the grill.

(e) Ensure the fuel, oil filler, radiator, and battery caps are properly installed and secured. Ensure the battery compartment door is closed. Ensure the fuel tank is less than 3/4 full.

(f) Secure the seat cushions and doors with Type III nylon cord.

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

(h) Straighten the front wheels and secure the steering wheel with Type III nylon cord.

(i) Ensure the front lift provisions are in the transport position.

(j) Extend the sling leg chains by connecting one additional chain length to each chain on a 25,000-pound capacity sling set with coupling links.

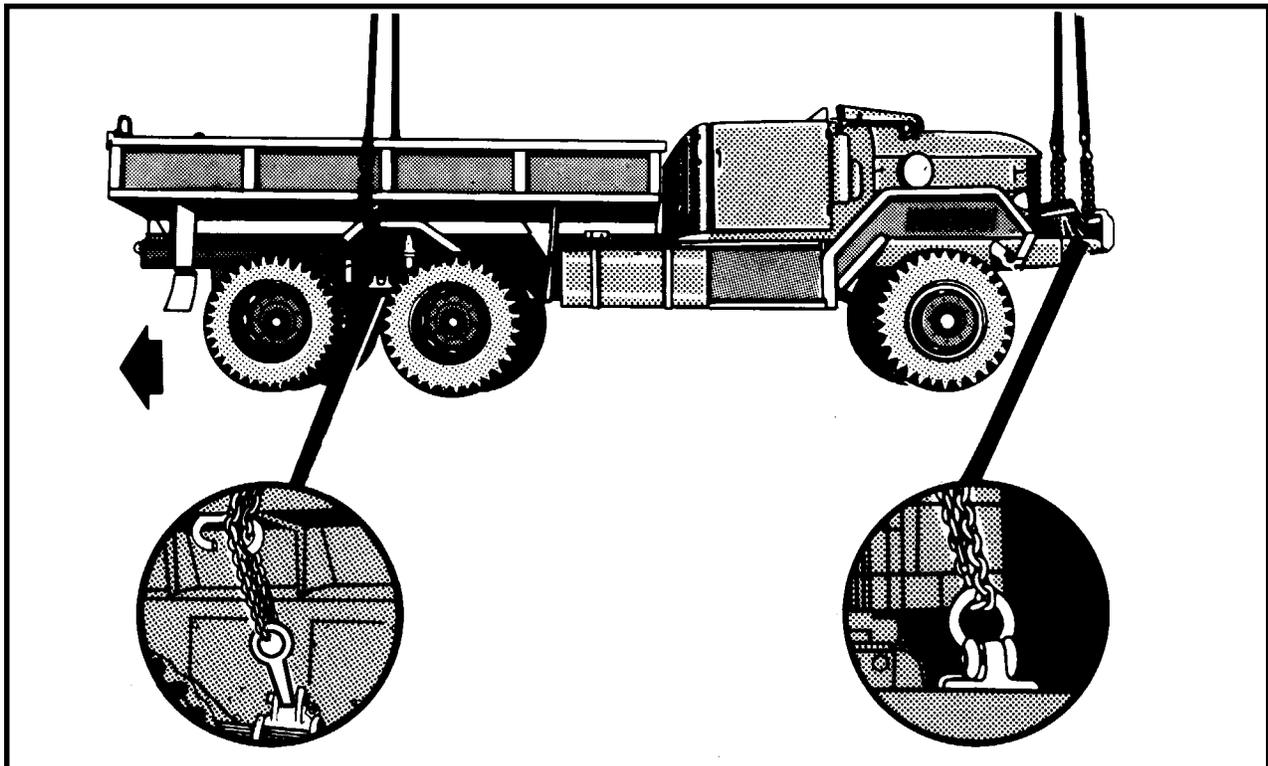
(2) **Rigging.** Rig the load according to the steps in Figure 2-28.

**NOTE: This vehicle flies aft end forward.**

**(3) Hookup.** Two hookup teams are used for this load. The static discharge person discharges the static electricity. The forward hookup person stands in the truck bed and places apex fitting 1 onto the forward cargo hook. The aft hookup person stands on the passenger seat and places apex fitting 2 onto the aft cargo hook. The hookup

teams then carefully dismount the load 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).



#### RIGGING STEPS

1. Place two sling legs on apex fitting number 1. Position apex fitting number 1 in the bed of the truck.

2. Loop the chain end of the left and right sling legs through their respective extended lift provision located between the rear wheels. Place the correct link from Table 2-29 in the grab hook.

3. Pull each grab hook up against the side of the truck and tie the chain in the chain guide bracket. Pull both grab hooks together over top of the bed and tie together with 1/4-inch cotton webbing.

3. Place two sling legs on apex fitting number 2. Position apex fitting number 2 on the hood.

4. Loop the chain end of the left and right sling legs through their respective lift provision located on the front bumper. Place the correct link from Table 2-29 in the grab hook. Secure the excess chain with tape or Type III nylon cord.

6. Raise the apex fittings above the load. Cluster and tie or tape (breakaway technique) the sling legs in each sling set together to prevent entanglement during hookup and lift-off.

Figure 2-28. M35A3 2 1/2-Ton Cargo Truck