

CHAPTER 8

CERTIFIED DUAL-POINT RIGGING PROCEDURES FOR ENGINEER EQUIPMENT

8-1. INTRODUCTION

This chapter contains rigging procedures for dual-point lift of engineer equipment 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 engineer equipment loads are in this section. Paragraphs 8-2 through 8-36 give detailed instructions for rigging loads.

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

8-2. D5B Tractor Dozer, Sectionalized

a. Applicability. The following items in Table 8-1 are certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 8-1. D5B Tractor Dozer, Sectionalized

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Tractor, Dozer, D5B, Power Section	18,915	25K	8/57	CH-47	100
Tractor, Dozer, D5B, Track Section	13,735	25K	12/21	CH-47	110

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

- (1) Sling set (25,000-pound capacity) (2 each) with two additional apex fittings.
- (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. Four persons can sectionalize this load in 2 1/2 hours and rig each section in 15 minutes.

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

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

- (a) Sectionalize the dozer according to the operator's manual. Do not remove the winch and winch pump.
- (b) Remove the exhaust stack and secure it on top of the winch with Type III nylon cord.
- (c) Remove the pre-air cleaner and secure it on the seat with Type III nylon cord.
- (d) Tape all lights and gages.
- (e) Secure the seat with 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.

(2) **Rigging.** Rig the load according to the steps in Figure 8-1.

NOTE: Hookup of this load presents substantial risk of damage to the load or injury to the hookup personnel. Use of a reach pendant is recommended for this load.

(3) **Hookup.** Two hookup teams are required for this load. The power section hookup team stands on the top of the power section. The static wand person discharges the static electricity with the static wand. The forward hookup person stands on the driver's seat and places apex fitting 1 onto the forward cargo hook. The aft hookup

person stands on the engine compartment and places apex fitting 2 onto the aft cargo hook. The track section hookup team stands on top of the track section. The static wand person discharges the static electricity with the static wand. The forward hookup person places apex fitting 1 onto the forward cargo hook. The aft hookup person places apex fitting 2 onto the aft cargo hook. The hookup teams then carefully dismount the sections and remain close to the load as the helicopter removes slack from the sling legs. When successful hookup is assured, the hookup teams quickly exit the area underneath the helicopter to the designated rendezvous point.

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

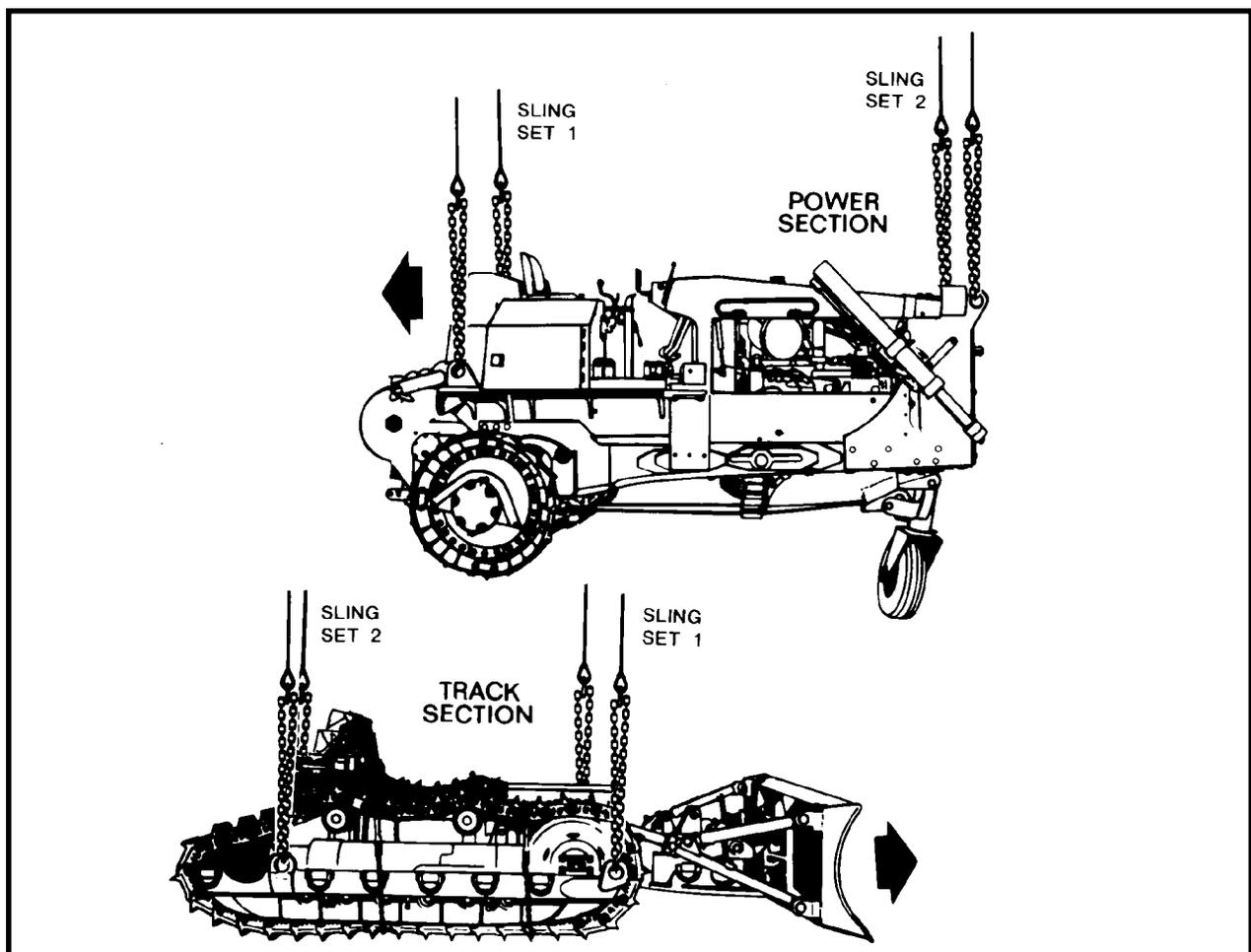


Figure 8-1. D5B Tractor Dozer, Sectionalized

8-28. Ribbon Bridge, Interior Bay

a. Applicability. The following item in Table 8-27 is certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 8-27. Ribbon Bridge, Interior Bay

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Ribbon Bridge, Interior Bay	11,800	25K 15K	3/50	CH-47 CH-53	130 100
Ribbon Bridge, Interior Bay, Improved	14,200	25K 15K	3/50	CH-47 CH-53	130 100

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

- (1) Sling set (15,000-pound capacity) (2 each).

OR

(2) Sling set (25,000-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) Ensure the end with the roadway lock is the front of the load.

(b) Ensure all the bay latches are securely fastened.

(2) **Rigging.** Rig the load according to the steps in Figure 8-27.

NOTE: When using the 15,000-pound capacity multileg sling set, tie or tape the inner sling legs to the outer sling legs.

(3) **Hookup.** Two hookup teams are required for this load. The static discharge person discharges the static electricity. The forward hookup person stands on top of the bridge and places apex fitting 1 onto the forward cargo hook. The aft hookup person stands on top of the bridge 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).

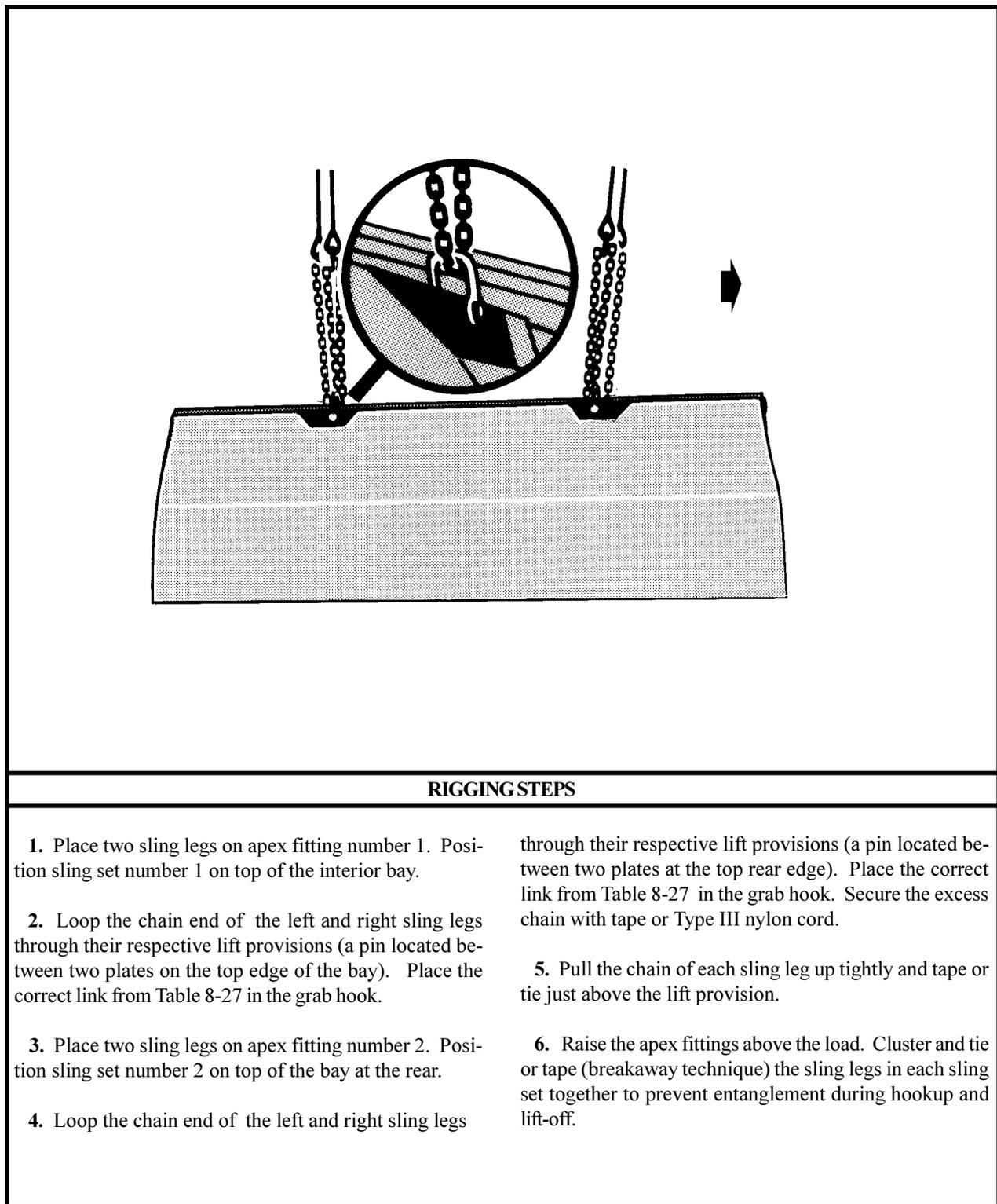


Figure 8-27. Ribbon Bridge, Interior Bay

8-29. Ribbon Bridge, Ramp Bay

a. Applicability. The following item in Table 8-28 is certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 8-28. Ribbon Bridge, Ramp Bay

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Ribbon Bridge, Ramp Bay	11,560	25K 15K	3/50	CH-47 CH-53	130 70
Ribbon Bridge, Ramp Bay, Improved	13,500	25K 15K	3/50	CH-47 CH-53	130 70

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

- (1) Sling set (15,000-pound capacity) (2 each).

OR

(2) Sling set (25,000-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) Ensure the short end of the bay is the front of the load.

(b) Ensure all the bay latches are securely fastened.

(2) **Rigging.** Rig the load according to the steps in Figure 8-28.

NOTE: When using the 15,000-pound capacity multileg sling set, tie or tape the inner sling legs to the outer sling legs.

(3) **Hookup.** Two hookup teams are required for this load. The static discharge person discharges the static electricity. The forward hookup person stands on top of the ramp bay and places apex fitting 1 onto the forward cargo hook. The aft hookup person stands on top of the ramp bay 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).

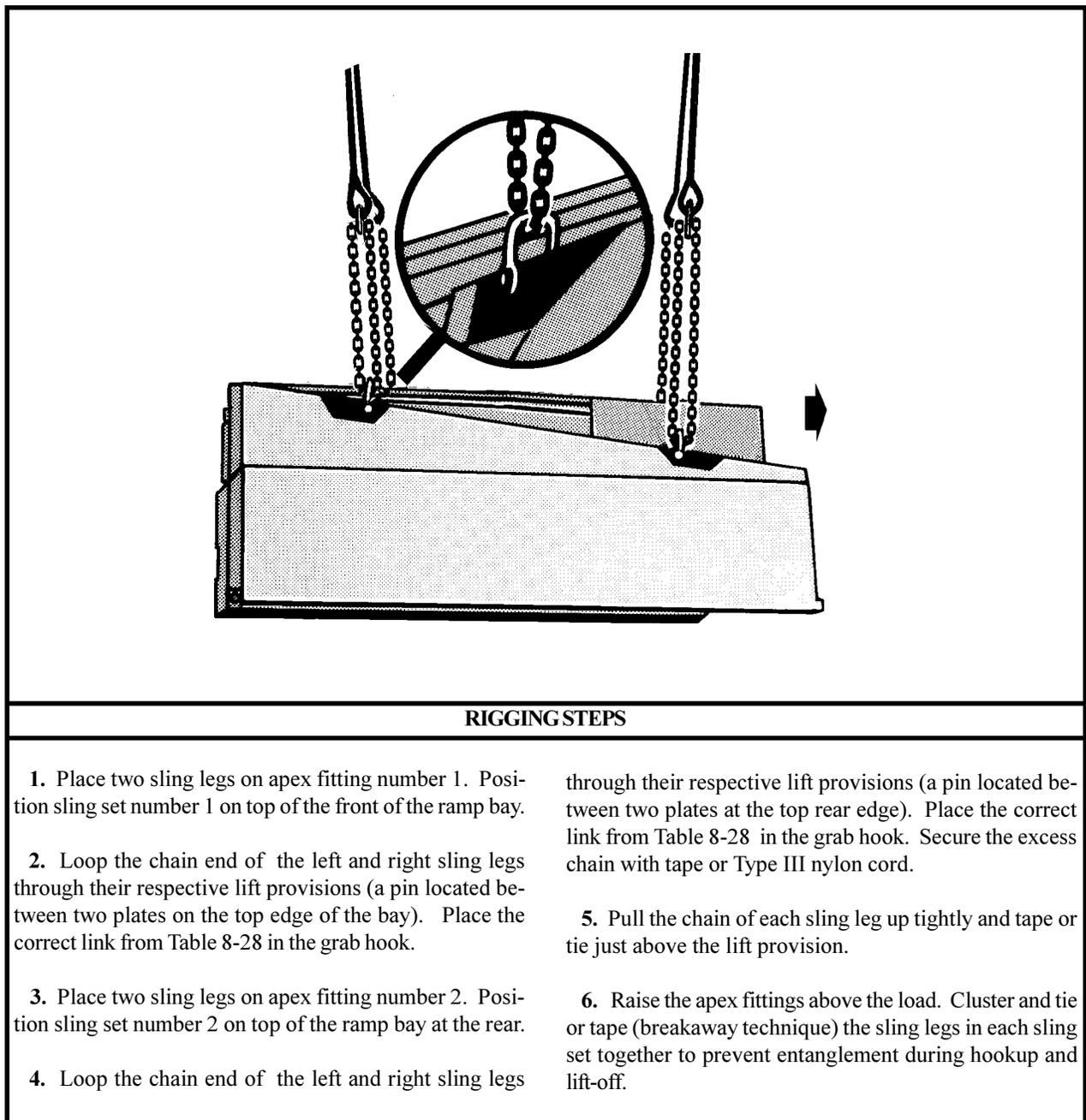


Figure 8-28. Ribbon Bridge, Ramp Bay

8-36. Vibrating Roller, Caterpillar, RO-33

a. Applicability. The following item in Table 8-35 is certified for the helicopter(s) listed in the following table by the US Army Soldier Systems Center:

Table 8-35. Vibrating Roller, Caterpillar, RO-33

NOMENCLATURE	MAX WEIGHT (POUNDS)	SLING SET	LINK COUNT FRONT/ REAR	TYPE OF AIRCRAFT	RECOMMENDED AIRSPEED (KNOTS)
Vibrating Roller, Caterpillar, RO-33	16,425	25K	30/3	CH-47	120

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) Lumber, 2-inch x 4-inch (as required).

(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) Place the transmission in neutral and set the parking brake.

(b) Ensure the fuel tank is not over 3/4 full. Ensure the fuel tank cap is in the vent position. Inspect the oil

filter cap and battery caps for proper installation.

(c) Secure the seat cushion to the frame with tape or Type III nylon cord.

(d) Remove and secure the exhaust stack.

(e) Tape all lights and gauges. Secure all loose covers and panels with tape or Type III nylon cord.

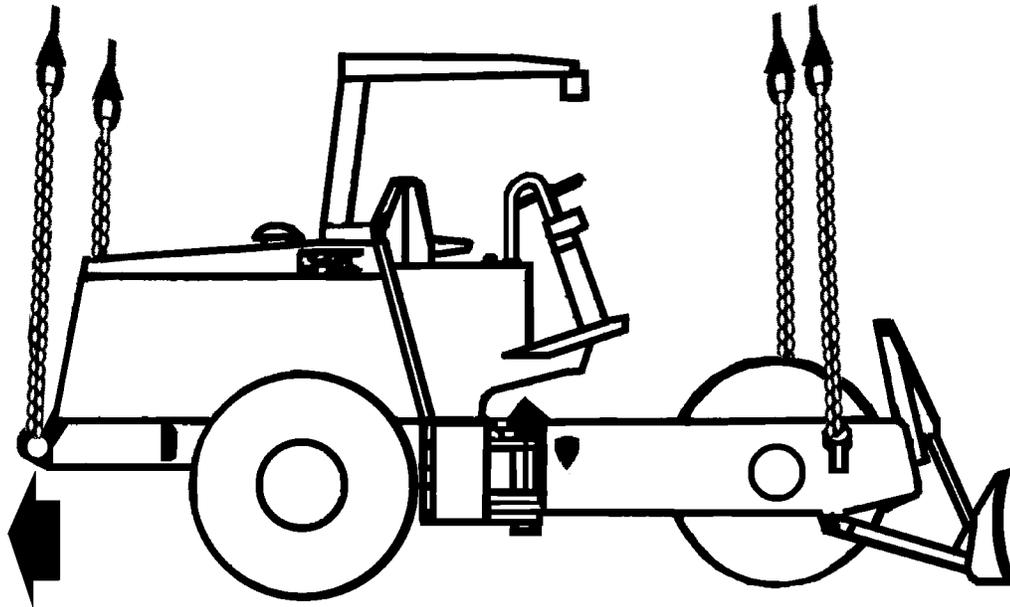
(f) Tie down the steering wheel with Type III nylon cord.

(g) Place the wooden block in the pivot point at the center of the roller to prevent the two halves from flexing during flight.

(2) **Rigging.** Rig the load according to the steps in Figure 8-35.

(3) **Hookup.** The hookup team stands beside the roller. The static wand person discharges the static electricity with the static wand. The forward hookup person places apex fitting 2 onto the forward cargo hook. The aft hookup person places apex fitting 1 onto the aft cargo hook. The hookup team then moves clear of the load but 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 next to the front of the roller.
2. Loop the chain end of the sling legs through their respective lift provisions. Place the correct link from Table 8-35 in the grab hook.
3. Connect 2 sling legs to apex fitting number 2. Position the apex fitting on top of the aft end (engine compartment end) of the roller.
4. Loop the chain end of the sling legs through their respective lift provisions located on the aft end of the roller. Place the correct link from Table 8-35 in the grab hook.
5. Pad the chain where it contacts the engine compartment. 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 together to prevent entanglement during hookup and lift-off.

Figure 8-35. Vibrating Roller, Caterpillar, RO-33