

CHAPTER 10

RIGGING M38A1 TRUCK ON 12-FOOT MODULAR PLATFORM

10-1. Description of Load

The M38A1, ¼-ton truck, with seven 5-gallon cans of gasoline, is rigged on a 12-foot modular platform with two G-11A cargo parachutes and other items of airdrop equipment. The unrigged truck weighs 2,665 pounds. It is 139 inches long, 61 inches wide, and 74 inches high, reducible to 54 inches.

10-2. Modifying Truck

The truck must be modified by qualified personnel. Install the rear suspension U-bolts as shown in figure 10-1; remove the front shackles and install aircraft bolts. Stow the front shackles in the glove compartment and tape it closed.

Note. The rear suspension U-bolts are not required when the load is platform suspended.

- A. Rear suspension U-bolts installed
- B. Front shackles removed

10-3. Preparing Truck

a. Fuel Tank. Make sure that the fuel tank is no more than three-fourths full.

b. Battery Box Support. Construct the battery box support as shown in figure 10-2, using ¾-inch plywood and 6d nails. Install the battery box support as shown in A, figure 10-3.

- A. Battery box support installed
- B. Windshield prepared and gasoline cans stowed on front bumper
- C. Seats secured, gasoline cans stowed, and safety web formed

c. Installing Engine Restraint. Install the engine restraint as shown in figure 10-4, using a 30-inch restraint strap, two 60-inch nylon webbing straps, two load binders, and two heavy-duty D-rings.

d. Removing Top Cover and Securing Bows. Remove the top cover and the top rails. Secure the top bows in stowed position as described in TM 9-8014. Place the top rails on the cover and fold the cover for stowing under the windshield.

e. Securing Rearview Mirror and Windshield. Fold the rearview mirror down against the side of the hood and tape. Tape the wiper blades to

the windshield frame. Place the folded top cover on the hood and place a 2- by 12- by 60-inch pad of cellulose wadding on top of the cover. Place a ¾- by 12- by 60-inch piece of plywood over the pad and turn the windshield down on the plywood as shown in B, figure 10-3. Place a 3- by 11- by 56-inch piece of honeycomb on top of the windshield. Pass one end of a 15-foot tiedown strap through the holes in the left front fender support, through its own D-ring, over the honeycomb, and tie the strap to the right frame rail. Fold and tape the excess strap.

f. Securing Glove Compartment. Tape the glove compartment door closed.

g. Stowing Seats. Remove the driver's seat and replace the four seat mounting screws in the threaded holes. Place the driver's seat upside down under the steering wheel. Fold the passenger seat forward as shown in C, figure 10-3. Attach the D-ring end of a 15-foot tiedown strap to the right side of the safety handle on the instrument panel. Pass the free end of the strap up and around the right rear mounting bracket on the driver's seat, across, and around the left rear bracket. Tie the strap to the center tiedown provision on the left frame rail.

Caution. Package, mark, and label gasoline as outlined in AFM 71-4/TM 38-250.

h. Stowing Gasoline cans. Fill gasoline cans to a level 1 inch below the filler neck threads when the can is in a level position. Place cellulose wadding between all the cans to prevent metal-to-metal contact.

(1) *Stowing gasoline cans on front bumper.* Stow three cans on the front bumper as shown in B, figure 10-3, with two 15-foot tiedown straps, one heavy-duty D-ring, and a load binder.

(2) *Stowing gasoline cans in truck.* Stow three cans to the rear of the passenger seat in the truck as shown in C, figure 10-3, with one 15-foot tiedown strap, one heavy-duty D-ring, and one load binder.

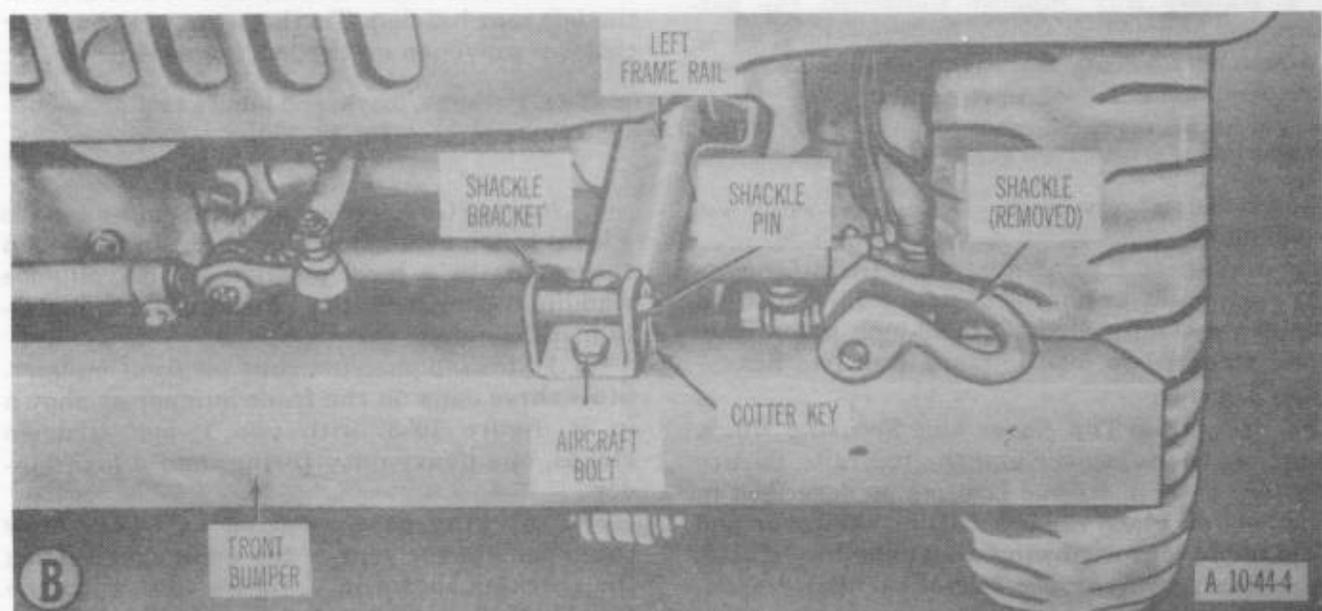
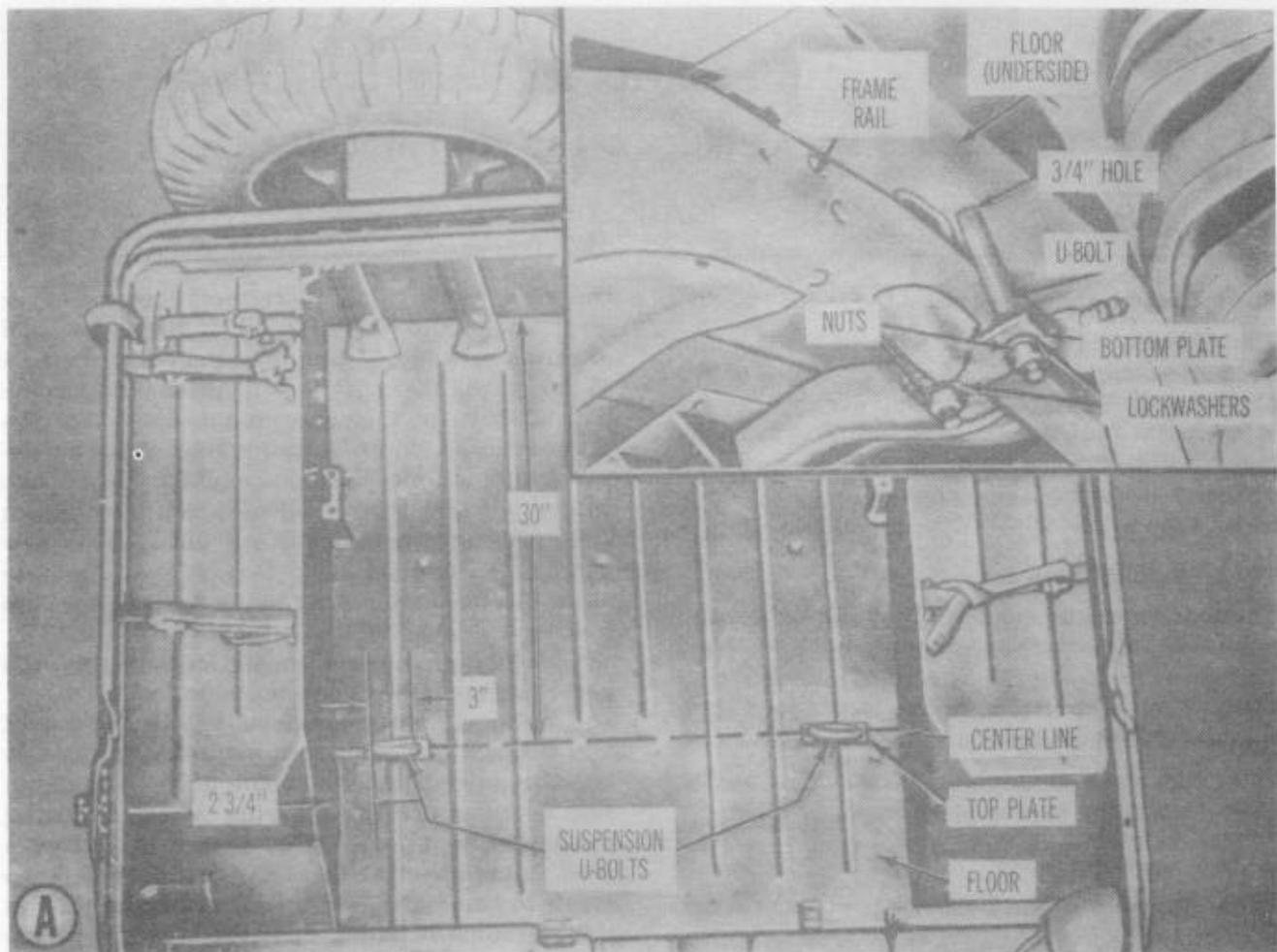
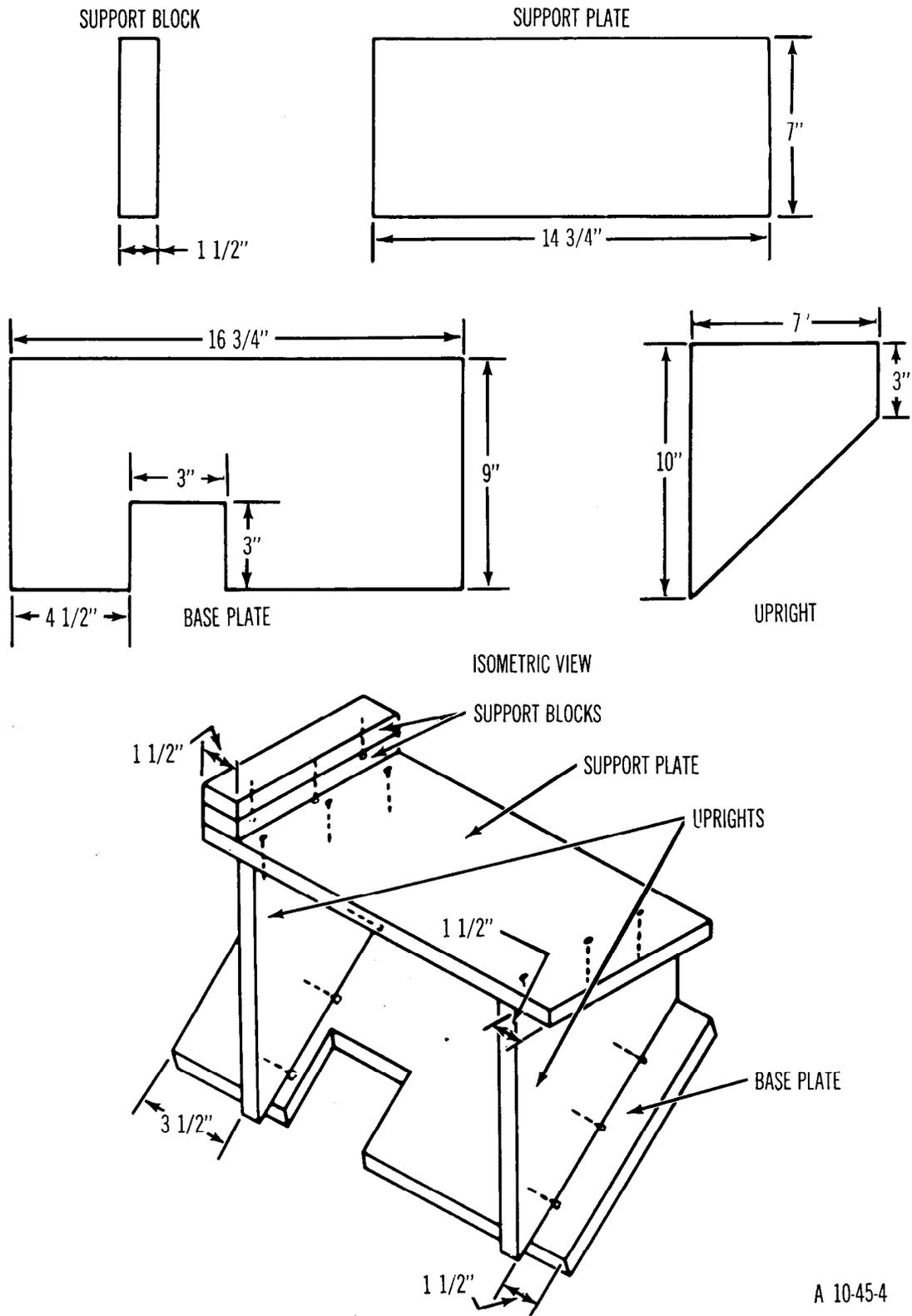


Figure 10-1. Truck modified.



A 10-45-4

Figure 10-2. Construction details for battery box support.

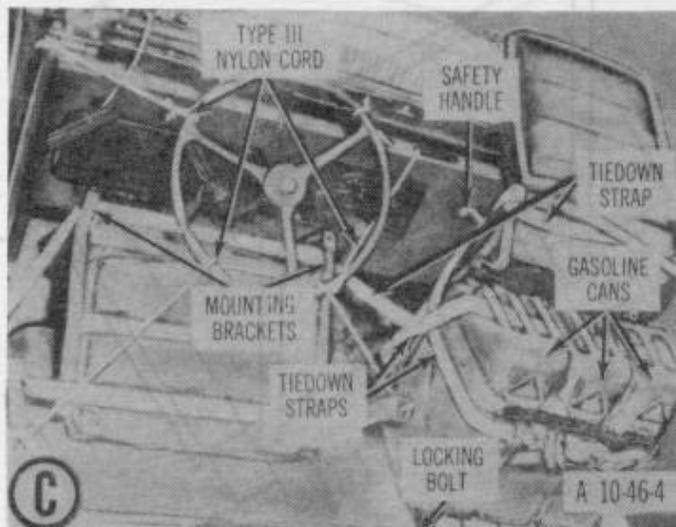
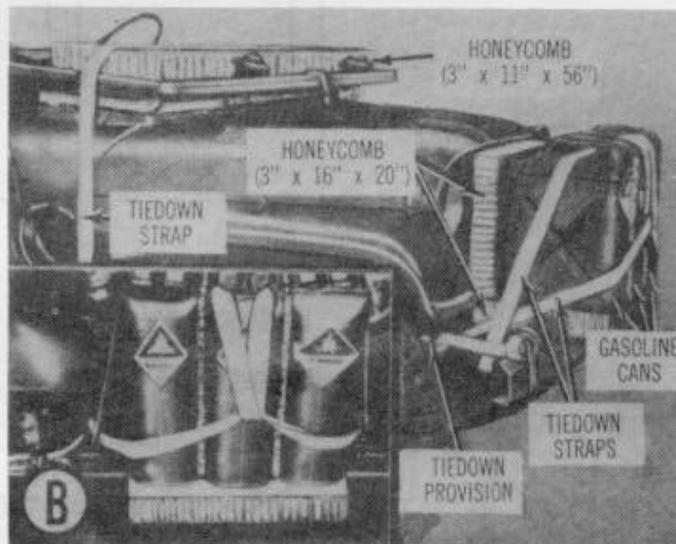
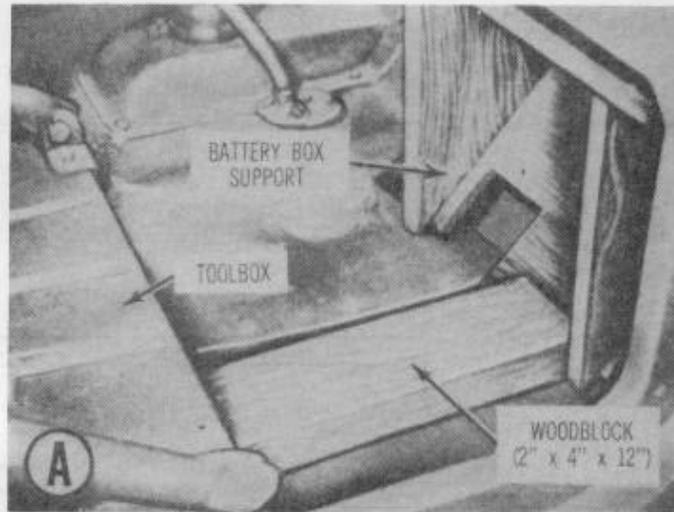


Figure 10-3. Truck prepared.

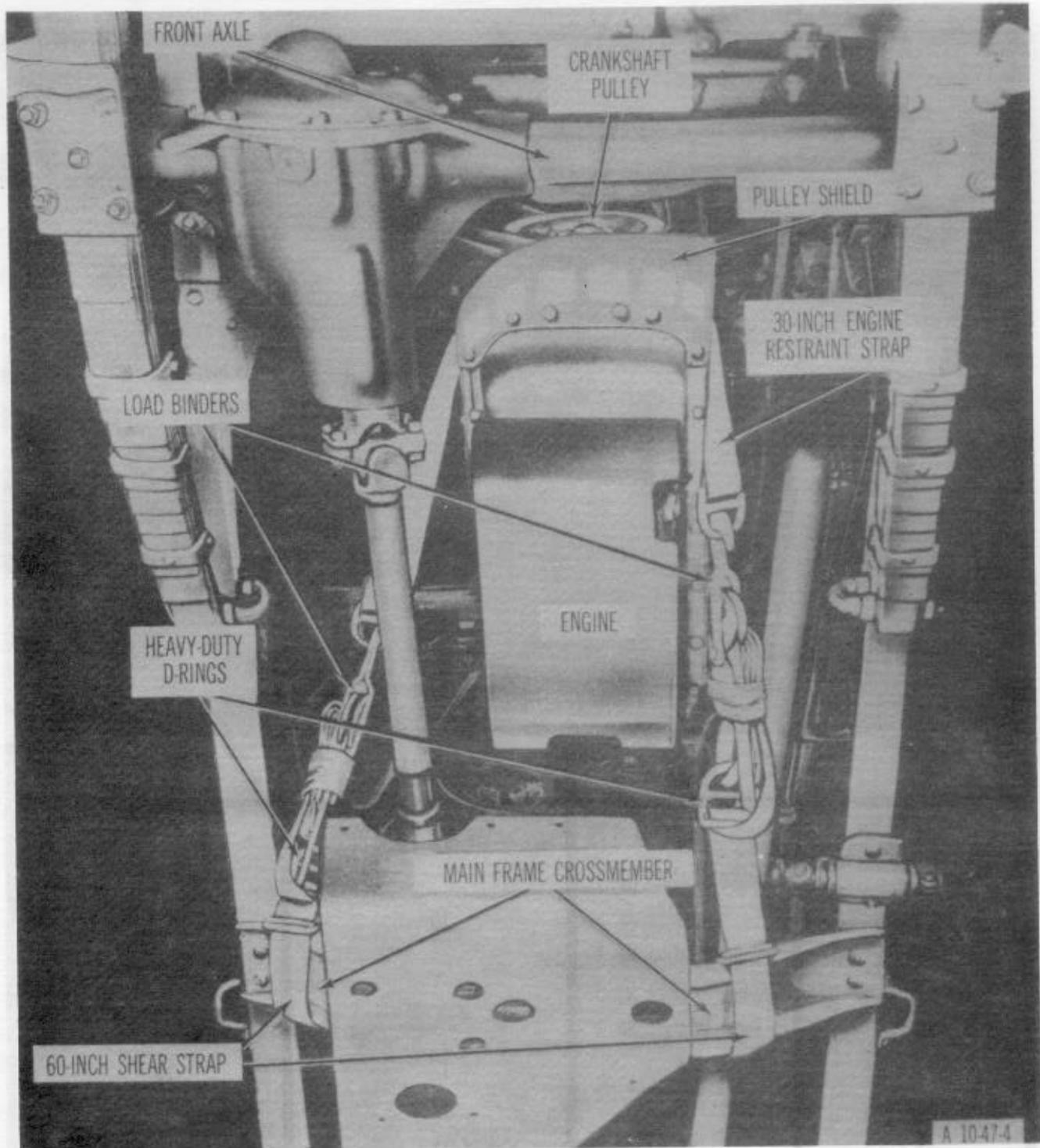


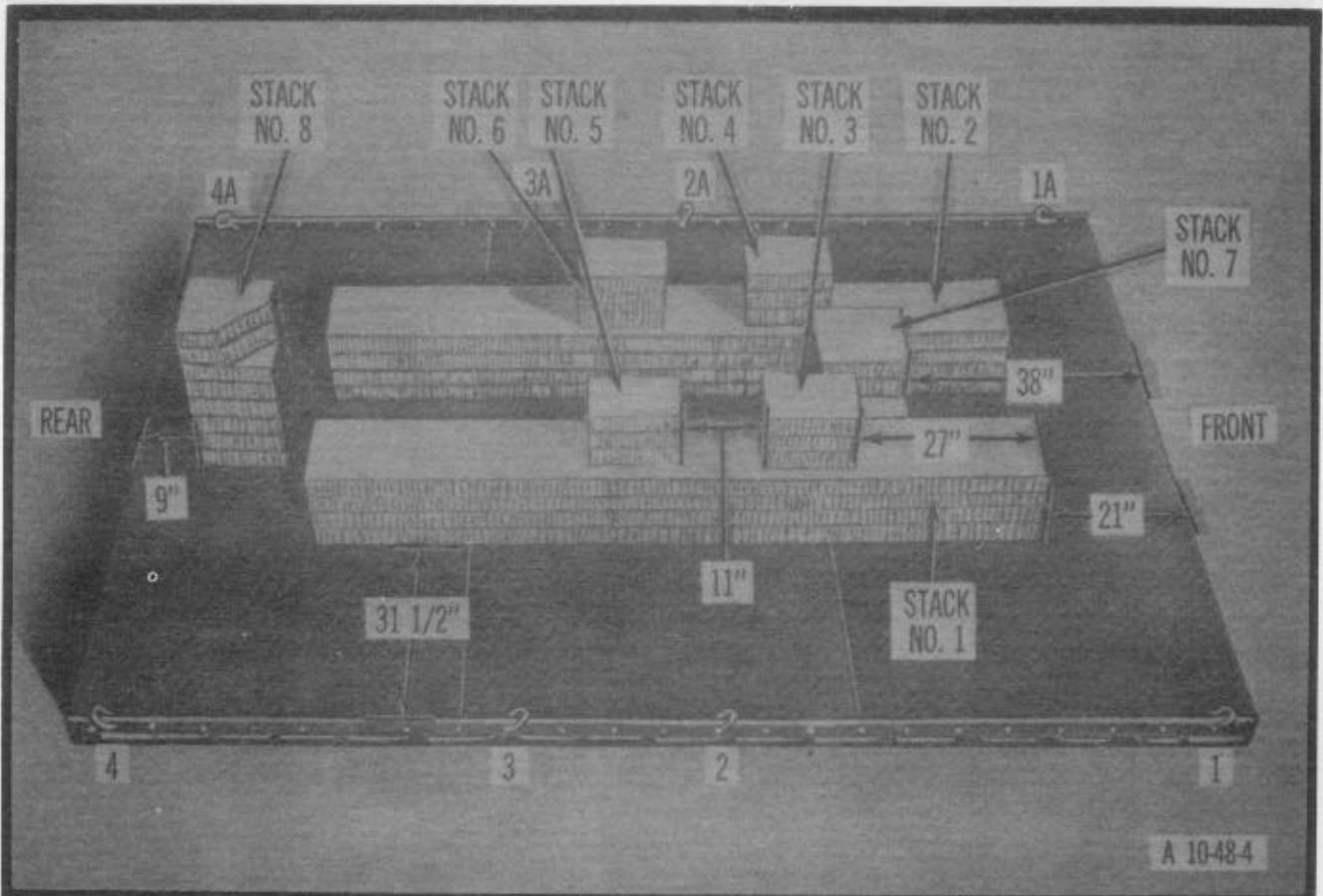
Figure 10-4. Engine restraint installed.

(3) *Stowing gasoline can on rear of truck.* Make sure that the strap which is attached to the bracket is secured.

i. *Forming Suspension Sling Safety Web.* Form a web over the steering wheel as shown in C, figure 10-3, with type III nylon cord, to keep the suspension slings from fouling.

10-4. Installing Suspension Slings

Attach an 8-foot (2-loop) sling to each rear suspension U-bolt with a small suspension clevis. Attach a 9-foot (2-loop) sling, through its own loop, to each shackle bracket on the front bumper.

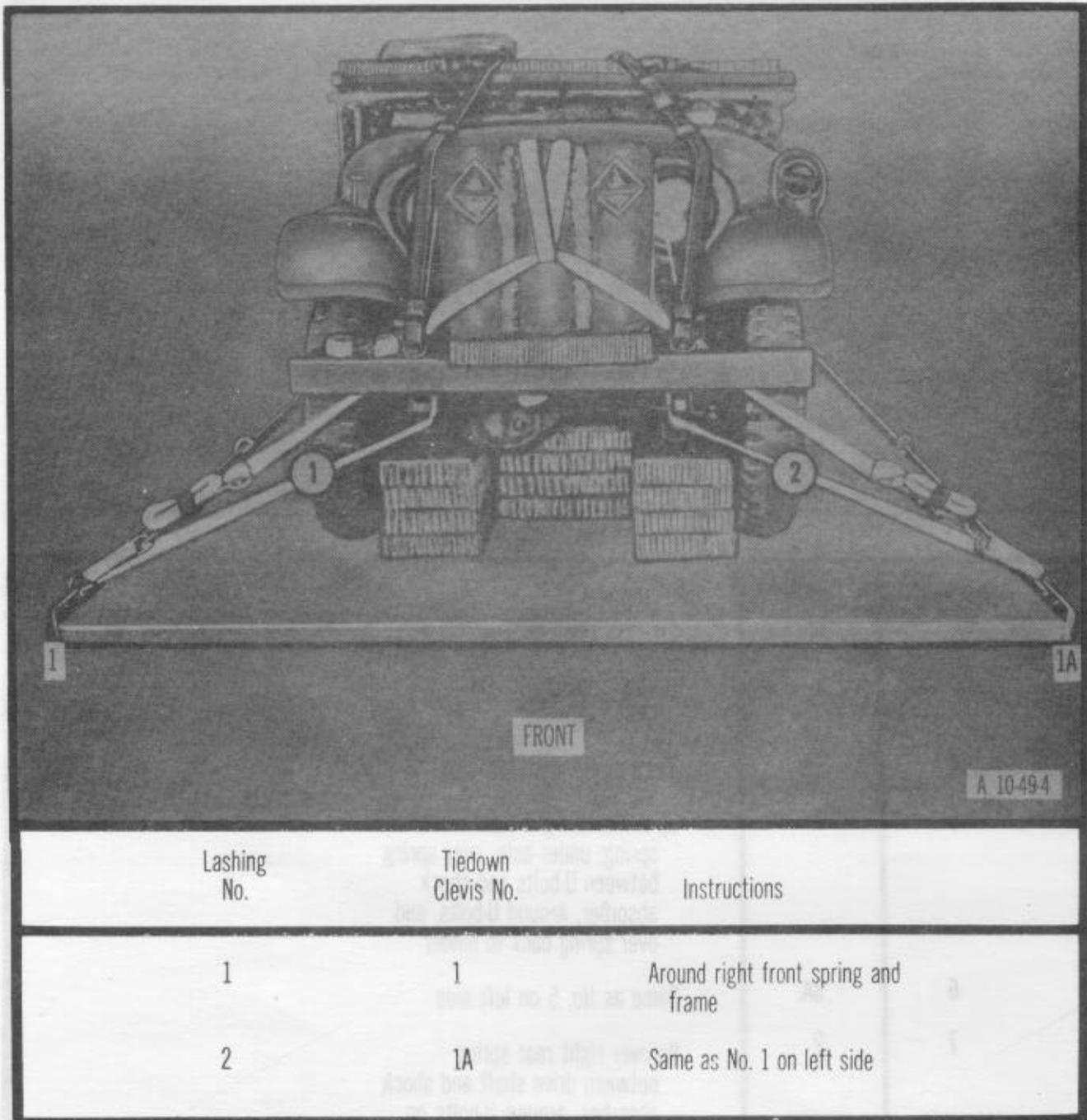


Stack No.	Pieces	Width (Inches)	Length (Inches)
1	*4	12	96
2	Same as stack No. 1		
3	3	10	12
4	Same as stack No. 3		
5	Same as stack No. 3		
6	Same as stack No. 3		
7	*4	12	18
	2	12	12
8	*8	12	12

(Cut top two layers as shown)

*Add one additional piece of honeycomb if the load is to be dropped on a drop zone with ground elevation of 6,000 to 10,000 feet.

Figure 10-5. Platform prepared and honeycomb stacks positioned.



Lashing No.	Tiedown Clevis No.	Instructions
1	1	Around right front spring and frame
2	1A	Same as No. 1 on left side

Figure 10-6. Lashings 1 and 2 installed.

10-5. Preparing Platform

Prepare a 12-foot modular platform as follows.

a. Inspecting Platform. Inspect, or assemble and inspect, the platform as outlined in TM 10-1670-208-23/TO 13C2-4-12.

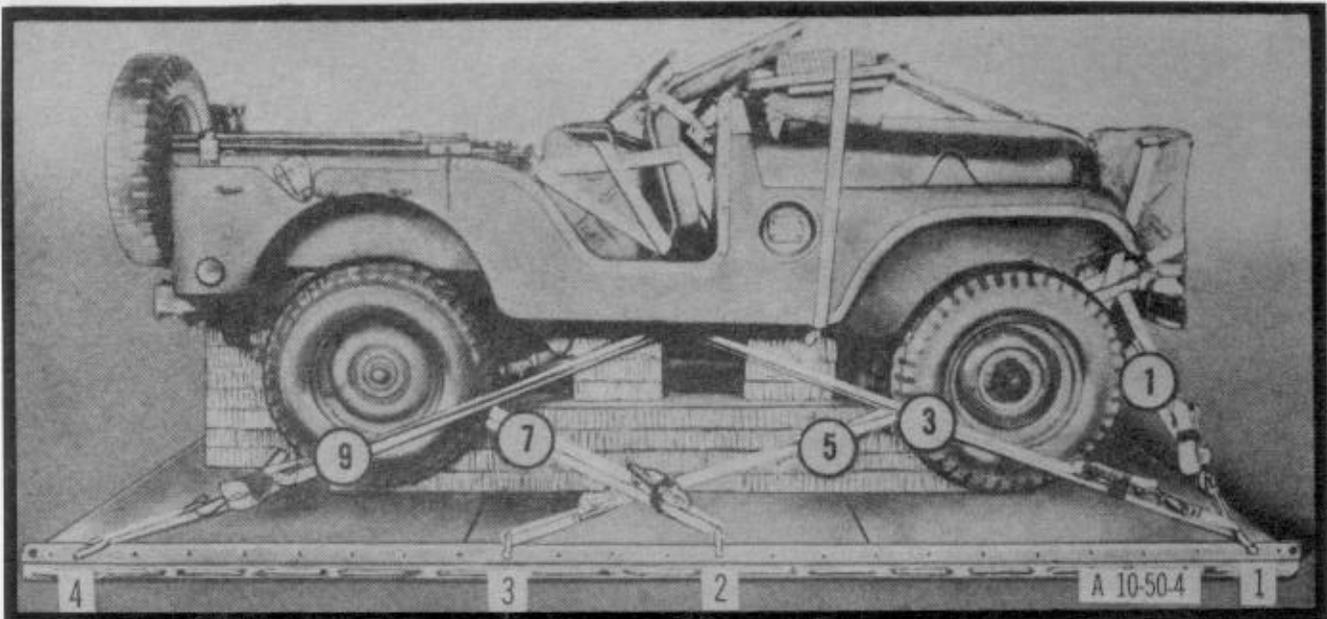
b. Attaching and Numbering Clevises. Starting at the front of each rail, attach a tiedown clevis to the 2d, 12th, 16th, and 24th clevis holes. Again starting at the front of the platform, number from 1 through 4 the clevises attached to the right rail; number from 1A through 4A those attached to the left rail (fig 10-5).

10-6. Preparing and Positioning Honeycomb

Prepare and place the honeycomb stacks as shown in figure 10-5. Past the honeycomb layers together except the second and third layers in stacks No. 1 and No. 2.

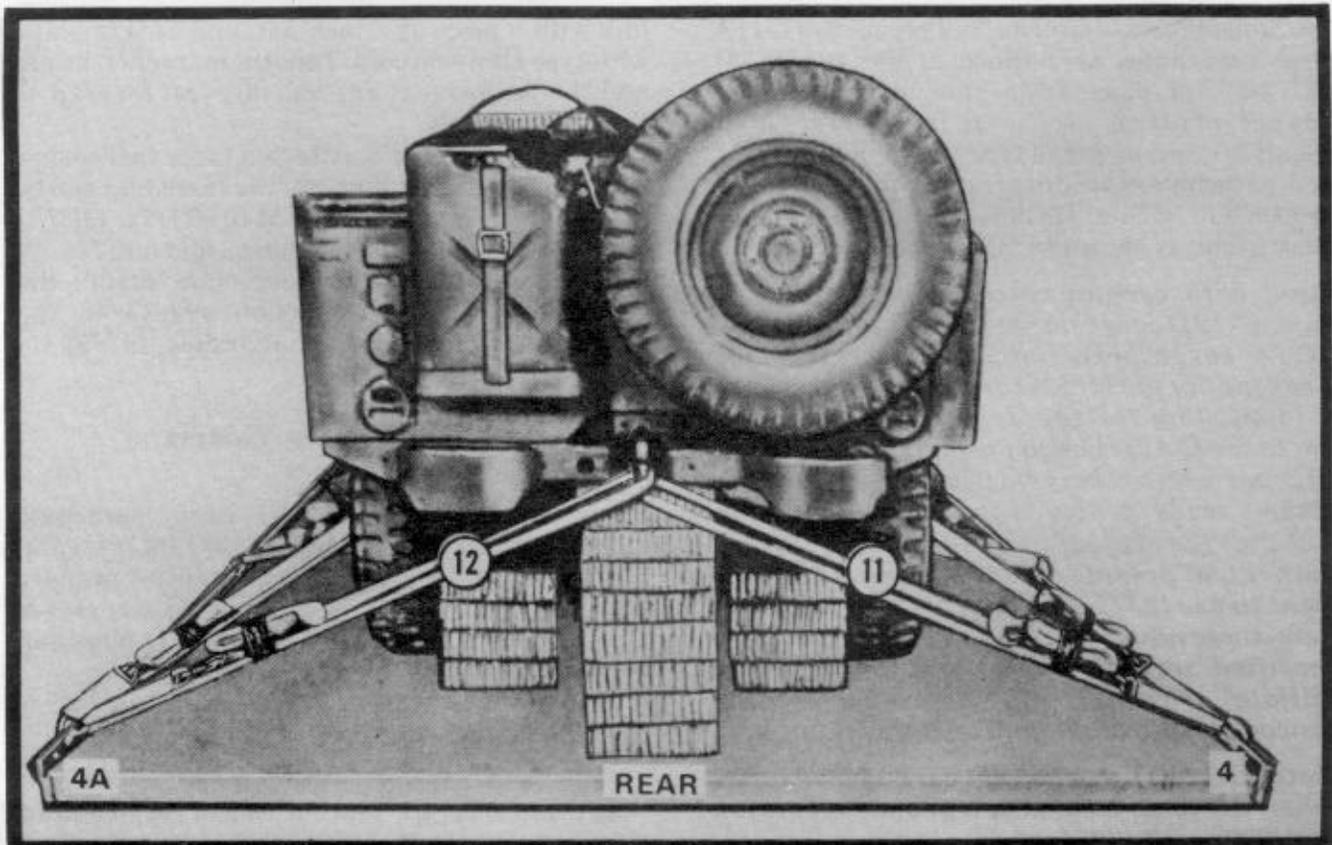
10-7. Positioning Truck

Note. If the load is to be rigged with a vehicle drive-off aid kit, adapt the procedures in paragraphs 2-1 and 2-2. Nail a $\frac{3}{4}$ -by 3-by 12-inch piece of plywood on top of the load spreader where each hook will be secured.



Lashing No.	Tiedown Clevis No.	Instructions
3	1	Through tiedown provision on right frame rail
4	1A	Same as No. 3 on left side
5	3	Up between right front wheel and spring, under axle, over spring between U-bolts and shock absorber, around U-bolts, and over spring back to binder
6	3A	Same as No. 5 on left side
7	2	Up over right rear spring between drive shaft and shock absorber, around U-bolts on top of spring, and down between shock absorber and wheel to binder
8	2A	Same as No. 7 on left side
9	4	Through tiedown provision on right frame rail
10	4A	Same as No. 9 on left side

Figure 10-7. Lashings 1, 3, 5, 7, and 9 installed.



Lashing No.	Tiedown Clevis No.	Instructions
11	4	Through pintle
12	4A	Through pintle

Figure 10-8. Lashings 11 and 12 installed.

Position the truck on the honeycomb stacks with the front bumper 5 inches from the front edge of the platform.

10-8. Installing Lashings

Caution. Make sure that the lashings are not so tight that they cause the platform to bow.

Lash the truck with single Dacron lashings as shown in figures 10-6, 10-7, and 10-8. Pad all sharp edges that may come in contact with the lashings.

10-9. Stowing Cargo Parachutes

a. Positioning Stowage Platform. Center a stack of five 3- by 12- by 18-inch pieces of honeycomb on each rear wheel housing. Place a stowage platform (NSN 1670-00-360-0444) on the honeycomb and lash it as shown in A, figure 10-9. If the stowage platform is not available, use a piece of $\frac{3}{4}$ - by 48- by 60- inch plywood. Drill a 1-inch hole 3 inches in diagonally from each corner, and a 1-inch hole two inches in from each side, centered in the 48-inch sides.

b. *Stowing cargo parachutes.* Prepare two G-11A cargo parachutes as outlined in FM 10-500/TO 13C7-1-5 and place them side by side on the stowage platform as shown in B, figure 10-9. Install a 6-yard length of type VIII nylon webbing as a parachute restraint strap as outlined in FM 10-500/TO 13C7-1-5. Tie the ends of the strap to the truck frame as shown in B, figure 10-9.

Note. *With certain restrictions, the use of three G-12D cargo parachutes in place of two G-11A cargo parachutes is authorized for airdropping the M38A1 trucks. Use an 8-foot (2-loop) sling for the deployment line with the three G-12D cargo parachutes. Three G-12D parachutes may be used only when the M38A1 truck is rigged for item suspension and the rigged weight of the load is not more than 4,055 pounds. If units have a requirement to use the G-12D parachutes to airdrop item-suspended M38A1 loads that exceed specified weight limitations, they should initiate a request for approved rigging procedures through appropriate channels.*

Note. *DO NOT use G-12D cargo parachutes when the drop zone is at a ground elevation of 6,000 to 10,000 feet.*

10-10. Installing Extraction System

Currently, two extraction systems are authorized for use when this load is rigged. These systems are the 12K extraction force transfer coupling (platform) (hereafter referred to as 12K PEFTC) and the static line/connector strap extraction system (hereafter referred to as SL/CS). Only the SL/CS is illustrated in this manual. Procedures for installation are provided for both systems as follows:

a. *Installing the 12K PEFTC.* Using a 36-foot extraction bridle, a 16-foot (3-loop) sling as a deployment line, four support brackets, and four guidance tubes, install the components of the 12K PEFTC as outlined in FM 10-500/TO 13C7-1-5. Attach the support brackets to the 15th and 25th clevis holes in each platform rail. Use the "B" mounting holes in the actuators when attaching them to the rails in the 13th and 14th clevis holes. Attach one end of the deployment line to the top bolt of the coupling link assembly and the remaining end to the type IV link attached to the parachute bridle. Pad the bottom of the coupling

link with a piece of ½-inch felt, and tie it in place with type III nylon cord. Tape the extraction bridle and the deployment line together just forward of the coupling link.

b. *Installing SL/CS.* Attach a large suspension clevis to the towing pintle of the truck and safety pintle closed as outlined in FM 10-500/TO 13C7-1-5. Using a 60-inch connector strap and a 12-foot (3-loop) sling as the deployment line, install the components of the extraction system to the extraction attaching point according to FM 10-500/TO 13C7-1-5.

10-11. Installing Release System

Prepare and attach an M-1 cargo parachute release as outlined in FM 10-500/TO 13C7-1-5 and place on top of the load. Tie the release in place with 80-pound cotton webbing. Fold the excess slings and secure the folds with tape or 80-pound cotton webbing.

10-12. Positioning Extraction Parachute

a. *C-130 Aircraft.* Place a 15-foot cargo extraction parachute (reefed with a 260-inch reefing line) on the load for installation in the aircraft.

b. *C-141 Aircraft.* Place a 15-foot cargo extraction parachute (reefed with a 260-inch reefing line) on the load for installation in the aircraft. The extraction parachute must be equipped with a 120-foot (2-ply) type X nylon extraction line. Form the extraction line as outlined in FM 10-500/TO 13C7-1-5.

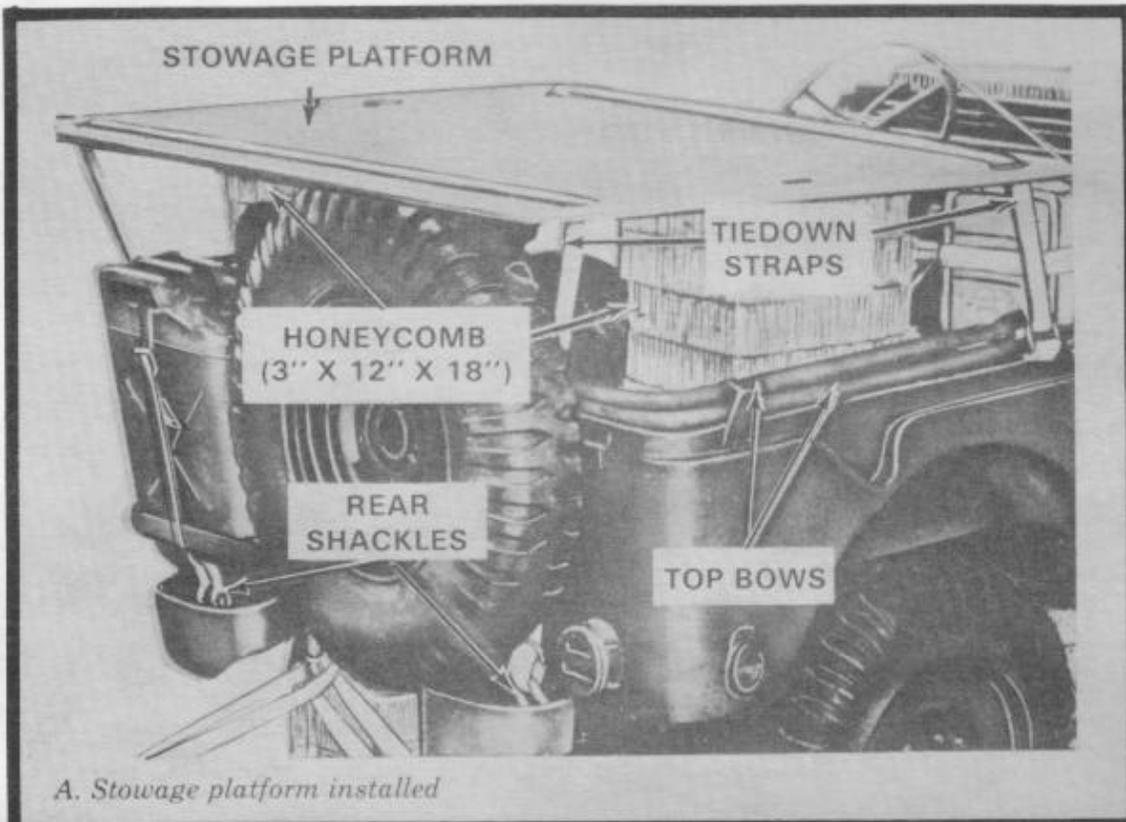
10-13. Marking Rigged Load

Mark the rigged load as outlined in FM 10-500/TO 13C7-1-5 and as shown in figure 10-10. The rigged weight shown includes seven 5-gallon cans of gasoline. When less than seven cans of gasoline are dropped with the truck, the weight and center of gravity must be computed.

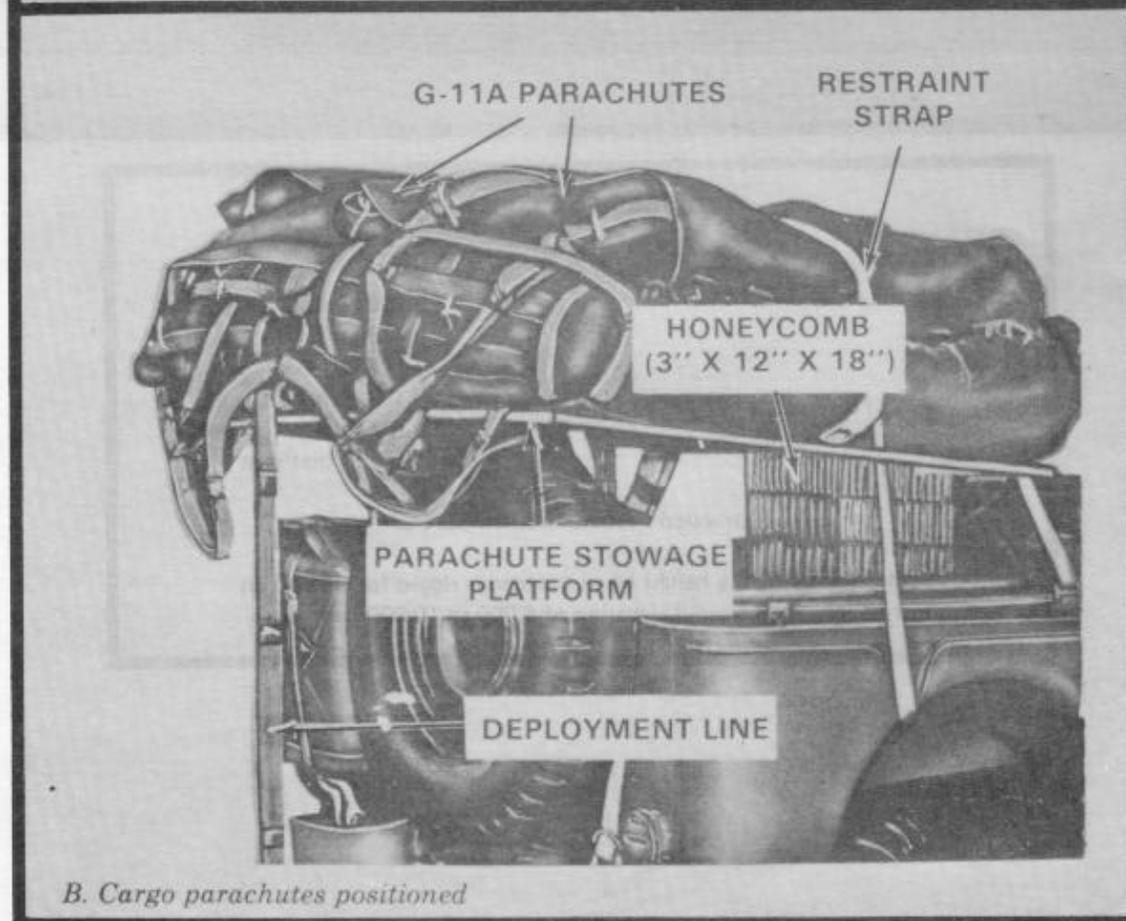
Note. *When rigging load for airdrop on a drop zone with ground elevation of 6,000 to 10,000 feet, add 3 inches to the height shown in figure 10-10.*

10-14. Equipment Required

The equipment required for rigging this load is listed in table 10-1.

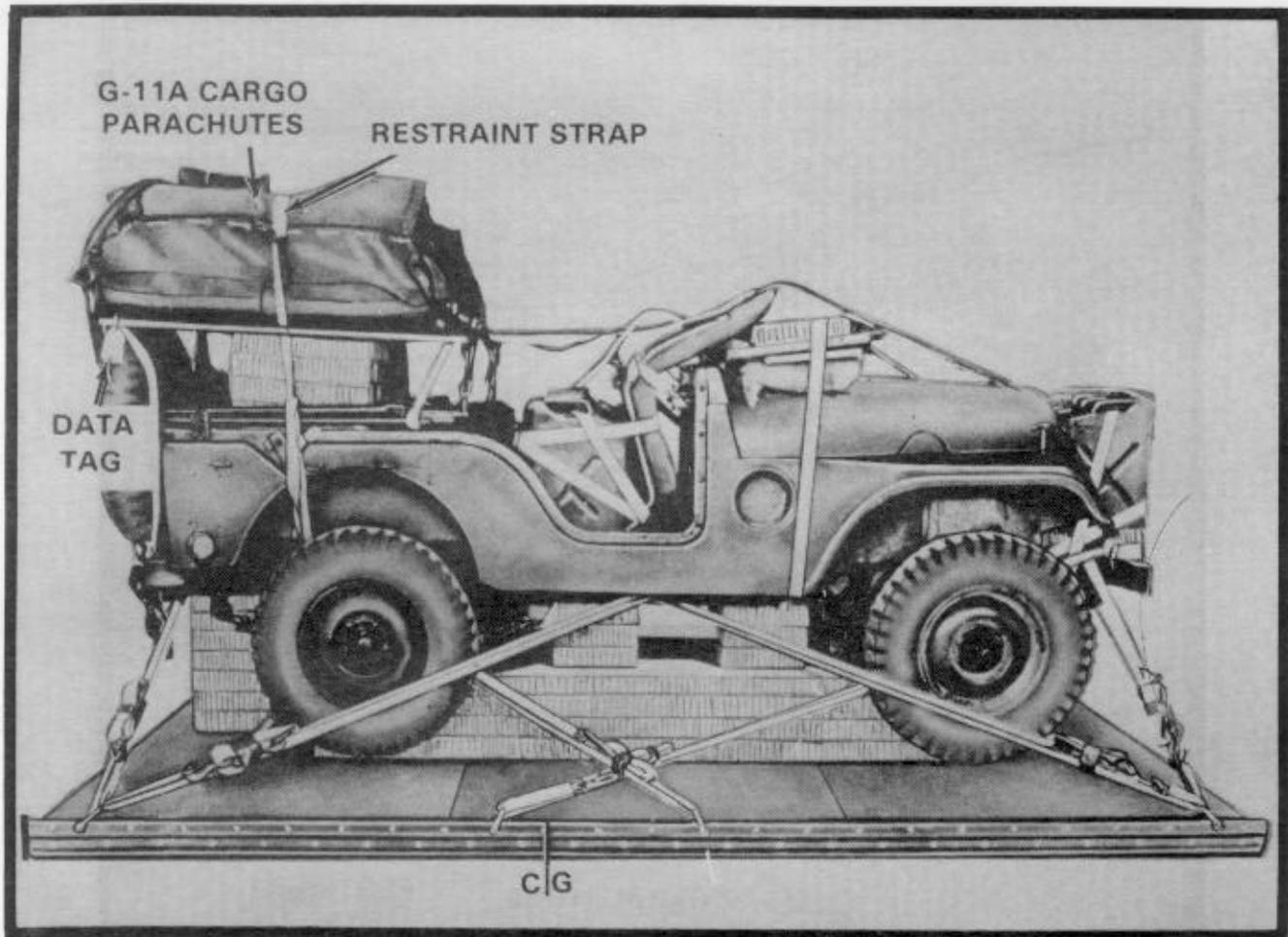


A. Stowage platform installed



B. Cargo parachutes positioned

Figure 10-9. Cargo parachutes stowed.



RIGGED LOAD DATA

Weight	4,180 pounds
*Height	78 inches
Length	144 inches
Width	108 inches
Center of Gravity	84 inches from front of platform

Extraction System: 60-in. SL/CS

*Add 3 inches to the height when the load is rigged for airdrop on a drop zone with ground elevation of 6,000 to 10,000 feet.

Figure 10-10. Completely rigged load.

Table 10-1. Equipment Required.

National Stock No.	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
	Battery Box Support Assembly:	
5315-00-010-4657	Nail, steel wire, common, 6d	As required
5530-00-128-4981	Plywood:	
	3/4- by 1 1/2- by 7-in	2
	3/4- by 7- by 10-in	2
	3/4- by 7- by 14 3/4-in	1
	3/4- by 9- by 16 3/4-in	1
	Bolt Assembly:	
5306-00-208-3646	Aircraft	2
1670-00-360-0272	U-frame suspension	2
1377-00-958-1048	Cartridge, time-delay, 20-second (for use w/5,000-lb release)	2
	Clevis Assembly, suspension:	
1670-00-090-5354	Large	2
1670-00-360-0304	Small	2
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-168-6068	*Coupling, extraction force transfer (platform)	1
1670-00-360-0328	Cover, clevis, large	2
1670-00-360-0329	Cover, link (for C-141 aircraft)	1
8135-00-664-6958	Cushioning Material, packaging, cellulose wadding	As required
1670-00-431-8486	Kit, vehicle, drive-off aid	1
1670-00-856-0265	Line, extraction, 60-ft (2-ply) (for C-141)	1
1670-00-783-5988	Link Assembly, single, type IV (for C-141)	1
1670-00-217-2421	Link, connector, L-bar type (for C-141)	2
5510-00-197-2980	Lumber, 2- by 4- by 12-in (brace)	1
1670-00-753-3928	Pad, energy dissipating, honeycomb, 3- by 36- by 96-in:	5 sheets
	3- by 10- by 12-in	(12)
	3- by 11- by 56-in	(1)
	**3- by 12- by 12-in	(10)
	**3- by 12- by 18-in	(14)
	**3- by 12- by 96-in	(8)
	3- by 16- by 20-in	(2)
1670-00-269-1107	Parachute, cargo, 100-ft, G-11A	2
1670-00-052-1548	Parachute, cargo extraction, 15-ft (reefed) (C-141 requires a 120-ft extraction line and an 85-in pendulum line.)	1
	Platform, airdrop, modular, 12-ft:	1
1670-00-893-1631	Clevis, load tiedown	8
1670-00-893-1624	Panel	3
1670-00-893-1626	Rail, platform side, 12-ft	2
5320-00-893-1632	Rivet, blind drive type, 1/4-in diam	48
1670-00-360-0444	Platform, stowage, parachute, 3/4- by 45- by 60-in (When stocks are exhausted, use a 3/4- by 48- by 60-in piece of plywood, NSN 5530-00-128-4981.)	1
5530-00-128-4981	Plywood, 3/4- by 12- by 60-in (windshield protector)	1
1670-00-168-6070	Release, cargo parachute, M-1 (If not available, use Release, cargo parachute, 5,000-lb, NSN 1670-00-799-8494, and add one load coupler, 8-spool, NSN 1670-00-799-8596, and two 3-ft slings, NSN 1670-00-753-3788.)	1
	Sling, cargo, A/D:	
1670-00-753-3789	8-ft (2-loop)	2
1670-00-753-3790	9-ft (2-loop)	2

Table 10-1 - Continued.

National Stock No.	Item	Quantity
1670-00-823-5041	12-ft (3-loop) (deployment line)	1
1670-00-753-3794	20-ft (2-loop) (riser extension)	2
1670-00-823-5042	16-ft (3-loop) (deployment line for 12K PEFTC)	1
1670-00-998-0116	Strap, parachute release, w/fastener and release knife	1
1670-00-301-5698	Strap, restraint, engine, 1/4-ton, M38A1	1
7510-00-266-5016	Tape adhesive, 2-in	As required
1670-00-937-0271	Tiedown assembly, 15-ft	28
NSN	Web, adapter (required w/120-ft extraction line, see FM 10-500/TO 13C7-1-5)	1
8305-00-268-2411	Webbing, cotton, 80-lb	As required
8305-00-263-3591	Webbing, nylon, type VIII (parachute restraint strap)	6 yd
8305-00-082-5752	Webbing, nylon, tubular, 1/2-in	As required

*When this item is not available, the following items are required for the SL/CS:

1670-00-090-5354	Clevis Assembly, suspension, large	2
1670-00-783-5988	Link Assembly, single, type IV	1
1670-00-998-0117	Static Line, cargo parachute, breakaway type, w/release and clevis	2
1670-00-738-5878	Strap, connector, 60-in	1

**When rigged for drop on a DZ with ground elevation between 6,000 and 10,000 feet, one additional piece of honeycomb is required.

REFERENCES

- | | |
|--------------------------------------|--|
| AFR 71-4/TM 38-250 | Packaging and Materials Handling: Preparation of Hazardous Materials for Military Air Shipment |
| FM 10-500/TO 13C7-1-5 | Airdrop of Supplies and Equipment: General Information for Rigging Airdrop Platforms |
| FM 10-553/TO 13C7-18-41 | Airdrop of Supplies and Equipment: Rigging Ammunition |
| TM 9-2320-218-10 | Operator's Manual for 1/4-Ton, 4x4, M151 series vehicles; Truck, Utility: 1/4-Ton, 4x4, M151, M151A1, M151A2, Truck Utility, 106-mm Recoilless Rifle, M151A1C, 1/4 Ton, 4x4, M825 and Truck, Ambulance, Frontline: 1/4 Ton, 4x4, M718 and M718A1 |
| TM 9-2320-218-20 | Organizational Maintenance Manual for 1/4-Ton, 4x4: Truck, Utility: M151, M151A1, M151A2; Truck, Utility: M151A1C, M825, with 106-mm Recoilless Rifle; Truck, Ambulance, Front Line: M718, M718A1 |
| TM 9-2320-218-20P | Organizational Maintenance Repair Parts and Special Tools List for Truck, Utility: 1/4-Ton, 4x4, M151, M151A1, M151A2, M151A1C, M825, 106-mm Recoilless Rifle; Truck, Ambulance, Frontline: 1/4-Ton, 4x4, M718 and M718A1 |
| TM 10-1670-208-20&P/
TO 13C3-4-12 | Organizational Maintenance Manual Including Repair Parts and Special Tools List for Platforms, Type II Modular and LAPES/Airdrop Modular |

References-1