

# LOADING, TIEDOWN, AND UNLOADING PROCEDURES FOR BOXED AMMUNITION AND COMPONENTS (PALLETIZED\* AND UNPALLETIZED) IN/ON TACTICAL VEHICLES

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\* THROUGHOUT THIS PROCEDURAL DRAWING WHICH INCLUDES PROCEDURES FOR BOTH PALLETIZED UNITS AND SKIDDED UNITS, THE GUIDANCE SHOWN FOR ONE TYPE OF UNIT MAY ALSO BE USED FOR THE OTHER TYPE.

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## GENERAL NOTES

- A. THIS DOCUMENT HAS BEEN PREPARED AND ISSUED IN ACCORDANCE WITH AR 740-1.
- B. THIS DRAWING COVERS PROCEDURES APPLICABLE TO THE TRANSPORT OF LOOSE AND/OR PALLETIZED BOXED AMMUNITION, SECURED WITH WEB STRAP TIEDOWN ASSEMBLIES, IN/ON TACTICAL TYPE VEHICLES, FOR ON AND/OR OFF HIGHWAY. SEE NOTE "D" BELOW.
- C. DEPICTED PROCEDURES APPLY TO TACTICAL VEHICLES HAVING FACTORY INSTALLED TIEDOWN ANCHORS AND/OR TACTICAL VEHICLES WHICH HAVE BEEN MODIFIED TO INCLUDE THE UNIVERSALLY APPLICABLE "TIEDOWN KITS" WHICH CONSISTS OF THE TIEDOWN FITTINGS OR ANCHOR DEVICES FOR INSTALLATION IN/ON CARGO BEDS, SIDE WALLS, AND/OR END WALLS, FOR USE WITH WEB STRAP TIEDOWN ASSEMBLIES. SEE PAGE 29 FOR GUIDANCE.
- D. ALL LOADS SHOWN HEREIN ARE TYPICAL AND ARE BASED ON TESTED PROCEDURES FOR OFF HIGHWAY TRANSPORT OF LOOSE AND/OR PALLETIZED BOXED AMMUNITION. COMBINATIONS OF PROCEDURES MAY BE USED IN/ON ANY TACTICAL VEHICLE. HOWEVER, THE APPROVED METHODS SPECIFIED HEREIN MUST BE FOLLOWED AS CLOSELY AS POSSIBLE.
- E. BECAUSE OF THE FACT THAT ALL LOADS SHOWN HEREIN ARE TYPICAL IT IS MOST LIKELY THAT THE ACTUAL QUANTITY TO BE TRANSPORTED WILL NOT BE DEPICTED. IN ORDER TO MAINTAIN SIMILARITY FROM ONE LOAD TO ANOTHER, INSTALLATIONS WHICH MAKE MULTIPLE SHIPMENTS OF THE SAME ITEM IN THE SAME TYPE OF VEHICLE, SHOULD MAKE AN ACTUAL PENCIL SKETCH OF THE LOAD, USING THE VARIOUS TYPICAL LOADS AND PROCEDURES SHOWN HEREIN FOR GUIDANCE. THIS SKETCH WOULD BE ADVANTAGEOUS FOR MAXIMUM LOADS USING A MINIMUM QUANTITY OF WEB STRAP TIEDOWN ASSEMBLIES.
- F. WEB STRAP TIEDOWN ASSEMBLIES MUST BE SECURELY HOOKED INTO ANCHORING DEVICES ON THE TRANSPORTING VEHICLE AND RATCHETED TIGHT, PRIOR TO MOVING THE VEHICLE. WHEN INSTALLING STRAPS ASSURE THAT THERE ARE NO "TWISTS" AND/OR "KNOTS" IN STRAP. THE STRAP MUST FORM A STRAIGHT "LAY" ON THE RATCHET TAKE-UP SPOOL WHEN TENSIONING. PRIOR TO RATCHETING THE STRAP TIGHT, PULL EXCESS LENGTH OF SLACK STRAP THROUGH THE RATCHET TAKE-UP SPOOL UNTIL ENOUGH STRAP LENGTH REMAINS TO FORM AT LEAST ONE-HALF, BUT NOT MORE THAN ONE AND ONE-HALF WRAPS OF STRAP ON THE RATCHET TAKE-UP SPOOL, AFTER STRAP-TO-STRAP CONTACT HAS BEEN MADE (STRAP-TO-STRAP CONTACT IS MADE BY ROTATING THE TAKE-UP SPOOL UNTIL NO METAL ON THE SPOOL IS SHOWING AND THE STRAP IS IN CONTACT WITH ITSELF). NOTE: WHEN THE TAKE-UP SPOOL OF THE RATCHET ASSEMBLY IS ROTATED BY MOVING THE RATCHET HANDLE TO TENSION A STRAP ASSEMBLY, TWO THICKNESSES OF STRAP WILL BE WOUND ONTO THE SPOOL AT THE SAME TIME. THEREFORE, THE REQUIREMENT FOR ONE-HALF TO ONE AND ONE-HALF WRAPS OF STRAP ON THE TAKE-UP SPOOL ACTUALLY MEANS ONE-HALF TO ONE AND ONE-HALF OF DOUBLED STRAP. ONE METHOD THAT CAN BE USED TO ENSURE THERE IS ONE-HALF WRAP OF STRAP ON THE RATCHET TAKE-UP SPOOL AFTER STRAP-TO-STRAP CONTACT HAS BEEN MADE IS TO COUNT THE AUDIBLE "CLICKS" MADE BY THE RATCHET ASSEMBLY AS A WEB STRAP IS BEING RATCHETED. FOR EXAMPLE, IF THE RATCHET ASSEMBLY HAS NINE TEETH, STARTING WITH A BARE TAKE-UP SPOOL, COUNT FOURTEEN "CLICKS" AS THE TAKE-UP SPOOL IS BEING ROTATED. IF THE RATCHET ASSEMBLY HAS ELEVEN TEETH, COUNT SEVENTEEN "CLICKS". AFTER A STRAP ASSEMBLY HAS BEEN PROPERLY TENSIONED, CARE MUST BE EXERCISED TO ASSURE THAT THE TAKE-UP SPOOL LOCKING LATCH (SPRING-LOADED DEVICE WITH A LOCKING BAR ON EACH SIDE OF THE RATCHET ASSEMBLY) IS FULLY SEATED ON BOTH SIDES IN MATCHING LOCKING NOTCHES, WHICH ARE SIMILAR TO SPROCKET GEAR TEETH, LOCATED ON EACH END OF THE TAKE-UP SPOOL. AFTER TENSIONING IS COMPLETED THE LOOSE END OF STRAP MAY BE FOLDED AND SECURED TO THE TENSIONED STRAP WITH TAPE, WIRE, STRING, VELCRO STRIP, OR OTHER MEANS.
- G. ADJUSTABLE SLEEVES, WHEN PROVIDED ON WEB STRAP ASSEMBLIES, WILL BE LOCATED TO PROVIDE A PAD WHERE STRAPS PASS OVER SHARP EDGES, OR RATCHETS AND HOOKS ON PREVIOUSLY INSTALLED WEB STRAP TIEDOWN ASSEMBLIES. METAL PARTS OF A STRAP ASSEMBLY SHOULD BE LOCATED SO AS TO AVOID CONTACT WITH THE BOXES IF POSSIBLE. IF CONTACT CANNOT BE AVOIDED, A SUITABLE ANTI-CHAFING MATERIAL, CANVAS, BURLAP, TAPE OR ANY OTHER SUITABLE MATERIAL MUST BE POSITIONED BETWEEN THE METAL PARTS OF A STRAP ASSEMBLY AND THE BOXES, AND IF NECESSARY, TAPED OR TIED IN POSITION.
- H. IF THE SIDE RACKS FOR A SEMITRAILER ARE TO BE TRANSPORTED ON THE LOADED TRAILER, THEY WILL BE STACKED ON THE TRAILER AND SECURED WITH A SUFFICIENT QUANTITY OF WEB STRAP TIEDOWN ASSEMBLIES TO PREVENT LOSS DURING TRANSPORT. NOTE: IF DESIRED, THE SIDE RACKS FOR THE M871 AND M872 SEMITRAILERS MAY BE POSITIONED IN PLACE AFTER THE LOAD HAS BEEN SECURED. AFTER ALL SIDE PANELS AND REAR PANELS ARE IN POSITION THE STAKES MUST BE SECURELY "PINNED" OR "WIRE-TIED" TO THE STAKE POCKETS TO PREVENT VERTICAL DISPLACEMENT DURING TRANSPORT. ALSO, THE SIDE PANELS MUST BE SECURED AT THE TOP WITH THE CROSS-CHAINS WHICH ARE PROVIDED WITH THE VEHICLE. NOTE: THESE PROCEDURES DO NOT APPLY TO M871 AND M872 SEMITRAILERS WHICH HAVE BEEN MODIFIED WITH DROP SIDES.

(CONTINUED AT RIGHT)

## MATERIAL SPECIFICATION

STRAP: WEBBING, UNIVERSAL TIEDOWN, NSN 5340-00-980-9277, PN 10900880; OR NSN 1670-00-723-1437, PN 0376-013. ALTERNATIVE: NSN 5340-01-089-4997, PN 11669588, OR NSN 5340-01-204-3009, PN 9392419.

## (GENERAL NOTES CONTINUED)

- J. THE TIEDOWN PROCEDURES SHOWN WITHIN THIS DRAWING ALSO APPLY TO DROP SIDE VEHICLES HAVING TIEDOWN ANCHORS INSTALLED ON THE DROP SIDES. THE TAILGATE MUST ALWAYS BE IN THE CLOSED POSITION TO HELP STRENGTHEN THE DROP SIDES, WHEN THIS TYPE VEHICLE IS BEING USED TO TRANSPORT AMMUNITION.
- K. DURING LONG HAULS, WHEN POSSIBLE, STRAPS SHOULD BE CHECKED DURING VEHICLE STOPS AND TIGHTENED, IF NECESSARY.
- L. PROCEDURES DEPICTED HEREIN ARE TYPICAL IN NATURE RELATIVE TO ITEM LOCATION IN/ON THE VEHICLES AND THE QUANTITIES SHOWN. ITEM LOCATION AND QUANTITIES OF THE DESIGNATED ITEM MAY BE VARIED TO SATISFY OPERATIONAL REQUIREMENTS, PROVIDED LOADING AND TIEDOWN PRINCIPLES SPECIFIED HEREIN ARE RETAINED.
- M. THE TIEDOWN METHODS WITHIN THIS DRAWING SHOW TWO HOOKS TO BE CONNECTED TO ONE TIEDOWN EYE. THIS IS AUTHORIZED AS SPECIFIED HEREIN.
- N. CONVERSION TO METRIC EQUIVALENTS: DIMENSIONS WITHIN THIS DOCUMENT ARE EXPRESSED IN INCHES, AND WEIGHTS ARE EXPRESSED IN POUNDS. WHEN NECESSARY THE METRIC EQUIVALENTS MAY BE COMPUTED ON THE BASIS OF ONE INCH EQUALS 25.4MM AND ONE POUND EQUALS 0.454KG.
- O. ONLY THE CARGO BODIES OR BEDS OF THE TACTICAL VEHICLES HAVE BEEN SHOWN HEREIN TO PREVENT DISTRACTION FROM THE DELINEATED LOADING AND TIEDOWN PROCEDURES, AND ARE SHOWN IN OUTLINE FORM WITH THE STRUCTURAL PORTIONS OMITTED AS NECESSARY TO IMPROVE THE CLARITY OF THE DEPICTED PROCEDURES.
- P. WHEN ONE WEB STRAP TIEDOWN ASSEMBLY IS NOT LONG ENOUGH TO SPAN THE DISTANCE DEPICTED, TWO ASSEMBLIES MAY BE HOOKED TOGETHER TO GAIN THE NECESSARY LENGTH.
- Q. FOR ADDITIONAL GUIDANCE ATTENTION IS DIRECTED TO THE LOADING, TIEDOWN, AND UNLOADING PROCEDURES ON PAGE 5, AND THE "SPECIAL NOTES" SECTIONS ON PAGES 6, 22, AND 29.
- R. THROUGHOUT THIS DRAWING, REFERENCE TO "PALLETIZED UNIT" OR "SKIDDED UNIT" MAY BE INTERPRETED TO INCLUDE EITHER OR BOTH TYPES.

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NOTE: IF LOADING A "HEMTT" SEE SPECIAL HEMTT  
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31 APPLY TO THE "HEMTT" ONLY.

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TIEDOWN ANCHOR DETAILS-----	32
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NOTE \*: THE TACTICAL VEHICLES LISTED IN THE INDEX ABOVE AND  
SHOWN WITHIN THIS DRAWING WERE SELECTED AS TYPICAL ONLY. OTHER  
TYPES OF VEHICLES MAY BE USED IN LIEU OF THOSE SHOWN AS LONG AS  
THEY COMPLY WITH GENERAL NOTE "C" ON PAGE 2. SEE THE "LOAD PLANNING  
GUIDANCE CHART" ON THIS PAGE. ALSO, THE PALLETIZED UNITS, SKIDDED  
UNITS, AND/OR LOOSE BOXES SHOWN IN THE TACTICAL VEHICLES HAVE BEEN  
SELECTED AS TYPICAL, AND THE METHODS USED TO SECURE THEM MAY BE  
USED FOR UNITS OR BOXES OF OTHER ITEMS, QUANTITIES, OR SIZES.

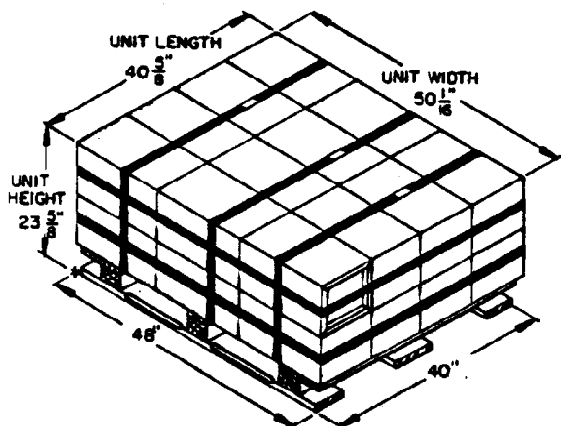
LOAD PLANNING GUIDANCE CHART

WHEN TRANSPORTING BOXED AMMUNITION ON TACTICAL VEHICLES,  
USE THE FOLLOWING CHART FOR LOAD PLANNING GUIDANCE.  
SEE "NOTE \*" ON THIS PAGE.

TACTICAL VEHICLE			BOXED AMMUNITION	
			PALLETIZED SEE PAGE (S)	LOOSE SEE PAGE (S)
M100	CARGO TRAILER	1/4 TON	N/A	24 THRU 27
M101	CARGO TRAILER	3/4 TON	7	24 THRU 27
M105	CARGO TRAILER	1-1/2-TON	7, 8	24 THRU 27
M332	AMMO TRAILER	1-1/2-TON	7	26 THRU 27
M127	SEMITRAILER	12-TON	17, 18, 19	27, 28
M871	SEMITRAILER	22-1/2-TON	17, 18, 19	27, 28
M872	SEMITRAILER	34-TON	17, 18, 19	27, 28
M37	CARGO TRUCK	3/4 TON	7	24 THRU 27
M561	CARGO TRUCK	1-1/4-TON	7, 8	24 THRU 27
M715	CARGO TRUCK	1-1/4-TON	7, 8	24 THRU 27
M1008	CARGO TRUCK	1-1/4-TON	20	25
M998	CARGO TRUCK	1-1/4-TON	21	23, 24
M34	CARGO TRUCK	2-1/2-TON	7 THRU 14	26 THRU 28
M35	CARGO TRUCK	2-1/2-TON	7 THRU 14	26 THRU 28
M36/M36C	CARGO TRUCK	2-1/2-TON	7 THRU 14	26 THRU 28
M135	CARGO TRUCK	2-1/2-TON	7 THRU 14	26 THRU 28
M211	CARGO TRUCK	2-1/2-TON	7 THRU 14	26 THRU 28
M602	CARGO TRUCK	2-1/2-TON	7 THRU 14	26 THRU 28
M47	DUMP TRUCK	2-1/2-TON	7 THRU 14	26 THRU 28
M59	DUMP TRUCK	2-1/2-TON	7 THRU 14	26 THRU 28
M215	DUMP TRUCK	2-1/2-TON	7 THRU 14	26 THRU 28
M342	DUMP TRUCK	2-1/2-TON	7 THRU 14	26 THRU 28
M614	DUMP TRUCK	2-1/2-TON	7 THRU 14	26 THRU 28
M624	DUMP TRUCK	2-1/2-TON	7 THRU 14	26 THRU 28
M41	CARGO TRUCK	5-TON	7 THRU 14	26 THRU 28
M54	CARGO TRUCK	5-TON	7 THRU 14	26 THRU 28
M55	CARGO TRUCK	5-TON	7 THRU 14	26 THRU 28
M656	CARGO TRUCK	5-TON	7 THRU 14	26 THRU 28
M813	CARGO TRUCK	5-TON	7 THRU 14	26 THRU 28
M814	CARGO TRUCK	5-TON	7 THRU 14	26 THRU 28
M939	CARGO TRUCK	5-TON	7 THRU 14	26 THRU 28
M51	DUMP TRUCK	5-TON	7 THRU 14	26 THRU 28
M817	DUMP TRUCK	5-TON	7 THRU 14	26 THRU 28
M548	CARGO CARRIER	6-TON	7 THRU 16	26 THRU 28
M320	CARGO TRUCK	8-TON	7 THRU 16	26 THRU 28
M125	CARGO TRUCK	10-TON	7 THRU 14	26 THRU 28
M977/ M985	CARGO TRUCK	10-TON	31	29

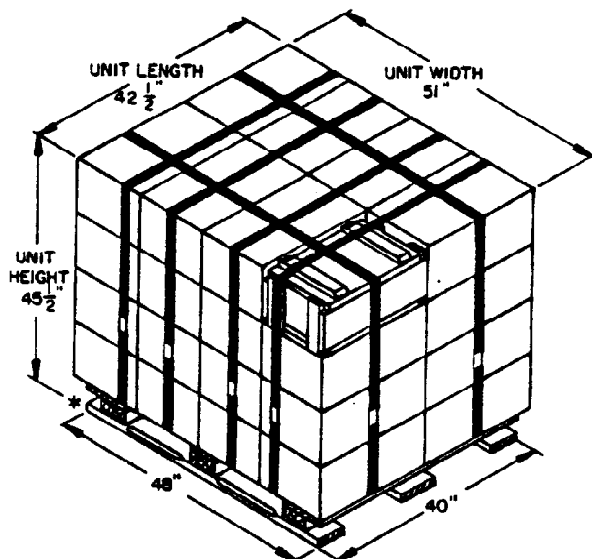
LOAD PLANNING NOTES:

1. DETERMINE THE QUANTITY OF PALLETIZED, SKIDDED UNIT (S)  
AND/OR LOOSE BOXES OF AMMUNITION TO BE LOADED IN/ON  
THE TACTICAL VEHICLE.
2. SELECT THE BEST METHOD OF SECURING THE UNIT (S) AND/OR  
LOOSE BOXES FROM THE METHODS SHOWN ON THE REFERENCED  
PAGES. NOTE: A COMBINATION OF METHODS MAY BE USED  
ON/WITHIN THE SAME TACTICAL VEHICLE.



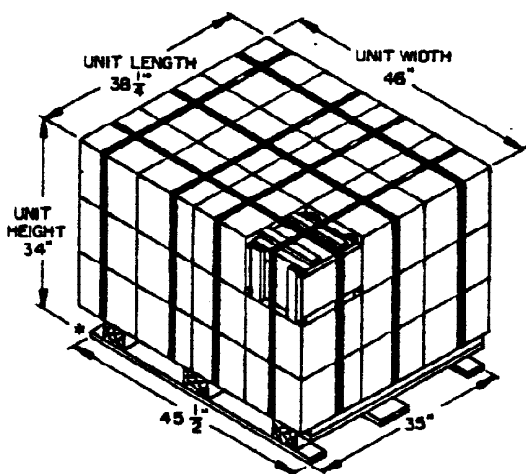
**PALLETIZED UNIT OF BOXED AMMUNITION**

(48" X 48" PALLET)



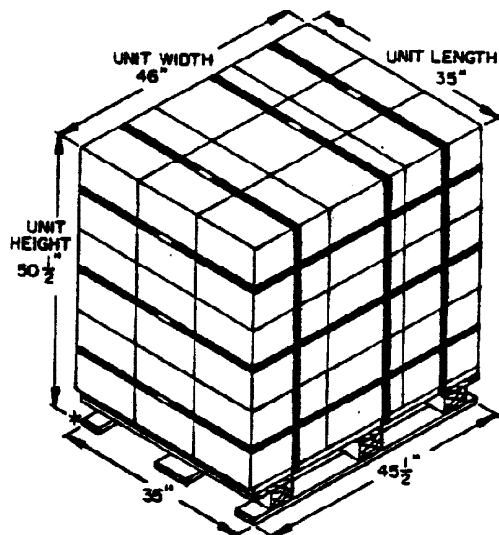
**PALLETIZED UNIT OF BOXED AMMUNITION**

(48" X 48" PALLET)



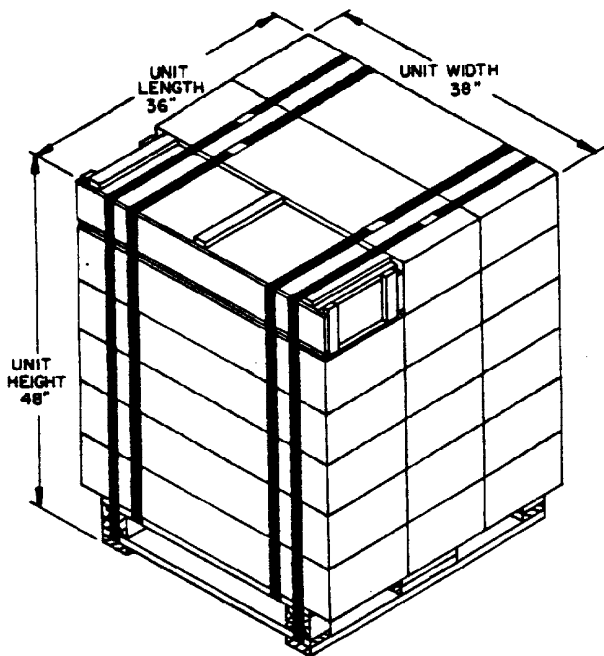
**PALLETIZED UNIT OF BOXED AMMUNITION**

(35" X 45-1/2" PALLET)

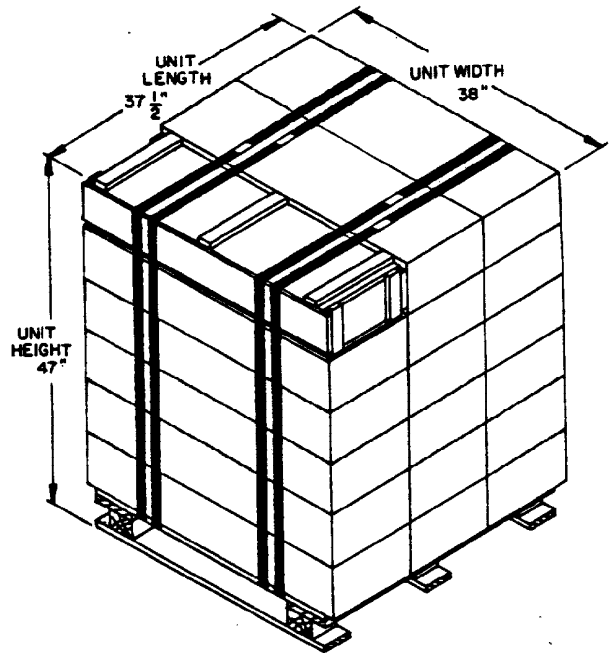


**PALLETIZED UNIT OF BOXED AMMUNITION**

(35" X 45-1/2" PALLET)



**SKIDDED UNIT OF BOXED AMMUNITION**  
(TYPE I BASE)



**SKIDDED UNIT OF BOXED AMMUNITION**  
(TYPE II BASE)

**LOADING, TIEDOWN, AND UNLOADING PROCEDURES:**

1. PRIOR TO LOADING AND/OR UNLOADING, "SET" BRAKES ON TACTICAL VEHICLE AND "DROP" TAILGATE. IF LOADING AND/OR UNLOADING TRUCK OR TRAILER, REMOVE SIDE RACKS FROM SEMITRAILERS, AND CANVAS COVER AND BOWS FROM TRUCK OR TRAILER.
2. AFTER ALL LOADING PROCEDURES ARE COMPLETE, CHECK ALL WEB STRAP TIEDOWN ASSEMBLIES FOR MAXIMUM TIGHTNESS AND RATCHET TIGHTER, IF REQUIRED, PRIOR TO FOLDING UP AND SECURING THE LOOSE ENDS OF STRAP. SEE GENERAL NOTE "G" ON PAGE 2.
3. WHEN TWO STRAPS ARE TO BE ATTACHED TO THE SAME TIEDOWN ANCHOR, ATTACH THE RATCHET END OF ONE STRAP AND THE NON-RATCHET END OF THE SECOND STRAP TO THE TIEDOWN ANCHOR, PRIOR TO RATCHETING STRAPS TIGHT.
4. IF THE WEB STRAP TIEDOWN ASSEMBLIES BEING USED DO NOT HAVE SWIVEL HOOKS ON EACH END, ASSURE THAT ALL TWISTS ARE OUT OF STRAP PRIOR TO ATTACHING HOOKS TO TIEDOWN ANCHORS.
5. WHEN TRANSPORTING LESS THAN FULL LOADS ON TRUCKS AND/OR SEMITRAILERS, DO NOT POSITION PALLETIZED UNITS WITHIN FIVE FEET OF AFT END, IF POSSIBLE, AS THIS IS THE ROUGHEST RIDING AREA IN/ON THE VEHICLE.
6. WHEN USING WEB STRAP TIEDOWN ASSEMBLIES THAT HAVE THE RATCHET AND NON-SWIVEL HOOK ON THE END OF THE STRAP, IT MAY NOT BE POSSIBLE TO PROPERLY OPERATE THE RATCHET IF THE SPACE BETWEEN THE LOAD AND THE VERTICAL SIDE WALL IS LESS THAN 12" AND THE STRAP IS POSITIONED AT A STEEP, NEAR VERTICAL ANGLE. IF THE RATCHET CANNOT BE PROPERLY OPERATED TO ATTAIN A TIGHT STRAP, USE ONE OR MORE OF THE FOLLOWING METHODS.
  - A. HOOK THE RATCHET ENDS OF TWO WEB STRAP TIEDOWN ASSEMBLIES TOGETHER. POSITION THE RATCHETS ON TOP OF THE PALLETIZED UNITS, AND ATTACH THE NON-RATCHET HOOK END OF EACH STRAP TO A TIEDOWN ANCHOR ON EACH SIDE OF THE VEHICLE. MAKE SURE THERE IS A MINIMUM OF ONE-AND-ONE-HALF WRAPS OF STRAP ON ONE RATCHET, THEN TAKE UP EXCESS SLACK IN REMAINING RATCHET AND RATCHET TIGHT. THIS METHOD REQUIRES TWO WEB STRAP TIEDOWN ASSEMBLIES IN LIEU OF EACH STRAP MARKED ①, WHEN USING THE PROCEDURES SHOWN ON PAGES 7, 11, 12, 14, AND 15.
  - B. IF A MAXIMUM LOAD IS NOT REQUIRED, THE PALLETIZED UNITS CAN BE POSITIONED ONE WIDE, DOWN THE CENTER OF THE VEHICLE LENGTH, IN LIEU OF TWO WIDE.
  - C. TWO LATERALLY ADJACENT PALLETIZED UNITS MAY BE CENTERED BETWEEN TWO TIEDOWN ANCHORS ON EACH SIDE OF THE VEHICLE THAT ARE FARTHER APART THAN THE PALLETIZED UNIT WIDTH, TO WHICH THE HOLD DOWN WEB STRAPS CAN BE ATTACHED, AND WHICH WILL PROVIDE CLEARANCE BETWEEN THE PALLETIZED UNIT AND THE STRAP RATCHET, AND BETWEEN THE SIDE WALLS OF THE VEHICLE AND THE STRAP RATCHET. SEE THE LOAD ON PAGE 13 FOR EXAMPLE.

(CONTINUED AT RIGHT)

**(LOADING, TIEDOWN, AND UNLOADING PROCEDURES CONT)**

- D. ONE PALLETIZED UNIT HAVING A LENGTH OF 40" OR LESS CAN BE POSITIONED LATERALLY ADJACENT TO THE PALLETIZED UNIT HAVING A LENGTH OF 43" OR MORE, TO REDUCE THE TOTAL LOAD WIDTH.
- E. WHEN LOADING LATERALLY ADJACENT PALLETIZED UNITS ACROSS THE WIDTH OF A VEHICLE HAVING SIDE WALLS, RATCHET OPERATING SPACE CAN BE GAINED BY ATTACHING NON-RATCHET ENDS OF STRAP TO TIEDOWN ANCHORS IN SIDE WALL AND THEN POSITIONING THE PALLETIZED UNITS AS CLOSE TO THAT SIDE WALL AS POSSIBLE, LEAVING EXCESS SPACE BETWEEN THE LOAD AND THE SIDE WALL ON THE OPPOSITE SIDE OF THE VEHICLE WHERE THE RATCHET WILL BE LOCATED. THIS METHOD MAY ALSO BE USED IN VEHICLES HAVING TIEDOWN ANCHORS LOCATED ON THE FLOOR ALONG EACH SIDE OF THE VEHICLE. AFTER ATTACHING NON-RATCHET ENDS OF STRAP TO TIEDOWN ANCHORS IN FLOOR, POSITION THE PALLETIZED UNITS AS CLOSE TO THE TIEDOWN ANCHORS ON THAT SIDE AS POSSIBLE.
- F. A WEB STRAP ASSEMBLY, SUCH AS NSN 5340-01-089-4997, HAVING A SHORT LENGTH OF STRAP (AT LEAST 15") BETWEEN THE RATCHET AND THE HOOK END MAY BE USED. THIS TYPE OF WEB STRAP POSITIONS THE RATCHET ABOVE THE SIDE WALLS IN CARGO TRUCKS, AND ALLOWS FOR EASY OPERATION OF THE RATCHET HANDLE.
7. IN SOME LOADS IT MAY NOT BE POSSIBLE TO COMPLETELY CLOSE THE RATCHET HANDLE AFTER TENSIONING STRAP DUE TO LOAD, VEHICLE SIDE WALL, OR PREVIOUSLY INSTALLED STRAP INTERFERENCE. ALTHOUGH THIS CONDITION IS NOT DESIRABLE, IT IS PERMISSIBLE. PROVIDED PROPER STRAP TENSION IS ACHIEVED. NOTE: WHEN ATTACHING A WEB STRAP TIEDOWN ASSEMBLY THAT HAS THE ONE PIECE RATCHET AND NON-SWIVEL HOOK ON THE END OF THE STRAP, TO A TIEDOWN ANCHOR ON THE VEHICLE SIDEWALL, IT MAY BE EASIER TO "WORK" THE RATCHET HANDLE IF IT IS POSITIONED ON THE BOTTOM IN LIEU OF THE TOP. THE POSITION OF THE RATCHET HANDLE WILL DEPEND ON THE ANGLE OF THE STRAP AND THE DISTANCE BETWEEN THE LOAD AND THE SIDE WALL OF THE VEHICLE.
8. LOADING AND/OR UNLOADING PALLETIZED AND/OR LOOSE BOXED AMMUNITION MAY BE ACCOMPLISHED BY USE OF FORKLIFTS, SLINGS, AND/OR MANUALLY.

NOTE: THE BOXED AMMUNITION SHOWN ON PAGE 4 AND THIS PAGE WERE SELECTED AS TYPICAL, AND ARE DEPICTED IN LOADS WITHIN THIS DOCUMENT.

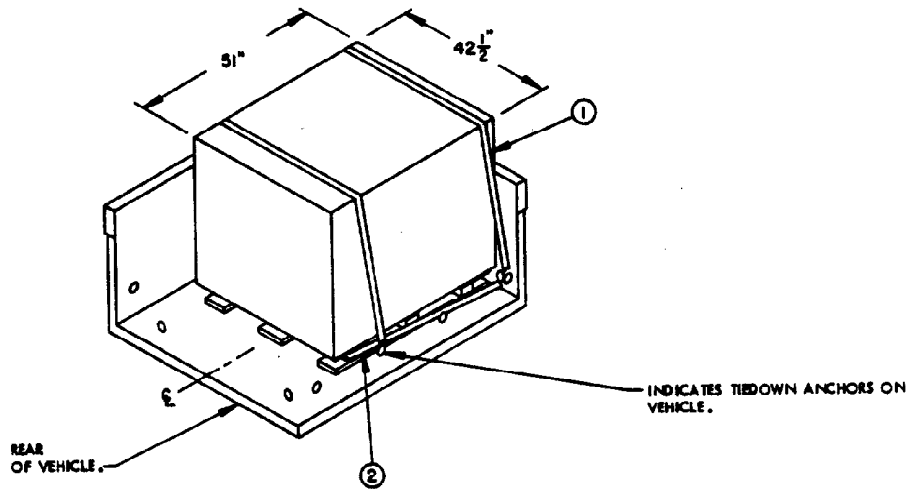
**TYPICAL LADING ITEMS**

**SPECIAL NOTES:**

1. THE LOADS SHOWN ON PAGE 7 THROUGH 21 ARE BASED ON TESTED METHODS OF SECURING PALLETIZED AND/OR SKIDDED UNITS OF BOXED AMMUNITION IN/ ON TACTICAL VEHICLES. THE PROCEDURES SHOWN CAN BE USED IN/ON CARGO TRUCKS SUCH AS THE M54, 5-TON, AND CARGO TRAILERS SUCH AS THE M103, 1-1/2-TON, HAVING TIEDOWN ANCHORS LOCATED IN THE SIDEWALLS AND END WALLS. ALSO, THE PROCEDURES SHOWN CAN BE USED ON SEMITRAILERS SUCH AS THE M871, 22-1/2-TON, AND CARGO TRUCK, SUCH AS THE M977, 10-TON, HEMTT, HAVING TIEDOWN ANCHORS LOCATED ON THE FLOOR. NOTE: IF LOADING A "HEMTT" ALSO SEE THE SPECIAL HEMTT LOADING SECTION ON PAGES 29 THROUGH 31.
2. THE TACTICAL VEHICLES SHOWN ARE TYPICAL ONLY AND OTHER TYPES OF VEHICLES MAY BE USED IN LIEU OF THOSE SHOWN AS LONG AS THEY COMPLY WITH GENERAL NOTE "C" ON PAGE 2.
3. MAXIMUM LOADS ARE SHOWN. HOWEVER, LESSER QUANTITIES MAY BE LOADED AND SECURED USING THE DEPICTED PROCEDURES.
4. PRIOR TO LOADING A TACTICAL VEHICLE, SELECT THE QUANTITY OF PALLETIZED OR SKIDDED UNITS TO BE LOADED. DO NOT EXCEED THE OFF-HIGHWAY WEIGHT LIMIT OF THE VEHICLE. SELECT A LOCATION AGAINST AN END WALL OF WITHIN THE LENGTH OF THE CARGO BED THAT WILL PROVIDE ADEQUATE TIEDOWN ANCHORS TO SECURE THE LOAD, USING THE TIEDOWN PROCEDURES DEPICTED ON PAGES 7 THROUGH 19 AS GUIDANCE. NOTE: WHEN POSSIBLE, ALWAYS POSITION THE PALLETIZED OR SKIDDED UNIT (S) AGAINST THE FORWARD END WALL OF THE VEHICLE.
5. EACH SINGLE PALLETIZED UNIT OR SKIDDED UNIT AND/OR TWO ADJACENT UNITS POSITIONED ACROSS THE WIDTH OF THE VEHICLE, AS SHOWN ON PAGES 7 THROUGH 19 MUST BE SECURED WITH TWO STRAPS ATTACHED TO TIEDOWN ANCHORS ON ONE SIDE OF VEHICLE, OVER TOP OF PALLETIZED OR SKIDDED UNIT (S), TO MATING TIEDOWN ANCHORS ON OPPOSITE SIDE OF VEHICLE. NOTE: DO NOT POSITION THESE STRAPS ACROSS LOAD ON LONGITUDINAL JOINTS BETWEEN UNITS. IF THE TIEDOWN ANCHORS ON SIDE OF VEHICLE ARE TOO CLOSE TOGETHER, TOO FAR APART, OR ARE NOT IN A LOCATION WHICH WILL ALLOW ADEQUATE HOLD DOWN OF PALLETIZED AND/OR SKIDDED UNIT (S) WHEN STRAPS ARE POSITIONED STRAIGHT OVER TOP OF LOAD, THE TWO HOLD DOWN STRAPS MAY BE CROSSED OVER THE TOP OF THE UNITS (S), AS SHOWN IN THE LOAD ON PAGE 9.
6. ALL LOADS, FROM ONE PALLETIZED AND/OR SKIDDED UNIT TO A MAXIMUM LOAD OF UNITS MUST BE SECURED LONGITUDINALLY WITH ONE STRAP AT EACH END, ATTACHED TO A TIEDOWN ANCHOR ON ONE SIDE OF THE VEHICLE AND POSITIONED AROUND THE END (S) OF THE UNITS, TO A MATING TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE, AS SHOWN IN THE LOADS ON PAGES 7 THROUGH 19. NOTE: IF THE LOAD IS POSITIONED AGAINST THE END WALL, AS SHOWN ON PAGE 10, ONLY ONE LONGITUDINAL RETAINING STRAP IS REQUIRED AT THE OPPOSITE END. IF THERE IS NOT ENOUGH ROOM BETWEEN LOAD AND SIDEWALL OF VEHICLE FOR THE STRAP RATCHET, HOOK THE RATCHET ENDS OF TWO WEB STRAP TIEDOWN ASSEMBLIES TOGETHER. POSITION THE RATCHETS AT THE END OF THE LOAD AND ATTACH THE NON-RATCHET HOOK END OF EACH STRAP TO A TIEDOWN ANCHOR ON EACH SIDE OF THE VEHICLE. MAKE SURE THERE IS A MINIMUM OF ONE AND ONE-HALF WRAPS OF STRAP ON ONE RATCHET, THEN TAKE UP EXCESS SLACK IN REMAINING RATCHET AND RATCHET TIGHT. THIS METHOD REQUIRES TWO WEB STRAP TIEDOWN ASSEMBLIES IN LIEU OF ONE AT EACH LOCATION WHERE A LONGITUDINAL RETAINING STRAP IS REQUIRED. WHEN TWO WEB STRAPS ARE HOOKED TOGETHER, IT MAY BE NECESSARY TO POSITION TO THE RATCHETS UP ON THE FIRST LAYER OF BOXES TO PROVIDE MORE ROOM FOR RATCHETING. IF A LOAD FILLS THE CARGO AREA OF A VEHICLE WITH ONLY SIX INCHES OR LESS SPACE REMAINING BETWEEN THE REAR OF THE LOAD AND THE REAR WALL OF THE VEHICLE NO LONGITUDINAL RETAINING STRAP IS REQUIRED.
7. THE M871 SEMITRAILER IS EQUIPPED WITH THREE DIFFERENT TYPES OF TIEDOWN FITTINGS AS INDICATED ON PAGE 18. TYPE I IS A REMOVABLE TIEDOWN FITTING THAT HAS ONE RING AND IS POSITIONED BY REACHING UNDER THE FLOOR OF THE TRAILER, INSERTING THE TIEDOWN FITTING UP THROUGH THE HOLE AND ROTATING IT INTO POSITION (NOTE THAT THIS REMOVABLE TIEDOWN FITTING IS ALSO USED ON THE M872 SEMITRAILER). THERE ARE TEN LOCATIONS FOR THESE TIEDOWN FITTINGS ON EACH SIDE OF THE M871 SEMITRAILER. TYPE II IS A REMOVABLE TIEDOWN FITTING THAT HAS TWO RINGS AND IS POSITIONED BY DEPRESSING A SPRING LOCK LEVER AND INSERTING THE TIEDOWN FITTING INTO A 1-3/4" DIAMETER HOLE FROM THE TOP. ASSURE THAT THE TIEDOWN FITTING IS FIRMLY SEATED AND ROTATED SO THE SPRING LOCK LEVER IS POINTING AWAY FROM THE DIRECTION OF PULL ON THE ATTACHED WEB STRAP TIEDOWN ASSEMBLY. THERE ARE TEN LOCATIONS FOR THESE TIEDOWN FITTINGS ON EACH SIDE OF THE M871 SEMITRAILER. TYPE III IS A FIXED TIEDOWN FITTING THAT HAS ONE RING AND IS RECESSED INTO THE FLOOR. THERE ARE FIVE OF THESE TIEDOWN FITTINGS ON EACH SIDE OF THE M871 SEMITRAILER. NO TYPE I TIEDOWN FITTINGS ARE REQUIRED FOR THE LOAD SHOWN ON PAGE 18. HOWEVER, TYPE I TIEDOWN FITTINGS MAY BE USED, IF AVAILABLE, WHEN THERE IS INSUFFICIENT QUANTITY OF TYPE II TIEDOWN FITTINGS TO SECURE THE LOAD. SEE "TIEDOWN ANCHOR DETAILS" ON PAGE 32.
8. THE M872 SEMITRAILER IS EQUIPPED WITH TWO DIFFERENT TYPES OF TIEDOWN FITTINGS AS INDICATED ON PAGE 19. TYPE I IS A REMOVABLE TIEDOWN FITTING THAT HAS ONE RING AND IS POSITIONED BY REACHING UNDER THE FLOOR OF THE TRAILER, INSERTING THE TIEDOWN FITTING UP THROUGH THE HOLE AND ROTATING IT INTO POSITION (NOTE THAT THIS REMOVABLE TIEDOWN FITTING MAY ALSO BE USED ON THE M871 SEMITRAILER). THERE ARE TWENTY-EIGHT LOCATIONS FOR THESE TIEDOWN FITTINGS ON EACH SIDE OF THE M872 SEMITRAILER. HOWEVER, THE QUANTITY AND LOCATION MAY VARY ON SOME M872 SEMITRAILERS. THE SECOND TYPE OF TIEDOWN FITTING IS THE "TEE-HOOK". THIS IS A REMOVABLE TIEDOWN FITTING EQUIPPED WITH ONE ELONGATED RING AND IS POSITIONED BY INSERTING IT INTO ONE OF THE ELONGATED SLOTTED HOLES WHICH ARE AT A 45° ANGLE TO THE SIDE OF THE TRAILER. THERE ARE FIVE LOCATIONS FOR THESE TIEDOWN FITTINGS ON EACH SIDE OF THE M872 SEMITRAILER. HOWEVER, THE QUANTITY AND LOCATION MAY VARY ON SOME M872 SEMITRAILERS. ASSURE THAT THE TIEDOWN FITTING IS FIRMLY SEATED AND ROTATED APPROXIMATELY 45° TO ENGAGED POSITION BEFORE ATTACHING THE WEB STRAP TIEDOWN ASSEMBLY. SEE "TIEDOWN ANCHOR DETAILS" ON PAGE 32.
9. WHEN LOADING SEMITRAILERS, POSITION THE PALLETIZED OR SKIDDED UNITS IN SUCH A MANNER THAT THE WEIGHT IS DISTRIBUTED ON THE "KING-PIN" AND/OR THE "REAR AXLES". DO NOT POSITION UNITS WITHIN FIVE FEET OF THE AFT END OF THE SEMITRAILER, IF POSSIBLE, AS THIS IS THE ROUGHEST RIDING AREA ON THE SEMITRAILER.

**(SPECIAL NOTES CONTINUED)**

- DUE TO REAR DECK OVERHANG.
10. IF A SEMITRAILER, STAKE, 12-TON, M127, IS TO BE USED, AND IT IS NOT EQUIPPED WITH TIEDOWN ANCHORS, SEE GENERAL NOTE "C" ON PAGE 2 AND "NOTE ③" ON PAGE 32.
  11. THE PROCEDURES SHOWN ON PAGES 17 THROUGH 19 ARE FOR USE ON SEMITRAILERS THAT HAVE BEEN MODIFIED WITH "DROP-SIDES".
  12. THE PROCEDURES SHOWN ON PAGE 21 ARE DESIGNED FOR SHIPMENT OF PALLETIZED OR SKIDDED UNITS IN THE HIGH MOBILITY MULTI-PURPOSE VEHICLE (HMMWV).



ISOMETRIC VIEW

**KEY NUMBERS**

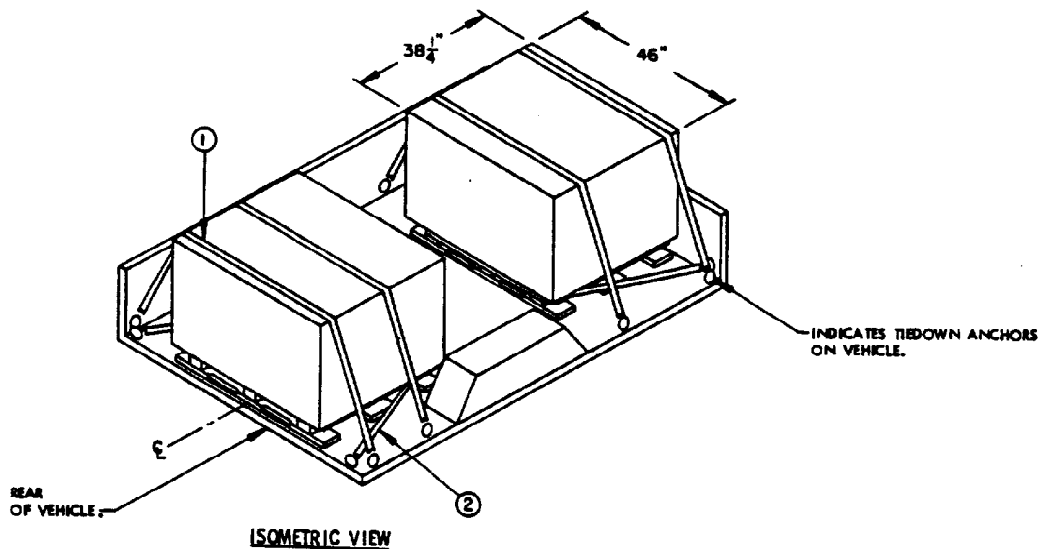
**LOAD GUIDANCE NOTES:**

1. A MAXIMUM LOAD OF ONE PALLET OF BOXED AMMUNITION IS SHOWN IN A TRAILER, AMMUNITION, 1-1/2 TON, M332, HAVING INSIDE DIMENSIONS OF 68-1/2" LONG BY 55-3/8" WIDE. **NOTE:** THE MAXIMUM LOAD IS BASED ON THE DIMENSIONS OF THE PALLETIZED UNIT SHOWN.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS LOCATED ON THE SIDEWALL, END WALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN.
3. A PALLETIZED UNIT OF BOXED AMMUNITION HAVING DIMENSIONS OF 51" WIDE BY 42-1/2" LONG BY 49-1/2" HIGH IS SHOWN AS A TYPICAL LOAD. IF LOADING PALLETIZED UNITS OF OTHER ITEMS AND DIMENSIONS, FOLLOW THESE SAME PROCEDURES. SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTES 6 AND 7 ON PAGE 5, AND SPECIAL NOTE 4 ON PAGE 6, FOR GUIDANCE ON SECURING WIDE LOADS.
4. IF DESIRED, THE PALLETIZED UNIT MAY BE POSITIONED AGAINST THE REAR WALL OF THE TRAILER AND/OR VEHICLE.
5. A TOTAL OF THREE WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN. SEE THE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTE 6 ON PAGE 5.

- ① WEB STRAP TIEDOWN ASSEMBLY ( 2 REQD ). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF PALLETIZED UNIT, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 5 ON PAGE 6.
- ② WEB STRAP TIEDOWN ASSEMBLY ( 1 REQD ). INSTALL STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE WALL OF VEHICLE, AROUND END OF PALLET ( 5 ), AS SHOWN, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 6 ON PAGE 6.

**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT (APPROX)
PALLETIZED UNIT	1	1,750 LBS



#### KEY NUMBERS

- ① WEB STRAP TIEDOWN ASSEMBLY (4 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF PALLETIZED UNIT (S), TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTE "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 5 ON PAGE 6.
- ② WEB STRAP TIEDOWN ASSEMBLY (2 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON END WALL OF VEHICLE, AROUND END OF PALLET (S), AS SHOWN, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 6 ON PAGE 6.

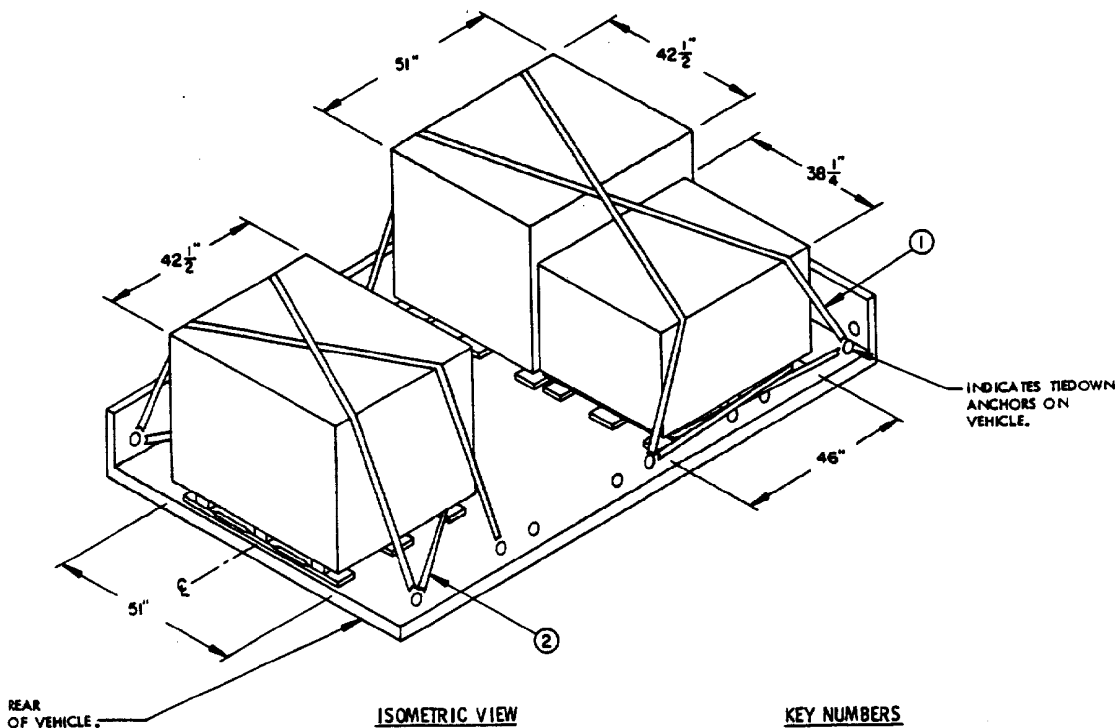
#### LOAD GUIDANCE NOTES:

1. A MAXIMUM LOAD OF TWO PALLETIZED UNITS OF BOXED AMMUNITION IS SHOWN IN A TRAILER, CARGO, 1-1/2-TON, M105, HAVING INSIDE DIMENSIONS OF 110" LONG BY 74" WIDE. NOTE: THE MAXIMUM LOAD IS BASED ON THE WEIGHT OF THE PALLETIZED UNIT SHOWN.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ON THE SIDEWALL, END WALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. TWO PALLETIZED UNITS OF BOXED AMMUNITION HAVING DIMENSIONS OF 46" WIDE BY 38-1/4" LONG BY 34" HIGH, ARE SHOWN AS A TYPICAL LOAD. IF LOADING PALLETIZED UNITS OF OTHER ITEMS, SIZES, OR QUANTITIES, FOLLOW THESE SAME PROCEDURES. SEE THE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTES 6 AND 7 ON PAGE 5, AND SPECIAL NOTE 4 ON PAGE 6.
4. A TOTAL OF SIX WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN. SEE THE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTE 6 ON PAGE 5 FOR GUIDANCE ON SECURING WIDE LOADS.

#### LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLETIZED UNITS	2	2,600 LBS





ISOMETRIC VIEW

KEY NUMBERS

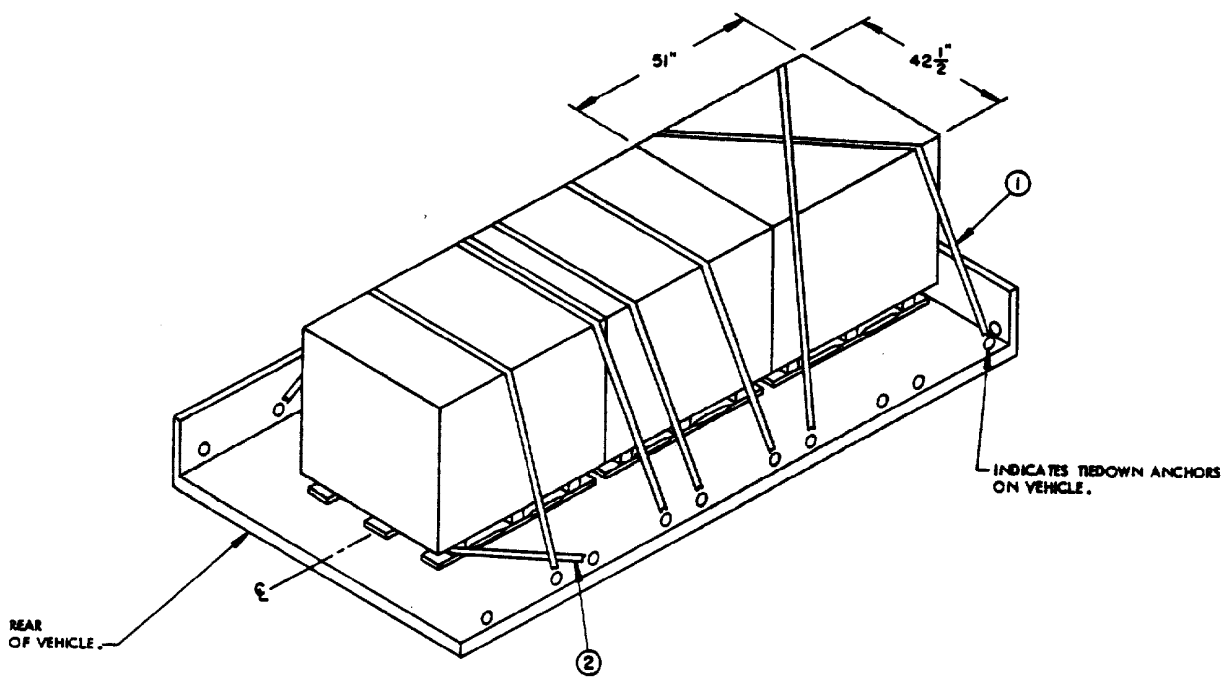
- ① WEB STRAP TIEDOWN ASSEMBLY (4 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF PALLETIZED UNIT (5), TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 5 ON PAGE 6.
- ② WEB STRAP TIEDOWN ASSEMBLY (3 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE WALL OF VEHICLE, AROUND END OF PALLET (5), AS SHOWN, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 6 ON PAGE 6.

LOAD GUIDANCE NOTES:

1. A MAXIMUM LOAD OF THREE PALLETIZED UNITS OF BOXED AMMUNITION IS SHOWN IN A TRUCK, CARGO, 2-1/2 TON, M35 AND/OR M211, HAVING INSIDE DIMENSIONS OF 147" LONG BY 88" WIDE. NOTE: THE MAXIMUM LOAD IS BASED ON THE WEIGHT OF THE PALLETIZED UNIT SHOWN.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, AND/OR TRAILERS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ON THE SIDEWALL, END WALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. ONE PALLETIZED UNIT OF BOXED AMMUNITION HAVING DIMENSIONS OF 46" WIDE BY 38-1/4" LONG BY 34" HIGH, AND TWO PALLETIZED UNITS HAVING DIMENSIONS OF 51" WIDE BY 42-1/2" LONG BY 45-1/2" HIGH, ARE SHOWN IN THE LOAD ABOVE. IF LOADING PALLETIZED UNITS OF OTHER ITEM, SIZES, OR QUANTITIES, FOLLOW THESE SAME PROCEDURES.
4. PALLETIZED UNITS HAVING A LENGTH OF 44" OR GREATER CANNOT BE POSITIONED TWO WIDE IN AN 88" WIDE CARGO TRUCK. IN ORDER TO ACHIEVE A MAXIMUM LOAD, A PALLETIZED UNIT HAVING A LENGTH OF 48" OR LESS MAY BE POSITIONED LATEROALLY ADJACENT TO A PALLETIZED UNIT HAVING A LENGTH OF 44" AS SHOWN AT THE FORWARD END OF THE VEHICLE ABOVE, OR THE PALLETIZED UNITS HAVING A LENGTH OF 44" OR GREATER MAY BE POSITIONED ONE WIDE, LONGITUDINALLY ADJACENT TO EACH OTHER, DOWN THE CENTER OF THE VEHICLE, AS SHOWN AT THE REAR OF THE VEHICLE ABOVE AND/OR IN THE LOAD ON PAGE 10. SEE THE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTES 6 AND 7 ON PAGE 5, FOR GUIDANCE ON SECURING WIDE LOADS.
5. A TOTAL OF SEVEN WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN ABOVE. SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTE 6 ON PAGE 5.
6. STRAPS MARKED ①, POSITIONED OVER TOP OF THE TWO LATEROALLY ADJACENT PALLETIZED UNITS AT THE FORWARD END OF THE VEHICLE IN THE LOAD ABOVE, ARE ATTACHED TO TIEDOWN ANCHORS ON THE SIDE OF THE VEHICLE THAT ARE LOCATED FAR ENOUGH APART TO ALLOW ATTACHMENT OF THE STRAP RATCHET AND PROVIDE ROOM TO "WORK" THE RATCHET. SEE "LOADING, TIEDOWN AND UNLOADING PROCEDURES", NOTE 6C ON PAGE 5.

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLETIZED UNITS	3	4,800 LBS



**ISOMETRIC VIEW**

**KEY NUMBERS**

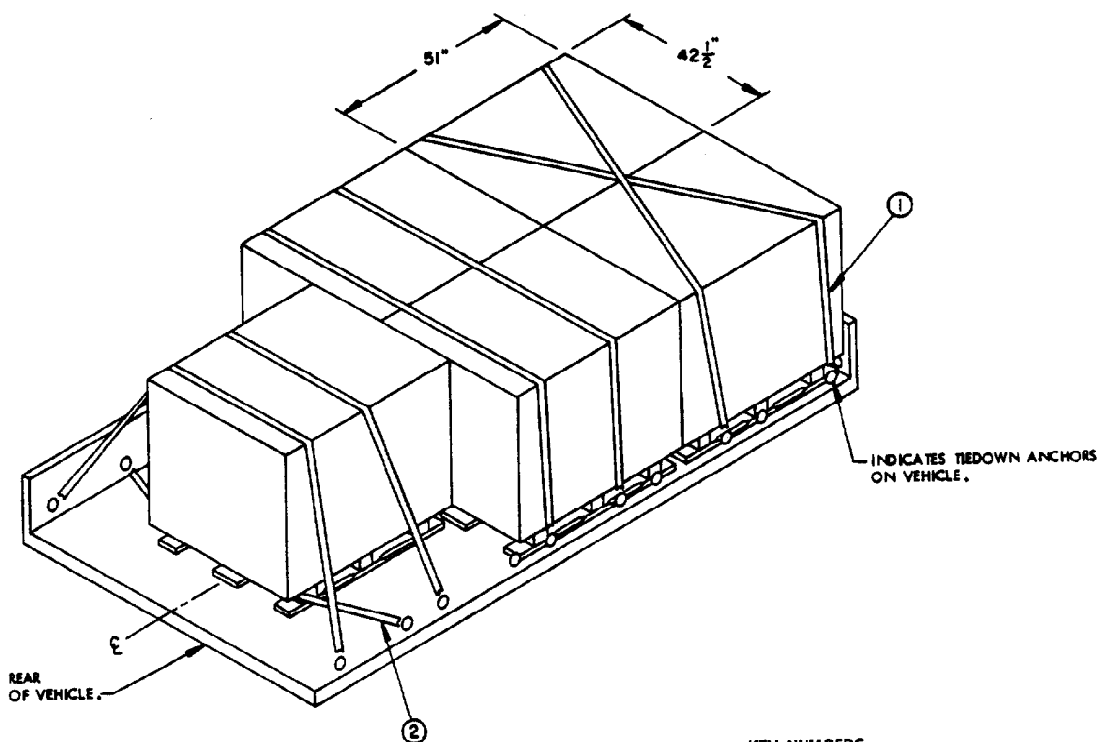
- ① WEB STRAP TIEDOWN ASSEMBLY (6 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF PALLETIZED UNIT (S), TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 5 ON PAGE 6.
- ② WEB STRAP TIEDOWN ASSEMBLY (1 REQD). INSTALL STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE WALL OF VEHICLE, AROUND END OF PALLET (S), AS SHOWN, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 6 ON PAGE 6.

**LOAD GUIDANCE NOTES:**

1. A MAXIMUM LOAD OF THREE PALLETIZED UNITS OF BOXED AMMUNITION IS SHOWN IN A TRUCK, CARGO, 5-TON, M54, HAVING INSIDE DIMENSIONS OF 168" LONG BY 88" WIDE. NOTE: THE MAXIMUM LOAD IS BASED ON THE DIMENSIONS OF THE PALLETIZED UNIT SHOWN.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, AND/OR TRAILERS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ON THE SIDEWALL, END WALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. THE THREE PALLETIZED UNITS OF BOXED AMMUNITION HAVING DIMENSIONS OF 51" WIDE BY 42-1/2" LONG BY 45-1/2" HIGH, ARE SHOWN AS A TYPICAL LOAD. IF LOADING PALLETIZED UNITS OF OTHER ITEMS, SIZES, OR QUANTITIES, FOLLOW THESE SAME PROCEDURES.
4. PALLETIZED UNITS HAVING A LENGTH OF 44" OR GREATER CANNOT BE POSITIONED TWO WIDE IN AN 88" WIDE CARGO TRUCK. IF DESIRED THE PALLETIZED UNITS MAY BE POSITIONED WITH THE PALLETIZED UNIT LENGTH PARALLEL TO THE SIDES OF THE VEHICLE IN LIEU OF THE WIDTH AS SHOWN ABOVE. THESE PROCEDURES MAY BE USED WHEN LOADING PALLETIZED UNITS OF OTHER DIMENSIONS, OR IF THE PALLETIZED UNITS BEING LOADED ARE LESS THAN 44" IN LENGTH USE THE PROCEDURES SHOWN ON PAGES 11 THROUGH 13. SEE SPECIAL NOTE 4 ON PAGE 6.
5. A TOTAL OF SEVEN WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN ABOVE.

**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT (APPROX)
PALLETIZED UNITS	3	5,250 LBS



ISOMETRIC VIEW

LOAD GUIDANCE NOTES:

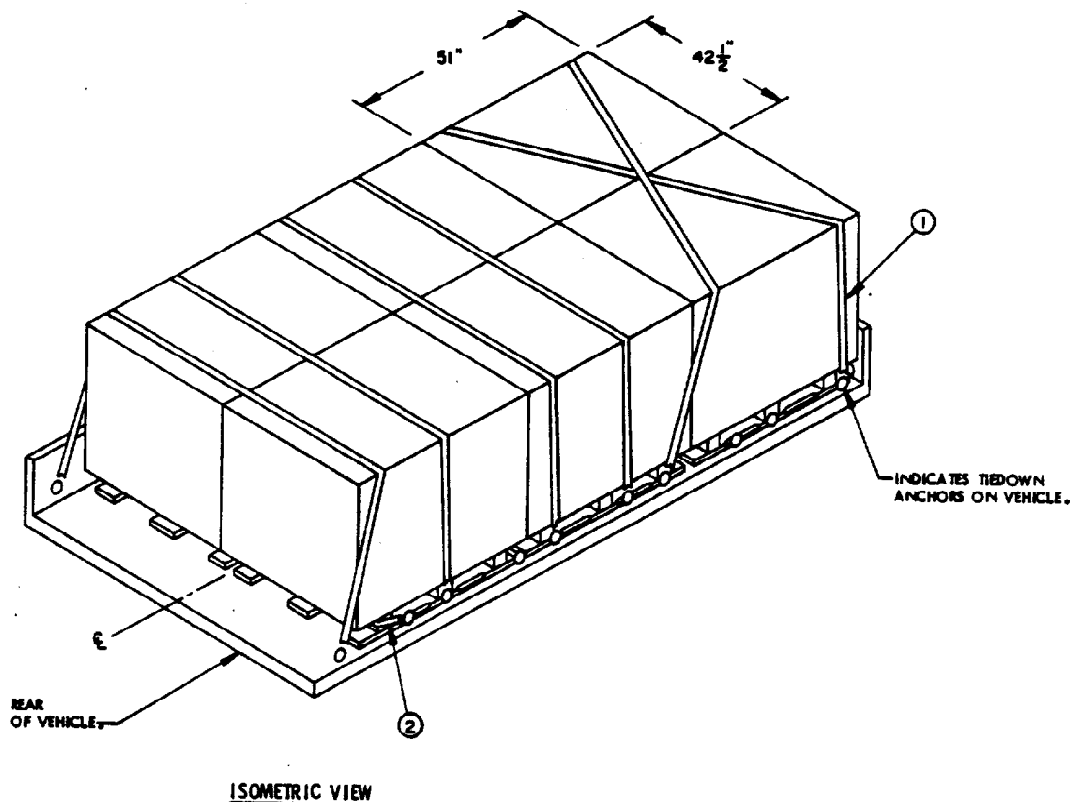
1. A MAXIMUM LOAD OF FIVE PALLETIZED UNITS OF BOXED AMMUNITION IS SHOWN IN A TRUCK, CARGO, 5-TON, M54, HAVING INSIDE DIMENSIONS OF 168" LONG BY 88" WIDE. NOTE: THE MAXIMUM LOAD IS BASED ON THE WEIGHT OF THE PALLETIZED UNIT SHOWN.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, AND/OR TRAILERS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ON THE SIDEWALL, END WALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. FIVE PALLETIZED UNITS OF BOXED AMMUNITION HAVING DIMENSIONS OF 51" WIDE BY 42-1/2" LONG BY 45-1/2" HIGH, ARE SHOWN AS A TYPICAL LOAD. IF LOADING PALLETIZED UNITS OF OTHER ITEMS, SIZES, OR QUANTITIES, FOLLOW THESE SAME PROCEDURES.
4. PALLETIZED UNITS HAVING A LENGTH LESS THAN 44" CAN BE POSITIONED TWO WIDE IN AN 88" WIDE CARGO TRUCK, AS SHOWN ABOVE. HOWEVER, IF THE SPACE BETWEEN THE LOAD AND THE VEHICLE SIDE WALL IS LESS THAN 12" IT WILL BE DIFFICULT TO INSTALL AND OPERATE THE RATCHET ON THE WEB STRAP TIEDOWN ASSEMBLY. SEE THE LOAD SHOWN ON PAGE 13 FOR AN ALTERNATIVE METHOD OF LOADING AND SECURING WIDE LOAD IN CARGO TRUCKS. ALSO SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTES 6 AND 7 ON PAGE 5, AND SPECIAL NOTE 4 ON PAGE 6, FOR GUIDANCE ON SECURING WIDE LOADS.
5. THE PALLETIZED UNIT POSITIONED AT THE REAR OF THE LOAD MAY BE POSITIONED WITH THE PALLETIZED UNIT LENGTH PARALLEL TO THE VEHICLE SIDE WALLS IN LIEU OF THE PALLETIZED UNIT WIDTH AS SHOWN IN THE LOAD ABOVE, IF DESIRED.
6. A TOTAL OF SEVEN WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN ABOVE. SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTE 6 ON PAGE 5.

KEY NUMBERS

- ① WEB STRAP TIEDOWN ASSEMBLY (6 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF PALLETIZED UNIT (5), TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 5 ON PAGE 6.
- ② WEB STRAP TIEDOWN ASSEMBLY (1 REQD). INSTALL STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDEWALL OF VEHICLE, AROUND END OF PALLET (5), AS SHOWN, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 6 ON PAGE 6.

LOAD AS SHOWN

<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
PALLETIZED UNITS	5	8,750 LBS



**LOAD GUIDANCE NOTES:**

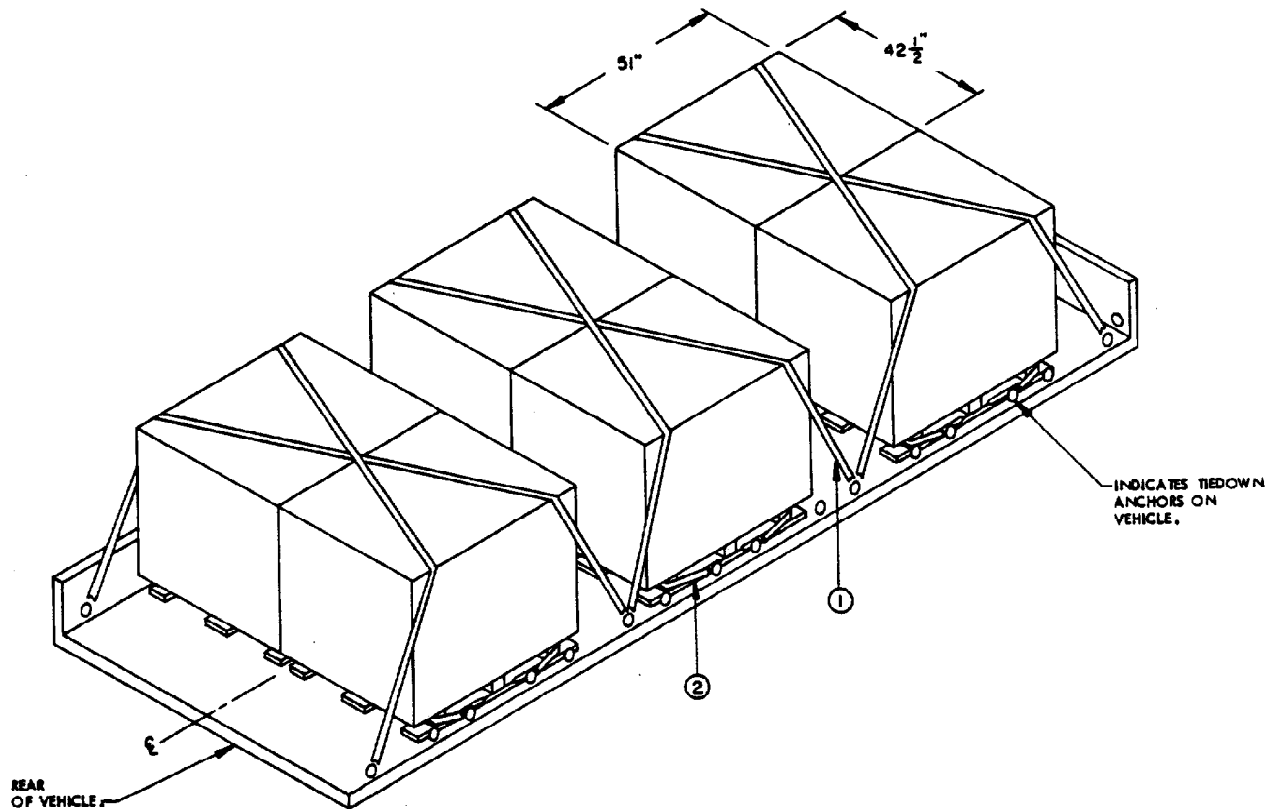
1. A MAXIMUM LOAD OF SIX PALLETIZED UNITS OF BOXED AMMUNITION IS SHOWN IN A TRUCK, CARGO, 3-TON, M54, HAVING INSIDE DIMENSIONS OF 168" LONG BY 88" WIDE. NOTE: THE MAXIMUM LOAD IS BASED ON THE WEIGHT AND THE SIZE OF THE PALLETIZED UNIT SHOWN.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, AND/OR TRAILERS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ON THE SIDEWALL, END WALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. SIX PALLETIZED UNITS OF BOXED AMMUNITION HAVING DIMENSIONS OF 51" WIDE BY 42-1/2" LONG BY 45-1/2" HIGH, ARE SHOWN AS A TYPICAL LOAD. IF LOADING PALLETIZED UNITS OF OTHER ITEMS, SIZES, OR QUANTITIES, FOLLOW THESE SAME PROCEDURES.
4. PALLETIZED UNITS HAVING A LENGTH LESS THAN 44" CAN BE POSITIONED TWO WIDE IN AN 88" WIDE CARGO TRUCK, AS SHOWN ABOVE. HOWEVER, IF THE SPACE BETWEEN THE LOAD AND THE VEHICLE SIDE WALL IS LESS THAN 12" IT WILL BE DIFFICULT TO INSTALL AND OPERATE THE RATCHET ON THE WEB STRAP TIEDOWN ASSEMBLY. SEE THE LOAD SHOWN ON PAGE 13 FOR AN ALTERNATIVE METHOD OF LOADING AND SECURING WIDE LOADS IN CARGO TRUCKS. ALSO SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTES 6 AND 7 ON PAGE 5, FOR GUIDANCE ON SECURING WIDE LOADS.
5. A TOTAL OF SEVEN WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN ABOVE. SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTE 6 ON PAGE 5.
6. IF A LOAD FILLS THE CARGO AREA OF A VEHICLE WITH ONLY SIX INCHES OR LESS SPACE REMAINING BETWEEN THE REAR OF THE LOAD AND THE REAR WALL (TAILGATE) OF THE VEHICLE, NO LONGITUDINAL RETAINING STRAP IS REQUIRED. SEE SPECIAL NOTE 6 ON PAGE 6.

**KEY NUMBERS**

- ① WEB STRAP TIEDOWN ASSEMBLY (6 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF PALLETIZED UNIT (3), TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 5 ON PAGE 6.
- ② WEB STRAP TIEDOWN ASSEMBLY (1 REQD). INSTALL STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE WALL OF VEHICLE, AROUND END OF PALLET, AS SHOWN, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 6 ON PAGE 6.

**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT (APPROX)
PALLETIZED UNITS	6	9,600 LBS



**ISOMETRIC VIEW**

**LOAD GUIDANCE NOTES:**

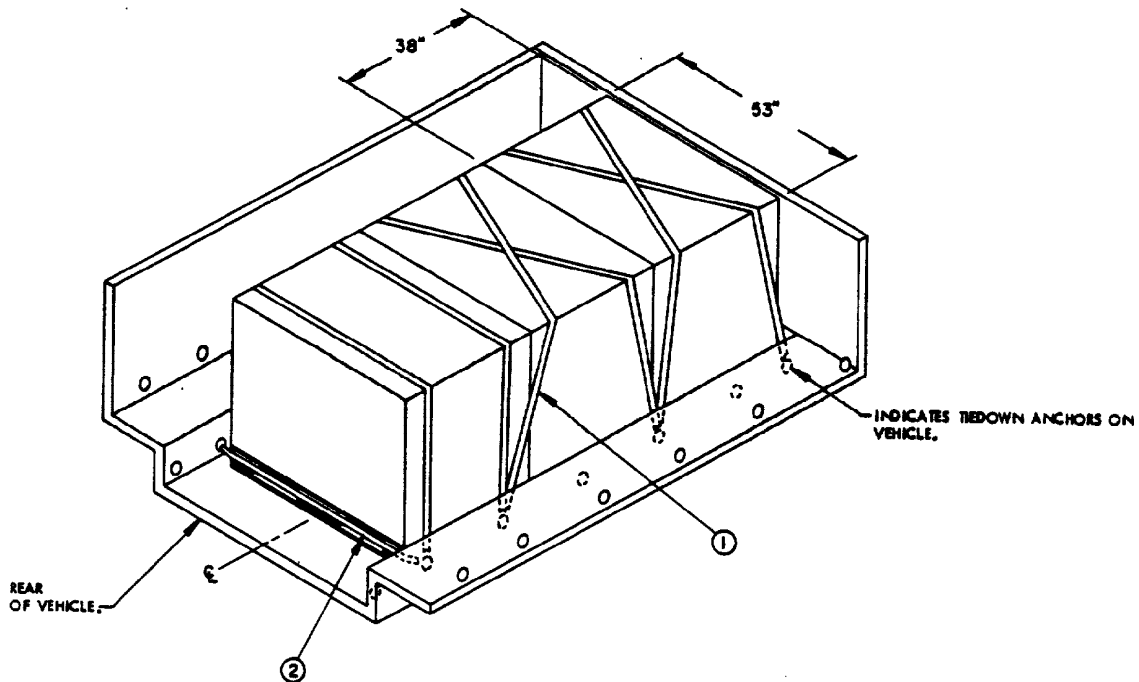
1. A MAXIMUM LOAD OF SIX PALLETIZED UNITS OF BOXED AMMUNITION IS SHOWN IN A TRUCK, CARGO, 5-TON, M55, HAVING INSIDE DIMENSIONS OF 244" LONG BY 88" WIDE. **NOTE:** THE MAXIMUM LOAD IS BASED ON THE WEIGHT OF THE PALLETIZED UNIT SHOWN.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, AND/OR TRAILERS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ON THE SIDEWALL, END WALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. SIX PALLETIZED UNITS OF BOXED AMMUNITION HAVING DIMENSIONS OF 51" WIDE BY 42-1/2" LONG BY 43-1/2" HIGH, ARE SHOWN AS A TYPICAL LOAD. IF LOADING PALLETIZED UNITS OF OTHER ITEMS, SIZES, OR QUANTITIES, FOLLOW THESE SAME PROCEDURES.
4. IF THE PALLETIZED UNITS BEING LOADED HAVE A LENGTH LESS THAN 44" THEY CAN BE LOADED TWO WIDE IN AN 88" WIDE CARGO TRUCK AS SHOWN ABOVE. CENTER THE TWO LATERALLY ADJACENT PALLETIZED UNITS BETWEEN TWO TIEDOWN ANCHORS ON THE SIDE OF THE VEHICLE THAT ARE SPACED FARTHER APART THAN THE PALLETIZED UNIT WIDTH, TO WHICH THE WEB STRAPS CAN BE ATTACHED, AND WHICH WILL PROVIDE CLEARANCE TO OPERATE THE RATCHET. THE ANGLE OF THE STRAPS WILL ALSO HELP REDUCE THE LONGITUDINAL MOVEMENT OF THE LOAD. SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTES 6 AND 7 ON PAGE 5, FOR GUIDANCE ON SECURING WIDE LOADS.
5. A TOTAL OF EIGHTEEN WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN ABOVE. SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTE 6 ON PAGE 5.
6. STRAPS MARKED ①, POSITIONED OVER TOP OF THE LATERALLY ADJACENT PALLETIZED UNITS IN THE LOAD ABOVE, ARE ATTACHED TO TIEDOWN ANCHORS ON THE SIDE OF THE VEHICLE THAT ARE LOCATED FAR ENOUGH APART TO ALLOW ATTACHMENT OF THE STRAP RATCHET AND PROVIDE ROOM TO "WORK" THE RATCHET. SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES", NOTE 6C ON PAGE 5.

**KEY NUMBERS**

- ① WEB STRAP TIEDOWN ASSEMBLY ( 6 REQD ). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF PALLETIZED UNIT ( 5 ), TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 3 ON PAGE 6.
- ② WEB STRAP TIEDOWN ASSEMBLY ( 12 REQD ). EACH ASSEMBLY CONSISTS OF TWO WEB STRAPS HOOKED TOGETHER. POSITION THE RATCHETS AT THE END OF THE LOAD AND ATTACH THE NON-RATCHET HOOK END OF EACH STRAP TO A TIE-DOWN ANCHOR ON EACH SIDE OF THE VEHICLE. MAKE SURE THERE IS A MINIMUM OF ONE AND ONE-HALF WRAPS OF STRAPS ON ONE RATCHET, THEN TAKE UP EXCESS SLACK IN REMAINING RATCHET AND RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 6 ON PAGE 6.

**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT (APPROX)
PALLETIZED UNITS	6	9,600 LBS



**ISOMETRIC VIEW**

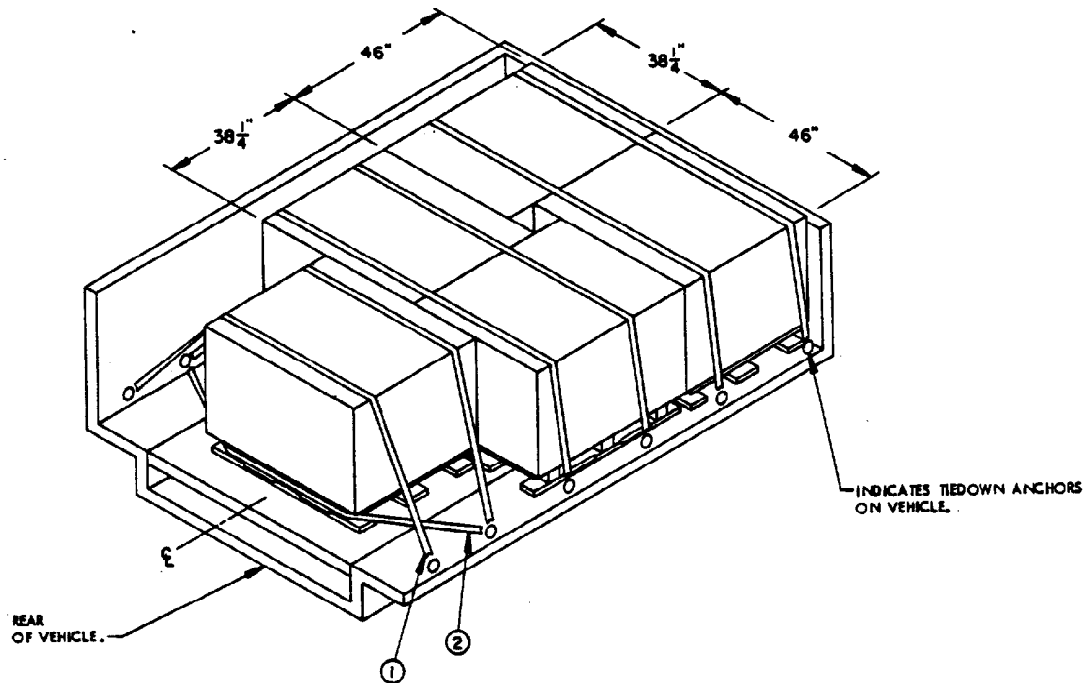
**LOAD GUIDANCE NOTES:**

1. A MAXIMUM LOAD OF THREE SKIDDED UNITS OF BOXED AMMUNITION IS SHOWN IN A CARRIER, CARGO, TRACKED, 6-TON, M548 (DECK DOWN), HAVING INSIDE DIMENSIONS OF 130-3/8" LONG BY 96-1/2" WIDE. NOTE: THE MAXIMUM LOAD IS BASED ON THE DIMENSIONS OF THE SKIDDED UNIT SHOWN.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, AND/OR TRAILERS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ON THE SIDEWALL, END WALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR PARTIAL LOAD.
3. THREE SKIDDED UNITS OF BOXED AMMUNITION HAVING DIMENSIONS OF 53" WIDE BY 38" LONG BY 45" HIGH, ARE SHOWN AS A TYPICAL LOAD. IF LOADING SKIDDED UNITS OF OTHER ITEMS, SIZES, OR QUANTITIES, FOLLOW THESE SAME PROCEDURES. SEE SPECIAL NOTE 4 ON PAGE 6.
4. WHEN LOADING A CARRIER WITH THE DECK IN THE UP POSITION A TOTAL OF FOUR SKIDDED UNITS, AS SHOWN ABOVE, CAN BE LOADED BY POSITIONING THE SKIDDED UNITS WITH THE 38" LENGTH DIMENSION ACROSS THE CARRIER WIDTH, TWO WIDE AND TWO LONG. IF SMALLER SIZE SKIDDED UNITS ARE TO BE LOADED SEE THE LOAD ON PAGE 15 FOR AN ALTERNATIVE METHOD.
5. A TOTAL OF SEVEN WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN ABOVE. SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTE 6 ON PAGE 5.

**KEY NUMBERS**

- ① WEB STRAP TIEDOWN ASSEMBLY (6 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF SKIDDED UNIT (S), TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 5 ON PAGE 6.
- ② WEB STRAP TIEDOWN ASSEMBLY (1 REQD). INSTALL STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE WALL OF VEHICLE, AROUND END OF SKID (S), AS SHOWN, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE, TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 6 ON PAGE 6.

ITEM	LOAD AS SHOWN QUANTITY	WEIGHT (APPROX)
SKIDDED UNITS	3	3,840 LBS



ISOMETRIC VIEW

LOAD GUIDANCE NOTES:

1. A MAXIMUM LOAD OF FIVE PALLETS OF BOXED AMMUNITION IS SHOWN IN A CARRIER, "CARGO, TRACKED, 6-TON, M548 (DECK UP), HAVING INSIDE DIMENSIONS OF 130-5/8" LONG BY 96-1/2" WIDE. NOTE: THE MAXIMUM LOAD IS BASED ON THE DIMENSIONS OF THE PALLETIZED UNIT SHOWN.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, AND/OR TRAILERS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ON THE SIDEWALL, END WALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. FIVE PALLETIZED UNITS OF BOXED AMMUNITION HAVING DIMENSIONS OF 46" WIDE BY 38-1/4" LONG BY 34" HIGH, ARE SHOWN AS A TYPICAL LOAD. IF LOADING PALLETIZED UNITS OF OTHER ITEMS, SIZES, OR QUANTITIES, FOLLOW THESE SAME PROCEDURES.
4. DEPENDING ON THE DIMENSIONS OF THE PALLETIZED UNIT BEING LOADED IT MAY BE ADVANTAGEOUS TO POSITION FOUR PALLETIZED UNITS INTO A "CHIMNEY PATTERN" AS SHOWN ABOVE. BY USING THIS METHOD, WHEN LOADING THE PALLETIZED UNIT SHOWN, ENOUGH SPACE IS GAINED TO POSITION ONE MORE PALLETIZED UNIT AT THE REAR OF THE LOAD. SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTES 6 AND 7 ON PAGE 5, AND SPECIAL NOTE 4 ON PAGE 6, FOR GUIDANCE ON SECURING WIDE LOADS.
5. A TOTAL OF SEVEN WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN ABOVE. SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTE 6 ON PAGE 5.

KEY NUMBERS

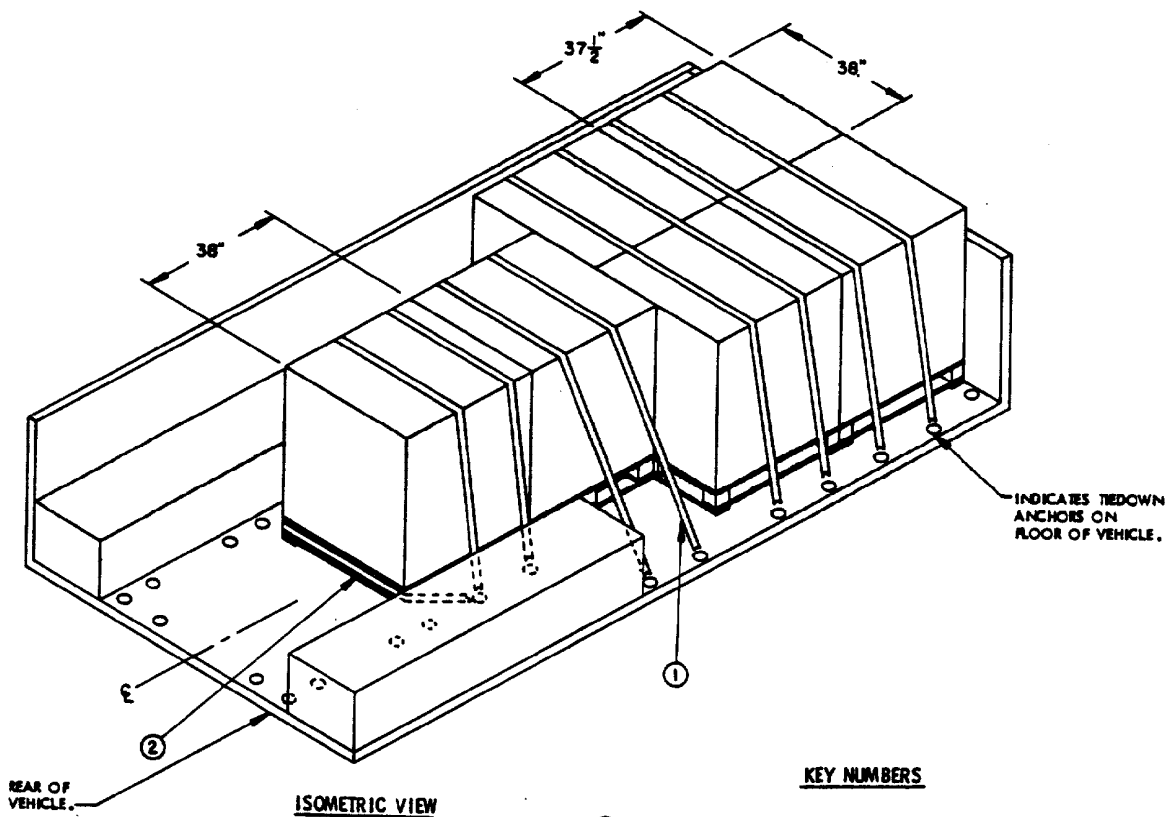
- ① WEB STRAP TIEDOWN ASSEMBLY ( 6 REQD ). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF PALLETIZED UNIT ( S ), TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 5 ON PAGE 6.
- ② WEB STRAP TIEDOWN ASSEMBLY ( 1 REQD ). INSTALL STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDEWALL OF VEHICLE, AROUND END OF PALLET ( S ), AS SHOWN, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE, TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 6 ON PAGE 6.

LOAD AS SHOWN

<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
PALLETIZED UNIT	5	6,300 LBS

PALLETIZED BOXED AMMUNITION LOADED IN A CARRIER, CARGO, TRACKED, 6-TON, M548 (DECK UP.)

PAGE 15



**ISOMETRIC VIEW**

**KEY NUMBERS**

- ① WEB STRAP TIEDOWN ASSEMBLY ( 8 REQD ). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF SKIDDED UNIT ( S ), TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 5 ON PAGE 6.
- ② WEB STRAP TIEDOWN ASSEMBLY ( 1 REQD ). INSTALL STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, AROUND END OF SKID ( S ), AS SHOWN, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 6 ON PAGE 6.

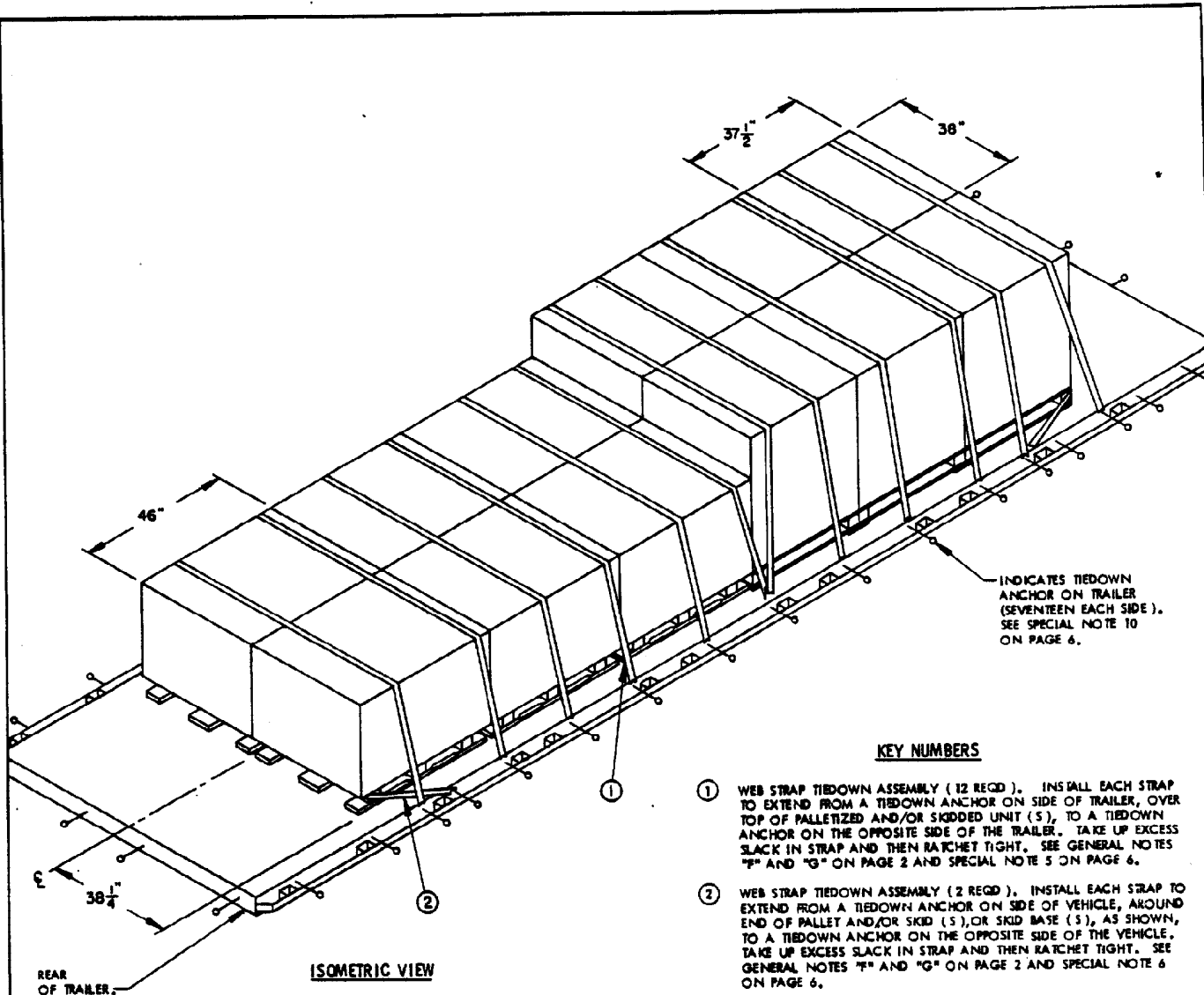
**LOAD GUIDANCE NOTES:**

1. A MAXIMUM LOAD OF SIX SKIDDED UNITS OF BOXED AMMUNITION IS SHOWN IN A TRUCK, CARGO, 8-TON, M520, HAVING INSIDE DIMENSIONS OF 196" LONG BY 96" WIDE. NOTE: THE MAXIMUM LOAD IS BASED ON THE DIMENSIONS OF THE SKIDDED UNIT SHOWN.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, AND/OR TRAILERS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ON THE SIDEWALL, END WALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. SIX SKIDDED UNITS OF BOXED AMMUNITION HAVING DIMENSIONS OF 38" WIDE BY 37-1/2" LONG BY 47" HIGH, ARE SHOWN AS A TYPICAL LOAD. IF LOADING SKIDDED UNITS OF OTHER ITEMS, SIZES, OR QUANTITIES, FOLLOW THESE SAME PROCEDURES. SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTES 6 AND 7 ON PAGE 5 AND SPECIAL NOTE 4 ON PAGE 6, FOR GUIDANCE ON SECURING WIDE LOADS.
4. A TOTAL OF NINE WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN ABOVE. SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTE 6 ON PAGE 5.

**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT (APPROX)
SKIDDED UNITS	6	7,800 LBS





INDICATES TIEDOWN ANCHOR ON TRAILER (SEVENTEEN EACH SIDE). SEE SPECIAL NOTE 10 ON PAGE 6.

**KEY NUMBERS**

- ① WEB STRAP TIEDOWN ASSEMBLY (12 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF TRAILER, OVER TOP OF PALLETIZED AND/OR SKIDDED UNIT (5), TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE TRAILER. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 5 ON PAGE 6.
- ② WEB STRAP TIEDOWN ASSEMBLY (2 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, AROUND END OF PALLET AND/OR SKID (5), OR SKID BASE (5), AS SHOWN, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 6 ON PAGE 6.

**ISOMETRIC VIEW**

**LOAD GUIDANCE NOTES:**

1. A MAXIMUM LOAD OF SIX SKIDDED UNITS AND SIX PALLETIZED UNITS OF BOXED AMMUNITION IS SHOWN ON A SEMITRAILER, STAKE, 12-TON, M127, HAVING DIMENSIONS OF 338" LONG BY 96" WIDE. NOTE: THE MAXIMUM LOAD IS BASED ON THE WEIGHT OF THE UNITS SHOWN.
2. THE TRAILER SHOWN WAS SELECTED AS TYPICAL ONLY, AND TRAILERS OF OTHER DIMENSIONS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS LOCATED ALONG THE SIDE, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. SIX SKIDDED UNITS OF BOXED AMMUNITION HAVING DIMENSIONS OF 38" WIDE BY 37-1/2" LONG BY 47" HIGH, AND SIX PALLETIZED UNITS OF AMMUNITION HAVING DIMENSIONS OF 46" WIDE BY 38-1/4" LONG BY 34" HIGH, ARE SHOWN AS A TYPICAL MIXED ITEM LOAD. IF LOADING UNITS OF OTHER ITEMS, SIZES, OR QUANTITIES, FOLLOW THESE SAME PROCEDURES.
4. A TOTAL OF FOURTEEN WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN ABOVE. SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTE 6 ON PAGE 5.
5. IF AN UNEVEN QUANTITY OF SKIDDED OR PALLETIZED UNITS ARE BEING LOADED, SUCH AS ELEVEN, POSITION ONE UNIT IN THE CENTER OF THE TRAILER WIDTH AND TIGHT AGAINST THE REAR TWO LATERALLY ADJACENT UNITS, AS SHOWN IN THE LOAD ON PAGE 11.

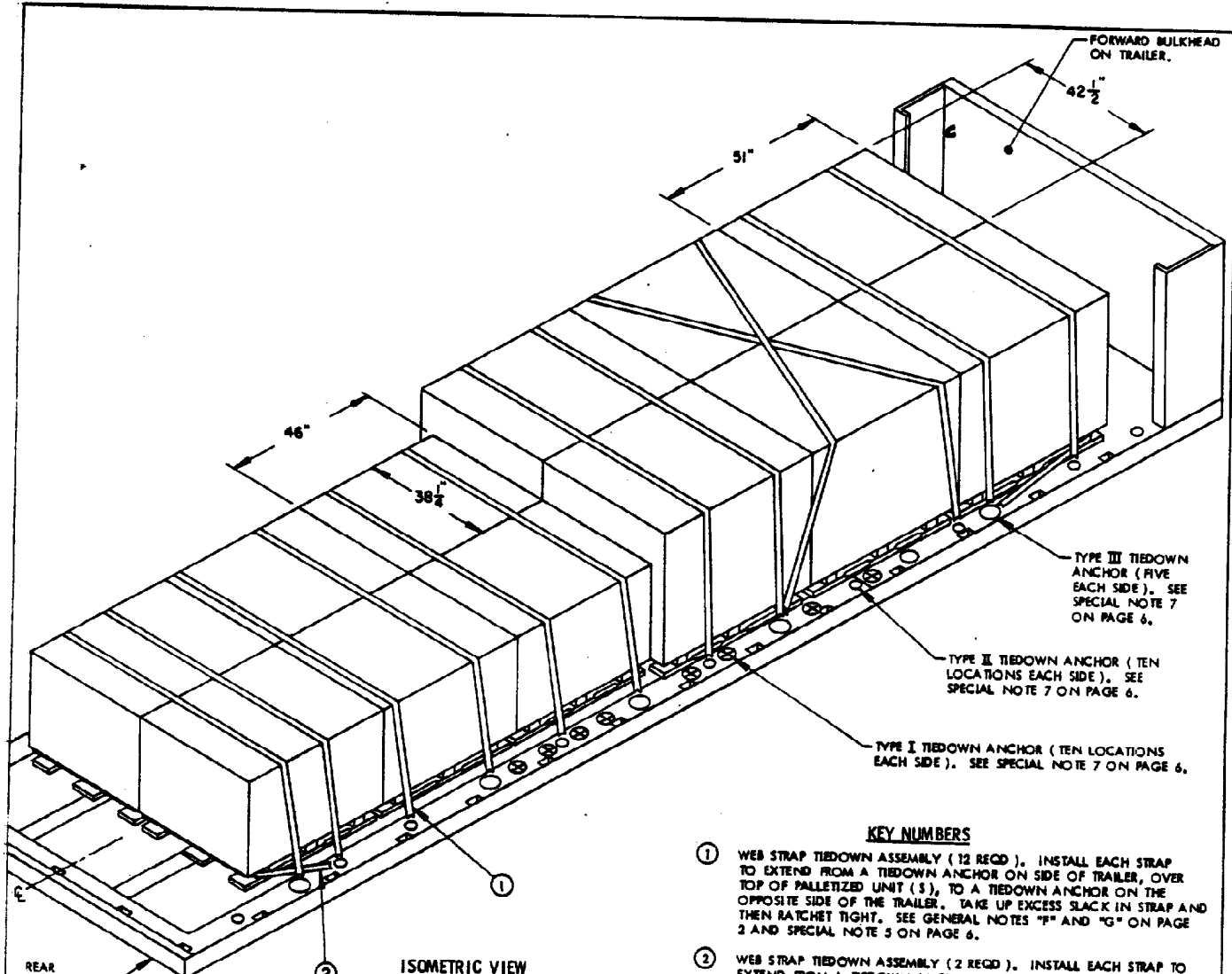
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**(LOAD GUIDANCE NOTES CONTINUED)**

6. WHEN LOADING ONE SKIDDED UNIT OR ONE PALLETIZED UNIT ON A TRAILER, POSITION THE UNIT IN THE CENTER OF THE TRAILER WIDTH AND IN A LONGITUDINAL LOCATION THAT WILL ALLOW TWO STRAPS TO BE POSITIONED OVER TOP OF THE UNIT AND ONE STRAP AROUND THE SKID BASE OR PALLET BASE AT EACH END. USE THE LOAD ON PAGE 10 FOR GUIDANCE.
7. IF IT IS DESIRABLE TO LOAD A ROW OF TWO OR MORE SINGLE UNITS DOWN THE CENTER OF THE TRAILER LENGTH, USE THE LOAD ON PAGE 10 FOR GUIDANCE. NOTE: ONE ADDITIONAL STRAP MARKED ② WILL BE REQUIRED, AROUND THE SKID BASE OR PALLET BASE, AT THE FORWARD END OF THE LOAD.

**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT (APPROX)
SKIDDED UNIT	6	13,800 LBS
PALLETIZED UNIT	6	9,420 LBS
<b>TOTAL WEIGHT</b>		<b>23,220 LBS (APPROX)</b>



**KEY NUMBERS**

- ① WEB STRAP TIEDOWN ASSEMBLY (12 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF TRAILER, OVER TOP OF PALLETIZED UNIT(S), TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE TRAILER. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 5 ON PAGE 6.
- ② WEB STRAP TIEDOWN ASSEMBLY (2 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, AROUND END OF PALLET(S), AS SHOWN, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 6 ON PAGE 6.

**LOAD GUIDANCE NOTES:**

1. A MAXIMUM LOAD OF TWELVE PALLETES OF BOXED AMMUNITION IS SHOWN ON A SEMITRAILER, 22-1/2-TON, M871, HAVING DIMENSIONS OF 354" LONG BY 96" WIDE. NOTE: THE MAXIMUM LOAD IS BASED ON THE DIMENSIONS OF THE PALLETIZED UNITS SHOWN.
2. THE TRAILER SHOWN WAS SELECTED AS TYPICAL ONLY, AND TRAILERS OF OTHER DIMENSIONS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS LOCATED ALONG THE SIDE, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. SIX PALLETIZED UNITS OF BOXED AMMUNITION HAVING DIMENSIONS OF 51" WIDE BY 42-1/2" LONG BY 45-1/2" HIGH, AND SIX PALLETIZED UNITS OF BOXED AMMUNITION HAVING DIMENSIONS OF 46" WIDE BY 38-1/4" LONG BY 34" HIGH, ARE SHOWN AS A TYPICAL MIXED ITEM LOAD. IF LOADING PALLETIZED UNITS OF OTHER ITEMS, SIZES, OR QUANTITIES, FOLLOW THESE SAME PROCEDURES.
4. THIS TRAILER IS EQUIPPED WITH THREE DIFFERENT TYPES OF TIEDOWN ANCHORS AS INDICATED IN THE "ISOMETRIC VIEW" ON THIS PAGE. THE LOAD SHOWN ON THIS PAGE REQUIRES THE USE OF FOURTEEN TYPE II REMOVABLE TIEDOWN ANCHORS (SEVEN ON EACH SIDE OF THE TRAILER), AND TEN TYPE III FIXED TIEDOWN ANCHORS (FIVE ON EACH SIDE OF THE TRAILER). SEE SPECIAL NOTE 7 ON PAGE 6.
5. A TOTAL OF FOURTEEN WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN ABOVE. SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTE 6 ON PAGE 5.
6. IF AN UNEVEN QUANTITY OF PALLETIZED UNITS ARE BEING LOADED, SUCH AS ELEVEN, POSITION ONE PALLETIZED UNIT IN THE CENTER OF THE TRAILER WIDTH AND TIGHT AGAINST THE REAR TWO LATERALLY ADJACENT PALLETIZED UNITS, AS SHOWN IN THE LOAD ON PAGE 11.

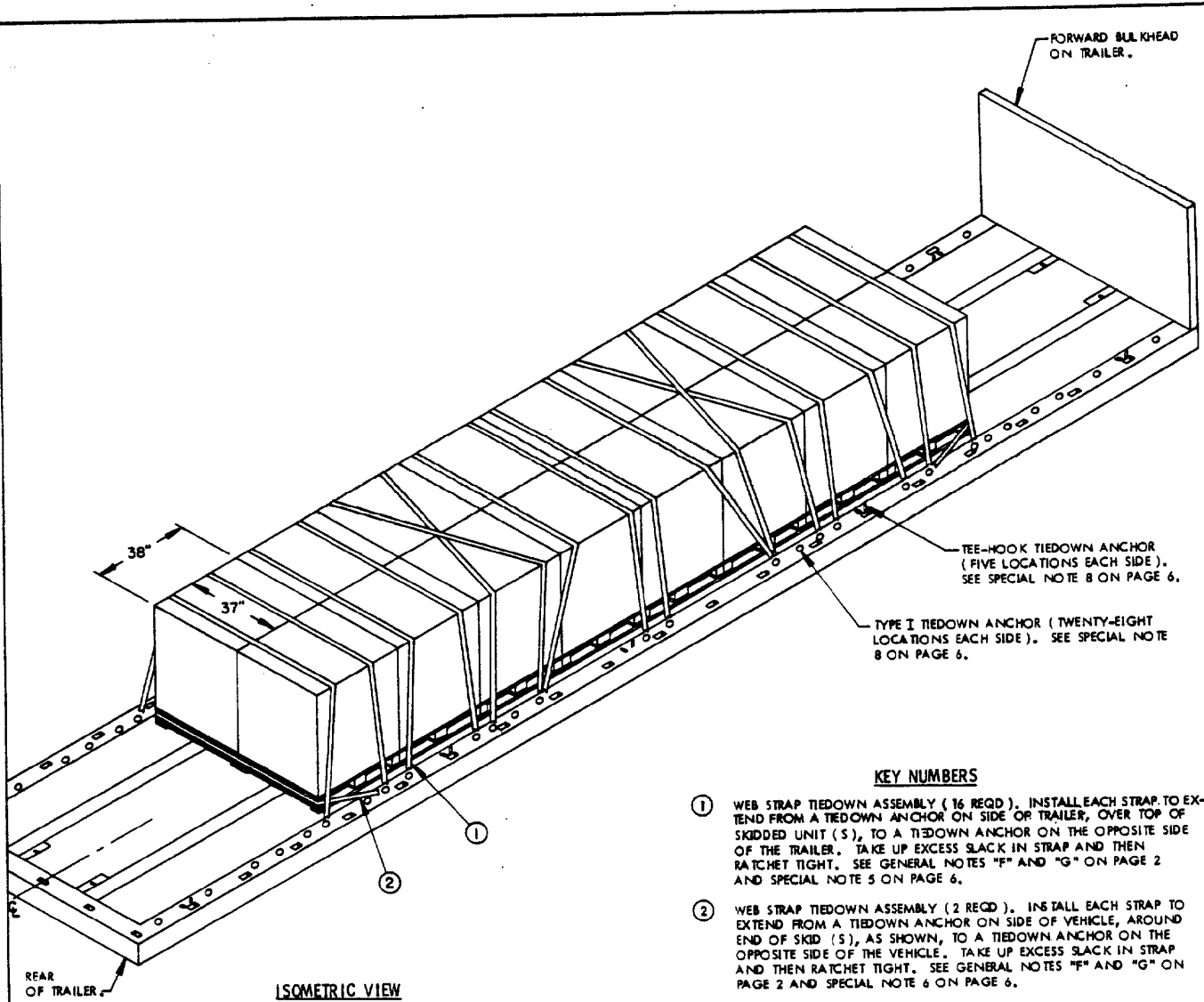
**(LOAD GUIDANCE NOTES CONTINUED)**

7. WHEN LOADING ONE PALLETIZED UNIT ON A TRAILER, POSITION THE PALLETIZED UNIT IN THE CENTER OF THE TRAILER WIDTH AND IN A LONGITUDINAL LOCATION THAT WILL ALLOW TWO STRAPS TO BE POSITIONED OVER TOP OF THE PALLETIZED UNIT AND ONE STRAP AROUND THE PALLET BASE AT EACH END. USE THE LOAD ON PAGE 10 FOR GUIDANCE.
8. IF IT IS DESIRABLE TO LOAD A ROW OF TWO OR MORE SINGLE PALLETIZED UNITS DOWN THE CENTER OF THE TRAILER LENGTH, USE THE LOAD ON PAGE 10 FOR GUIDANCE. NOTE: ONE ADDITIONAL STRAP MARKED ② WILL BE REQUIRED AROUND THE BASE OF THE PALLET, AT THE FORWARD END OF THE LOAD.

**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT (APPROX)
PALLETIZED UNIT	12	18,300

(CONTINUED AT RIGHT)



**KEY NUMBERS**

- ① WEB STRAP TIEDOWN ASSEMBLY ( 16 REQD ). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF TRAILER, OVER TOP OF SKIDDED UNIT ( S ), TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE TRAILER. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 5 ON PAGE 6.
- ② WEB STRAP TIEDOWN ASSEMBLY ( 2 REQD ). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, AROUND END OF SKID ( S ), AS SHOWN, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 6 ON PAGE 6.

**LOAD GUIDANCE NOTES:**

1. A PARTIAL LOAD OF SIXTEEN SKIDDED UNITS OF BOXED AMMUNITION IS SHOWN ON A SEMITRAILER, 34-TON, M872, HAVING DIMENSIONS OF 489-1/2" LONG BY 96" WIDE. NOTE: THE MAXIMUM LOAD IS BASED ON THE DIMENSIONS OF THE SKIDDED UNITS SHOWN.
2. THE TRAILER SHOWN WAS SELECTED AS TYPICAL ONLY, AND TRAILERS OF OTHER DIMENSIONS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS LOCATED ALONG THE SIDE, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. SIXTEEN SKIDDED UNITS OF BOXED AMMUNITION HAVING DIMENSIONS OF 37" WIDE BY 38" LONG BY 47-1/2" HIGH, ARE SHOWN AS A TYPICAL LOAD. IF LOADING SKIDDED UNITS OF OTHER ITEMS, SIZES, OR QUANTITIES, FOLLOW THESE SAME PROCEDURES.
4. THIS TRAILER IS EQUIPPED WITH TWO DIFFERENT TYPES OF TIEDOWN ANCHORS AS INDICATED IN THE "ISOMETRIC VIEW" ON THIS PAGE. THE LOAD SHOWN ON THIS PAGE REQUIRES THE USE OF THIRTY-TWO TYPE I REMOVABLE TIEDOWN ANCHORS ( SIXTEEN ON EACH SIDE OF THE TRAILER ). SEE SPECIAL NOTE 8 ON PAGE 6.
5. A TOTAL OF EIGHTEEN WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN ABOVE. SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTE 4 ON PAGE 5.
6. IF AN UNEVEN QUANTITY OF SKIDDED UNITS ARE BEING LOADED, SUCH AS FIFTEEN, POSITION ONE SKIDDED UNIT IN THE CENTER OF THE TRAILER WIDTH AND TIGHT AGAINST THE REAR TWO LATERALLY ADJACENT SKIDDED UNITS, AS SHOWN IN THE LOAD ON PAGE 11.
7. WHEN LOADING ONE SKIDDED UNIT ON A TRAILER, POSITION THE SKIDDED UNIT IN THE CENTER OF THE TRAILER WIDTH AND IN A LONGITUDINAL LOCATION THAT WILL ALLOW TWO STRAPS TO BE POSITIONED OVER TOP OF THE SKIDDED UNIT AND ONE STRAP AROUND THE SKID BASE AT EACH END. USE THE LOAD ON PAGE 10 FOR GUIDANCE.

**(LOAD GUIDANCE NOTES CONTINUED)**

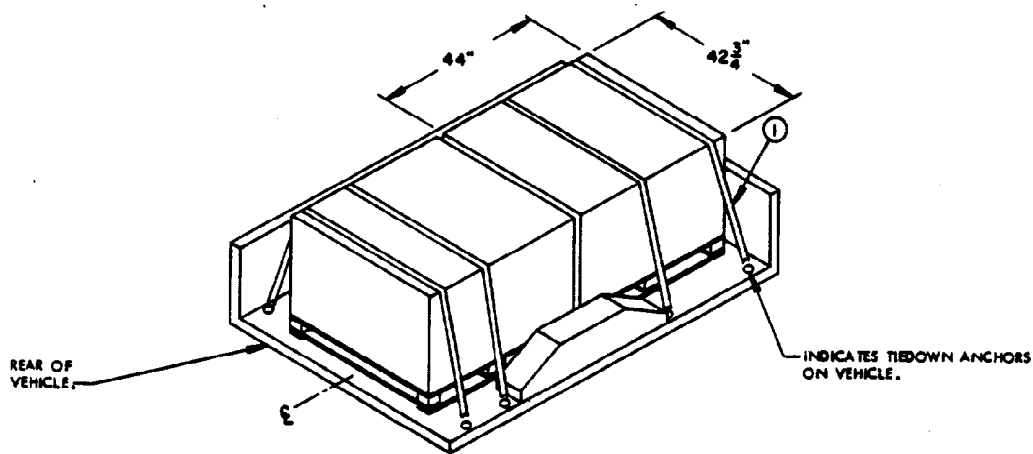
8. IF IT IS DESIRABLE TO LOAD A ROW OF TWO OR MORE SINGLE SKIDDED UNITS DOWN THE CENTER OF THE TRAILER LENGTH, USE THE LOAD ON PAGE 10 FOR GUIDANCE. NOTE: ONE ADDITIONAL STRAP MARKED ② WILL BE REQUIRED, AROUND THE SKID BASE, AT THE FORWARD END OF THE LOAD.

**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT ( APPROX )
SKIDDED UNIT	16	28,000 LBS ( APPROX )

( CONTINUED AT RIGHT )

SKIDDED UNIT OF BOXED AMMUNITION LOADED ON A SEMITRAILER, 34-TON, M872



**ISOMETRIC VIEW**

**LOAD GUIDANCE NOTES:**

1. A MAXIMUM LOAD OF TWO SKIDDED UNITS OF BOXED AMMUNITION IS SHOWN IN A TRUCK, CARGO, 1-1/4 TON, M100B (CUCV), HAVING INSIDE DIMENSIONS OF 98" LONG BY 65" WIDE (USEABLE WIDTH OF 48"). NOTE: THE MAXIMUM LOAD IS BASED ON THE WEIGHT OF THE SKIDDED UNIT SHOWN.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ON THE SIDEWALL, END WALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. TWO SKIDDED UNITS OF BOXED AMMUNITION HAVING DIMENSIONS OF 42-3/4" WIDE BY 44" LONG BY 31-3/4" HIGH, ARE SHOWN AS A TYPICAL LOAD. IF LOADING SKIDDED UNITS OF OTHER ITEMS, SIZES, OR QUANTITIES, FOLLOW THESE SAME PROCEDURES. SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTES 6 AND 7 ON PAGE 5, AND SPECIAL NOTE 4 ON PAGE 6.
4. A TOTAL OF FOUR WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN. SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTE 6 ON PAGE 5 FOR GUIDANCE ON SECURING WIDE LOADS.

**KEY NUMBER**

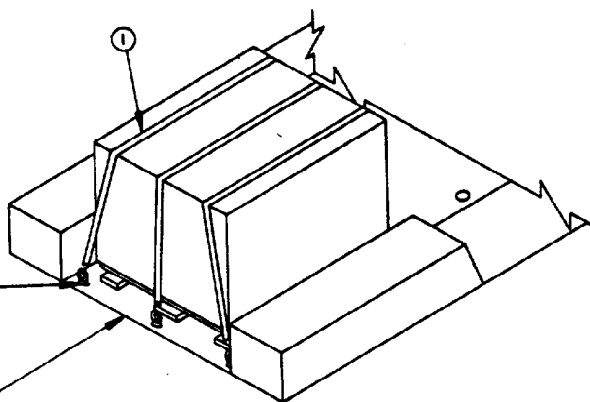
- ① WEB STRAP TIEDOWN ASSEMBLY (4 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF SKIDDED UNIT(S), TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 5 ON PAGE 6.

**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT (APPROX)
SKIDDED UNIT	2	2,380 LBS

INDICATES TIEDOWN ANCHOR.  
SEE LOAD GUIDANCE NOTE  
4 BELOW.

REAR  
OF VEHICLE.



ISOMETRIC VIEW

LOAD GUIDANCE NOTES:

1. A MAXIMUM LOAD OF ONE PALLET OF BOXED AMMUNITION IS SHOWN IN A TRUCK, CARGO, 1-1/4-TON, M998 (HMMV), HAVING USEABLE INSIDE DIMENSIONS OF 51" LONG BY 52" WIDE. NOTE: THE MAXIMUM LOAD IS BASED ON THE WEIGHT OF THE PALLETIZED UNIT SHOWN.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, AND/OR TRAILERS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ON THE SIDEWALL, END WALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. ONE PALLETIZED UNIT OF BOXED AMMUNITION HAVING DIMENSIONS OF 50" WIDE BY 44" LONG BY 38" HIGH IS SHOWN IN THE LOAD ABOVE. IF LOADING PALLETIZED UNITS OF OTHER ITEMS, SIZES, OR QUANTITIES, FOLLOW THESE SAME PROCEDURES. NOTE: PALLET UNIT DIMENSION PERPENDICULAR TO WHEEL WELL MUST BE 44" OR GREATER TO ALLOW FOR PROPER PLACEMENT OF THREE WEB STRAP TIEDOWN ASSEMBLIES.
4. PALLETIZED AMMUNITION MUST NOT BE TRANSPORTED ON THE M998 CARGO TRUCK UNLESS THE TIEDOWN ANCHORS HAVE BEEN REPLACED WITH 1/2" SHOULDER EYEBOLTS. SHOULDER EYEBOLTS USED MUST CONFORM TO MATERIAL SPECIFICATION MS 51937, SIZE 1/2", IS UNC-2A, NSN 5306-00-090-0347. A 75 FT-LB MINIMUM TORQUE REQUIREMENT FOR TIEDOWN FIXTURES IS TO BE OBSERVED WHEN INSTALLING EYEBOLTS AND EYEBOLTS ARE TO BE ORIENTED AS SHOWN IN THE ISOMETRIC VIEW ABOVE.
5. A TOTAL OF THREE WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN. SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTE 6 ON PAGE 5.

KEY NUMBER

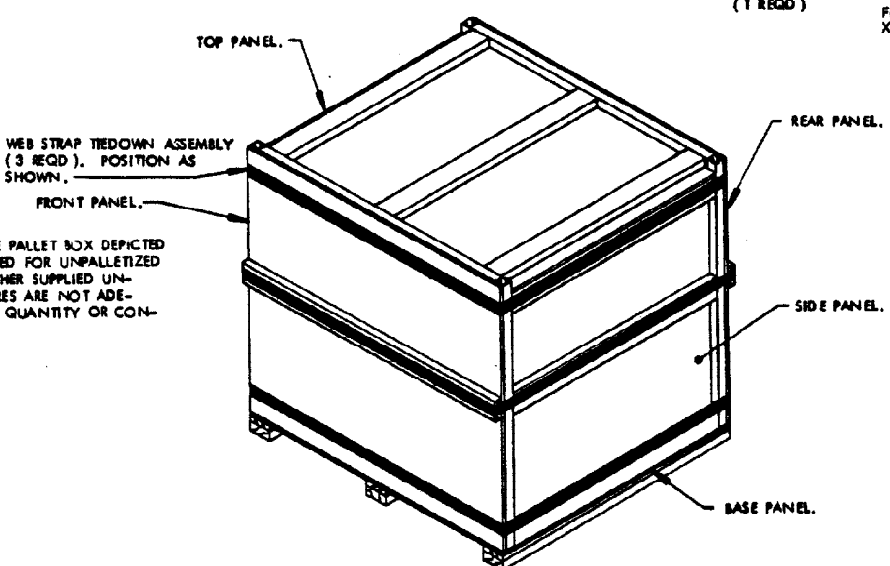
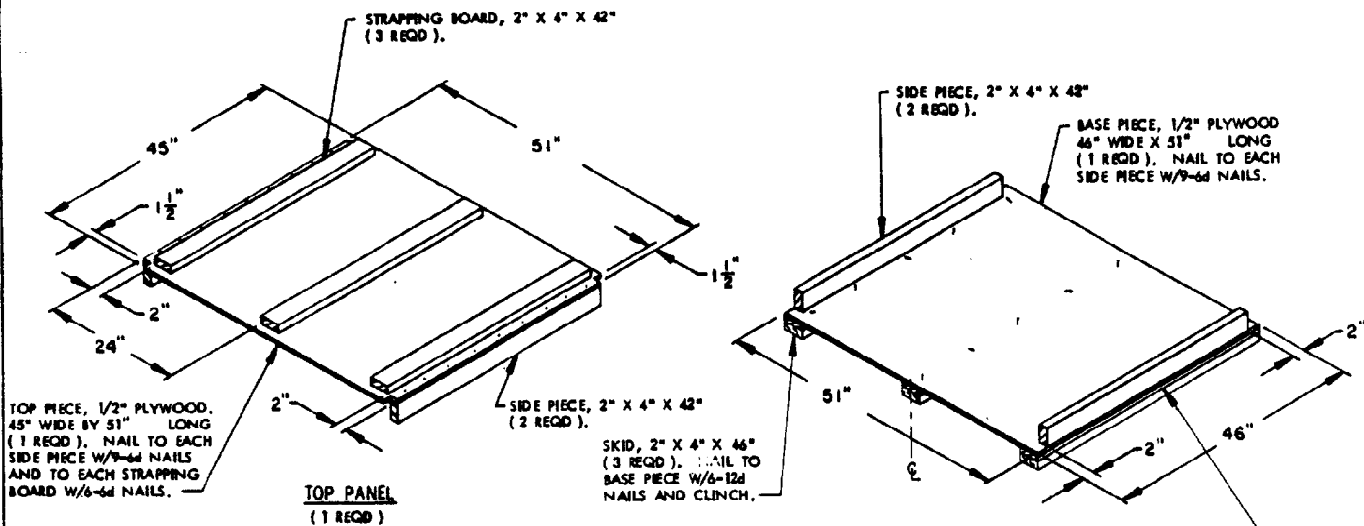
- ① WEB STRAP TIEDOWN ASSEMBLY (3 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR AT THE FORWARD END OF THE LOAD, OVER THE TOP OF THE PALLETIZED UNIT(S), TO A TIEDOWN ANCHOR AT THE REAR OF THE LOAD. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 12 ON PAGE 6.

LOAD AS SHOWN

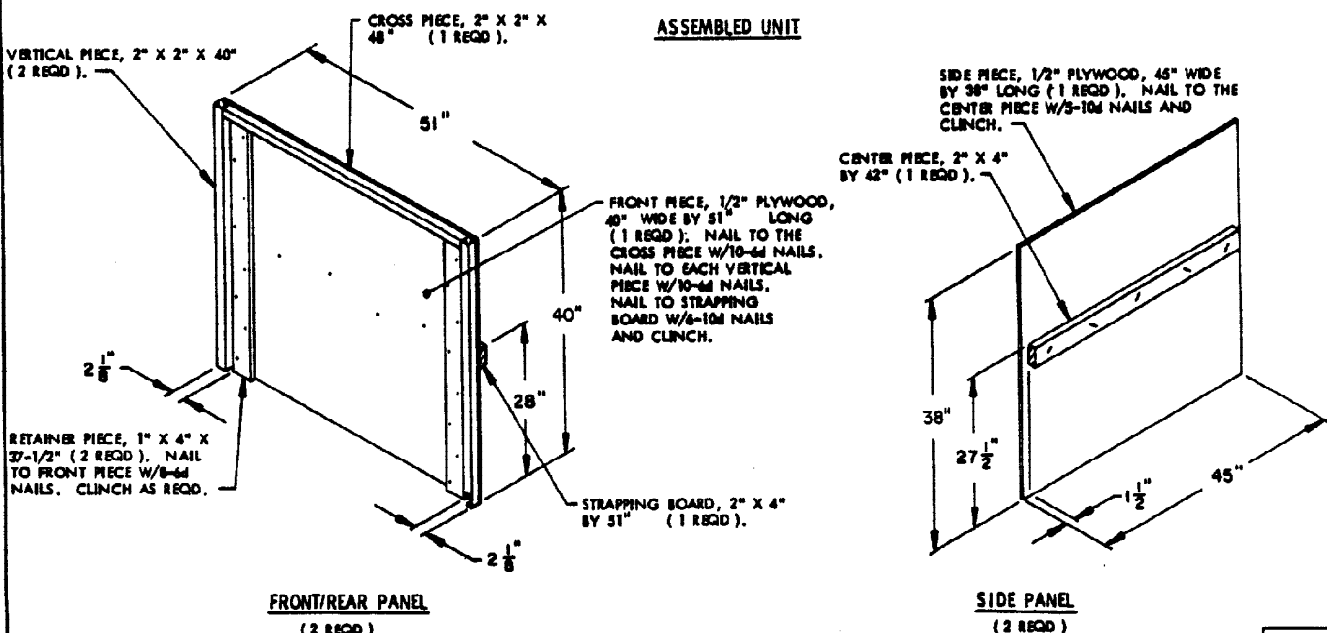
<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
PALLETIZED UNIT	1	2,300 LBS

**SPECIAL NOTES:**

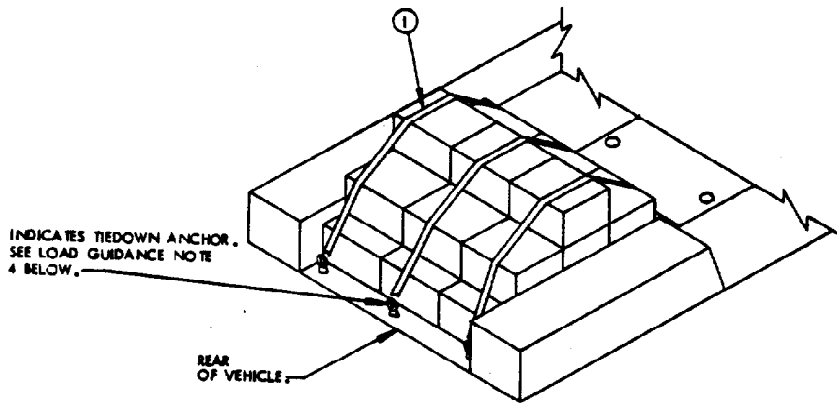
1. THE LOADS SHOWN ON PAGES 23 THROUGH 28 ARE BASED ON TESTED METHODS OF SECURING LOOSE BOXED AMMUNITION IN/ON CARGO TRUCKS SUCH AS THE M34, 3-TON, AND CARGO TRAILERS SUCH AS THE M105, 1-1/2-TON, HAVING TIEDOWN ANCHORS LOCATED IN THE SIDE WALLS AND END WALLS. ALSO, THE PROCEDURES SHOWN CAN BE USED ON SEMITRAILERS SUCH AS THE M871, 22-1/2-TON, AND CARGO TRUCK, SUCH AS THE M977, 10-TON, HEMTT, HAVING TIEDOWN ANCHORS LOCATED ON THE FLOOR. **NOTE:** IF LOADING A "HEMTT" ALSO SEE THE SPECIAL HEMTT LOADING SECTION ON PAGES 29 THROUGH 31.
2. THE TERM "LOOSE" BOXED AMMUNITION REFERS TO AMMUNITION BOXES REMAINING AFTER THE STEEL UNITIZING STRAPS ON A PALLETIZED UNIT HAVE BEEN CUT AND THE BOXES REMOVED FROM THE PALLET OR SKID BASE.
3. THE LOOSE AMMUNITION BOXES SHOWN IN THE LOAD ON PAGE 23 THROUGH 31 WERE SELECTED AS TYPICAL AND THE METHODS SHOWN WILL APPLY TO ANY LOOSE BOXES OF OTHER DIMENSIONS AND WEIGHTS.
4. THE TACTICAL VEHICLES SHOWN IN THE LOADS ON PAGE 23 THROUGH 31 WERE SELECTED AS TYPICAL AND OTHER TYPES OF VEHICLES MAY BE USED IN LIEU OF THOSE SHOWN AS LONG AS THEY COMPLY WITH GENERAL NOTE "C" ON PAGE 2.
5. WHEN LOADING LOOSE AMMUNITION BOXES ON TOP OF SKIDDED UNITS OR PALLETIZED UNITS AS SHOWN ON PAGE 28, ASSURE THAT ALL LOOSE BOXES ARE SECURED BY MANUALLY GUIDING BOXES INTO A TIGHT CONFIGURATION AS THE TWO HOLD-DOWN STRAPS ARE BEING TIGHTENED. AFTER STRAPS HAVE BEEN RATCHETED TIGHT, CHECK BUNDLE TO MAKE SURE THAT ALL LOOSE BOXES ARE SECURED.
6. IF BOXES TO BE SHIPPED ARE OF SUCH A SIZE OR CONFIGURATION THAT THEY CANNOT BE SECURED SOLELY BY THE USE OF WEB STRAPS, AN "AMMUNITION PALLET BOX" AS DETAILED ON PAGE 23, CAN BE CONSTRUCTED AND UTILIZED. THE PALLET BOX WILL BE SECURED TO A TACTICAL VEHICLE IN THE SAME MANNER AS A PALLETIZED OR SKIDDED UNIT, AND MAY BE USED WITH ANY TACTICAL VEHICLE OF ADEQUATE SIZE AND HAVING ADEQUATE TIEDOWN ANCHORS. **NOTE:** THE "AMMUNITION PALLET BOX" DOES NOT HAVE TO BE UTILIZED UNLESS THE LOOSE BOXES TO BE SHIPPED CANNOT BE ADEQUATELY SECURED BY USING ONLY WEB STRAPS.



NOTE:  
THE "KNOCK-DOWN" TYPE PALLET BOX DEPICTED  
ON THIS PAGE CAN BE USED FOR UNPALLETIZED  
BOX TRANSPORT WHEN OTHER SUPPLIED UN-  
PALLETIZED BOX PROCEDURES ARE NOT ADE-  
QUATE DUE TO BOX SIZE, QUANTITY OR CON-  
FIGURATION.



**AMMUNITION PALLET BOX**



ISOMETRIC VIEW

LOAD GUIDANCE NOTES:

1. A TYPICAL LOAD OF TWENTY-FOUR LOOSE BOXES OF AMMUNITION IS SHOWN IN A TRUCK, CARGO, 1-1/4-TON, M998 (HMMWV), HAVING USEABLE INSIDE DIMENSIONS OF 51" LONG BY 32" WIDE.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, AND/OR TRAILERS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED IN THE SIDEWALL, END WALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. THE LOAD SHOWN ON THIS PAGE DEPICTS A TYPICAL LOAD OF BOXED AMMUNITION CONSISTING OF TWENTY-FOUR BOXES OF CARTRIDGE, 5.56MM, HAVING DIMENSIONS OF 17" LONG BY 13-3/8" WIDE BY 9-9/16" HIGH. IF LOADING BOXES OF OTHER ITEMS, SIZES, OR QUANTITIES, FOLLOW THESE SAME PROCEDURES. NOTE: IF DESIRED, OR IF THE SIZE OR QUANTITY OF LOOSE BOXES TO BE SHIPPED IS SUCH THAT THE LOAD CANNOT BE SECURED IN THE SAME MANNER OR SIMILAR TO THAT SHOWN, IT IS ADVISABLE TO PLACE THE BOXES IN THE AMMUNITION PALLET BOX. CONSTRUCTION DETAILS FOR THE PALLET BOX ARE SHOWN ON PAGE 23. THE AMMUNITION PALLET BOX CONTAINING THE LOOSE BOXES WILL THEN BE PLACED IN THE CARGO AREA OF THE VEHICLE AND SECURED IN PLACE WITH THREE WEB STRAP TIEDOWN ASSEMBLIES SIMILAR TO THE PALLETIZED UNIT LOAD ON PAGE 21.
4. LOOSE BOXED AMMUNITION MAY BE TRANSPORTED IN THE M998 HMMWV AND SECURED USING THE ORIGINAL EQUIPMENT TIEDOWN ANCHORS, PROVIDED THE ANGLE OF THE INSTALLED WEB STRAP IS 45 DEGREES OR LESS FROM THE HORIZONTAL CARGO BED. IF THE ANGLE EXCEEDS 45 DEGREES, AS DEPICTED ABOVE, THE TIEDOWN ANCHORS MUST BE REPLACED WITH 1/2" SHOULDER EYEBOLTS. SHOULDER EYEBOLTS USED MUST CONFORM TO MATERIAL SPECIFICATION MS 57927, SIZE 1/2", IS UNC-2A, NSN 5306-00-050-0847. A 75 FT-LB MINIMUM TORQUE REQUIREMENT FOR TIEDOWN FIXTURES IS TO BE OBSERVED WHEN INSTALLING EYEBOLTS AND EYEBOLTS ARE TO BE ORIENTATED AS SHOWN IN THE ISOMETRIC VIEW ABOVE.
5. WHEN TRANSPORTING A LOAD OF MORE THAN THREE BOXES WIDE, A SHORT PIECE OF DUNNAGE MATERIAL, SUCH AS A 2" X 4", MUST BE POSITIONED ON TOP OF THE LOAD SO AS TO CONTACT ALL TOP LAYER BOXES THAT ARE NOT RESTRAINED BY A WEB STRAP TIEDOWN ASSEMBLY. THIS PIECE OF DUNNAGE MATERIAL SHALL BE OF SUCH A LENGTH TO INSURE CONTACT WITH EACH BOX IN THE TOP LAYER THAT IS NOT RESTRAINED BY AN INDIVIDUAL WEB STRAP TIEDOWN ASSEMBLY.
6. A TOTAL OF THREE WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN. SEE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" NOTE 6 ON PAGE 5.

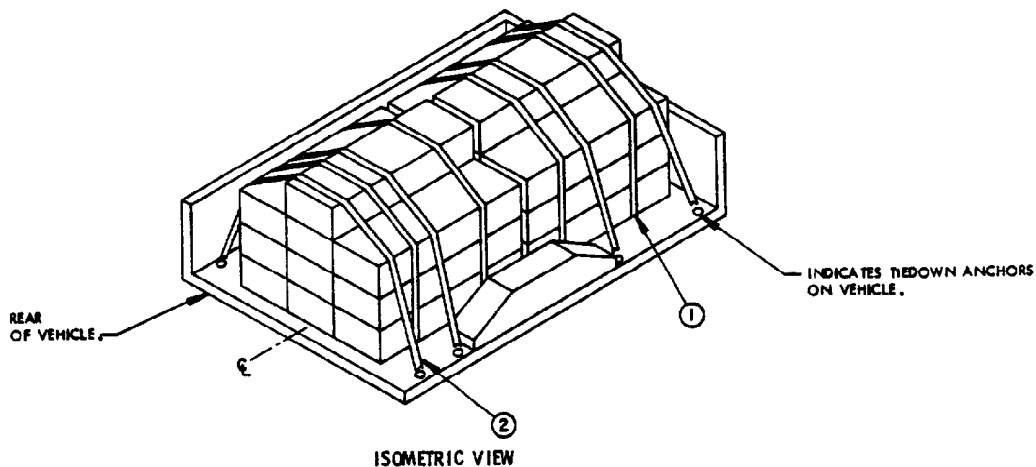
KEY NUMBER

- ① WEB STRAP TIEDOWN ASSEMBLY (3 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR AT THE FORWARD END OF THE LOAD, OVER THE TOP OF THE BOXES, TO A TIEDOWN ANCHOR AT THE REAR OF THE LOAD. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 12 ON PAGE 6.

LOAD AS SHOWN

<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
LOOSE BOXES	24	1,848 LBS





**LOAD GUIDANCE NOTES:**

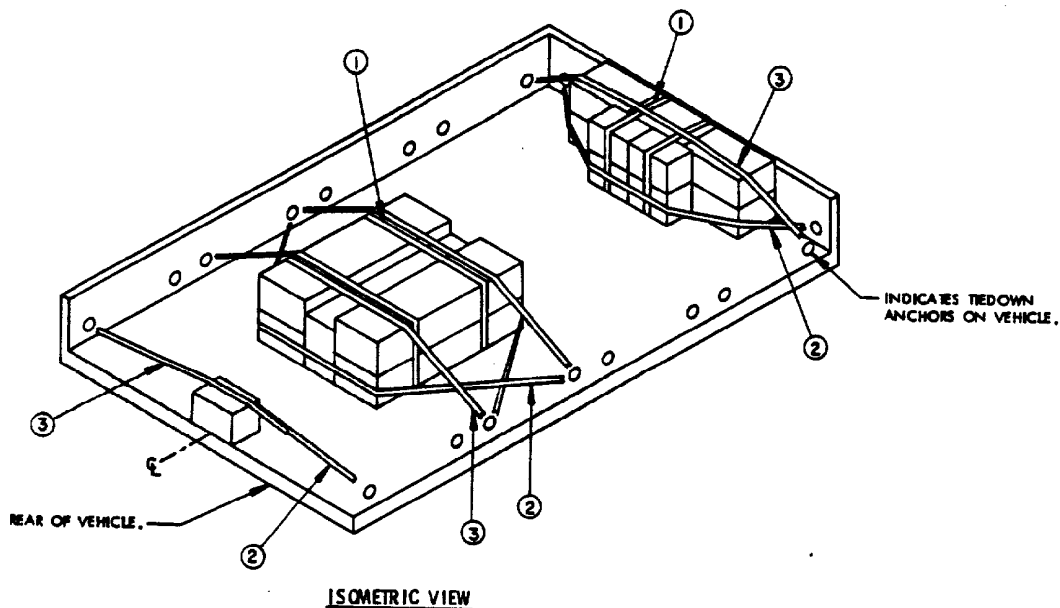
1. A TYPICAL LOAD OF TWENTY LOOSE BOXES OF AMMUNITION IS SHOWN IN A TRUCK, CARGO, 1-1/4-TON, M1008 (CUCV), HAVING INSIDE DIMENSIONS OF 98" LONG BY 63" WIDE (USEABLE WIDTH OF 48").
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, AND/OR TRAILERS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ON THE SIDEWALL, END WALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD AS SHOWN, OR A PARTIAL LOAD.
3. THE LOAD SHOWN ON THE PAGE DEPICTS A TYPICAL LOAD OF BOXES AMMUNITION CONSISTING OF TWENTY BOXES OF CARTRIDGE, 105MM, HAVING DIMENSIONS OF 44" LONG BY 14-1/4" WIDE, BY 8-3/4" HIGH. IF LOADING BOXES OF OTHER ITEMS, SIZES, OR QUANTITIES, FOLLOW THESE SAME PROCEDURES.
4. A TOTAL OF EIGHT WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN.

**KEY NUMBERS**

- ① WEB STRAP TIEDOWN ASSEMBLY ( TWO REQD FOR EACH BUNDLE OF LOOSE BOXES ). INSTALL EACH STRAP TO ENIRCLE ALL BOXES IN THE BUNDLE AS SHOWN. PRE-POSITION TWO STRAPS ON THE FLOOR OF THE VEHICLE PRIOR TO LOADING BOXES. MAKE SURE STRAPS LAY FLAT ACROSS THE FLOOR AND DRAPE THE ENDS OVER THE SIDE WALLS OF THE VEHICLE. POSITION BOTH STRAP RATCHETS ON THE SAME SIDE OF THE VEHICLE. POSITION THE FIRST LAYER OF BOXES ON THE FLOOR IN SUCH A MANNER SO THAT THE TIEDOWN ASSEMBLIES, PIECE MARKED ②, WILL PASS OVER THE COMPLETE BUNDLE OF BOXES. STACK THE REMAINING BOXES ON TOP OF THE BOTTOM LAYER. AFTER ALL BOXES ARE STACKED, HOOK ENDS OF WEB STRAP TIEDOWN ASSEMBLIES TOGETHER, TAKE UP SLACK IN STRAPS AND RATCHET TIGHT BOTH STRAPS AT THE SAME TIME. SEE GENERAL NOTES "F" AND "G" ON PAGE 2.
- ② WEB STRAP TIEDOWN ASSEMBLY ( 4 REQD ). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF THE BOXES, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT.

**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT (APPROX)
LOOSE BOXES	20	2,500 LBS



**LOAD GUIDANCE NOTES:**

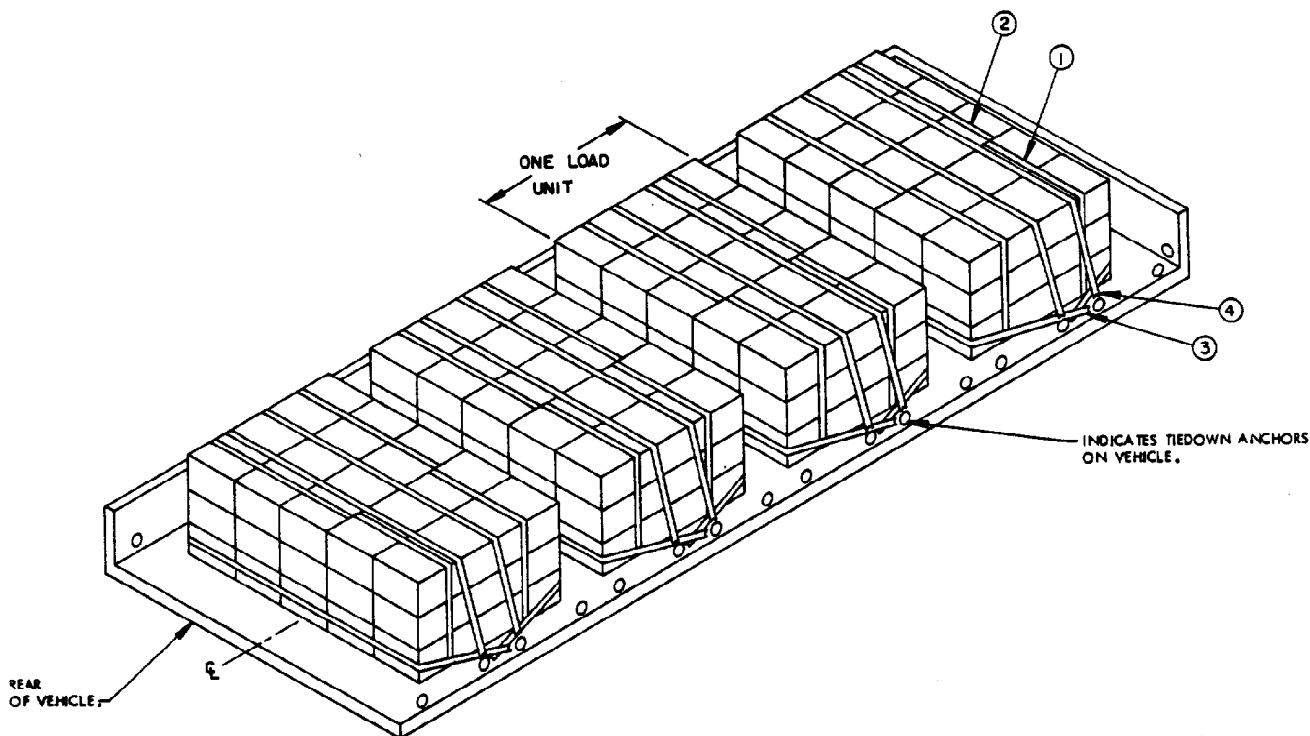
1. A TYPICAL LOAD OF LOOSE BOXED AMMUNITION OF VARIOUS ITEMS IS SHOWN IN A TRUCK, CARGO, 2-1/2-TON, M35 AND/OR M211, HAVING INSIDE DIMENSIONS OF 147" LONG BY 86" WIDE.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, AND/OR TRAILERS, WHEN HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ON THE SIDEWALL, END WALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN.
3. IN THE TYPICAL LOAD ABOVE THERE IS ONE BUNDLE CONTAINING SIX BOXES HAVING DIMENSIONS OF 17-1/2" LONG BY 11-1/2" WIDE BY 7-3/4" HIGH AND FOUR BOXES HAVING DIMENSIONS OF 12-1/4" LONG BY 7-3/8" WIDE BY 8-1/4" HIGH. THE OTHER BUNDLE CONTAINS FIVE BOXES HAVING DIMENSIONS OF 44" LONG BY 14-1/4" WIDE BY 8-3/4" HIGH. IF LOADING BOXES OF OTHER DIMENSIONS OR QUANTITIES, FOLLOW THESE SAME PROCEDURES. THE SINGLE BOX SHOWN AT THE REAR OF THE LOAD HAS DIMENSIONS OF 12" LONG BY 12" WIDE BY 10" HIGH.
4. A TOTAL OF TWELVE WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN.

**KEY NUMBERS**

- ① WEB STRAP TIEDOWN ASSEMBLY ( TWO REQD FOR EACH BUNDLE OF LOOSE BOXES ). INSTALL EACH STRAP TO ENCIROLE ALL BOXES IN THE BUNDLE AS SHOWN. PRE-POSITION TWO STRAPS ON THE FLOOR OF THE VEHICLE PRIOR TO LOADING BOXES. MAKE SURE STRAPS LAY FLAT ACROSS THE FLOOR AND DRAPE THE ENDS OVER THE SIDEWALL OR END WALL OF THE VEHICLE. POSITION BOTH RATCHETS ON THE SAME SIDE OF THE LADING. POSITION THE FIRST LAYER OF BOXES ON THE FLOOR IN SUCH A MANNER SO THAT THE TIEDOWN ASSEMBLIES, PIECE MARKED ③, WILL PASS OVER THE COMPLETE BUNDLE OF BOXES. STACK THE REMAINING BOXES ON TOP OF THE BOTTOM LAYER. AFTER ALL BOXES ARE STACKED, HOOK ENDS OF WEB STRAP TIEDOWN ASSEMBLIES TOGETHER. TAKE UP SLACK IN STRAPS AND RATCHET TIGHT BOTH STRAPS AT THE SAME TIME. SEE GENERAL NOTES "F" AND "G" ON PAGE 2.
- ② WEB STRAP TIEDOWN ASSEMBLY ( 4 REQD ). INSTALL STRAP FROM A TIEDOWN ANCHOR ON THE SIDEWALL OR END WALL OF THE VEHICLE, AROUND END OF BUNDLE OF BOXES, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP SLACK IN STRAP AND RATCHET TIGHT.
- ③ WEB STRAP TIEDOWN ASSEMBLY ( 4 REQD ). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON THE SIDE OF THE VEHICLE, OVER THE TOP OF THE BOXES, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP SLACK IN STRAP AND RATCHET TIGHT.

**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT (APPROX)
LOOSE BOXES	14	1,289 LBS



**ISOMETRIC VIEW**

**LOAD GUIDANCE NOTES:**

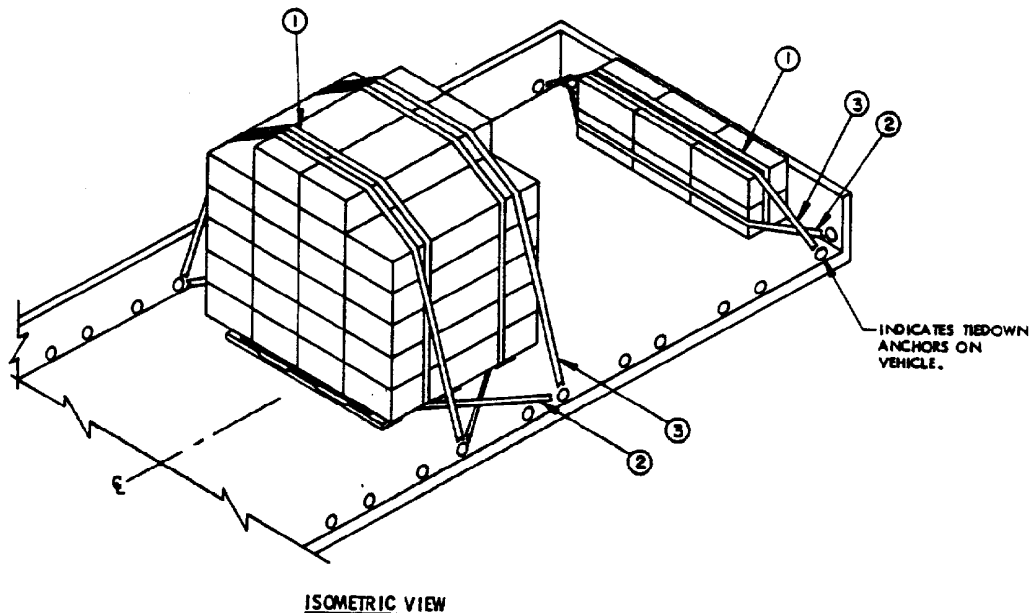
1. A TYPICAL LOAD OF SIXTY LOOSE BOXES OF AMMUNITION IS SHOWN IN A TRUCK, CARGO, 5-TON, M55, HAVING INSIDE DIMENSIONS OF 244" LONG BY 88" WIDE.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, AND/OR TRAILERS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ON THE SIDEWALL, END WALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN.
3. THE LOAD SHOWN ON THIS PAGE DEPICTS A TYPICAL LOAD OF BOXED AMMUNITION CONSISTING OF SIXTY BOXES OF CARTRIDGES, 105MM, HAVING DIMENSIONS OF 44" LONG BY 14-1/4" WIDE BY 9-3/4" HIGH. IF LOADING BOXES OF OTHER ITEMS, SIZES, OR QUANTITIES, FOLLOW THESE SAME PROCEDURES.
4. THE PROCEDURES SHOWN ABOVE MAY BE USED FOR SECURING LOOSE BOXES OF AMMUNITION ON SEMITRAILERS SUCH AS THE M127, 12-TON, THE M871, 22-1/2-TON, AND THE M872, 34-TON. THE WEB STRAP TIEDOWN ASSEMBLIES WILL BE ATTACHED TO DESIGNATED TIEDOWN ANCHORS LOCATED ON THE FLOOR OF THE SEMITRAILER IN LIEU OF THE SIDEWALL AS SHOWN ABOVE.
5. A TOTAL OF THIRTY-TWO WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN.

**KEY NUMBERS**

- ① WEB STRAP TIEDOWN ASSEMBLY (8 REQD, 2 PER LOAD UNIT). INSTALL EACH STRAP SO AS TO ENCIRCLE SIX BOXES AS SHOWN. PRE-POSITION TWO STRAPS ON THE FLOOR OF THE VEHICLE PRIOR TO LOADING BOXES. MAKE SURE STRAPS LAY FLAT ACROSS THE FLOOR. POSITION BOTH STRAP RATCHETS ON THE SAME SIDE OF THE VEHICLE. AFTER SIX BOXES ARE STACKED, HOOK ENDS OF WEB STRAP TIEDOWN ASSEMBLIES TOGETHER, TAKE UP SLACK IN STRAPS AND RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2.
- ② WEB STRAP TIEDOWN ASSEMBLY (8 REQD, 2 PER LOAD UNIT). INSTALL EACH STRAP IN THE SAME MANNER AS PIECE MARKED ① EXCEPT EN-CIRCLE NINE BOXES.
- ③ WEB STRAP TIEDOWN ASSEMBLY (8 REQD). INSTALL STRAP FROM A TIEDOWN ANCHOR ON THE SIDE WALL OF THE VEHICLE, AROUND THE END OF BUNDLE OF BOXES, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP SLACK IN STRAP AND RATCHET TIGHT.
- ④ WEB STRAP TIEDOWN ASSEMBLY (8 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON THE SIDE OF THE VEHICLE, OVER THE TOP OF THE BOXES, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND RATCHET TIGHT.

**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT (APPROX)
LOOSE BOXES	60	7,500 LBS (APPROX)



**LOAD GUIDANCE NOTES:**

1. A TYPICAL METHOD FOR SECURING LOOSE BOXES, AND FOR SECURING LOOSE BOXES ON TOP OF A PALLETIZED UNIT, ARE SHOWN IN A TRUCK, CARGO, 5-TON, M55, HAVING INSIDE DIMENSIONS OF 244" LONG BY 88" WIDE.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, AND/OR TRAILERS WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ON THE SIDE WALL, END WALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN.
3. THE LOAD SHOWN ON THIS PAGE DEPICTS SIX BOXES OF AMMUNITION HAVING DIMENSIONS OF 17-1/2" LONG BY 11-1/2" WIDE BY 7-3/4" HIGH, AND TWENTY-TWO BOXES HAVING DIMENSIONS OF 44" LONG BY 14-1/4" WIDE BY 9-3/4" HIGH. IF LOADING BOXES OF OTHER DIMENSIONS OR QUANTITIES USE THESE SAME PROCEDURES.
4. THE QUANTITY OF LOOSE BOXES POSITIONED ON TOP OF A PALLETIZED UNIT MAY BE ONE BOX UP TO THE MAXIMUM QUANTITY THAT CAN BE POSITIONED IN THE BOTTOM LAYER. IF MORE THAN ONE FULL LAYER OF LOOSE BOXES IS TO BE POSITIONED ON TOP OF A PALLETIZED UNIT SEE SPECIAL NOTE 5 ON PAGE 22.
5. ALL LOOSE BOXES POSITIONED ON TOP OF A PALLETIZED UNIT MUST FORM A TIGHT BUNDLE AFTER STRAPS MARKED ① ARE RATCHETED TIGHT. IF BOXES DO NOT FORM A TIGHT BUNDLE, OR IF BOXES OF DIFFERENT SIZES ARE BEING POSITIONED ON TOP OF THE SAME PALLETIZED UNIT, ADDITIONAL WEB STRAP ASSEMBLIES WHICH ENCIRCLE ALL LOOSE BOXES WITHIN THE BUNDLE, ARE REQUIRED.
6. A TOTAL OF NINE WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN ABOVE.

**KEY NUMBERS**

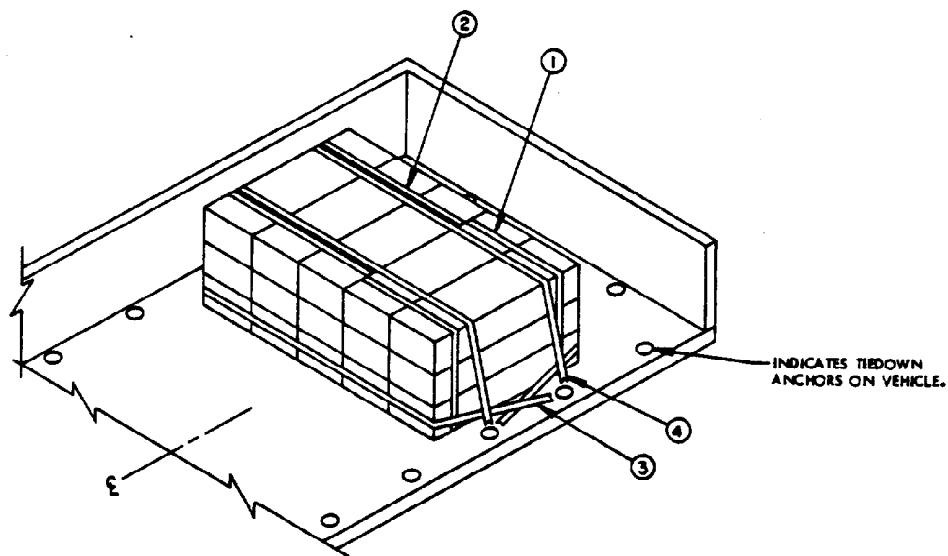
- ① WEB STRAP TIEDOWN ASSEMBLY (3 REQD). INSTALL EACH STRAP SO AS TO ENCIRCLE SIX BOXES, OR A PALLETIZED UNIT AND TWO BOXES AS SHOWN. AFTER ALL BOXES ARE STACKED, BRING ENDS OF STRAPS UP OVER TOP OF LOOSE BOXES AND HOOK ENDS OF STRAP TOGETHER. TAKE UP EXCESS SLACK IN STRAP AND RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2.
- ② WEB STRAP TIEDOWN ASSEMBLY (3 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON THE END OR SIDE OF THE VEHICLE, AROUND THE TRUNDLE OF BOXES OR PALLET, AS SHOWN, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND RATCHET TIGHT.
- ③ WEB STRAP TIEDOWN ASSEMBLY (3 REQD). INSTALL EACH STRAP SO AS TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF LADING TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND RATCHET TIGHT.

**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT (APPROX)
PALLETIZED UNIT	1	2,565 LBS
LOOSE BOXES	28	778 LBS
<b>TOTAL WEIGHT</b>		<b>3,343 LBS (APPROX)</b>

**SPECIAL NOTES:**

1. THE LOADS SHOWN ON PAGES 30 AND 31 ARE BASED ON SECURING PALLETIZED AND/OR LOOSE BOXED AMMUNITION IN/ON THE HEAVY EXPANDED MOBILITY TACTICAL TRUCK (HEMTT), 10-TON, M977 AND/OR M985. **NOTE:** THESE METHODS APPLY TO THE HEMTT ONLY. DO NOT POSITION PALLETIZED UNITS, OR SKIDDED UNITS, OR LOOSE BOXES AGAINST THE END WALLS AND/OR SIDE WALLS.
2. THE PROCEDURES SHOWN ARE FOR SECUREMENT OF PALLETIZED UNITS OR SKIDDED UNITS HAVING STEEL UNITIZING STRAPS AND/OR "LOOSE" BOXED AMMUNITION. THE TERM "LOOSE" BOXES REFERS TO BOXED AMMUNITION REMAINING AFTER THE STEEL UNITIZING STRAPS ON A PALLETIZED UNIT OR SKIDDED UNIT HAVE BEEN CUT AND THE AMMUNITION BOXES REMOVED FROM THE PALLET BASE OR SKID BASE.
3. PRIOR TO LOADING PALLETIZED UNITS OR SKIDDED UNITS ON A VEHICLE, SELECT THE QUANTITY OF PALLETIZED UNITS OR SKIDDED UNITS TO BE LOADED. DO NOT EXCEED THE WEIGHT LIMIT OF THE VEHICLE. SELECT A LOCATION WITHIN THE LENGTH OF THE CARGO BED THAT WILL PROVIDE ADEQUATE TIEDOWN ANCHORS TO SECURE THE LOAD, USING THE TIEDOWN PROCEDURES DEPICTED ON PAGES 30 AND 31.
4. EACH SINGLE PALLETIZED UNIT AND/OR ADJACENT PALLETIZED UNITS POSITIONED ACROSS THE WIDTH OF THE VEHICLE, AS SHOWN ON PAGE 31, MUST BE SECURED WITH STRAPS ATTACHED TO TIEDOWN ANCHORS ON ONE SIDE OF VEHICLE OVER TOP OF PALLETIZED UNIT(S), TO MATING TIEDOWN ANCHORS ON OPPOSITE SIDE OF VEHICLE. **NOTE:** DO NOT POSITION THESE STRAPS ACROSS LOAD ON LONGITUDINAL JOINTS BETWEEN PALLETIZED UNITS. IF THE TIEDOWN ANCHORS ON SIDE OF VEHICLE ARE TOO CLOSE TOGETHER, TOO FAR APART, OR ARE NOT IN A LOCATION WHICH WILL ALLOW ADEQUATE HOLD DOWN OF PALLETIZED UNIT(S) WHEN STRAPS ARE POSITIONED STRAIGHT OVER TOP OF LOAD, THE TWO HOLD DOWN STRAPS MAY BE CROSSED OVER THE TOP OF THE PALLETIZED UNIT(S) AS SHOWN IN THE LOAD ON PAGE 9.
5. THE LOOSE BOXES SHOWN IN THE LOAD ON PAGE 30 AND THE MIXED LOAD OF PALLETIZED UNITS AND SKIDDED UNITS SHOWN IN THE LOAD ON PAGE 31 WERE SELECTED AS TYPICAL AND THE METHODS SHOWN WILL APPLY TO ANY UNITS OF OTHER DIMENSIONS AND WEIGHTS.
6. WHEN LOADING PALLETIZED UNITS OR SKIDDED UNITS HAVING A LENGTH OF 43" OR MORE, TWO WIDE, ACROSS THE WIDTH OF THE VEHICLE, THE TWO LATERALLY ADJACENT UNITS MAY EXTEND OVER THE TOP OF THE TIEDOWN ANCHORS ON EACH SIDE OF THE VEHICLE PROHIBITING ATTACHMENT OF WEB STRAP TIEDOWN ASSEMBLIES. AND/OR IF WEB STRAP TIEDOWN ASSEMBLY CAN BE ATTACHED TO THE TIEDOWN ANCHORS, THE STRAP RATCHET BEARS AGAINST THE OVERHANG OF THE PALLETIZED UNIT OR SKIDDED UNIT AT SUCH AN ANGLE THAT IT INTERFERES WITH POSITIONING THE DROP-SIDES IN THE "UP" POSITION. THIS MAY DAMAGE THE RATCHET AND/OR SIDES IF THEY ARE FORCED INTO POSITION AGAINST THE RATCHET. **NOTE:** WHEN SECURING WIDE LOADS USE ONE OF THE FOLLOWING METHODS.
  - A. HOOK THE RATCHET ENDS OF TWO WEB STRAP TIEDOWN ASSEMBLIES TOGETHER. POSITION THE RATCHETS ON TOP OF THE PALLETIZED UNITS OR SKIDDED UNITS, AND ATTACH THE NON-RATCHET HOOK END OF EACH STRAP TO A TIEDOWN ANCHOR ON EACH SIDE OF THE VEHICLE. MAKE SURE THERE IS A MINIMUM OF ONE-HALF WRAP OF STRAP ON ONE RATCHET, THEN TAKE UP EXCESS SLACK IN REMAINING RATCHET AND RATCHET TIGHT. THIS METHOD REQUIRES TWO WEB STRAP TIEDOWN ASSEMBLIES IN LIEU OF EACH STRAP MARKED ② ON PAGE 31.
  - B. THE PALLETIZED UNITS OR SKIDDED UNITS CAN BE POSITIONED ONE WIDE, DOWN THE CENTER OF THE VEHICLE LENGTH, IN LIEU OF TWO WIDE. SEE THE LOAD SHOWN ON PAGE 10 FOR AN EXAMPLE.
  - C. TWO LATERALLY ADJACENT PALLETIZED UNITS MAY BE CENTERED BETWEEN TWO TIEDOWN ANCHORS ON EACH SIDE OF THE VEHICLE THAT ARE FARTHER APART THAN THE UNIT WIDTH, TO WHICH THE HOLD DOWN WEB STRAPS CAN BE ATTACHED, AND WHICH WILL PROVIDE CLEARANCE BETWEEN THE UNIT AND THE STRAP RATCHET, AND BETWEEN THE SIDE WALLS OF THE VEHICLE AND THE STRAP RATCHET. SEE THE LOAD SHOWN ON PAGE 13 FOR AN EXAMPLE.
  - D. ONE UNIT HAVING A LENGTH OF 40" OR LESS CAN BE POSITIONED LATERALLY ADJACENT TO A UNIT HAVING A LENGTH OF 43" OR MORE TO REDUCE THE TOTAL LOAD WIDTH. SEE THE "CHIMNEY" TYPE LOAD UNIT ON PAGE 15 FOR AN EXAMPLE.
  - E. THE TWO LATERALLY ADJACENT UNITS CAN BE POSITIONED AS CLOSE AS POSSIBLE TO THE TIEDOWN ANCHORS ON ONE SIDE OF THE VEHICLE, MAKING MORE ROOM FOR THE RATCHET ON THE OPPOSITE SIDE OF THE VEHICLE.
7. ALL LOADS FROM ONE SINGLE BOX TO A MAXIMUM LOAD OF PALLETIZED UNITS OR SKIDDED UNITS MUST BE SECURED LONGITUDINALLY WITH ONE STRAP AT EACH END, ATTACHED TO A TIEDOWN ANCHOR ON ONE SIDE OF THE VEHICLE AND POSITIONED AROUND THE END(S) OF THE BOXES OR UNITS, TO A MATING TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE, AS SHOWN IN THE LOADS ON PAGES 30 AND 31. **NOTE:** IF THERE IS NOT ENOUGH ROOM BETWEEN LOAD AND SIDEWALL OF THE VEHICLE FOR THE STRAP RATCHET, HOOK THE RATCHET ENDS OF TWO WEB STRAP TIEDOWN ASSEMBLIES TOGETHER. POSITION THE RATCHETS AT THE END OF THE LOAD AND ATTACH THE NON-RATCHET HOOK END OF EACH STRAP TO A TIEDOWN ANCHOR ON EACH SIDE OF THE VEHICLE. MAKE SURE THAT THERE IS A MINIMUM OF ONE-HALF WRAP OF STRAP ON ONE RATCHET, THEN TAKE UP EXCESS SLACK IN REMAINING RATCHET AND RATCHET TIGHT. THIS METHOD REQUIRES TWO WEB STRAP TIEDOWN ASSEMBLIES IN LIEU OF ONE AT EACH LOCATION WHERE A LONGITUDINAL STRAP IS REQUIRED.



ISOMETRIC VIEW

LOAD GUIDANCE NOTES:

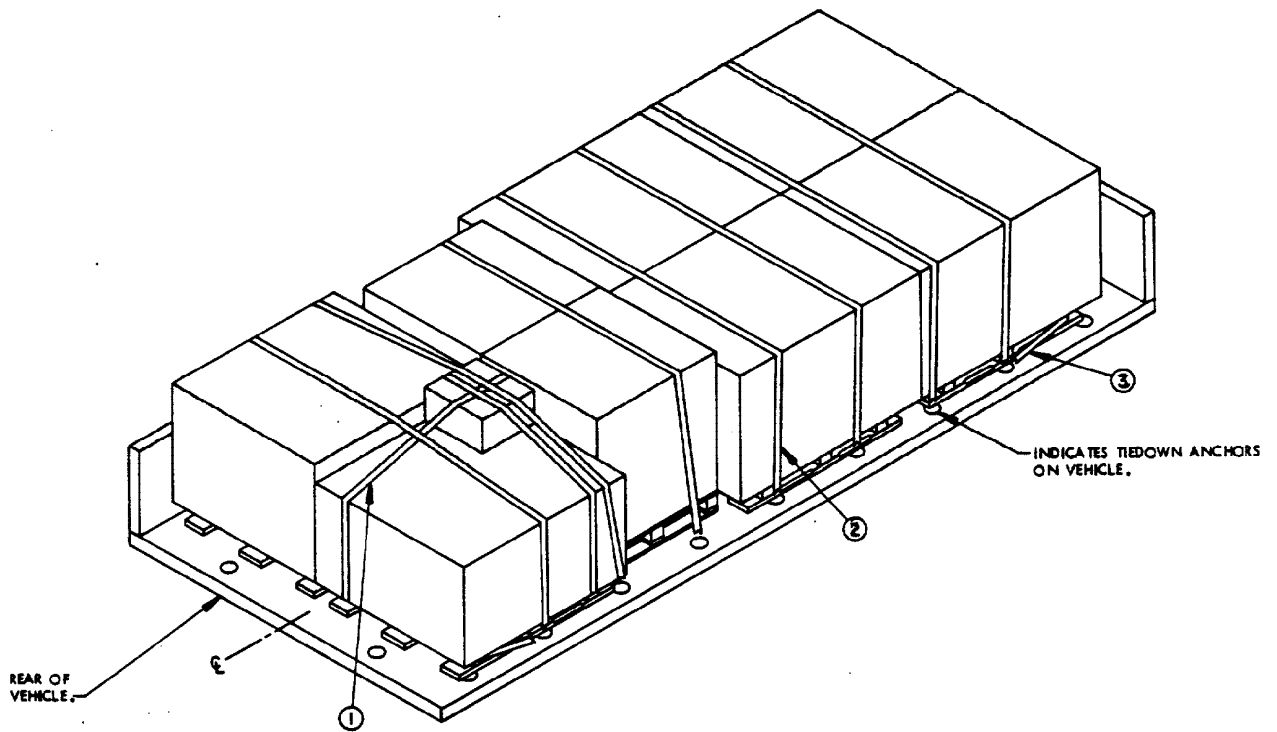
1. A TYPICAL LOAD OF FIFTEEN LOOSE BOXES OF AMMUNITION IS SHOWN ON THE TRUCK, HEAVY EXPANDED MOBILITY (HEMTT), 10-TON, M977 AND/OR M985, HAVING INSIDE DIMENSIONS OF 216-3/8" LONG BY 90-3/4" WIDE.
2. THE LOAD AS SHOWN ON THIS PAGE DEPICTS SECUREMENT OF A TYPICAL LOAD OF BOXED AMMUNITION HAVING DIMENSIONS OF 44" LONG BY 14-1/4" WIDE BY 8-3/4" HIGH. IF LOADING BOXES OF OTHER SIZES OR QUANTITIES, FOLLOW THESE SAME PROCEDURES.
3. A TOTAL OF EIGHT WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN.

KEY NUMBERS

- ① WEB STRAP TIEDOWN ASSEMBLY ( 2 REQD ). INSTALL EACH STRAP SO AS TO ENCIRCLE SIX BOXES AS SHOWN. PRE-POSITION TWO STRAPS ON THE FLOOR OF THE VEHICLE PRIOR TO LOADING BOXES. MAKE SURE STRAPS LAY FLAT ACROSS THE FLOOR. POSITION BOTH STRAPS ON THE SAME SIDE OF THE VEHICLE. AFTER SIX BOXES ARE STACKED, HOOK ENDS OF WEB STRAP TIEDOWN ASSEMBLIES TOGETHER, TAKE UP EXCESS SLACK IN STRAPS AND RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2.
- ② WEB STRAP TIEDOWN ASSEMBLY ( 2 REQD ). INSTALL EACH STRAP IN THE SAME MANNER AS PIECE MARKED ① EXCEPT ENCIRCLE NINE BOXES.
- ③ WEB STRAP TIEDOWN ASSEMBLY ( 2 REQD ). INSTALL STRAP FROM A TIEDOWN ANCHOR ON THE SIDE OF THE VEHICLE, AROUND THE END OF BUNDLE OF BOXES, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP SLACK IN STRAP AND RATCHET TIGHT.
- ④ WEB STRAP TIEDOWN ASSEMBLY ( 2 REQD ). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON THE SIDE OF THE VEHICLE, OVER THE TOP OF THE BOXES, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND RATCHET TIGHT.

LOAD AS SHOWN

<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT ( APPROX )</u>
LOOSE BOXES	15	1,975 LBS ( APPROX )



**ISOMETRIC VIEW**

**KEY NUMBERS**

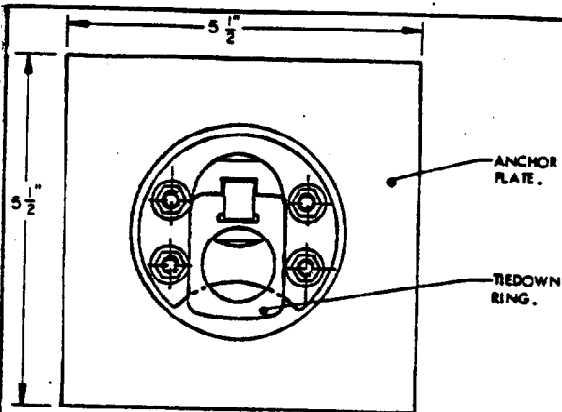
**LOAD GUIDANCE NOTES:**

1. A MAXIMUM OF EIGHT PALLETIZED AND SKIDDED UNITS IS SHOWN ON THE TRUCK, HEAVY EXPANDED MOBILITY (HEMTT), 10-TON, M977 AND/OR M985, HAVING INSIDE DIMENSIONS OF 216-3/8" LONG BY 90-3/4" WIDE. **NOTE:** THE MAXIMUM LOAD IS BASED ON THE DIMENSIONS OF THE UNITS SHOWN.
2. THE LOAD SHOWN ON THIS PAGE DEPICTS FOUR PALLETIZED UNITS OF BOXED AMMUNITION HAVING DIMENSIONS OF 43-1/2" WIDE BY 56" LONG BY 40" HIGH, TWO SKIDDED UNITS HAVING DIMENSIONS OF 37" WIDE X 36" LONG BY 45" HIGH, ONE PALLETIZED UNIT HAVING DIMENSIONS OF 44" WIDE BY 50" LONG BY 38" HIGH, AND ONE PALLETIZED UNIT HAVING DIMENSIONS OF 46" WIDE BY 50" LONG BY 33" HIGH WITH A LOOSE BOX HAVING DIMENSIONS OF 18" WIDE BY 16" LONG BY 9" HIGH SECURED TO IT WITH TWO WEB STRAP TIEDOWN ASSEMBLIES, PIECES MARKED ①. IF LOADING PALLETIZED OR SKIDDED UNITS OF OTHER SIZES OR QUANTITIES, FOLLOW THESE SAME PROCEDURES.
3. A TOTAL OF ELEVEN WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN ABOVE.

- ① WEB STRAP TIEDOWN ASSEMBLY (2 REQD). INSTALL EACH STRAP SO AS TO ENCIRCLE A PALLETIZED UNIT AND A LOOSE BOX AS SHOWN. SEE SPECIAL NOTE 2 AT LEFT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2.
- ② WEB STRAP TIEDOWN ASSEMBLY (7 REQD). INSTALL EACH STRAP SO AS TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF LOAD, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND RATCHET TIGHT. SEE SPECIAL NOTES 4 AND 6 ON PAGE 29.
- ③ WEB STRAP TIEDOWN ASSEMBLY (2 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, AROUND END OF PALLETS, AS SHOWN, TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND RATCHET TIGHT. SEE SPECIAL NOTE 7 ON PAGE 29.

**LOAD AS SHOWN**

ITEM	QUANTITY	WEIGHT (APPROX)
PALLETIZED UNITS	4	12,400 LBS
SKIDDED UNITS	2	4,340 LBS
LOOSE BOX	1	50 LBS
<b>TOTAL WEIGHT</b>		<b>16,790 LBS (APPROX)</b>

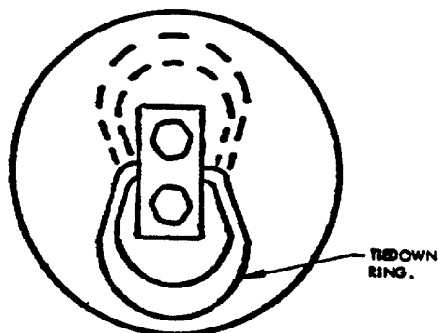


**UNIVERSAL TIEDOWN ANCHOR (FRONT VIEW)**

THIS TIEDOWN ANCHOR IS RATED AT 5,000 POUNDS AND IS FOR USE ON CARGO TRUCKS AND/OR CARGO TRAILERS. SEE GENERAL NOTE "C" ON PAGE 2 AND "NOTE ●" AT RIGHT.

**NOTE ●:**

IF THE TACTICAL VEHICLES/BEING USED ARE NOT EQUIPPED WITH THE 5,000 POUND, UNIVERSAL TIEDOWN ANCHOR SHOWN AT LEFT, SEE TB 9-2300-280-30 FOR VEHICLE MODIFICATION PROCEDURES AND INSTALLATION OF THE TIEDOWN ANCHOR; WITH THE EXCEPTION OF THE HEAVY EXPANDED MOBILITY TRUCK, (HEMTT) M977 AND/OR M985, WHICH HAS THE TIEDOWN ANCHORS INSTALLED IN THE FLOOR. THESE TIEDOWN ANCHORS ARE TO BE INSTALLED IN THE SIDE WALLS AND END WALLS OF CARGO TRUCKS AND CARGO TRAILERS. IF AN M122, 12-TON, SEMITRAILER IS BEING USED, SEE INFORMATION IN TB 9-2300-280-30. THE SEMITRAILER REQUIRES A DIFFERENT TYPE OF TIEDOWN ANCHOR.

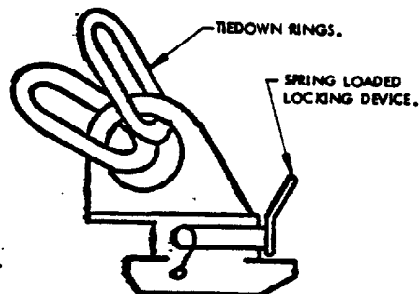


**TYPE III, FIXED TIEDOWN ANCHOR (TOP VIEW)**

THIS TIEDOWN ANCHOR IS RATED AT 10,000 POUNDS AND IS ONLY INSTALLED ON THE M871 SEMITRAILER. THERE ARE FIVE ON EACH SIDE OF THE M871 SEMITRAILER AND THEY DO NOT SWIVEL. SEE GENERAL NOTE "C" ON PAGE 2 AND SPECIAL NOTE 7 ON PAGE 6.

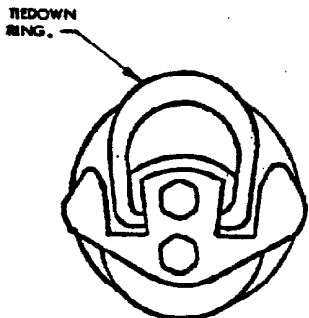
**NOTE ⊕:**

THIS TIEDOWN ANCHOR IS RATED AT 10,000 POUNDS AND IS ONLY FOR USE ON THE M871 SEMITRAILER. IT IS COMMONLY REFERRED TO AS "BIG FOOT". THERE ARE LOCATIONS FOR TEN TIEDOWN ANCHORS ON EACH SIDE OF THE M871 SEMITRAILER AND THEY SWIVEL. THIS TIEDOWN ANCHOR HAS A SPRING LOADED LOCKING DEVICE TO HOLD IT IN PLACE AND IT IS INSERTED, FROM THE TOP, INTO A 1-3/4" DIAMETER HOLE LOCATED ON THE SIDE OF THE SEMITRAILER FLOOR. SEE GENERAL NOTE "C" ON PAGE 2 AND SPECIAL NOTE 7 ON PAGE 6. THIS TIEDOWN ANCHOR IS FURTHER IDENTIFIED AS NSN 2546-01-117-3043.



**TYPE II, REMOVABLE TIEDOWN ANCHOR (SIDE VIEW)**

(SEE "NOTE ⊕" ABOVE.)



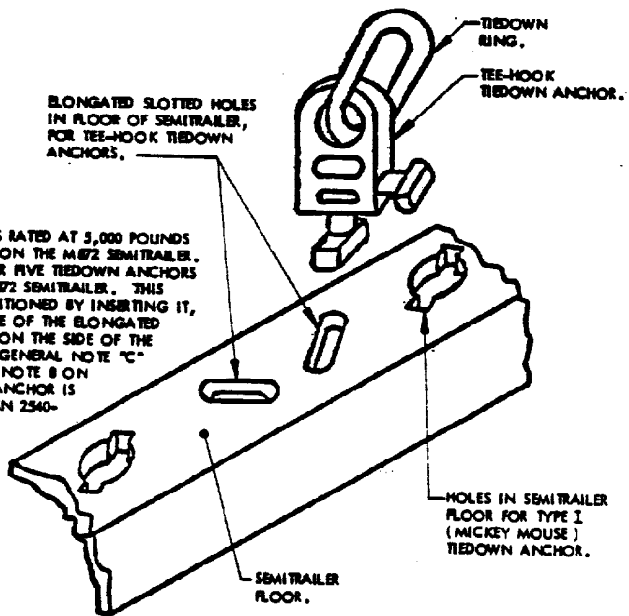
**TYPE I, REMOVABLE TIEDOWN ANCHOR (TOP VIEW)**

THIS TIEDOWN ANCHOR IS RATED AT 10,000 POUNDS AND IS INSTALLED ON THE M871 AND M872 SEMITRAILERS. IT IS COMMONLY REFERRED TO AS "MICKEY MOUSE". THERE ARE LOCATIONS FOR TEN TIEDOWN ANCHORS ON EACH SIDE OF THE M871 SEMITRAILER AND LOCATIONS FOR APPROXIMATELY TWENTY-EIGHT TIEDOWN ANCHORS ON EACH SIDE OF THE M872 SEMITRAILER. THIS TIEDOWN ANCHOR IS POSITIONED BY REACHING UNDER FLOOR OF SEMITRAILER AND INSERTING THE TIEDOWN ANCHOR UP THROUGH THE HOLE AND ROTATING IT INTO POSITION. SEE GENERAL NOTE "C" ON PAGE 2 AND SPECIAL NOTES 7 AND 8 ON PAGE 6. THIS TIEDOWN ANCHOR IS FURTHER IDENTIFIED AS NSN 2540-01-112-1732.

ELONGATED SLOTTED HOLES IN FLOOR OF SEMITRAILER, FOR TEE-HOOK TIEDOWN ANCHORS.

**NOTE ▲:**

THIS TIEDOWN ANCHOR IS RATED AT 5,000 POUNDS AND IS ONLY INSTALLED ON THE M872 SEMITRAILER. THERE ARE LOCATIONS FOR FIVE TIEDOWN ANCHORS ON EACH SIDE OF THE M872 SEMITRAILER. THIS TIEDOWN ANCHOR IS POSITIONED BY INSERTING IT, FROM THE TOP, INTO ONE OF THE ELONGATED SLOTTED HOLES LOCATED ON THE SIDE OF THE SEMITRAILER FLOOR. SEE GENERAL NOTE "C" ON PAGE 2 AND SPECIAL NOTE 8 ON PAGE 6. THIS TIEDOWN ANCHOR IS FURTHER IDENTIFIED AS NSN 2540-01-413-9285.



**REMOVABLE TEE-HOOK TIEDOWN ANCHOR (ISOMETRIC VIEW)**

(SEE "NOTE ▲" ABOVE.)