

LOADING, TIEDOWN, AND UNLOADING PROCEDURES FOR THE BLU-80/B (BIGEYE) BINARY CHEMICAL WEAPON BALLONET, MXU-695/B, PACKED IN CNU-388/E SHIPPING AND STORAGE CONTAINER, IN/ON TACTICAL VEHICLES

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U.S. ARMY MATERIEL COMMAND DRAWING

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U.S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL	FEBRUARY 1991		
	CLASS	DIVISION	DRAWING
	19	48	4575
			FILE
			CB17PM1

DO NOT SCALE

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 BLU-80/B (BIGEYE) BINARY CHEMICAL WEAPON BALLONET, MXU-695/B, PACKED IN CNU-388/E STORAGE AND SHIPPING CONTAINER IN/ON TACTICAL VEHICLES. IF OTHER TYPES OF CARGO ITEMS ARE TRANSPORTED WITH THOSE SHOWN, THE TOTAL LOAD/MUST BE COMPATIBLE AND THE ADDED ITEMS MUST BE SECURED WITH WEB STRAP ASSEMBLIES, AS REQUIRED TO PREVENT DISPLACEMENT DURING TRANSPORTATION.
- C. LADING DATA:
- FOR DETAIL OF THE PALLETIZED UNIT SEE PAGE 4 OF THIS DRAWING.
- DIMENSIONS - - - -: 79-3/4" LONG BY 49-1/8" WIDE BY 44-3/4" HIGH.
- GROSS WEIGHT - - - -: 2,028 POUNDS (APPROX).
- FOR DETAIL OF THE CONTAINER SEE PAGE 4 OF THIS DRAWING.
- DIMENSIONS - - - -: 79-3/4" LONG BY 16-3/8" WIDE BY 11-1/2" HIGH
- GROSS WEIGHT - - - -: 161 POUNDS (APPROX).
- D. 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 KIT" 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 19 FOR GUIDANCE.
- E. WHENEVER POSSIBLE, LADING SHOULD BE CENTERED Laterally IN/ON CARRYING VEHICLE TO PROVIDE FOR EQUAL ANGLE HOLD DOWN BY THE SECURING WEB STRAP ASSEMBLIES. WHENEVER POSSIBLE, LADING SHOULD BE CENTERED LONGITUDINALLY (IN/ON THE CARRYING VEHICLE) BETWEEN THE SELECTED TIEDOWN FITTINGS TO BE USED, HOWEVER, DUE TO LADING WEIGHT, SIZE, CONFIGURATION, AND/OR LOCATION AND QUANTITY OR TIEDOWN ANCHORS WITHIN THE CARRYING VEHICLE, IT MAY BE NECESSARY TO LOCATE THE LADING IN/ON A VEHICLE AS SHOWN WITHIN THIS DRAWING TO PROVIDE FOR PROPER TIEDOWN AND TO ACHIEVE A MAXIMUM LOAD.
- F. WEB STRAP TIEDOWN ASSEMBLIES MUST BE SECURELY HOOKED INTO ANCHORING DEVICES ON THE TRANSPORTING VEHICLE AND FIRMLY TENSIONED. FIRMLY TENSIONED MEANS, WHEN THE OPERATOR PULLS ON THE RATCHET HANDLE BY HAND, THE RATCHET WILL NOT ADVANCE ANOTHER NOTCH. NO TYPE OF MECHANICAL EXTENSION OR LEVER WILL BE USED. EXERCISE CARE DURING STRAP APPLICATION. AVOID TWISTS IN STRAP TO THE EXTENT POSSIBLE (IF TIME PERMITS) BUT ENSURE THERE ARE NO KNOTS IN STRAP. ON THE TAKE-UP SPOOL OF RATCHET, ENSURE STRAIGHT LAY OF STRAP WHEN TENSIONING. AFTER INITIAL WEBBING-TO-WEBBING CONTACT HAS BEEN MADE BY ROTATING THE TAKE-UP SPOOL UNTIL NO METAL ON THE SPOOL IS SHOWING AND THE STRAP IS IN CONTACT WITH ITSELF, THE TENSIONED STRAP MUST FORM AT LEAST ONE-HALF BUT NOT MORE THAN ONE AND ONE-HALF WRAPS OF STRAP ON THE TAKE-UP SPOOL OF THE TENSIONING RATCHET. AFTER TENSIONING IS COMPLETED ENSURE THAT SPOOL LOCKING LATCH IS FULLY SEATED AT BOTH ENDS OF SPOOL IN MATCHING LOCKING NOTCHES. TIE BACK THE LOOSE END OF STRAP AFTER TENSIONING IS COMPLETED. (LOOSE END MAY BE FOLDED AND TAPED OR TIED TO THE TENSION STRAP IF TIME PERMITS). FOR ADDITIONAL GUIDANCE, SEE DETAILS ON PAGE 20 AND 21.

(CONTINUED AT RIGHT)

MATERIAL SPECIFICATIONS

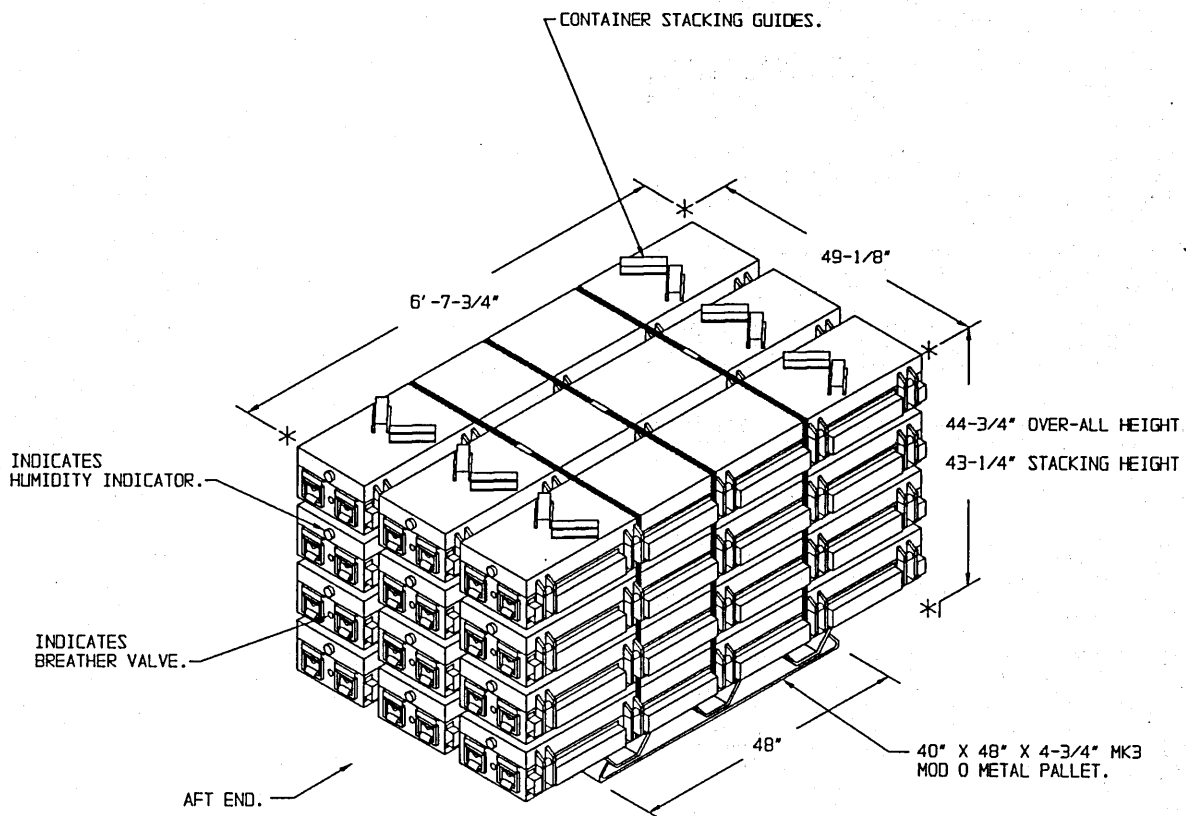
- LUMBER - - - - - : SEE TM 743-200-1 (DUNNAGE LUMBER) AND FED SPEC MM-L-751.
- NAILS - - - - - : FED SPEC FF-N-105; COMMON.
- STRAP - - - - - : WEBBING, UNIVERSAL TIEDOWN NSN 5340-00-980-9277, PN 10900880; OR NSN 1670-00-725-1437, PN 1376-013. ALTERNATIVE: NSN 5340-01-089-4997, PNI1669588 OR NSN 5340-01-204-3009, PN 9392419.
- ANTI-CHAFING MATERIAL - - - - - : CANVAS, BURLAP, TAPE OR ANY OTHER SUITABLE MATERIAL.

(GENERAL NOTES CONTINUED)

- G. ADJUSTABLE SCUFF SLEEVES PROVIDED ON WEB STRAP ASSEMBLIES WILL BE LOCATED TO PROVIDE A PAD WHERE STRAPS PASS OVER SHARP EDGES, RATCHETS, OR HOOKS ON PREVIOUSLY INSTALLED WEB STRAP TIEDOWN ASSEMBLIES. METAL PARTS OF A STRAP ASSEMBLY SHOULD BE LOCATED SO AS TO AVOID CONTACT WITH THE CONTAINERS. IF CONTACT CANNOT BE AVOIDED, A SUITABLE ANTI-CHAFING MATERIAL, AS LISTED UNDER THE MATERIAL SPECIFICATIONS BELOW, MUST BE POSITIONED BETWEEN THE METAL PARTS OF A STRAP ASSEMBLY AND THE CONTAINERS AND IF NECESSARY, TAPED OR TIED IN POSITION.
- H. IF THE SIDE RACKS FOR THE 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 SEMITRAILER MAY BE POSITIONED IN PLACE AFTER THE LOAD HAS BEEN SECURED.
- J. 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.
- K. THE TIEDOWN METHODS WITHIN THIS DRAWING SHOW TWO HOOKS TO BE CONNECTED TO ONE TIEDOWN EYE. THIS IS AUTHORIZED AS SPECIFIED HEREIN AND MEETS THE INTENT OF THE REQUIREMENTS CITED IN TB 9-2300-280-30.
- L. 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.
- M. 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.
- N. PRIOR TO LOADING THE TACTICAL VEHICLE READ THE "LOADING, TIEDOWN, AND UNLOADING PROCEDURES" ON PAGE 3. USE THE "ISOMETRIC VIEWS" ON PAGES 5 THROUGH 16, WHICH ARE PICTORIAL VIEWS OF TYPICAL LOADS IN/ON TACTICAL VEHICLES, AS GUIDANCE.
- O. FOR MAXIMUM LOADS, THE PALLETIZED UNITS MAY BE STACKED TWO-HIGH AND LOADED AS SHOWN ON PAGES 8 AND 10.
- 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. THE TACTICAL VEHICLES 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 "D" ON THIS PAGE.
- R. 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 OF VEHICLE IS BEING USED.
- S. DURING LONG HAULS, WHEN POSSIBLE, STRAPS SHOULD BE CHECKED DURING VEHICLE STOPS AND TIGHTENED, IF NECESSARY.
- T. DUE TO VARIOUS REASONS, SUCH AS ROUGH TERRAIN DURING OFF-HIGHWAY TRANSPORT, PANIC STOPS, METAL FLOORS ON VEHICLES AND NORMAL STRETCH OF WEB STRAPS, LOADED ITEMS MAY SLIDE SLIGHTLY Laterally AND/OR LONGITUDINALLY DURING TRANSPORT. THIS IS AN ACCEPTABLE CHARACTERISTIC AND IS NOT DETRIMENTAL TO LOAD SECUREMENT.
- U. FOR ADDITIONAL GUIDANCE ATTENTION IS DIRECTED TO THE "LOADING TIEDOWN, AND UNLOADING PROCEDURES" ON PAGE 3 AND THE SPECIAL NOTES" SECTION ON EACH PAGE DEPICTING LOADING AND TIEDOWN PROCEDURES.

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 "F" 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 POSSIBLE POSITION THE CONTAINERS AGAINST THE FORWARD ENDWALL. HOWEVER, THE CONTAINERS MAY BE POSITIONED AGAINST THE AFT END WALL, AND/OR ANYWHERE WITHIN THE LENGTH OF THE CARGO BED.
6. WHEN POSSIBLE POSITION ALL HOLD DOWN STRAP RATCHETS ON SAME SIDE OF LOAD TO AVOID SLIDING AND/OR TWISTING THE LOAD OFF CENTER WHEN STRAPS ARE BEING RATCHETED TIGHT.
7. ASSURE THAT ALL UNITIZING STRAPS ARE IN VERTICAL ALIGNMENT.
8. THE RATCHETS ON THE WEB STRAP TIEDOWN ASSEMBLIES MUST BE POSITIONED AS SHOWN IN THE LOAD VIEWS AND/OR STATED IN THE KEY NUMBERS WITH EACH LOAD. SOME WEB STRAP TIEDOWN ASSEMBLIES MUST BE RATCHETED TIGHT, AT THE SAME TIME TO AVOID SLIDING AND/OR TWISTING THE LOAD OUT OF POSITION.
9. THE M871 SEMITRAILER CAN BE EQUIPPED WITH THREE DIFFERENT TYPES OF TIEDOWN FITTINGS AS INDICATED IN THE ISOMETRIC VIEW ON PAGE 8. TYPE I IS A REMOVABLE TIEDOWN FITTING THAT HAS ONE RING AND IS POSITIONED BY REACHING UNDER THE FLOOR OF THE TRAILER, INSERTING IT 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 IT 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 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 WHEN SECURING LOAD ON THE M871 SEMITRAILER, USE TYPE II AND TYPE III TIEDOWN ANCHORS ONLY. NO TYPE I TIEDOWN FITTINGS ARE REQUIRED, HOWEVER, TYPE I TIEDOWN FITTINGS MAY BE USED, IF AVAILABLE, WHEN THERE IS AN INSUFFICIENT QUANTITY OF TYPE II TIEDOWN FITTINGS TO SECURE THE LOAD. SEE "TIEDOWN ANCHOR DETAILS" ON PAGE 19.
10. THE M872 SEMITRAILER IS EQUIPPED WITH TWO DIFFERENT TYPES OF TIEDOWN FITTINGS. 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 THRU 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 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 19.
11. AFTER ALL LOADING PROCEDURES ARE COMPLETED, CHECK ALL WEB STRAP TIEDOWN ASSEMBLIES FOR MAXIMUM TIGHTNESS AND RATCHET TIGHTER, IF REQUIRED, PRIOR TO FOLDING UP AND TAPING THE LOOSE STRAP ENDS. SEE GENERAL NOTE "F" ON PAGE 2.
12. PRIOR TO LOADING THE VEHICLE, DETERMINE THE QUANTITY OF PALLETIZED UNIT(S) AND/OR LOOSE CONTAINERS TO BE LOADED IN/ON THE VEHICLE. SELECT THE BEST METHOD TO SECURE THE PALLETIZED UNIT(S) AND/OR LOOSE CONTAINERS FROM THE METHODS SHOWN WITHIN THIS DRAWING. NOTE: A COMBINATION OF THE METHODS SHOWN WITHIN THIS DRAWING MAY BE USED ON/IN THE SAME TACTICAL VEHICLE.

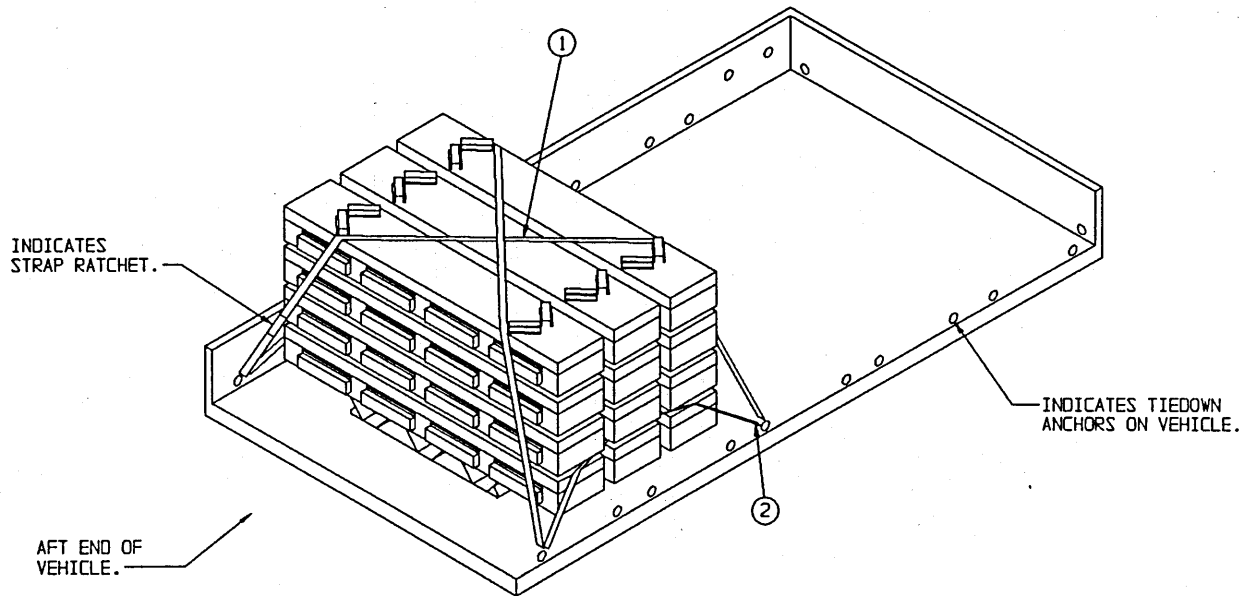


PALLET UNIT

DIMENSIONS - - - - - 6'-7-3/4" L X 49-1/8" W X 44-3/4" H
 GROSS WEIGHT - - - - - 2,028 LBS (APPROX)
 CUBE - - - - - 101.5 CUBIC FEET (APPROX)

CONTAINER

DIMENSIONS - - - - - 6'-7-3/4" L X 16-3/8" W X 11-1/2" H
 GROSS WEIGHT - - - - - 161 LBS (APPROX)
 CUBE - - - - - 8.7 CUBIC FEET (APPROX)



ISOMETRIC VIEW

SPECIAL NOTES:

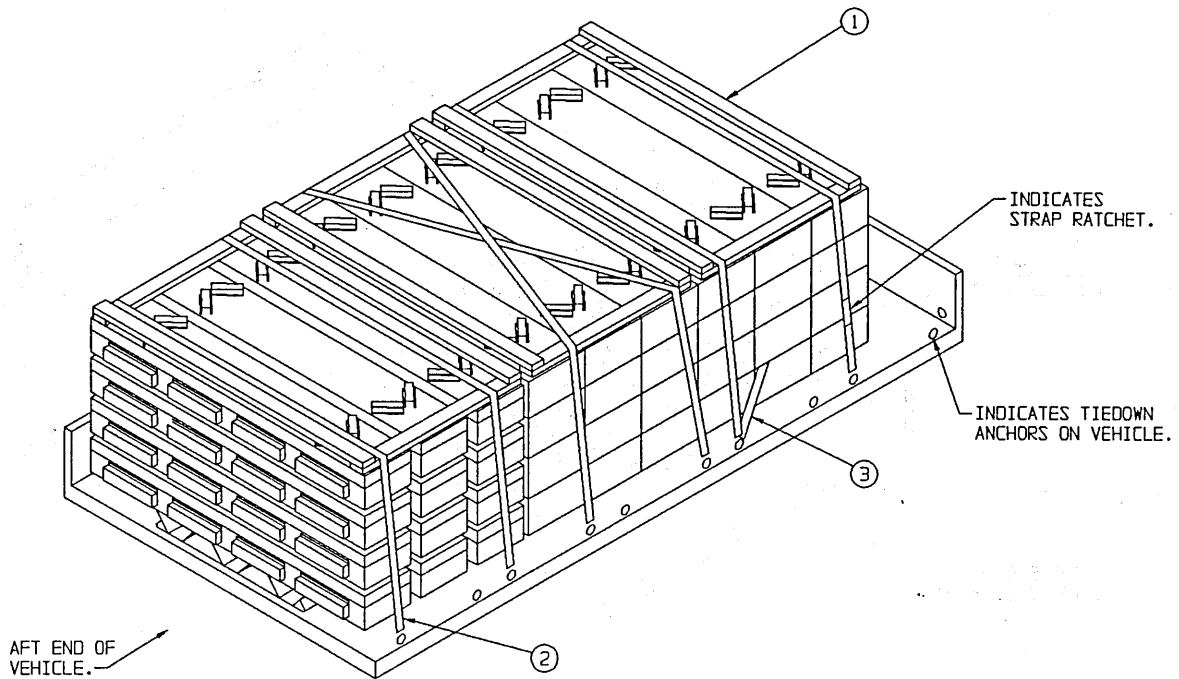
1. A TYPICAL LOAD OF ONE PALLETIZED UNIT IS SHOWN IN A TRUCK, CARGO, 5-TON, M54, HAVING INSIDE DIMENSIONS OF 168" LONG BY 88" WIDE.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ON THE SIDEWALL, ENDWALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. THE PALLETIZED UNIT MAY BE POSITIONED WITH THE LENGTH LATERALLY AS SHOWN ABOVE, OR WITH THE LENGTH LONGITUDINALLY AS SHOWN ON PAGE 7. THE PALLETIZED UNIT MAY BE POSITIONED ANYWHERE WITHIN THE LENGTH OF THE CARGO BED AS SHOWN ABOVE.
4. THE PROCEDURE SHOWN MAY BE USED FOR TRANSPORTING ONE OR MORE PALLETIZED UNITS. HOWEVER, THE PALLETIZED UNITS CAN NOT BE POSITIONED AGAINST AN END WALL OR EACH OTHER. FOR MAXIMUM LOADING USE THE PROCEDURES ON PAGES 6 THROUGH 11.
5. A TOTAL OF FOUR WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN.

KEY NUMBERS

- ① WEB STRAP TIEDOWN ASSEMBLY (2 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF THE PALLETIZED UNIT AS SHOWN, (DO NOT POSITION OVER TOP OF THE CONTAINER STACKING GUIDES) AND DOWN TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP RATCHETS ON SAME SIDE OF VEHICLE. POSITION STRAP SCUFF AT SHARP EDGES OF CONTAINERS. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT BOTH STRAPS MARKED ① AT THE SAME TIME (THIS WILL REDUCE TWISTING THE PALLET OUT OF ALIGNMENT). SEE GENERAL NOTES "F", "G" AND "K", ON PAGE 2.
- ② WEB STRAP TIEDOWN ASSEMBLY (2 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF FIRST LAYER CONTAINERS, AROUND AND AGAINST CONTAINER STACKING GUIDES ON FAR SIDE OF PALLETIZED UNIT, OUTSIDE OF THE STEEL UNITIZING STRAPS AND BACK TO THE CORRESPONDING TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINERS. POSITION STRAP RATCHETS ON SAME SIDE OF VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT BOTH STRAPS MARKED ② AT THE SAME TIME (THIS WILL REDUCE TWISTING THE PALLET OUT OF ALIGNMENT). SEE GENERAL NOTES "F", "G" AND "K" ON PAGE 2.

LOAD AS SHOWN

<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
PALLET UNIT	1	2,028 LBS



ISOMETRIC VIEW

SPECIAL NOTES:

1. A TYPICAL LOAD OF THREE PALLETIZED UNITS IS SHOWN IN A TRUCK, CARGO, 5-TON, M54, HAVING INSIDE DIMENSIONS OF 168" LONG BY 88" WIDE.
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, ENDWALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. THE PALLETIZED UNIT MAY BE POSITIONED WITH THE LENGTH Laterally AS SHOWN ABOVE, OR WITH THE LENGTH Longitudinally AS SHOWN ON PAGE 7. THE PALLETIZED UNIT MAY BE POSITIONED ANYWHERE WITHIN THE LENGTH OF THE CARGO BED, OR AGAINST END WALL AS SHOWN ABOVE. POSITION ADJACENT PALLETIZED UNITS TIGHT AGAINST EACH OTHER.
4. THE PROCEDURE SHOWN MAY BE USED FOR TRANSPORTING ONE OR MORE PALLETIZED UNITS. FOR MAXIMUM LOADING USE THE TWO HIGH PROCEDURES ON PAGES 10.
5. A TOTAL OF SEVEN WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN.

KEY NUMBERS

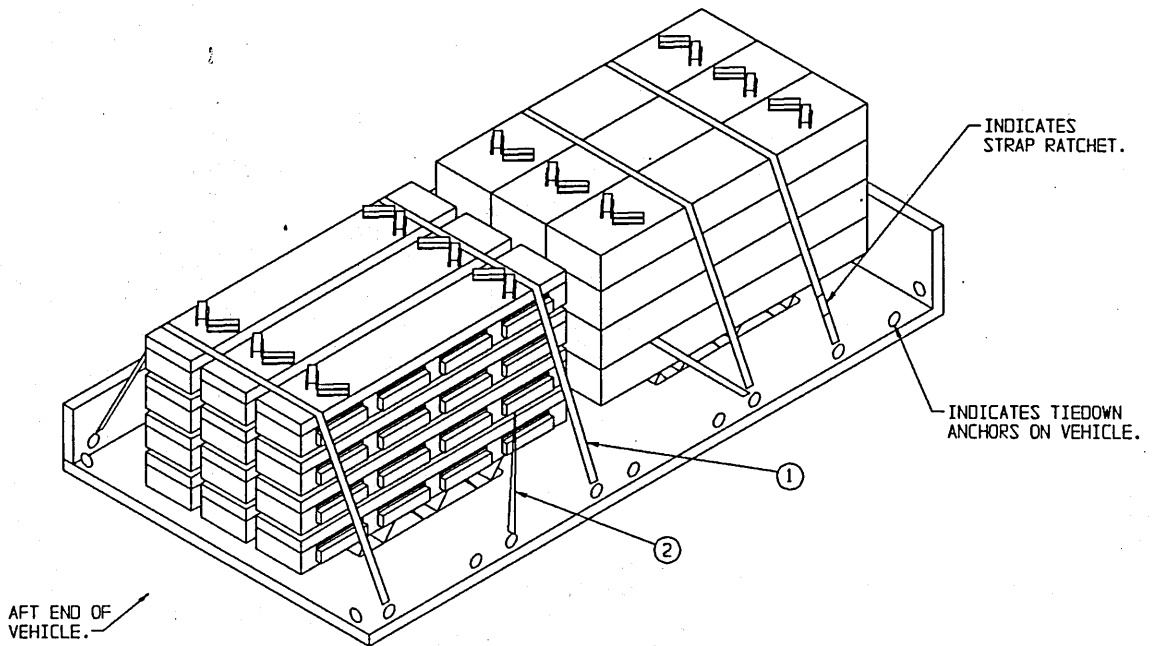
- ① STRAPPING ASSEMBLY (3 REQD). POSITION ON TOP OF THE PALLETIZED UNIT. SEE "STRAPPING ASSEMBLY" DETAIL ON PAGE 18.
- ② WEB STRAP TIEDOWN ASSEMBLY (6 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF THE PALLETIZED UNIT AND STRAPPING ASSEMBLY MARKED ①, AS SHOWN AND DOWN TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES. TAKE UP EXCESS SLACK IN STRAPS AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F", "G" AND "K" ON PAGE 2.
- ③ WEB STRAP TIEDOWN ASSEMBLY (1 REQD). INSTALL STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON ONE SIDE OF VEHICLE, OVER TOP OF FIRST LAYER CONTAINERS, AROUND AND AGAINST CONTAINER STACKING GUIDES ON FAR SIDE OF PALLETIZED UNIT, OUTSIDE OF THE STEEL UNITIZING STRAPS AND BACK TO THE CORRESPONDING TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINERS. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F", "G" AND "K" ON PAGE 2.

BILL OF MATERIAL

LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	62	42
NAILS	NO. REQD	POUNDS
10d (3")	36	1/2

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	3	6,084 LBS
DUNNAGE		85 LBS
TOTAL WEIGHT		6,169 LBS (APPROX)



ISOMETRIC VIEW

SPECIAL NOTES:

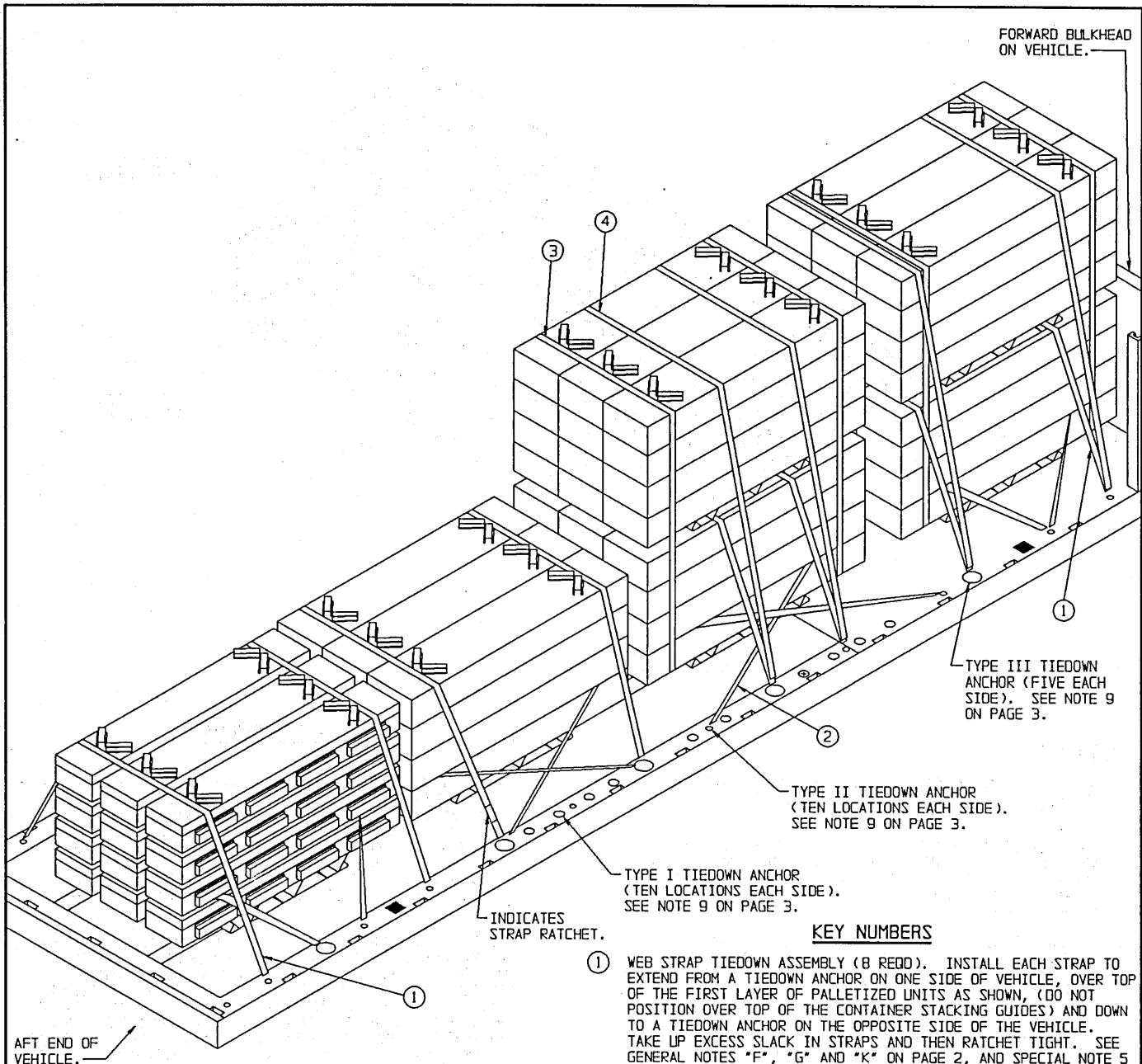
1. A TYPICAL LOAD OF TWO PALLETIZED UNITS IS SHOWN IN A TRUCK, CARGO, 5-TON, M925A1, HAVING INSIDE DIMENSIONS OF 168" LONG BY 88" WIDE.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ON THE SIDEWALL, ENDWALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. THE PALLETIZED UNIT MAY BE POSITIONED WITH THE LENGTH LONGITUDINALLY AS SHOWN ABOVE, OR WITH THE LENGTH Laterally AS SHOWN ON PAGE 6. THE PALLETIZED UNIT MAY BE POSITIONED ANYWHERE WITHIN THE LENGTH OF THE CARGO BED, OR AGAINST END WALL AS SHOWN ABOVE.
4. THE PROCEDURE SHOWN MAY BE USED FOR TRANSPORTING ONE OR MORE PALLETIZED UNITS. FOR MAXIMUM LOADING USE THE TWO HIGH PROCEDURES ON PAGES 8.
5. A TOTAL OF SIX WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN.

KEY NUMBERS

- ① WEB STRAP TIEDOWN ASSEMBLY (4 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON ONE SIDE OF VEHICLE, OVER TOP OF THE PALLETIZED UNIT AS SHOWN, (DO NOT POSITION OVER TOP OF THE CONTAINER STACKING GUIDES) AND DOWN TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OR CONTAINERS. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F", "G" AND "K" ON PAGE 2.
- ② WEB STRAP TIEDOWN ASSEMBLY (2 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON ONE SIDE OF VEHICLE, OVER TOP OF FIRST LAYER CONTAINERS AROUND AND AGAINST CONTAINER STACKING GUIDES ON THE FAR SIDE OF PALLETIZED UNIT, OUTSIDE OF THE STEEL UNITIZING STRAPS, AND BACK TO THE CORRESPONDING TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINERS. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE THE GENERAL NOTES "F", "G" AND "K" ON PAGE 2.

LOAD AS SHOWN

<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
PALLET UNIT	----- 2 -----	4,056 LBS



ISOMETRIC VIEW

AFT END OF VEHICLE.

FORWARD BULKHEAD ON VEHICLE.

INDICATES STRAP RATCHET.

TYPE II TIEDOWN ANCHOR (TEN LOCATIONS EACH SIDE). SEE NOTE 9 ON PAGE 3.

TYPE III TIEDOWN ANCHOR (FIVE EACH SIDE). SEE NOTE 9 ON PAGE 3.

TYPE I TIEDOWN ANCHOR (TEN LOCATIONS EACH SIDE). SEE NOTE 9 ON PAGE 3.

KEY NUMBERS

- ① WEB STRAP TIEDOWN ASSEMBLY (8 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON ONE SIDE OF VEHICLE, OVER TOP OF THE FIRST LAYER OF PALLETIZED UNITS AS SHOWN, (DO NOT POSITION OVER TOP OF THE CONTAINER STACKING GUIDES) AND DOWN TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. TAKE UP EXCESS SLACK IN STRAPS AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F", "G" AND "K" ON PAGE 2, AND SPECIAL NOTE 5 ON PAGE 9.
- ② WEB STRAP TIEDOWN ASSEMBLY (8 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON ONE SIDE OF VEHICLE, AROUND AND AGAINST CONTAINER STACKING GUIDES ON FAR SIDE OF PALLETIZED UNIT, OUTSIDE OF THE STEEL UNITIZING STRAPS, AND BACK TO THE CORRESPONDING TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINERS. POSITION STRAP RATCHETS ON SAME SIDE OF VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT BOTH STRAPS MARKED ② ON EACH STACK AT THE SAME TIME (THIS WILL REDUCE TWISTING THE PALLET OUT OF ALIGNMENT). SEE GENERAL NOTES "F", "G" AND "K" ON PAGE 2.
- ③ WEB STRAP TIEDOWN ASSEMBLY (4 REQD). INSTALL EACH STRAP TO ENCIRCLE A TWO HIGH STACK OF PALLETIZED UNITS, JUST OUTSIDE OF THE CONTAINER STACKING GUIDES. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINERS. TAKE UP EXCESS SLACK IN STRAPS AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F", "G", "K" AND "P" ON PAGE 2.
- ④ WEB STRAP TIEDOWN ASSEMBLY (4 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF SECOND LAYER PALLETIZED UNITS AS SHOWN, (DO NOT POSITION OVER TOP OF THE CONTAINER STACKING GUIDES) AND DOWN TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINERS. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F", "G", "K" AND "P" ON PAGE 2.

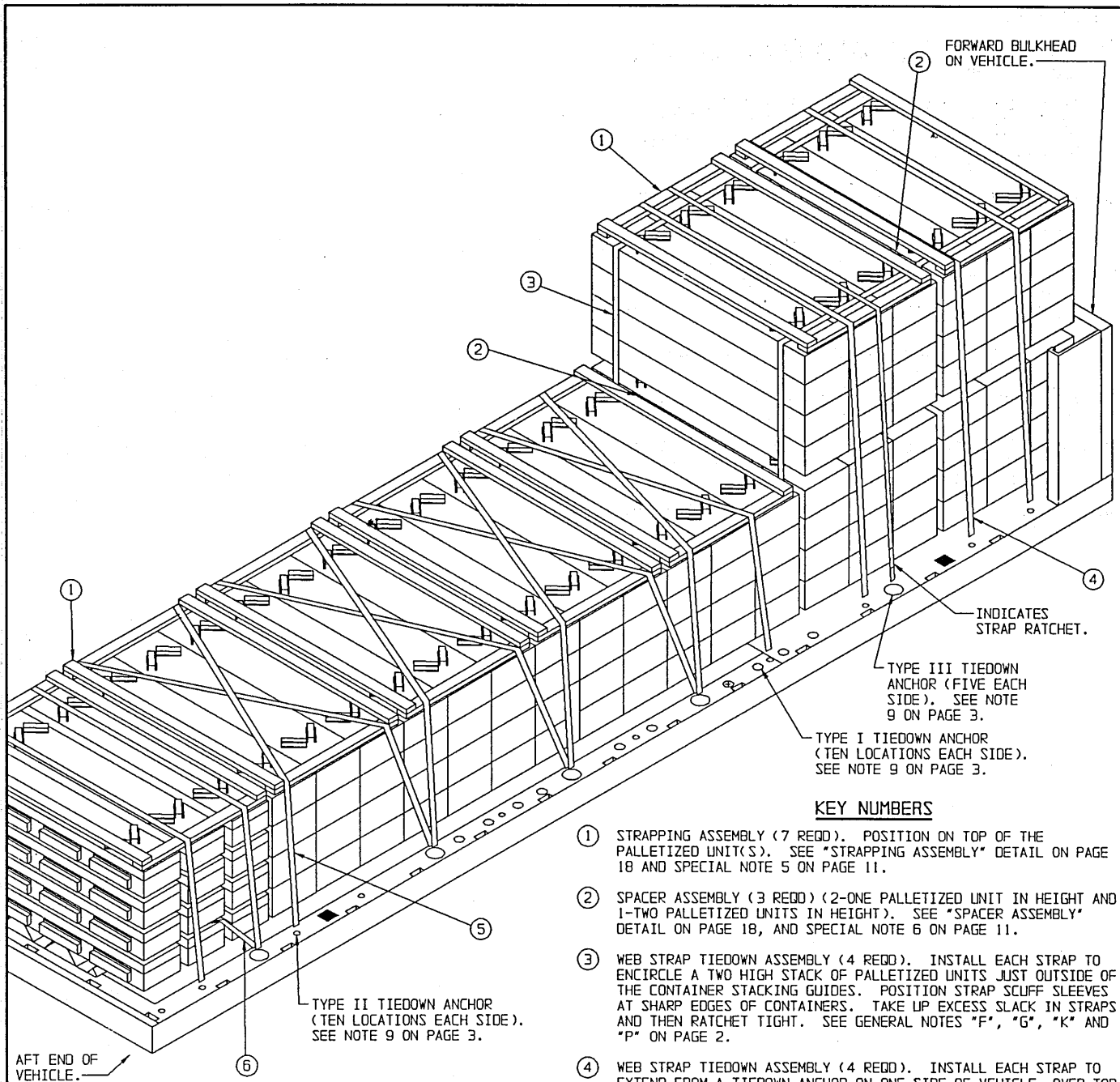
SPECIAL NOTES:

1. A TYPICAL LOAD OF SIX PALLETIZED UNITS IS SHOWN ON A SEMITRAILER, 22-1/2-TON, M871 HAVING DIMENSIONS OF 354" LONG BY 96" WIDE.
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, ENDWALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. THE PALLETIZED UNIT MAY BE POSITIONED WITH THE LENGTH LONGITUDINALLY AS SHOWN ABOVE, OR WITH THE LENGTH Laterally AS SHOWN ON PAGE 10. THE PALLETIZED UNITS MAY BE POSITIONED ANYWHERE WITHIN THE LENGTH OF THE CARGO BED, AS SHOWN ABOVE, OR AGAINST THE FORWARD BULKHEAD, IF LOCATION OF VEHICLE TIEDOWN ANCHORS PERMITS. STRAIGHT LAY OF STRAPS MARKED ① AND ④ OVER PALLETIZED UNITS. A MINIMUM SPACE OF THREE INCHES BETWEEN ENDS OF PALLETIZED UNITS MUST BE MAINTAINED.
4. THE PROCEDURE SHOWN MAY BE USED FOR TRANSPORTING ONE OR MORE PALLETIZED UNITS. A MAXIMUM LOAD OF EIGHT PALLETIZED UNITS CAN BE LOADED ON THE M871 SEMITRAILER, AND A MAXIMUM LOAD OF TEN PALLETIZED UNITS CAN BE LOADED ON THE M872 SEMITRAILER, USING THIS PROCEDURE.
5. WEB STRAP TIEDOWN ASSEMBLY MARKED ① MUST BE THREADED THROUGH THE PALLET BASE OF THE TOP PALLET AT THREE LOCATIONS, AS SHOWN.
6. A TOTAL OF TWENTY-FOUR WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN.

LOAD AS SHOWN

<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
PALLET UNIT - - - - -	6 - - - - -	16,224 LBS

SIX PALLETIZED UNITS



ISOMETRIC VIEW

KEY NUMBERS

- ① STRAPPING ASSEMBLY (7 REQD). POSITION ON TOP OF THE PALLETIZED UNIT(S). SEE "STRAPPING ASSEMBLY" DETAIL ON PAGE 18 AND SPECIAL NOTE 5 ON PAGE 11.
- ② SPACER ASSEMBLY (3 REQD) (2-ONE PALLETIZED UNIT IN HEIGHT AND 1-TWO PALLETIZED UNITS IN HEIGHT). SEE "SPACER ASSEMBLY" DETAIL ON PAGE 18, AND SPECIAL NOTE 6 ON PAGE 11.
- ③ WEB STRAP TIEDOWN ASSEMBLY (4 REQD). INSTALL EACH STRAP TO ENCIRCLE A TWO HIGH STACK OF PALLETIZED UNITS JUST OUTSIDE OF THE CONTAINER STACKING GUIDES. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINERS. TAKE UP EXCESS SLACK IN STRAPS AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F", "G", "K" AND "P" ON PAGE 2.
- ④ WEB STRAP TIEDOWN ASSEMBLY (4 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON ONE SIDE OF VEHICLE, OVER TOP OF A TWO HIGH STACK OF PALLETIZED UNITS AND STRAPPING ASSEMBLY MARKED ①, AS SHOWN, AND DOWN TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINERS. POSITION STRAP RATCHETS ON SAME SIDE OF VEHICLE. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F", "G", "K" AND "P" ON PAGE 2.
- ⑤ WEB STRAP TIEDOWN ASSEMBLY (10 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF THE PALLETIZED UNIT AND STRAPPING ASSEMBLY MARKED ① AS SHOWN, AND DOWN TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINERS. TAKE UP EXCESS SLACK IN STRAPS AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F", "G", AND "K" ON PAGE 2.
- ⑥ WEB STRAP TIEDOWN ASSEMBLY (1 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF FIRST LAYER CONTAINERS, AROUND AND AGAINST CONTAINER STACKING GUIDES ON FAR SIDE OF PALLETIZED UNIT, OUTSIDE OF THE STEEL UNITIZING STRAPS, AND BACK TO A CORRESPONDING TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINERS. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F", "G", AND "K" ON PAGE 2.

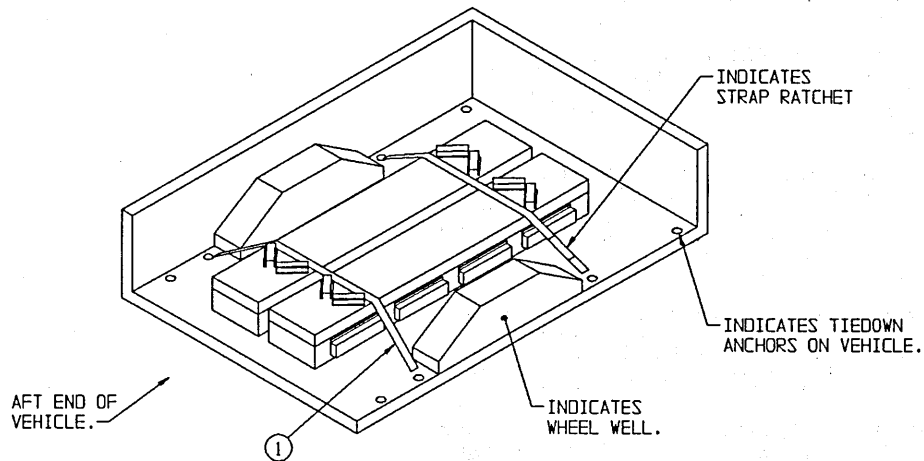
SPECIAL NOTES:

1. A TYPICAL LOAD OF NINE PALLETIZED UNITS IS SHOWN IN A SEMITRAILER, 22-1/2-TON, M871, HAVING DIMENSIONS OF 354" LONG BY 96" WIDE.
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, ENDWALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. THE PALLETIZED UNIT MAY BE POSITIONED WITH THE LENGTH LATERALLY AS SHOWN ABOVE, OR WITH THE LENGTH LONGITUDINALLY AS SHOWN ON PAGE 8. THE PALLETIZED UNITS MAY BE POSITIONED ANYWHERE WITHIN THE LENGTH OF THE CARGO BED, HOWEVER, FOR MAXIMUM LOADING POSITION THE PALLETIZED UNITS TIGHT AGAINST THE FORWARD BULKHEAD AND EACH OTHER.
4. THE PROCEDURE SHOWN MAY BE USED FOR TRANSPORTING ONE OR MORE PALLETIZED UNITS. A MAXIMUM LOAD OF FOURTEEN PALLETIZED UNITS CAN BE LOADED ON THE M871 SEMITRAILER, AND A MAXIMUM LOAD OF EIGHTEEN PALLETIZED UNITS CAN BE LOADED ON THE M872 SEMITRAILER, USING THIS PROCEDURE.
5. ONE STRAPPING ASSEMBLY IS REQUIRED ON TOP OF EACH ONE HIGH AND/OR TWO HIGH STACK OF PALLETIZED UNITS. THIS ASSEMBLY PROVIDES A FLAT SURFACE FOR THE HOLD DOWN STRAPS MARKED ④ AND ⑤ AND KEEPS THE STRAPS ABOVE THE CONTAINER STACKING GUIDES. SEE THE "STRAPPING ASSEMBLY" DETAIL ON PAGE 18.
6. ONE TWO-HIGH SPACER ASSEMBLY IS REQUIRED BETWEEN ADJACENT TWO HIGH STACKS OF PALLETIZED UNITS, AND ONE ONE-HIGH SPACER ASSEMBLY IS REQUIRED BETWEEN EACH TWO-HIGH STACK AND ADJACENT ONE HIGH PALLETIZED UNIT AND/OR FORWARD BULKHEAD ON TRAILER. THESE SPACER ASSEMBLIES ARE REQUIRED TO PROVIDE SPACE FOR UNITIZING STRAPS MARKED ③ IN THE LOAD ON PAGE 10. SEE THE "SPACER ASSEMBLY" DETAIL ON PAGE 18.
7. A TOTAL OF NINETEEN WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN ON PAGE 10.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
1" X 4"	131	44
2" X 4"	145	97
NAILS	NO. REQD	POUNDS
6d (2")	78	1/2
10d (3")	84	1/2

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	9	18,252 LBS
DUNNAGE		283 LBS
TOTAL WEIGHT		18,535 LBS (APPROX)



ISOMETRIC VIEW

SPECIAL NOTES:

1. A TYPICAL LOAD OF TWO CONTAINERS IS SHOWN IN A TRUCK, COMMERCIAL UTILITY CARGO VEHICLE (CUCV), 1-1/4-TON, M100B, HAVING INSIDE DIMENSIONS OF 98" LONG BY 65" WIDE.
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, ENDWALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN.
3. THE CONTAINERS MAY BE CENTERED LONGITUDINALLY BETWEEN THE TWO TIEDOWN ANCHORS THAT HOLD DOWN STRAPS MARKED ① WILL BE ATTACHED TO, AS SHOWN IN THE LOAD ABOVE, OR POSITIONED AGAINST AN END WALL, AS SHOWN IN THE LOAD ON PAGE 13.
4. BOTH STRAPS MARKED ① MUST BE POSITIONED BETWEEN THE CONTAINER STACKING GUIDES, AS SHOWN IN THE LOAD ABOVE, OR TO THE OUTSIDE OF THE CONTAINER STACKING GUIDES, AS SHOWN IN THE LOAD ON PAGE 13, KEY NUMBER ②. THESE STRAPS MUST CONTACT THE CONTAINER STACKING GUIDES IN ORDER TO RETAIN THE CONTAINERS LONGITUDINALLY. THESE STRAPS MAY BE ANGLED SLIGHTLY, IF NECESSARY, TO MAKE CONTACT WITH CONTAINER STACKING GUIDES.
5. THE PROCEDURE SHOWN IS FOR TRANSPORTING ONE OR TWO CONTAINERS. IF TRANSPORTING MORE THAN TWO CONTAINERS USE THE PROCEDURES SHOWN ON PAGES 13 THROUGH 16.
6. A TOTAL OF TWO WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN.

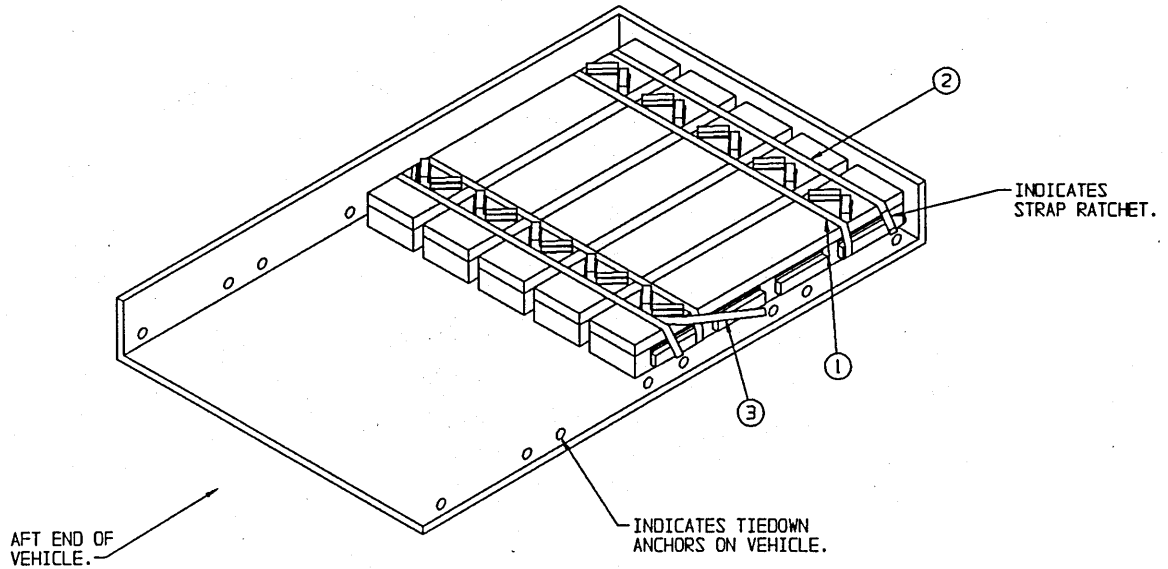
KEY NUMBERS

- ① WEB STRAP TIEDOWN ASSEMBLY (2 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON ONE SIDE OF VEHICLE, OVER TOP OF CONTAINERS, AGAINST THE CONTAINER STACKING GUIDES, AND DOWN TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINER. TAKE UP EXCESS SLACK IN STRAPS AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 4 ON THIS PAGE.

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CONTAINER	2	322 LBS

TWO CONTAINERS



ISOMETRIC VIEW

SPECIAL NOTES:

1. A TYPICAL LOAD OF FIVE CONTAINERS IS SHOWN IN A TRUCK, CARGO, 2-1/2-TON, M35, HAVING INSIDE DIMENSIONS OF 147' LONG BY 68' WIDE.
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, ENDWALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. THE CONTAINERS MAY BE POSITIONED AGAINST THE FORWARD END WALL AS SHOWN ABOVE, OR POSITIONED AGAINST THE AFT END WALL, AND/OR ANYWHERE WITHIN THE LENGTH OF THE CARGO BED, WHEN POSITIONED AWAY FROM AN END WALL ONE STRAP MARKED ③ WILL BE REQUIRED AT EACH END OF THE CONTAINERS.
4. THE PROCEDURE SHOWN MAY BE USED FOR TRANSPORTING TWO THROUGH FIVE CONTAINERS. IF TRANSPORTING MORE THAN FIVE CONTAINERS USE THE PROCEDURES SHOWN ON PAGES 14 THROUGH 16. NOTE: MULTIPLE GROUPS OF FIVE CONTAINERS OR LESS MAY BE POSITIONED WITHIN THE CARGO BED LENGTH AND SECURED AS INSTRUCTED ON THIS PAGE.
5. A TOTAL OF FIVE WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN.

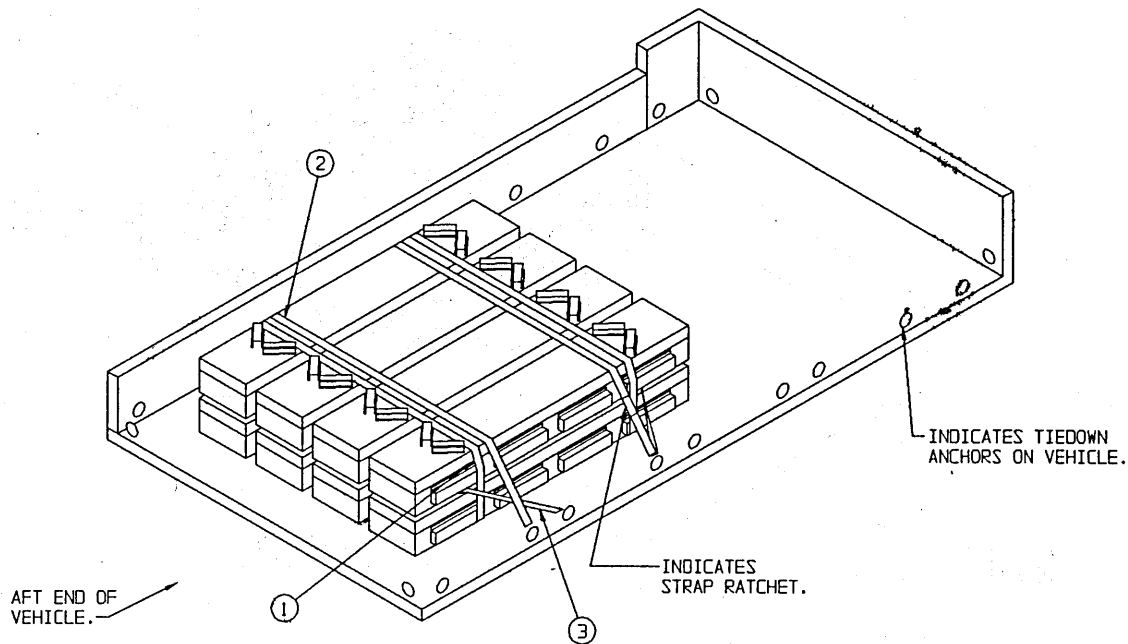
KEY NUMBERS

- ① WEB STRAP TIEDOWN ASSEMBLY (2 REED). INSTALL EACH STRAP TO ENCIRCLE ALL CONTAINERS AT LOCATION SHOWN. POSITION STRAP SCUFF PADS AT SHARP EDGES OF CONTAINER. HOOK ENDS OF STRAP TOGETHER. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2.
- ② WEB STRAP TIEDOWN ASSEMBLY (2 REED). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF THE CONTAINERS AND DOWN TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES. TAKE UP EXCESS SLACK IN STRAPS AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2.
- ③ WEB STRAP TIEDOWN ASSEMBLY (1 REED). INSTALL STRAP TO EXTEND, AT AN ANGLE, FROM A TIEDOWN ANCHOR ON ONE SIDE OF VEHICLE, OVER TOP OF CONTAINERS, AGAINST CONTAINER STACKING GUIDES AS SHOWN, AND DOWN TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINERS. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 3 ON THIS PAGE.

LOAD AS SHOWN

<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
CONTAINER - - - - -	5 - - - - -	805 LBS

FIVE CONTAINERS



ISOMETRIC VIEW

SPECIAL NOTES:

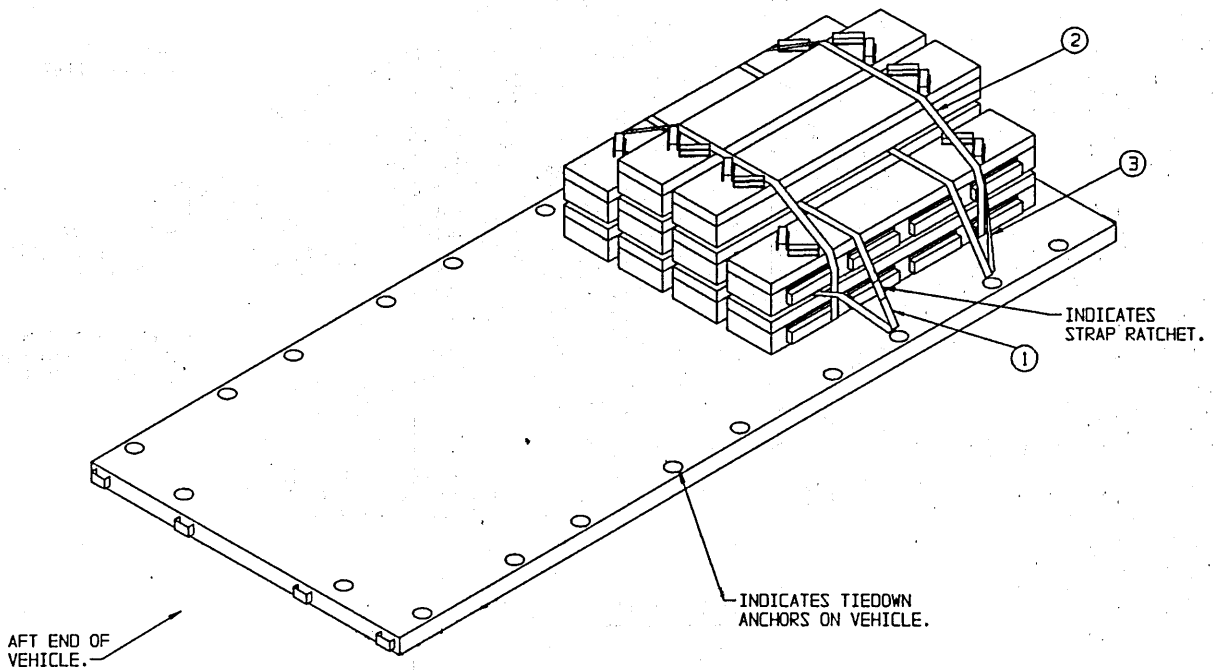
1. A TYPICAL LOAD OF EIGHT CONTAINERS IS SHOWN IN A TRUCK, CARGO, 5-TON, M925A1, HAVING INSIDE DIMENSIONS OF 168" LONG BY 88" WIDE.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ON THE SIDEWALL, ENDWALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. THE CONTAINERS MAY BE POSITIONED ANYWHERE WITHIN THE LENGTH OF THE CARGO BED AS SHOWN ABOVE, OR AGAINST THE FORWARD AND/OR AFT END WALL. IF POSITIONED AGAINST AN END WALL ONLY ONE STRAP MARKED ③ WILL BE REQUIRED.
4. THE PROCEDURE SHOWN MAY BE USED FOR TRANSPORTING TWO THROUGH EIGHT CONTAINERS, IF TRANSPORTING MORE THAN EIGHT CONTAINERS USE THE PROCEDURES SHOWN ON PAGES 15 AND 16. NOTE: MULTIPLE GROUPS OF EIGHT CONTAINERS OR LESS MAY BE POSITIONED WITHIN THE CARGO BED LENGTH AND SECURED AS INSTRUCTED ON THIS PAGE.
5. A TOTAL OF SIX WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN.

KEY NUMBERS

- ① WEB STRAP TIEDOWN ASSEMBLY (2 RECD). INSTALL EACH STRAP TO ENCIRCLE ALL CONTAINERS AT LOCATION SHOWN. POSITION STRAP SCUFF PADS AT SHARP EDGES OF CONTAINER. HOOK ENDS OF STRAP TOGETHER. TAKE UP EXCESS SLACK IN STRAPS AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F", "G", "K" AND "P" ON PAGE 2.
- ② WEB STRAP TIEDOWN ASSEMBLY (2 RECD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE OVER TOP OF SECOND LAYER CONTAINERS, AND DOWN TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINER. TAKE UP EXCESS SLACK IN STRAPS AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2.
- ③ WEB STRAP TIEDOWN ASSEMBLY (2 RECD). INSTALL STRAPS TO EXTEND, AT AN ANGLE, FROM A TIEDOWN ANCHOR ON ONE SIDE OF VEHICLE, OVER TOP OF FIRST LAYER CONTAINERS, AGAINST THE CONTAINER STACKING GUIDES AS SHOWN, AND DOWN TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINER. TAKE UP EXCESS SLACK IN STRAP AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 3 ON THIS PAGE.

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CNU-388/E CONTAINER	8	1,288 LBS



ISOMETRIC VIEW

SPECIAL NOTES:

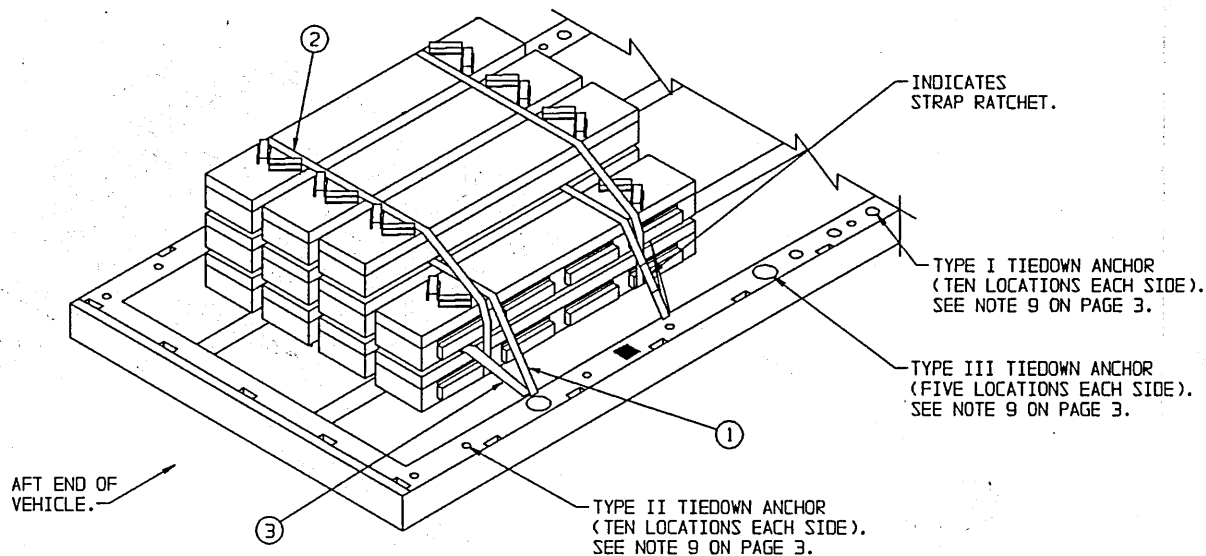
1. A TYPICAL LOAD OF TEN CONTAINERS IS SHOWN IN A HEAVY EXPANDED MOBILITY TACTICAL TRUCK (HEMTT), 10-TON, M977, AND/OR M985, HAVING INSIDE DIMENSIONS OF 216-3/8" LONG BY 90-3/4" WIDE.
2. THE VEHICLE SHOWN WAS SELECTED AS TYPICAL ONLY, AND VEHICLES OF OTHER DIMENSIONS, WHICH HAVE A SUFFICIENT QUANTITY OF TIEDOWN ANCHORS, LOCATED ON THE SIDEWALL, ENDWALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. THE CONTAINERS MAY BE POSITIONED ANYWHERE WITHIN THE LENGTH OF THE CARGO BED AS SHOWN ABOVE. CAUTION: THE CONTAINERS MUST NOT BE POSITIONED AGAINST THE ENDWALLS ON THE 10-TON HEMTT, SHOWN ABOVE.
4. THE PROCEDURE SHOWN MAY BE USED FOR TRANSPORTING TWO THROUGH TWELVE CONTAINERS. NOTE: MULTIPLE GROUPS OF TWELVE CONTAINERS OR LESS MAY BE POSITIONED WITHIN THE CARGO BED LENGTH AND SECURED AS INSTRUCTED ON THIS PAGE.
5. A TOTAL OF SIX WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN.

KEY NUMBERS

- ① WEB STRAP TIEDOWN ASSEMBLY (2 REQD). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF SECOND LAYER CONTAINERS, AND DOWN TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINER. TAKE UP EXCESS SLACK IN STRAPS AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2!
- ② WEB STRAP TIEDOWN ASSEMBLY (2 REQD). INSTALL EACH STRAP TO ENCIRCLE ALL CONTAINERS AT LOCATION SHOWN. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINER. HOOK ENDS OF STRAP TOGETHER. TAKE UP EXCESS SLACK IN STRAPS AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F", "G" "K" AND "P" ON PAGE 2.
- ③ WEB STRAP TIEDOWN ASSEMBLY (2 REQD). INSTALL STRAPS TO EXTEND, AT AN ANGLE, FROM A TIEDOWN ANCHOR ON ONE SIDE OF VEHICLE, OVER TOP OF FIRST LAYER CONTAINERS, AGAINST THE CONTAINER STACKING GUIDES AS SHOWN, AND DOWN TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINER. TAKE UP EXCESS SLACK IN STRAPS AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 3 ON THIS PAGE.

LOAD AS SHOWN

<u>ITEM</u>	<u>QUANTITY</u>	<u>WEIGHT (APPROX)</u>
CONTAINER - - - - -	10 - - - - -	1,610 LBS



ISOMETRIC VIEW

SPECIAL NOTES:

1. A TYPICAL LOAD OF ELEVEN CONTAINERS IS SHOWN IN A SEMITRAILER, 22-1/2-TON, M871, HAVING DIMENSIONS OF 354" LONG BY 96" WIDE.
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, ENDWALL, OR FLOOR, MAY BE USED TO TRANSPORT THE LOAD SHOWN, OR A PARTIAL LOAD.
3. THE CONTAINERS MAY BE POSITIONED ANYWHERE WITHIN THE LENGTH OF THE CARGO BED AS SHOWN ABOVE, OR AGAINST THE FORWARD AND/OR AFT END WALL. IF POSITION AGAINST AN END WALL ONLY ONE STRAP MARKED ③ WILL BE REQUIRED. **NOTE:** THE CONTAINERS CAN ONLY BE POSITIONED AGAINST THE FORWARD ENDWALL ON THE M871 SEMITRAILER, SHOWN ABOVE. WHEN LOADING TWELVE CONTAINERS POSITION WEB STRAP TIEDOWN ASSEMBLIES MARKED ① OVER TOP OF THIRD LAYER CONTAINERS IN LIEU OF THE SECOND LAYER CONTAINERS
4. THE PROCEDURE SHOWN MAY BE USED FOR TRANSPORTING TWO THROUGH TWELVE CONTAINERS. **NOTE:** MULTIPLE GROUPS OF TWELVE CONTAINERS OR LESS MAY BE POSITIONED WITHIN THE CARGO BED LENGTH AND SECURED AS INSTRUCTED ON THIS PAGE.
5. A TOTAL OF SIX WEB STRAP TIEDOWN ASSEMBLIES ARE REQUIRED FOR THE LOAD SHOWN.

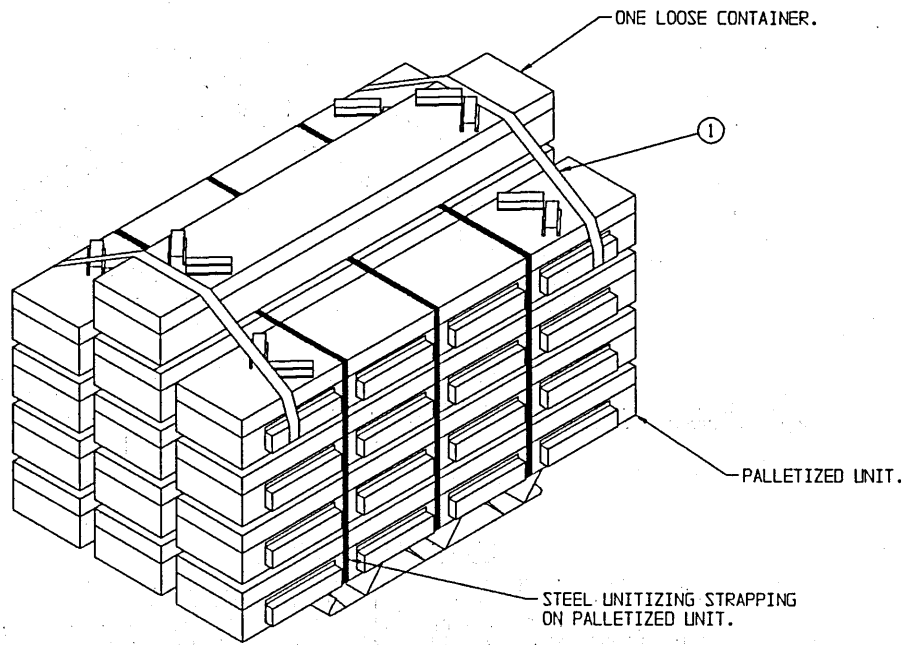
KEY NUMBERS

- ① WEB STRAP TIEDOWN ASSEMBLY (2 REED). INSTALL EACH STRAP TO EXTEND FROM A TIEDOWN ANCHOR ON SIDE OF VEHICLE, OVER TOP OF SECOND LAYER CONTAINERS, AND DOWN TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINER. TAKE UP EXCESS SLACK IN STRAPS AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2.
- ② WEB STRAP TIEDOWN ASSEMBLY (2 REED). INSTALL EACH STRAP TO ENIRCLE ALL CONTAINERS AT LOCATION SHOWN. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINER. HOOK ENDS OF STRAP TOGETHER. TAKE UP EXCESS SLACK IN STRAPS AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F", "G" "K" AND "P" ON PAGE 2.
- ③ WEB STRAP TIEDOWN ASSEMBLY (2 REED). INSTALL STRAPS TO EXTEND, AT AN ANGLE, FROM A TIEDOWN ANCHOR ON ONE SIDE OF VEHICLE, OVER TOP OF FIRST LAYER CONTAINERS, AGAINST THE CONTAINER STACKING GUIDES AS SHOWN, AND DOWN TO A TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE VEHICLE. POSITION STRAP SCUFF SLEEVES AT SHARP EDGES OF CONTAINER. TAKE UP EXCESS SLACK IN STRAPS AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F" AND "G" ON PAGE 2 AND SPECIAL NOTE 3 ON THIS PAGE.

LOAD AS SHOWN

ITEM	QUANTITY	WEIGHT (APPROX)
CONTAINER - - - - -	11 - - - - -	1,771 LBS

ELEVEN CONTAINERS



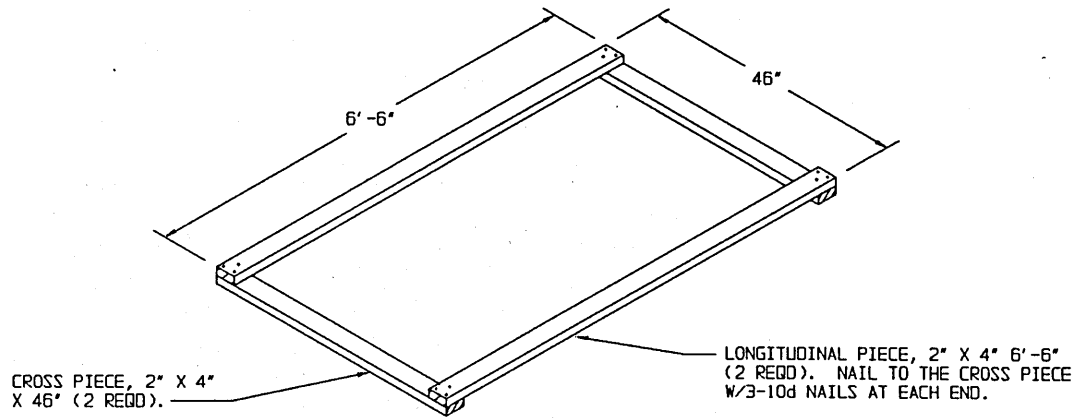
ISOMETRIC VIEW

SPECIAL NOTES:

1. ONE LOOSE CONTAINER MAY BE SECURED ON TOP OF A PALLETTIZED UNIT AS DEPICTED ABOVE.
2. 1-1/4" STEEL STRAPPING MAY BE USE IN LIEU OF WEB STRAP, IF DESIRED.
3. DO NOT SECURE LOOSE CONTAINERS ON TOP OF TWO HIGH-STACKS OF PALLETTIZED UNITS.
4. THE PALLETTIZED UNIT HOLD DOWN WEB STRAP MARKED ①, ON PAGES 7 AND 8, MUST NOT BE POSITIONED OVER TOP OF THE LOOSE CONTAINER.
5. LOOSE CONTAINERS CANNOT BE SECURED ON TOP OF PALLETTIZED UNITS HAVING THE LENGTH POSITIONED LATERALLY ACROSS THE VEHICLE WIDTH AS SHOWN ON PAGES 5, 6, AND 10.

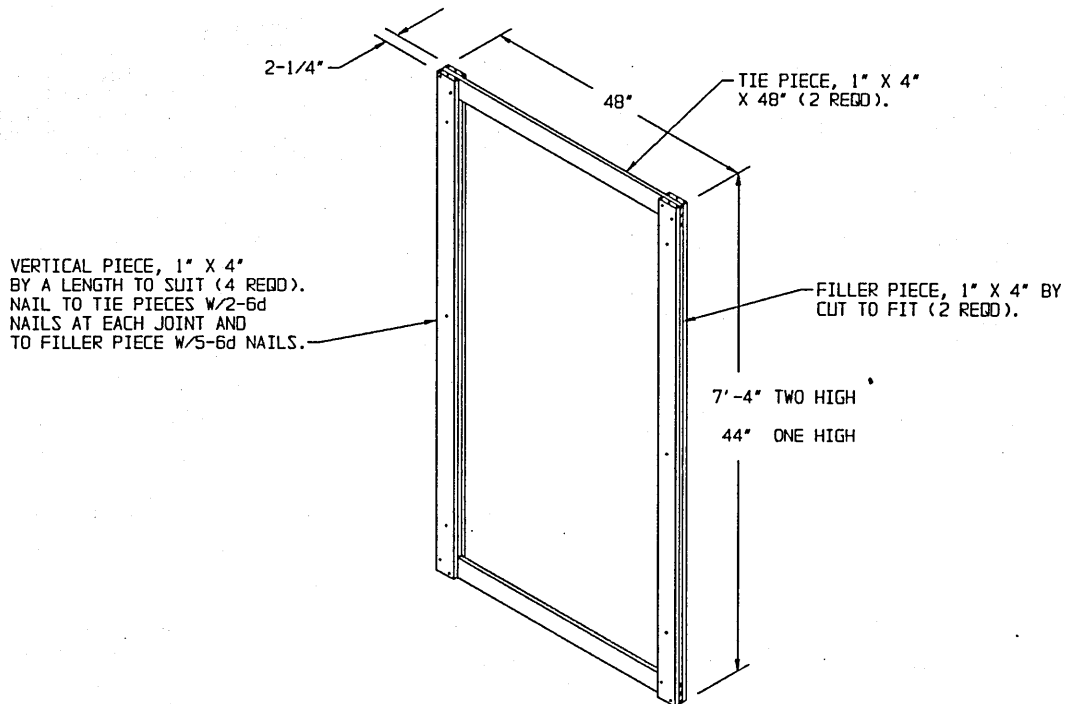
KEY NUMBER

- ① WEB STRAP TIEDOWN ASSEMBLY (2 REDD). INSTALL EACH STRAP TO ENCIRCLE ALL THREE CONTAINERS IN TOP LAYER OF PALLETTIZED UNIT, AND THE LOOSE CONTAINER POSITIONED ON TOP, AT THE LOCATION SHOWN. HOOK ENDS OF STRAP TOGETHER. TAKE UP EXCESS SLACK IN STRAPS AND THEN RATCHET TIGHT. SEE GENERAL NOTES "F", AND "G" ON PAGE 2.



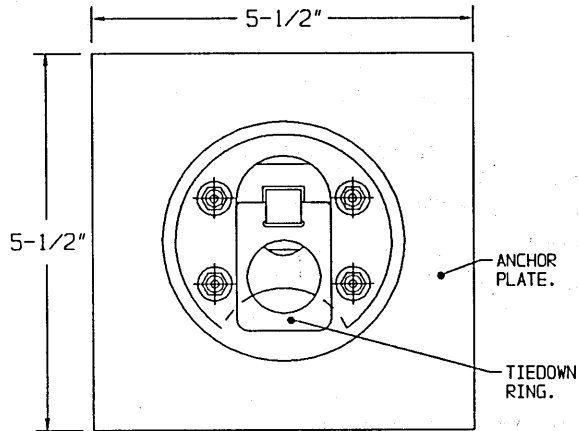
STRAPPING ASSEMBLY

THIS ASSEMBLY IS REQUIRED ON TOP OF ALL ONE HIGH AND TWO HIGH STACKS OF PALLETIZED UNITS, POSITIONED WITH THE PALLETIZED UNIT LENGTH ACROSS THE VEHICLE WIDTH, TO PROVIDE A FLAT SURFACE FOR HOLD DOWN WEB STRAPS AND TO KEEP STRAPS ABOVE THE CONTAINER STACKING GUIDES.



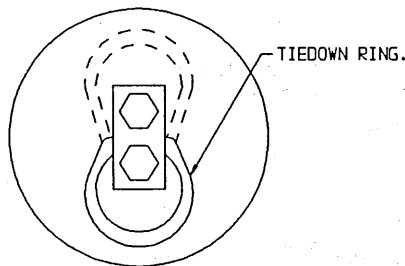
SPACER ASSEMBLY

ONE TWO-HIGH SPACER ASSEMBLY IS REQUIRED BETWEEN ADJACENT TWO HIGH STACKS OF PALLETIZED UNITS, AND ONE ONE-HIGH SPACER ASSEMBLY IS REQUIRED BETWEEN EACH TWO-HIGH STACK AND ADJACENT ONE HIGH PALLETIZED UNIT AND/OR FORWARD BULKHEAD ON TRAILER. THESE SPACER ASSEMBLIES ARE REQUIRED TO PROVIDE SPACE FOR INITIATING STRAPS MARKED ③ IN THE LOAD ON PAGE 10.



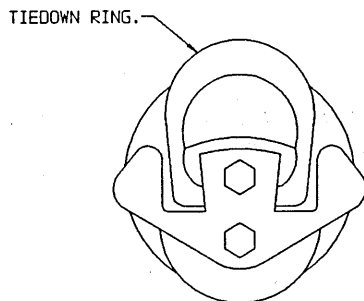
UNIVERSAL TIEDOWN ANCHOR (FRONT VIEW)

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



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 "D" ON PAGE 2.



TYPE I, REMOVABLE TIEDOWN ANCHOR (TOP VIEW)

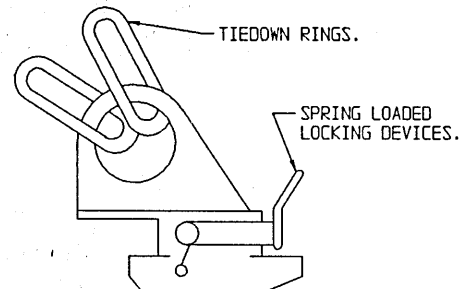
THIS TIEDOWN ANCHOR IS RATED AT 10,000 POUNDS AND IS INSTALLED ON THE M871 AND M872 SEMITRAILERS. IT IS COMMONLY REFERRED TO AS "MICKEY MOUSE". THERE ARE LOCATIONS FOR TEN TIEDOWN ANCHORS ON EACH SIDE OF THE M871 SEMITRAILER AND LOCATIONS FOR APPROXIMATELY TWENTY-EIGHT TIEDOWN ANCHORS ON EACH SIDE OF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

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 TACTICAL TRUCK (HEMITT), 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 M127, 12-TON SEMITRAILER IS BEING USED, SEE INFORMATION IN TB 9-2300-280-30. THE M127 SEMITRAILER REQUIRES A DIFFERENT TYPE OF TIEDOWN ANCHOR.

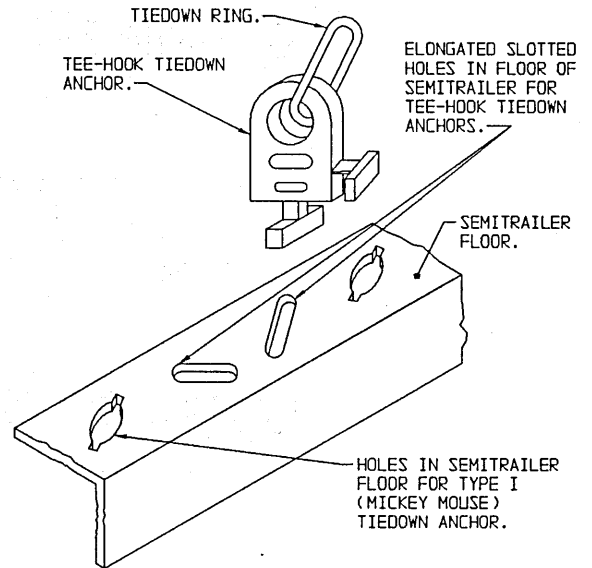
NOTE ⊕ :

THIS TIEDOWN 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 "D" ON PAGE 2. THIS TIEDOWN IS FURTHER IDENTIFIED AS NSN 2540-01-117-3043.



TYPE II, REMOVABLE TIEDOWN ANCHOR (SIDE VIEW)

(SEE "NOTE ⊕" ABOVE)

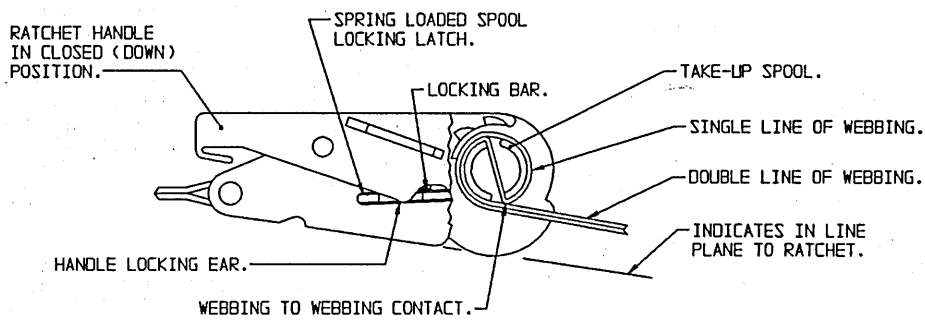


REMOVABLE TEE-HOOK TIEDOWN ANCHOR (ISOMETRIC VIEW)

(SEE "NOTE ▲" BELOW)

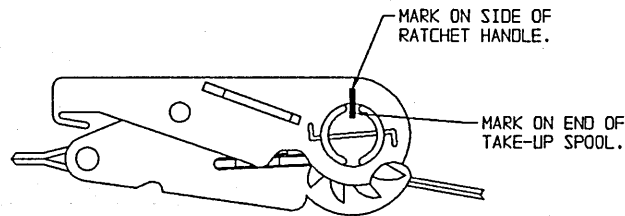
NOTE ▲ :

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 "D" ON PAGE 2. THIS TIEDOWN ANCHOR IS FURTHER IDENTIFIED AS NSN 2540-01-113-9285.



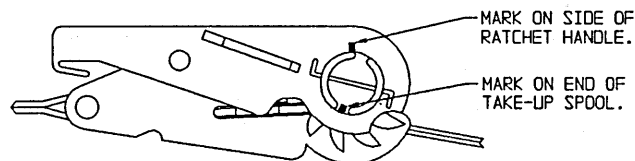
STEP 1

IN THIS VIEW PART OF THE RATCHET HOUSING IS SHOWN BROKEN AWAY TO DEPICT WEBBING-TO-WEBBING CONTACT ON THE TAKE-UP SPOOL OF THE RATCHET. WEBBING-TO-WEBBING CONTACT IS ACHIEVED WHEN THE OPERATOR HOLDS THE DOUBLE LINE OF WEBBING IN AN "IN LINE PLANE TO THE RATCHET" AND IT MAKES CONTACT WITH THE SINGLE LINE OF WEBBING.



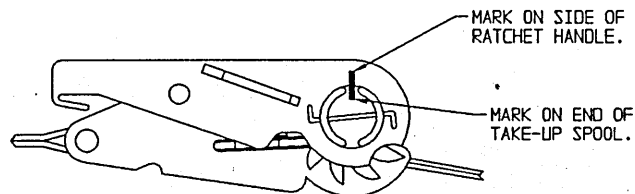
STEP 2

THIS VIEW DEPICTS THE LOCATION OF THE FIXED MARK ON THE RATCHETING HANDLE, WITH ANOTHER MATCHING MARK ON THE TAKE-UP SPOOL, AFTER WEBBING-TO-WEBBING CONTACT HAS BEEN MADE.



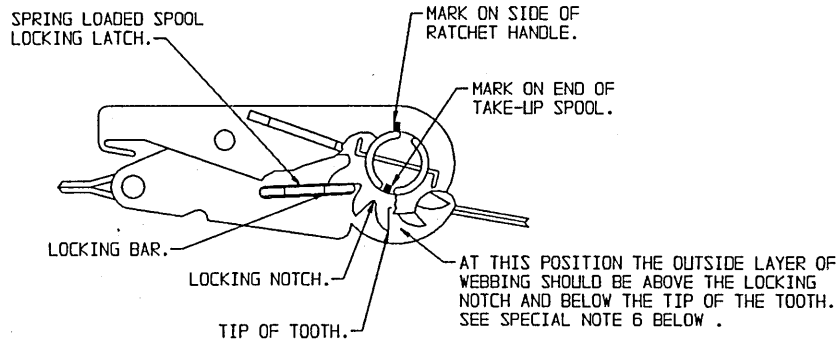
STEP 3

THIS VIEW DEPICTS THE LOCATION OF THE MARK ON THE END OF THE TAKE-UP SPOOL AFTER THE SPOOL HAS BEEN ROTATED ONE-HALF TURN, AFTER WEBBING-TO-WEBBING CONTACT HAS BEEN MADE.



STEP 4

THIS VIEW DEPICTS THE LOCATION OF THE MARK ON THE END OF THE TAKE-UP SPOOL AFTER THE SPOOL HAS BEEN ROTATED ONE FULL TURN, AFTER WEBBING-TO-WEBBING CONTACT HAS BEEN MADE.



STEP 5

THIS VIEW DEPICTS THE LOCATION OF THE MARK ON THE END OF THE TAKE-UP SPOOL AFTER THE SPOOL HAS BEEN ROTATED ONE AND ONE-HALF TURNS, AFTER WEBBING-TO-WEBBING CONTACT HAS BEEN MADE. ALSO IN THIS VIEW, PART OF THE RATCHET HANDLE IS BROKEN AWAY TO SHOW THE LOCKING BAR FULLY SEATED IN THE MATCHING LOCKING NOTCH (SPROCKET GEAR TEETH).

SPECIAL NOTES:

1. THE PURPOSE OF THE RATCHET DETAILS ON PAGE 20 AND THE DETAIL AND NOTES ON THIS PAGE ARE TO AUGMENT THE GUIDANCE SET FORTH WITHIN GENERAL NOTE "F" ON PAGE 2.
2. THE REQUIREMENTS FOR 1/2 BUT NOT MORE THAN 1-1/2 WRAPS OF STRAP ON THE TAKE-UP SPOOL OF THE TENSIONING RATCHET, AS SPECIFIED WITHIN GENERAL NOTE "F" ON PAGE 2, ACTUALLY MEANS 1/2 TO 1-1/2 WRAPS OF DOUBLE WEBBING, THE 1/2 TO 1-1/2 WRAPS REQUIRE THAT THE SPOOL MECHANISM BE ROTATED 1/2 TO 1-1/2 TURNS. ALSO, THE 1/2 TO 1-1/2 WRAPS (TURNS) ARE TO BE ACCOMPLISHED ONLY AFTER ENOUGH WEBBING HAS BEEN WOUND ONTO THE SPOOL TO ACHIEVE A WEBBING-TO-WEBBING CONFIGURATION, AS SHOWN IN THE "STEP 1" DETAIL ON PAGE 20.
3. ONE METHOD THAT CAN BE USED TO ENSURE THAT THE 1/2 TO 1-1/2 WRAPS ARE WOUND ONTO THE TAKE-UP SPOOL, AFTER WEBBING-TO-WEBBING CONTACT HAS BEEN MADE, IS TO PLACE A FIXED MARK (PAINT OR SIMILAR MATERIAL) ON THE SIDE OF THE RATCHETING HANDLE, WITH THE HANDLE IN ITS CLOSED (DOWN) POSITION, AND ANOTHER SHORT MATCHING MARK ON THE END OF THE SPOOL, AS SHOWN IN THE "STEP 2" DETAIL ON PAGE 20. AS THE SPOOL IS ROTATED TO TENSION A TIEDOWN STRAP ASSEMBLY, THE NUMBER OF WRAPS (TURNS) CAN BE DETERMINED VISUALLY BY COMPARING THE "MARK" LOCATION ON THE SPOOL TO THE "MARK" LOCATION ON THE RATCHETING HANDLE WITH THE HANDLE IN CLOSED POSITION. SEE THE "STEP 3" AND "STEP 4" DETAILS ON PAGE 20, AND "STEP 5" ABOVE.
4. ANOTHER METHOD THAT CAN BE USED TO ENSURE THAT THE 1/2 TO 1-1/2 WRAPS ARE ACHIEVED, AFTER WEBBING-TO-WEBBING CONTACT HAS BEEN MADE, IS TO COUNT THE AUDIBLE CLICKS MADE BY THE RATCHET ASSEMBLY AS A WEB STRAP ASSEMBLY IS BEING TENSIONED. THE RATCHET ASSEMBLY ON MOST WEB STRAP ASSEMBLIES HAS 11 TEETH ON THE GEAR LIKE DEVICE ON EACH END OF THE TAKE-UP SPOOL; SOME OTHER STRAP ASSEMBLIES HAVE ONLY 9 TEETH. THEREFORE, AFTER INITIAL WEBBING-TO-WEBBING CONTACT HAS BEEN MADE, ROTATE (TURN) THE SPOOL THROUGH A MINIMUM OF 6 TO A MAXIMUM OF 16 CLICKS (1/2 TO 1-1/2 WRAPS) WHEN THE GEAR HAS 11 TEETH, AND ROTATE (TURN) THE SPOOL THROUGH A MINIMUM OF 5 TO A MAXIMUM OF 13 CLICKS (1/2 TO 1-1/2 WRAPS) IF THE GEAR HAS 9 TEETH.

(CONTINUED AT RIGHT)

(SPECIAL NOTES CONTINUED)

5. 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, THAT ARE LOCATED ON EACH END OF THE TAKE-UP SPOOL. SEE "STEP 5" DETAIL ABOVE. THE LOCKING LATCH IS "FULLY SEATED" WHEN THE HANDLE WILL CLOSE AND THE LOCKING EAR, OR SIMILAR DEVICE ON THE HANDLE, PREVENTS THE ACCIDENTAL WITHDRAWAL OF THE LOCKING LATCH. SEE "STEP 1" DETAIL ON PAGE 20. IF THE FULLY SEATED CONDITION CANNOT BE ACHIEVED, THE STRAP MUST BE RELEASED AND HAND RETENSIONED AS TIGHT AS POSSIBLE TO ACHIEVE THE FULLY SEATED CONDITION.
6. ANOTHER VISUAL METHOD OF DETERMINING WHEN THERE IS 1/2 TO 1-1/2 WRAPS OF WEBBING ON THE TAKE-UP SPOOL, AFTER INITIAL WEBBING-TO-WEBBING CONTACT HAS BEEN MADE, IS TO LOOK AT THE SPOOL. WHEN A TIEDOWN IS COMPLETE, THE STRAP WEBBING ON THE SPOOL OF THE RATCHET SHOULD BE ABOVE THE LOWER CURVE OF THE LOCKING NOTCH, AND SHOULD BE BELOW THE TIPS OF THE TEETH OF THE RATCHET AS IDENTIFIED IN "STEP 5" ABOVE. IT SHOULD BE NOTED THAT ANY PROCEDURES THAT ENSURE PROPER TENSIONING ARE ACCEPTABLE AND METHODS ON THE DRAWING ONLY PROVIDE SOME METHODS.

