

*Om - JL*

DATE 4/05/2006

# APPENDIX 11

## LOADING AND BRACING PROCEDURES FOR AMMUNITION LOADED ON CONTAINER ROLL IN/OUT PLATFORM (CROP)

### JAVELIN MISSILES IN PLASTIC CONTAINERS PALLETIZED ON WOODEN PALLETS

INDEX

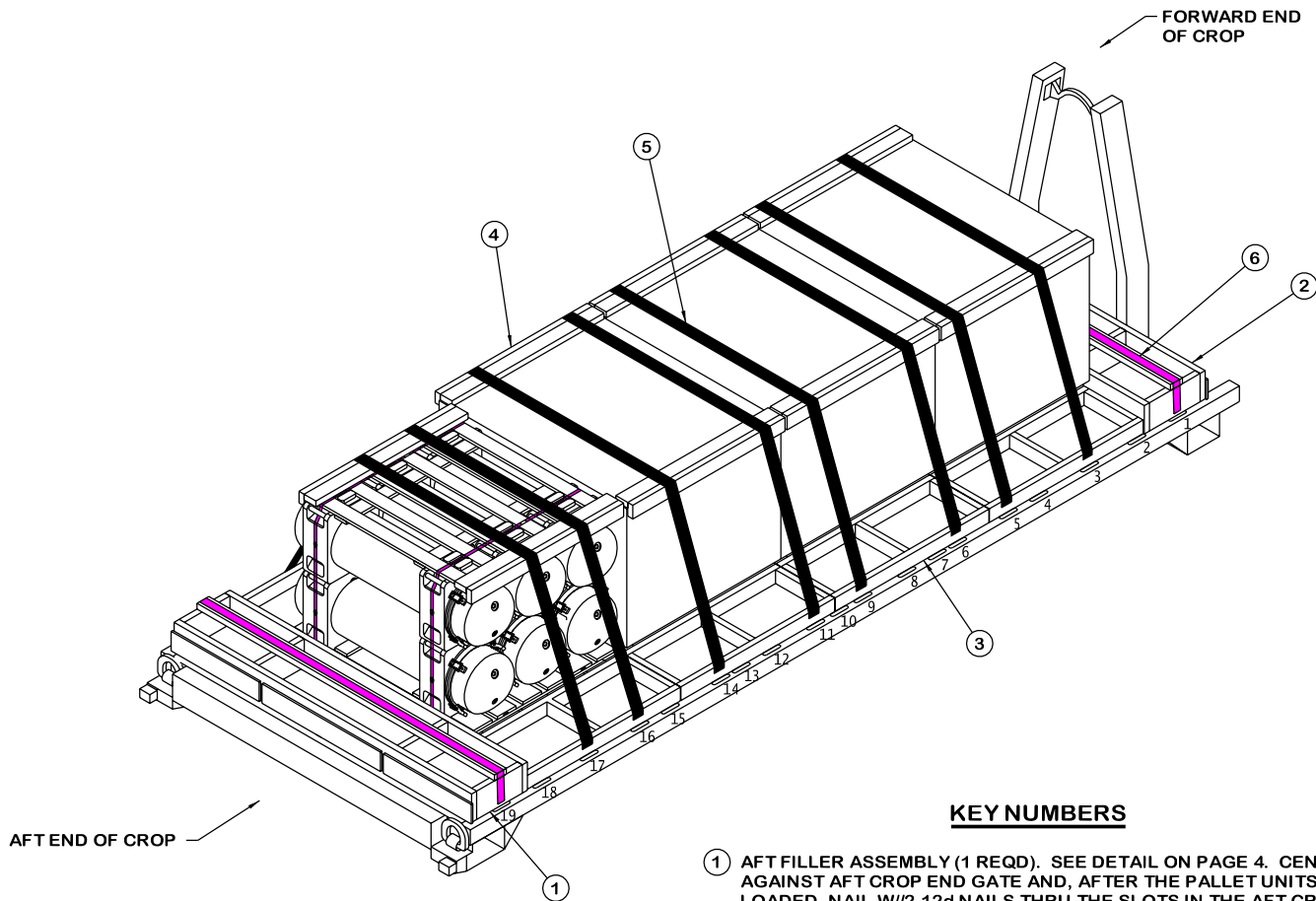
<u>ITEM</u>	<u>PAGE(S)</u>
TYPICAL LOADING PROCEDURES - - - - -	2
GENERAL NOTES - - - - -	3
PALLET UNIT DETAIL - - - - -	4
DETAILS - - - - -	4-5

**NOTICE: THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC CROP OUTLOADING PROCEDURES DRAWING 19-48-4906-CA17Q7.**

- LOADING AND BRACING SPECIFICATIONS SET FORTH WITHIN THIS DRAWING ARE APPLICABLE TO LOADS THAT ARE TO BE SHIPPED BY TRAILER/CONTAINER-ON-FLATCAR (T/COFC) RAIL CARRIER SERVICE. THESE SPECIFICATIONS MAY ALSO BE USED FOR LOADS THAT ARE TO BE MOVED BY MOTOR OR WATER CARRIERS.

### U.S. ARMY MATERIEL COMMAND DRAWING

APPROVED, U.S. ARMY FIELD SUPPORT COMMAND		<b>CAUTION: VERIFY PRIOR TO USE AT WWW.DAC.ARMY.MIL THAT THIS IS THE MOST CURRENT VERSION OF THIS DOCUMENT. THIS IS PAGE 1 OF 6.</b>			
<i>[Signature]</i>		<b>DO NOT SCALE</b>		<b>MARCH 2006</b>	
		ENGINEER OR TECHNICIAN	BASIC REV.	LAURA A. FIEFFER	
APPROVED BY ORDER OF COMMANDING GENERAL, U.S. ARMY MATERIEL COMMAND		TRANSPORTATION ENGINEERING DIVISION	<i>[Signature]</i>	TESTED	
<i>[Signature]</i> U.S. ARMY DEFENSE AMMUNITION CENTER		VALIDATION ENGINEERING DIVISION	<i>[Signature]</i>	CLASS	DIVISION
		ENGINEERING DIRECTORATE	<i>[Signature]</i>	19	48
				DRAWING	FILE
				4906/ 11	CA17Q6



**ISOMETRIC VIEW**

**KEY NUMBERS**

- ① AFT FILLER ASSEMBLY (1 REQD). SEE DETAIL ON PAGE 4. CENTER AGAINST AFT CROP END GATE AND, AFTER THE PALLET UNITS ARE LOADED, NAIL W/12-12d NAILS THRU THE SLOTS IN THE AFT CROP END GATE INTO THE AFT FILLER ASSEMBLY, LEAVING THE NAIL HEADS PROTRUDING THRU THE SLOTS TO PROVIDE LATERAL RESTRAINT.
- ② FORWARD FILLER ASSEMBLY (1 REQD). SEE DETAIL ON PAGE 5. CENTER AGAINST FORWARD CROP END GATE AND, AFTER THE PALLET UNITS ARE LOADED, NAIL W/12-12d NAILS THRU THE HOLES IN THE FORWARD CROP END GATE INTO THE FORWARD FILLER PIECES, LEAVING THE NAIL HEADS PROTRUDING THRU THE HOLES TO PROVIDE LATERAL AND VERTICAL RESTRAINT.
- ③ SIDE BLOCKING ASSEMBLY (8 REQD). SEE THE DETAIL ON PAGE 5. INSTALL ONE ON EACH SIDE OF THE CROP ADJACENT TO THE PALLET UNITS. AFTER THE HOLD-DOWN STRAPS ARE INSTALLED, NAIL THROUGH THE STRAP ATTACHMENT SLOTS OF THE HOLD-DOWN STRAPS INTO SIDE BLOCKING W/1-10d PARTIALLY DRIVEN NAIL AND BEND OVER SIDE OF HOOK.
- ④ STRAPPING BOARD ASSEMBLY (8 REQD). SEE THE DETAIL ON PAGE 6. INSTALL ON THE EDGES OF THE TOP DUNNAGE ASSEMBLY OF THE PALLET UNITS.
- ⑤ HOLD-DOWN STRAP, 3-INCH WIDE WEB STRAP TIEDOWN ASSEMBLY FOR CROP (8 REQD). INSTALL EACH HOLD-DOWN STRAP TO EXTEND FROM THE DESIGNATED TIEDOWN ANCHOR ON ONE SIDE OF CROP, OVER THE TOP OF THE PALLET UNITS, TO THE CORRESPONDING TIEDOWN ANCHOR ON THE OPPOSITE SIDE OF THE CROP. ALIGN SCUFF SLEEVES OVER ALL SHARP EDGES AND FIRMLY TENSION STRAP. SEE GENERAL NOTES "F" AND "G" ON PAGE 3.
- ⑥ RETAINER STRAP, 2" WIDE WEB STRAP TIEDOWN ASSEMBLY (2 REQD). INSTALL TO EXTEND FROM THE FIRST (FORWARD) OR NINETEENTH (AFT) TIEDOWN RING ON ONE SIDE OF THE CROP, OVER THE TOP OF THE STRAPPING BOARD OF THE FILLER ASSEMBLY, TO THE FIRST OR NINETEENTH TIEDOWN RING ON THE OPPOSITE SIDE OF THE CROP. POSITION SCUFF SLEEVES OVER ALL SHARP EDGES AND FIRMLY TENSION STRAP. SEE GENERAL NOTES "F" AND "G" ON PAGE 3.

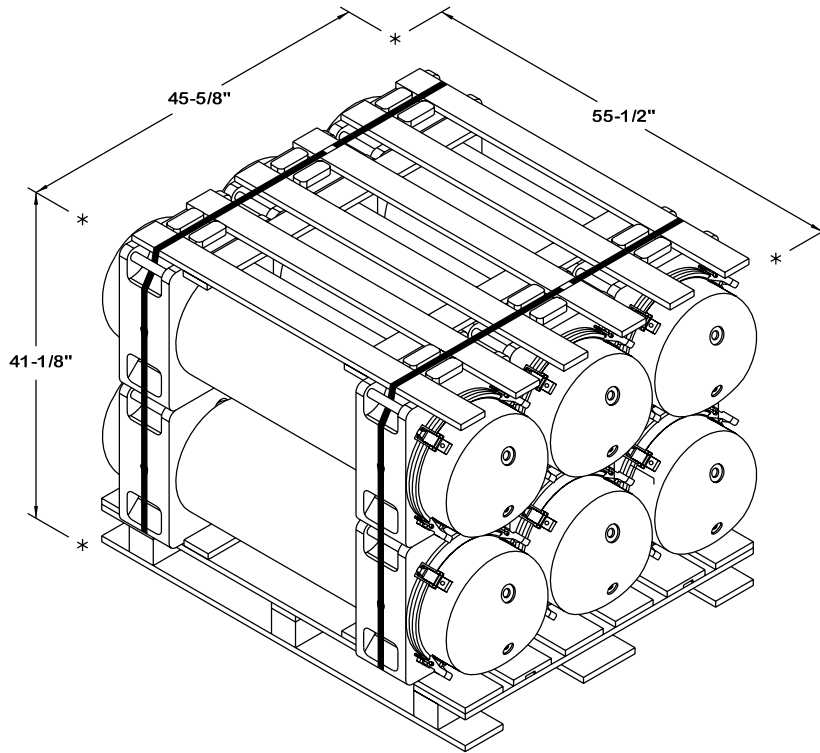
**GENERAL NOTES**

- A. THIS APPENDIX CANNOT STAND ALONE BUT MUST BE USED IN CONJUNCTION WITH THE BASIC LOADING PROCEDURES DRAWING 19-48-4906-CA17Q7. TO PRODUCE AN APPROVED LOAD, ALL PERTINENT PROCEDURES, SPECIFICATIONS AND CRITERIA SET FORTH WITHIN THE BASIC DRAWING WILL APPLY TO THE PROCEDURES DELINEATED IN THIS APPENDIX. ANY EXCEPTIONS TO THE BASIC PROCEDURES ARE SPECIFIED IN THIS APPENDIX.
- B. THE OUTLOADING PROCEDURES DEPICTED IN THIS DRAWING ARE APPLICABLE TO LOADS OF FIVE PALLET UNITS. SEE PAGE 4 FOR DETAIL OF THE TYPICAL PALLET UNIT. AN M3A1 (HYUNDAI) CROP IS SHOWN AS TYPICAL. OTHER MANUFACTURER'S CROPS CAN BE USED FOR THE LOAD SHOWN ON PAGE 2. ACTUAL CROP CONFIGURATION WILL DETERMINE WHETHER THE LOADING STARTS AT THE AFT OR THE FORWARD END OF THE CROP. THE AFT AND FORWARD END FILLER ASSEMBLIES OR PIECES MUST BE RESTRAINED FROM MOVING IN BOTH THE LATERAL AND VERTICAL DIRECTIONS. THIS IS ACCOMPLISHED IN THE LOAD SHOWN ON PAGE 2 WITH HOLD DOWN PIECES, RETAINING NAILS, AND 2" WIDE WEB STRAP TIEDOWN ASSEMBLIES.
- C. THE LOADING PROCEDURES DEPICTED HEREIN MAY BE USED FOR OUTLOADING PALLET UNITS WITH DIMENSIONS OTHER THAN WHAT IS SHOWN ON PAGE 4, PROVIDED THE OVERALL PALLET UNIT DIMENSIONS RESULT IN A LOAD THAT IS CONTAINED WITHIN AN ENVELOPE OF 211" L X 89" W X 73-1/2" H.
- D. DIMENSIONS, CUBE AND WEIGHT OF THE PALLET UNITS WILL VARY SLIGHTLY DEPENDING UPON THE ACTUAL DIMENSIONS OF THE BOXES AND THE WEIGHT OF THE SPECIFIC ITEM BEING UNITIZED.
- E. DIMENSIONS GIVEN FOR DUNNAGE ASSEMBLIES WILL BE FIELD CHECKED PRIOR TO THEIR ASSEMBLY. PALLET UNITS MUST FIT SNUGLY AGAINST THE DUNNAGE ASSEMBLIES. THIS GUIDANCE MUST BE APPLIED PRIOR TO BEGINNING AN OUTLOADING OPERATION. ALSO, DUE TO VARIATION OF PALLET UNIT DIMENSIONS, ADJUSTMENTS MAY BE REQUIRED AS TO THE LOCATION OF CERTAIN PIECES ON DUNNAGE ASSEMBLIES.
- F. ALL WEB STRAP TIEDOWN ASSEMBLIES MUST HAVE THE EXCESS LENGTH OF THE STRAP SECURED. ROLL UP AND BUNDLE THE EXCESS LENGTH OF WEB STRAP, SECURING WITH CABLE TIES. SEE THE "STRAP END SECUREMENT" DETAIL AND GENERAL NOTE "K.12" IN THE BASIC PROCEDURE DRAWING 19-48-4906-CA17Q7.
- G. UNUSED WEB STRAP TIEDOWN ASSEMBLIES MUST BE SECURED AS DELINEATED IN GENERAL NOTE "K.13" IN THE BASIC PROCEDURE DRAWING 19-48-4906-CA17Q7.
- H. 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 0.454 KG.

BILL OF MATERIAL		
LUMBER	LINEAR FEET	BOARD FEET
2" X 4"	174	116
2" X 8"	39	52
NAILS	NO. REQD	POUNDS
10d (3")	284	4-1/2
12d (3-1/4")	4	1/4
2" WEB STRAP TIEDOWN ASSY -- 2 REQD ----- 12 LBS		

**LOAD AS SHOWN**

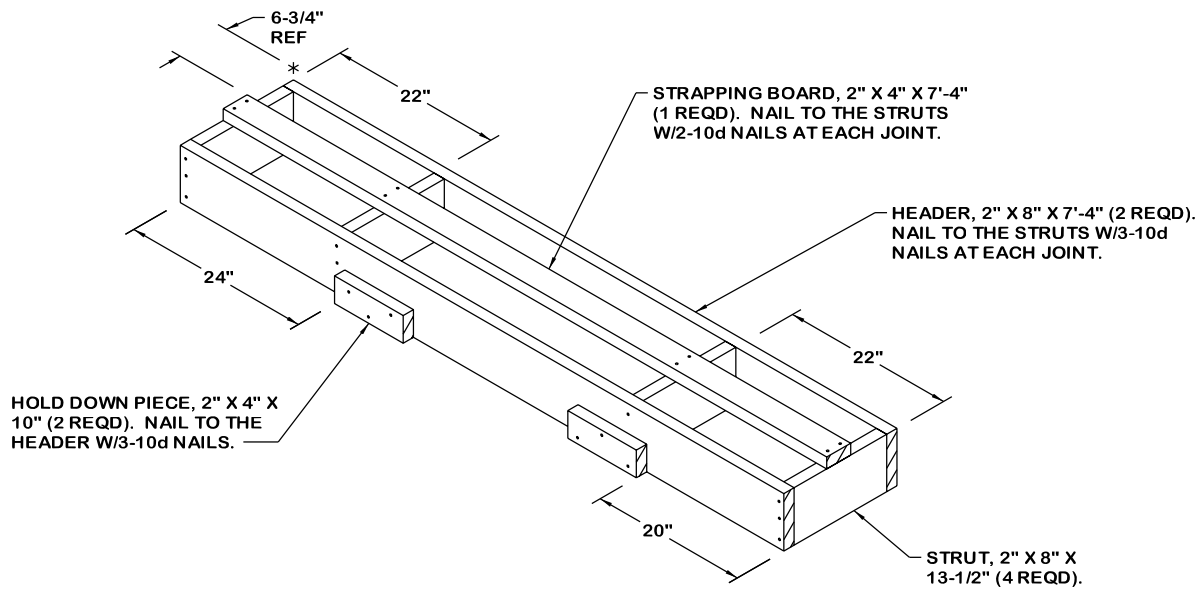
ITEM	QUANTITY	WEIGHT (APPROX)
PALLET UNIT	4	2,780 LBS
DUNNAGE		340 LBS
CROP		3,800 LBS
TOTAL WEIGHT		6,920 LBS (APPROX)



**JAVELIN PALLET UNIT DETAIL**

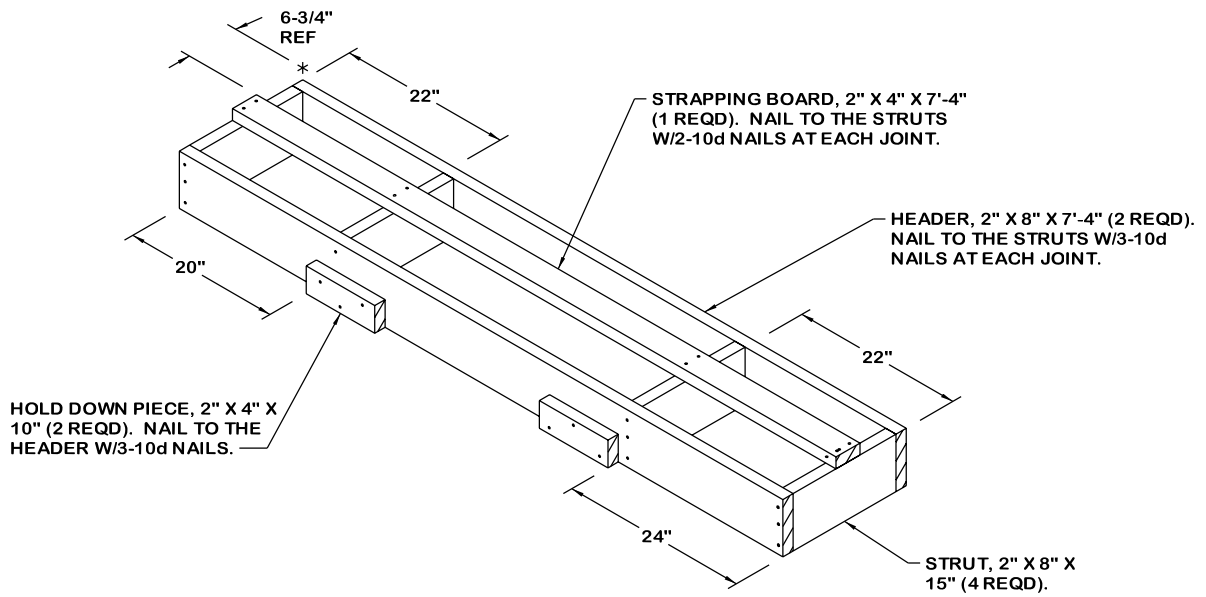
SEE AMC 19-48-5270-GM20JV2 FOR DETAILS

6 CONTAINERS OF JAVELIN MISSILES @ 96 LBS	-----	576 LBS (APPROX)
DUNNAGE	-----	29 LBS
PALLET	-----	90 LBS
<hr/>		
TOTAL WEIGHT	-----	695 LBS (APPROX)
CUBE	-----	60.3 CU FT (APPROX)



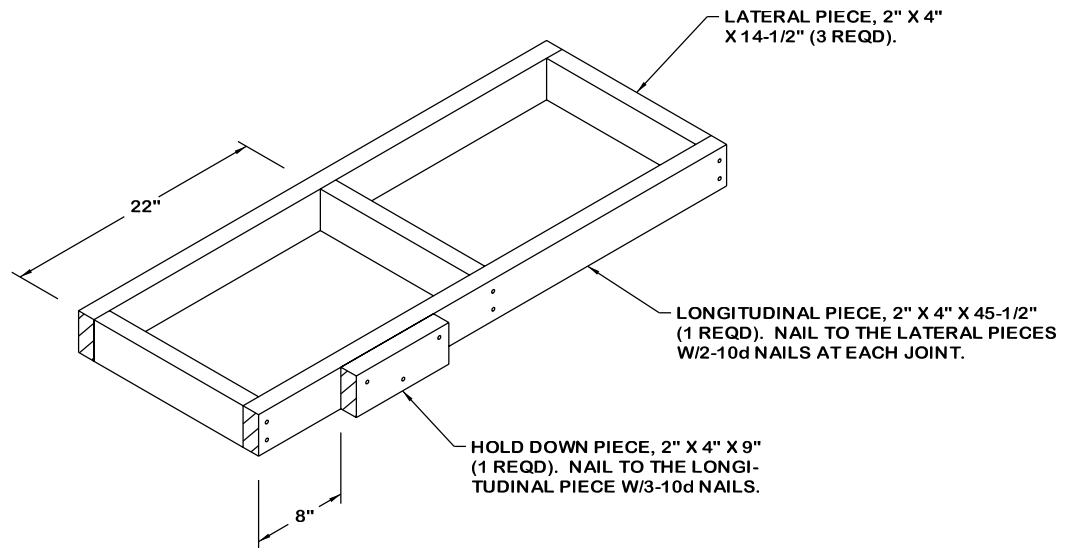
**AFT FILLER ASSEMBLY**

INSTALL WITH THE HOLD DOWN PIECES TOWARDS THE LADING, AND WITH THE HOLD DOWN PIECE SPACED AT 24" TOWARDS THE OPENING END OF THE CONTAINERS ON THE PALLET UNIT. ENSURE THAT THE STRAPPING BOARD IS IN ALIGNMENT WITH THE NINETEENTH TIEDOWN ANCHOR.



**FORWARD FILLER ASSEMBLY**

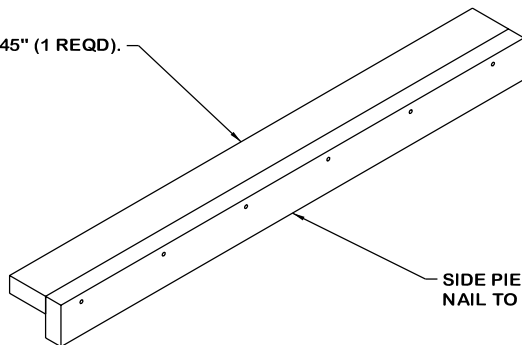
INSTALL WITH THE HOLD DOWN PIECES TOWARDS THE LADING, AND WITH THE HOLD DOWN PIECE SPACED AT 24" TOWARDS THE OPENING END OF THE CONTAINERS ON THE PALLET UNIT. ENSURE THAT THE STRAPPING BOARD IS IN ALIGNMENT WITH THE FIRST TIEDOWN ANCHOR.



**SIDE FILL ASSEMBLY**

INSTALL WITH THE HOLD DOWN PIECE TOWARDS THE LADING.

TOP PIECE, 2" X 4" X 45" (1 REQD).



SIDE PIECE, 2" X 4" X 45" (1 REQD).  
NAIL TO THE TOP PIECE W/6-10d NAILS.

**STRAPPING BOARD ASSEMBLY**