

22 July 1968
AMC Ammunition Center
Savanna Army Depot
Savanna, Illinois

CHANGE ORDER FOR
19-48 SERIES DRAWING

1. Effective date: 1 August 1968
2. Drawing number: 19-48-5059-GM5A9 (Revision 2).
3. Drawing title: LOADING AND BRACING (CL & LCL) IN BOX CAR OF IGNITER, ROCKET MOTOR, M24, PACKED EIGHTEEN PER WOODEN BOX, FOR THE NIKE-AJAX AND NIKE-HERCULES GUIDED MISSILES, & (M65 OR M69).
4. A copy of this change order should be attached to each copy of drawing GM5A9, or "pen and ink" changes can be made to each copy.

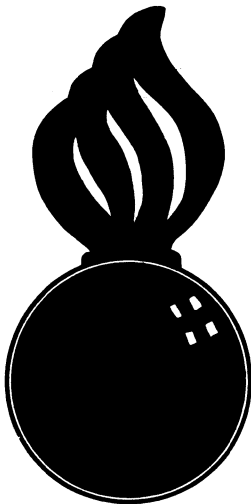
The following changes are applicable to the drawing and are current until superseded by revision three (3) to the drawing.

5. Changes:

Page 2 --- The alternative type blocking shown by the "center gate" detail is to be changed.

- a. The bottom gate horizontal piece is to be raised one inch (1") off the car floor.
- b. The leader note identifying the struts is to be changed to read:
STRUTS, 2" X 6" X CUT TO FIT (TRIPLED) (16 REQD).
LAMINATE W/1-10d NAIL EVERY 5". TOENAIL TO GATE
UPRIGHT W/2-12d NAILS AT EACH END.

APPROVED
 BUREAU OF EXPLOSIVES
A. J. Grossmuck
 DATE 9/20/62 INSPECTOR



**LOADING & BRACING (CL & LCL) IN
 BOX CAR OF IGNITER, ROCKET
 MOTOR, M24, PACKED EIGHTEEN
 PER WOODEN BOX, FOR THE NIKE-
 AJAX AND NIKE-HERCULES GUIDED
 MISSILES. (M65 OR M69)**

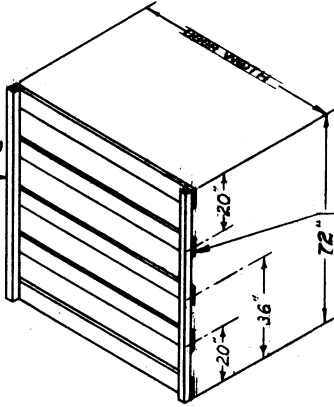
| | | | |
|--|--|--|---|
| LOADING & BRACING (CL & LCL) IN BOX CAR OF IGNITER, ROCKET MOTOR, M24, PACKED EIGHTEEN PER WOODEN BOX, FOR THE NIKE-AJAX AND NIKE- HERCULES GUIDED MISSILES. (M65 OR M69) | | | |
| <small>DRAFTSMAN</small> <i>M.R.S.</i> <small>CHECKER</small> <i>RHM / GWP</i> | <small>TECHNICAL</small> <small>ENGINEER</small> <i>Diw / -B</i> | <small>DESIGNED BY</small> <small>APPROVED BY</small> <i>[Signature]</i> | <small>DATE</small> <small>COLONEL</small> <small>ORD. CORPS</small> <small>U.S.A.</small> |
| REVISIONS | | <i>John Taylor</i> | |
| 2 | 5 JULY 54 | <i>Andrum W. Steid</i> | <small>ORD. CORPS</small> <small>U.S.A.</small> |
| | | <i>Andrum W. Steid</i> | |
| | | <small>ORDNANCE CORPS</small> <small>U.S.A.</small> | |
| | | 14 JULY 1954 | |
| | | <small>CLASS</small> | <small>DIVISION</small> |
| | | <small>DRAWING</small> | <small>FILE</small> |
| | | 19 | 48 |
| | | 5059 | GM5A9 |

DO NOT SCALE

NOTE:

WHEN EXCESS SPACE IN LENGTH OF CAR IS 24" OR MORE USE CENTER GATES, STRUTS AND GATE HOLD DOWNS AS SHOWN IN CENTER GATE DETAIL BELOW.

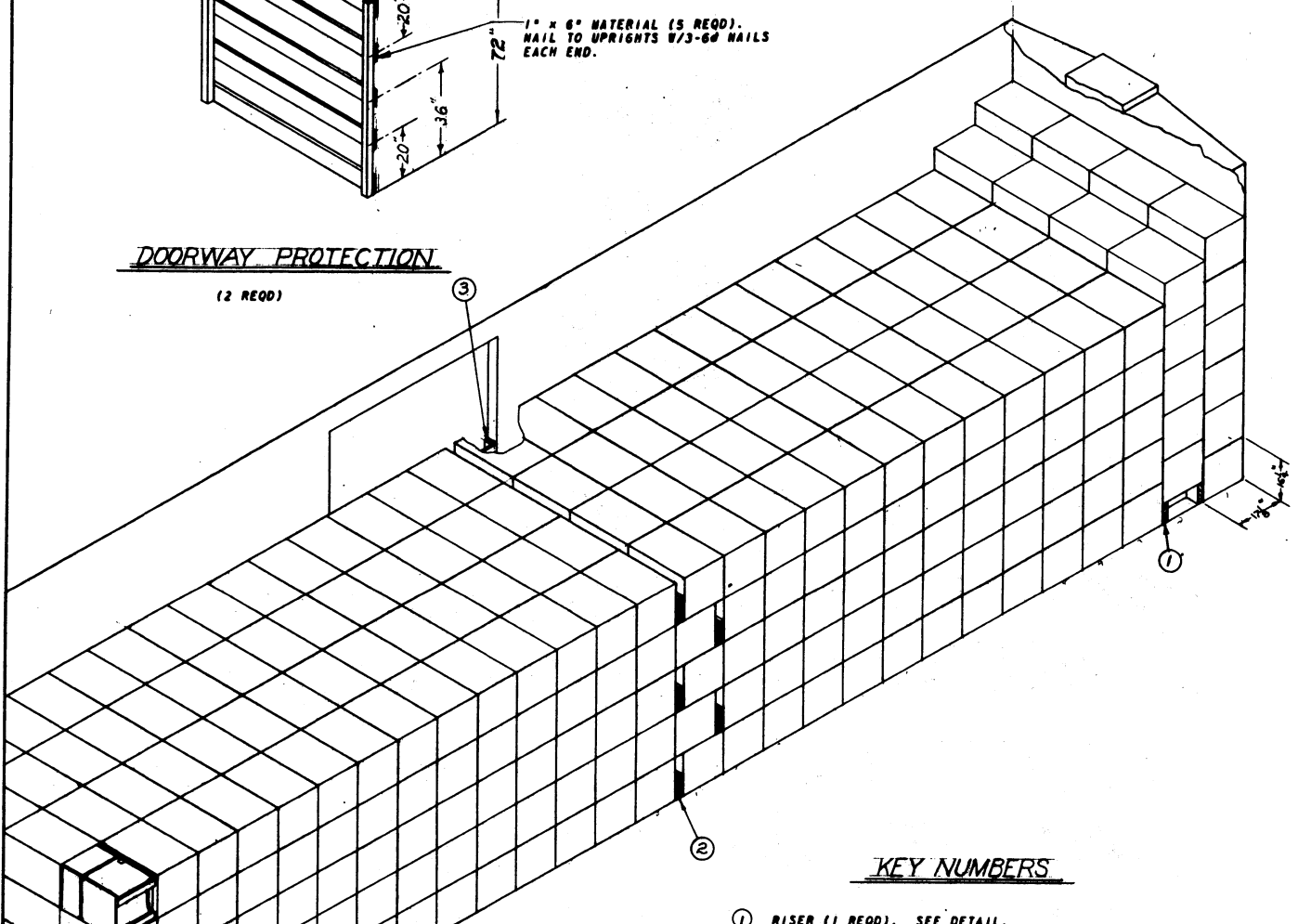
2" x 3" x 72" (2 REQ)
NAIL TO DOOR POST
W/12d NAILS.



1" x 6" MATERIAL (5 REQ).
NAIL TO UPRIGHTS W/3-6d NAILS
EACH END.

DOORWAY PROTECTION

(2 REQ)

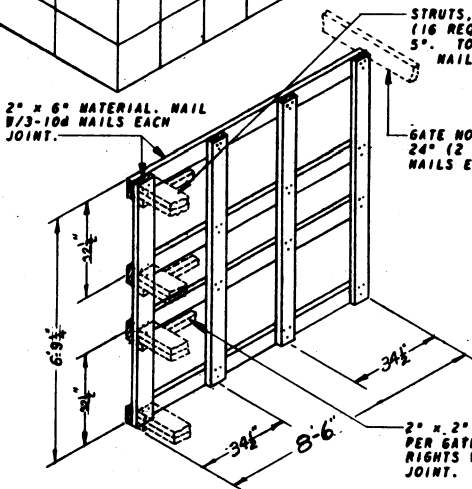


ISOMETRIC VIEW

40'-6" LONG x 8'-6" WIDE
BOX CAR.

KEY NUMBERS

- ① RISER (1 REQ). SEE DETAIL.
- ② SOLID FILL, 10" WIDE MATERIAL. RANDOM WIDTH AND LENGTH x REQUIRED THICKNESS. SEE NOTE.
- ③ DOORWAY PROTECTION (2 REQ). SEE DETAIL.



CENTER GATE

(2 REQ)

2" x 6" MATERIAL. NAIL
W/3-10d NAILS EACH
JOINT.

STRUTS, 2" x 6" x CUT TO FIT (DOUBLED).
(16 REQ). LAMINATE W/1-10d NAIL EVERY
5". TOENAIL TO GATE UPRIGHTS W/2-12d
NAILS EACH END.

GATE HOLD DOWN, 2" x 6" x DOOR WIDTH PLUS
24" (2 REQ). NAIL TO CAR WALL W/5-12d
NAILS EACH END.

2" x 2" x CAR WIDTH (4 REQ
PER GATE). NAIL TO GATE UP-
RIGHTS W/2-10d NAILS EACH
JOINT.

1" x 6" x CUT TO FIT (2 REQ).
NAIL W/3-6d NAILS EACH END.

BACK UP, 2" x 6" x 24" MIN
(1 REQ).

2" x 6" x LOAD HEIGHT (24"
MAX) REQ. NAIL TO BACK
UP W/2-16d NAILS.

45°

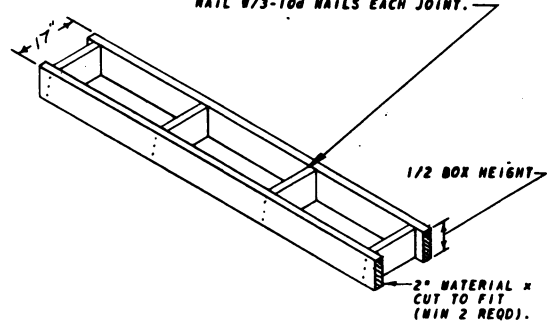
2-16d NAILS.

LCL BRACE

(5 REQ)

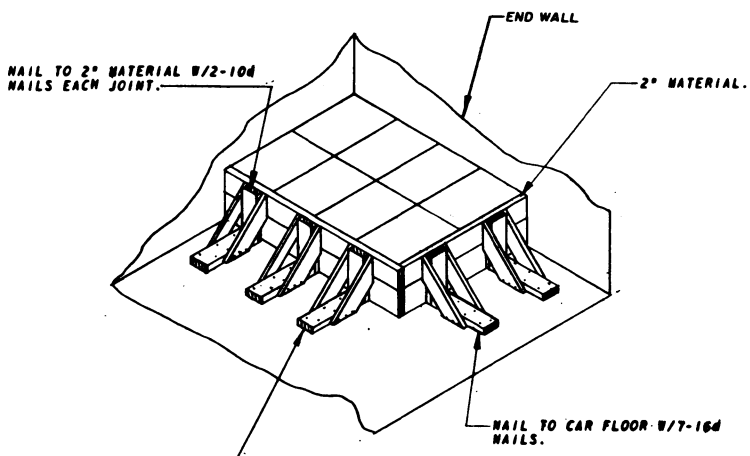
EACH BRACE AS APPLIED FOR
LONGITUDINAL OR LATERAL
BRACING WILL SUPPORT 2,000
OR 8,000 POUNDS RESPECTIVELY.
ALSO RESPECTIVELY, A BRACE
MUST BE USED FOR EACH 24" OR 48" INCREMENT
OF LOAD DIMENSION.
ADDITIONALLY, A MINIMUM OF
TWO (2) BRACES MUST BE
USED IN THEIR RESPECTIVE
DIRECTION IF THE LOAD IS MORE
THAN 2 TIMES THE LCL.

2" MATERIAL x LENGTH TO SUIT (2 REQD).
NAIL W/3-10d NAILS EACH JOINT.



TYPICAL RISER

LENGTH AND/OR WIDTH OF RISER MAY BE ADJUSTED TO CONFORM WITH BOX POSITION AND/OR LOAD REQUIREMENTS.



TYPICAL LCL

SEE LCL BRACE DETAIL.

GENERAL NOTES

- A. LOADS AS SHOWN ARE BASED ON BOX CARS 40'-6" LONG x 8'-6" AND 9'-2" WIDE WITH 6'-0" DOORWAY OPENINGS.
- B. SELECTION OF RAIL CARS FOR THE TRANSPORT OF THIS ITEM WILL BE IN ACCORDANCE WITH PARAGRAPH 8,300.4, ORDN 3-4, VOL 3.
- C. **NOTICE:** SHIPMENTS WILL BE POSITIONED IN THE RAIL CAR IN COMPLIANCE WITH THE WEIGHT DISTRIBUTION REQUIREMENTS OF THE AAR. THE NUMBER OF UNITS MAY BE ADJUSTED TO FIT THE RAILCAR CONCERNED, OR THE QUANTITY TO BE SHIPPED; HOWEVER, THE APPROVED METHODS CONTAINED HEREIN, FOR FULL OR PARTIAL CARLOAD, MUST BE FOLLOWED FOR BLOCKING, BRACING AND STAYING OF THIS ITEM.
- D. FOR DETAIL OF BOX SEE DRAWING NO. 8026208.
BOX DIMENSIONS - 25 1/2" LONG x 16 1/2" WIDE x 17 1/2" HIGH.
GROSS WEIGHT - 202 LBS (APPROX).
- E. FOR AUTHORIZED METHODS OF BRACING PARTIAL LAYERS SEE ORD CORPS DRAWING 19-48-2213-5P34.
- F. THIS ITEM IS AN ICC CLASS "A" EXPLOSIVE. PROCEDURES SHOWN HEREIN ARE APPLICABLE FOR THE SHIPMENT OF BOXES WITH INERT LOADED, EMPTY OR PRACTICE IGNITERS AND OF EMPTY BOMBS.

BILL OF MATERIAL (CL)

| LUMBER | LINEAL FEET | BOARD FEET |
|--------------|-------------|------------|
| 1" x 6" | 60 | 30 |
| 2" x 3" | 24 | 12 |
| 2" x 8" | 150 | 200 |
| NAILS | NO. REQD | POUNDS |
| 6d (2") | 60 | 1/2 |
| 10d (3") | 24 | 1/2 |
| 12d (3 1/2") | 20 | 1/2 |

MATERIAL SPECIFICATIONS

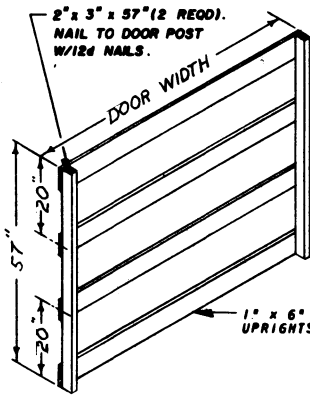
LUMBER: SEE PARAGRAPH 8,400, ORDN 3-4, VOL 3.
NAILS: COMMON, CEMENT COATED, FED SPEC FF-N-105.
ALT: ANNULAR-RING TYPE NAIL OF SAME SIZE.

LOAD AS SHOWN

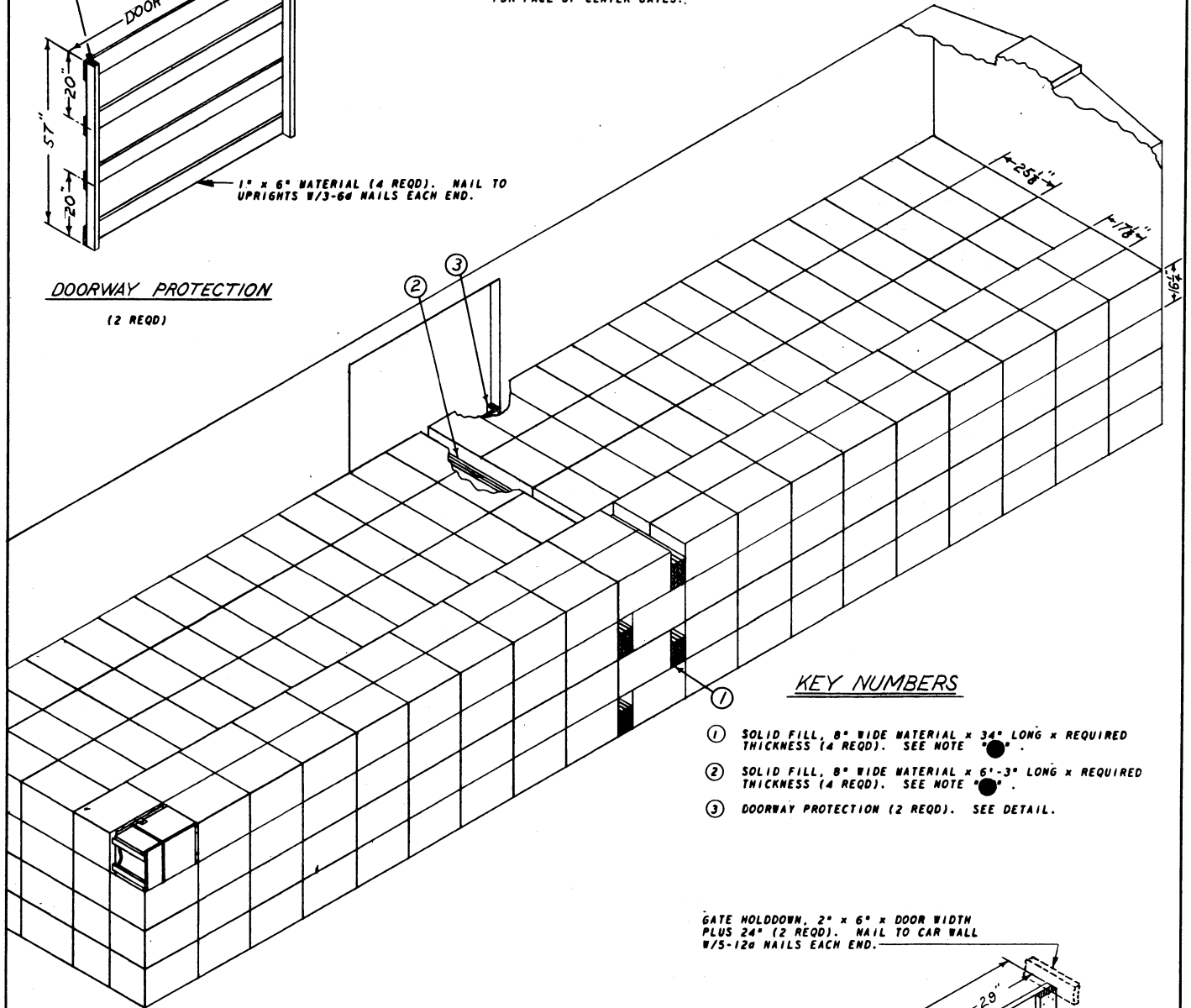
| ITEM | QUANTITY | WEIGHT |
|---------------------|----------|-----------------------------|
| BOXES | 564 | 113,120 LBS (APPROX) |
| DUNNAGE | | 607 LBS |
| TOTAL WEIGHT | | 113,735 LBS (APPROX) |

NOTE ●:

WHEN EXCESS SPACE IN LENGTH OF CAR IS 24" OR MORE, USE CENTER GATES, STRUTS AND GATE HOLD DOWNS AS SHOWN IN "CENTER GATE" DETAIL BELOW. SOLID FILL, AS REQUIRED, MAY BE POSITIONED WITHIN THE LOAD OR APPLIED TO THE GATE(S) TO OBTAIN AN EVEN BEARING SURFACE FOR FACE OF CENTER GATES.



DOORWAY PROTECTION
(2 REQD)



KEY NUMBERS

- ① SOLID FILL, 8" WIDE MATERIAL x 34" LONG x REQUIRED THICKNESS (4 REQD). SEE NOTE "●".
- ② SOLID FILL, 8" WIDE MATERIAL x 6'-3" LONG x REQUIRED THICKNESS (4 REQD). SEE NOTE "●".
- ③ DOORWAY PROTECTION (2 REQD). SEE DETAIL.

GATE HOLDDOWN, 2" x 6" x DOOR WIDTH PLUS 24" (2 REQD). NAIL TO CAR WALL W/5-12d NAILS EACH END.

ISOMETRIC VIEW

40'-6" LONG x 9'-2" WIDE BOX CAR

BILL OF MATERIAL
(9'-2" WIDE BOX CAR)

| LUMBER | LINEAL FEET | BOARD FEET |
|-----------|-------------|------------|
| 1" x 6" | 48 | 24 |
| 2" x 3" | 19 | 10 |
| 2" x 8" | 121 | 162 |
| NAILS | NO. REQD | POUNDS |
| 6d (2") | 48 | ‡ |
| 12d (3½") | 20 | ‡ |

LOAD AS SHOWN

| ITEM | QUANTITY | WEIGHT |
|---------------------|----------|----------------------------|
| BOXES | 488 | 98,576 LBS (APPROX) |
| DUNNAGE | | 490 LBS |
| TOTAL WEIGHT | | 99,066 LBS (APPROX) |

