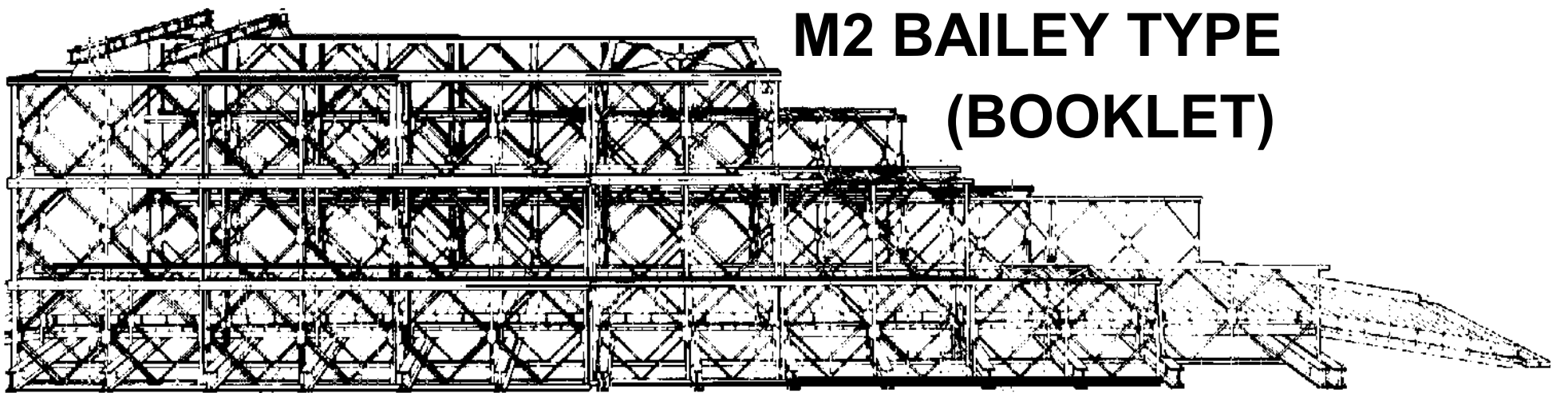


**MODEL BRIDGE, PANEL BRIDGE,
M2 BAILEY TYPE
(BOOKLET)**



GTA 05-04-035

JUNE 1982

The proponent agency of this GTA is the US Army Engineer School. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Commandant, US Army Engineer School. ATTN: ATZA-TDL, Fort Belvoir, Virginia 22060.

GTA 5-4-35

17 JUNE 1982

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General, United States Army
Chief of Staff

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Department of the Army
Washington, DC 17 June 1982

MODEL BRIDGE, PANEL BRIDGE, M2 BAILEY TYPE (BOOKLET)

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**This GTA supersedes TM 5-277K, 27 September 1948.*

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The word "he," "him," "his," and "men," when used in this publication, represent both the masculine and feminine genders unless otherwise specifically stated.

Introduction

This GTA describes how to operate and maintain Bridge Model, Training Aid Kit, Panel Bridge, M2 Bailey Type. To obtain the greatest instructional value from this bridge model, refer to appendixes A, B, and C.

ii

Conference

Refer to First Period Suggestions for Conference.

Practical work

Students are divided into crews (use table IV-2, chapter 4, TM 5-277, as a guide) and moved to bridge-erection site. Have students lay out rollers, and assemble and launch the double-double (DD) bridge. After double-double (DD) bridge is in position, convert four bays to double-triple (DT) construction.

Hold a critique and have students disassemble bridge and replace equipment in chests. If possible, assign students to a different crew or job for disassembly.

Variations in suggested methods

The above suggested methods of procedure can be varied to suit the size for the class and the degree of student familiarity with Bailey bridge equipment. Additional instruction can be provided with the model in the construction of several of the special types of structures covered in TM 5-277, and in the destruction of completed bridges and stockpiled equipment as described in chapter 25, TM 5-277.

Table 5. Continued.

Component	Roller layout	Nose construction	Bridge assembly ¹	Total requirements
Bolt, chord			104	104
Bolt, riband (with nut)			72	72
Brace, sway, M2		8	³ 20	22
Chess, M2			⁴ 118	118
Clamp, transom		10	60	70
Footwalk			14	14
Frame, bracing			40	40
Link, launching nose		2		2
Nut, bracing bolt		20	92	212
Nut, chord belt			104	104
Panel		10	⁵ 72	72
Pin, panel, long		18	144	162
Pin, safety		18	144	162
Post, end, female			4	4
Post, end, male			4	4
Post, footwalk			30	30
Raker		10	16	26
Ramp, button			4	4
Ramp, plain			8	8
Riband (steel curb)			18	18
Roller, plain	6			6
Roller, rocking	6			6
Rope, footwalk			(⁶)	(⁶)
Stringer, button			14	14
Stringer, plain			28	28
Support, overhead bracing				
Transom, M2		5	⁷ 16	20

¹Five bays of SS nose construction.

²Six bearings used in roller layout also used in bridge assembly.

³Six sway braces from dismantled nose used for overhead bracing.

⁴One additional member used on construction transom.

⁵Panels from dismantled nose used in third-story construction.

⁶As required.

⁷One transom used from dismantled nose.

C-14

Chapter 1
Description

The Bridge Model, Training Aid Kit, Panel Bridge, M2 Bailey Type, on a 1 to 8 scale is a Department of the Army approved training aid. It is designed for use by instructors in bridging, and for demonstration and practical work by students in classroom instruction of 30 to 40 students. The model is not designed for use in capacity or physical tests. This equipment must be handled with care and the precautions described in Chapter 2, Operating Instructions, must be observed at all times. The kit, including chests, weighs 300 pounds and contains the following.

- Enough equipment to construct 10 bays (equivalent to 100 feet) of triple-single construction with launching nose.
- 9 bays (90 feet) of double-double construction.
- 6 bays (60 feet) of triple-triple construction.
- Enough additional equipment is supplied to construct 2 bays of ramp.

Lengths of the model bridges are restricted by the amount of equipment provided. Assembled model bridges have an overall width of 2 feet 6 inches without footwalks, and 3 feet 2 inches with footwalks.

Lengths of assembled model bridges vary from 1 foot 3 inches to 15 feet, and heights vary from 9 inches to 2 feet 3 inches. Figure 1 illustrates the 7 possible types of standard truss construction that can be used in assembling the bridge.

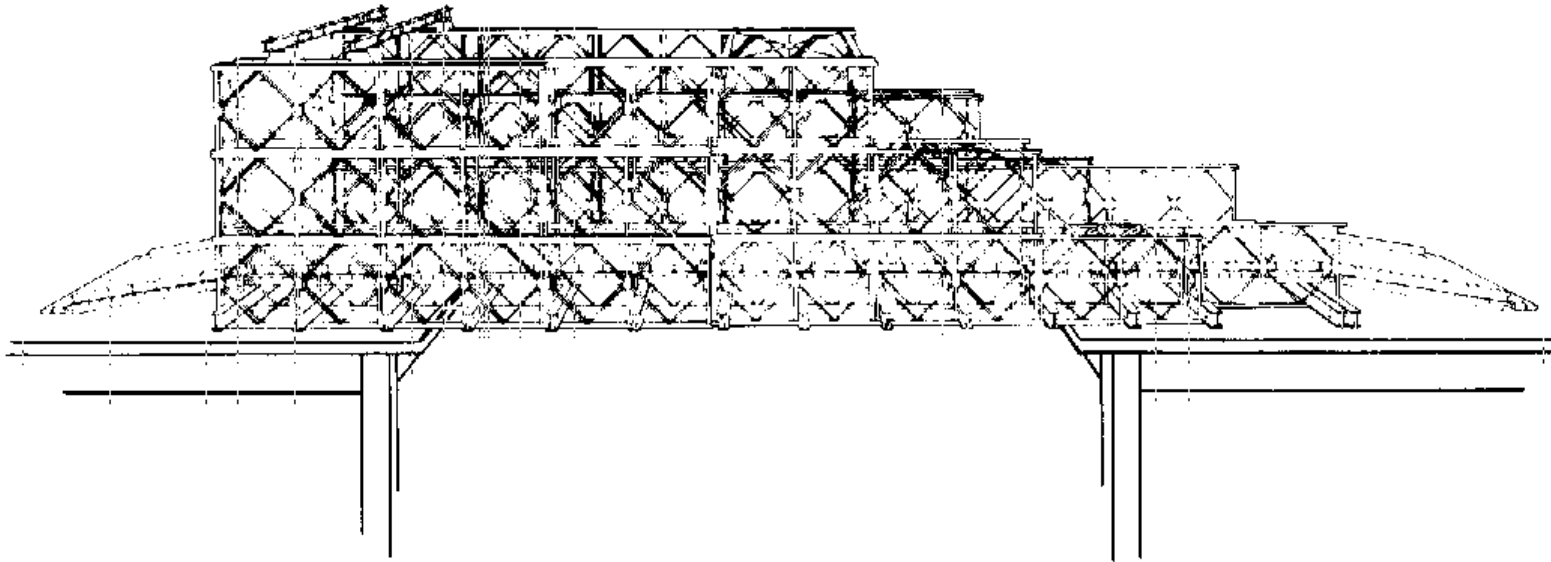


Figure 1. Types of standard truss construction (side view).

Text references

Review text references for second period; in addition, study section III, chapter 8 and section IV, chapter 9 in TM 5-277.

Procedure prior to conference

Instructor should procure the items listed in Aids Provided by Instructor of Appendix B, and arrange the work station as follows:

- **Work station.** Layout enough material to assemble and launch a 7-bay (70 foot) double-double (DD) bridge. In addition, enough material should be provided to convert four bays to double-triple (DT) construction (overhead bracing equipment included). See table 5 below for list of equipment required. Equipment should be laid out as shown in figures 5 and 5a.
- **Surplus equipment.** Component parts not required in layout of work stations should remain in their chests.

Table 5. Required Model Equipment for Construction of a 70-Foot Double-Double (DD) Bridge and Conversion of Four Bays to Double-Triple (DT)

Component	Roller layout	Nose construction	Bridge assembly ¹	Total requirements
Bearer, footwalk			30	30
Bearing	6		8	8
Bolt, bracing, long.....			58	58
Bolt, bracing, short.....		20	154	154

Table 4. Continued.

Component	Roller layout	Nose construction	Bridge assembly ¹	Total requirements
Riband.....			20	20
Roller, plain	6			6
Roller, rocking	6			6
Rope, footwear			(⁵)	(⁵)
Stringer, button.....			16	16
Stringer, plain.....			32	32
Transom.....		5	⁶ 18	22

¹Six bearings used in roller layout also used in bridge assembly.

²One additional member included for use on construction transom.

³Panels from dismantled nose used in adding second story to bridge.

⁴Assuming 4 interior bays converted to double story. Use 20 short panel pins if double-story conversion starts over either end bay.

⁵As required.

⁶One transom utilized from dismantled nose.

Third period

Divide the 3-hour period of instruction into two parts: the first 30 minutes for conference, the remaining 2 hours and 30 minutes for practical work.

Scope of instruction

Instruction includes erection of a double-double (DD) bridge and conversion of several spans to double-triple (DT) construction. Triple-story construction is desirable in order to illustrate use of overhead bracing.

C-12

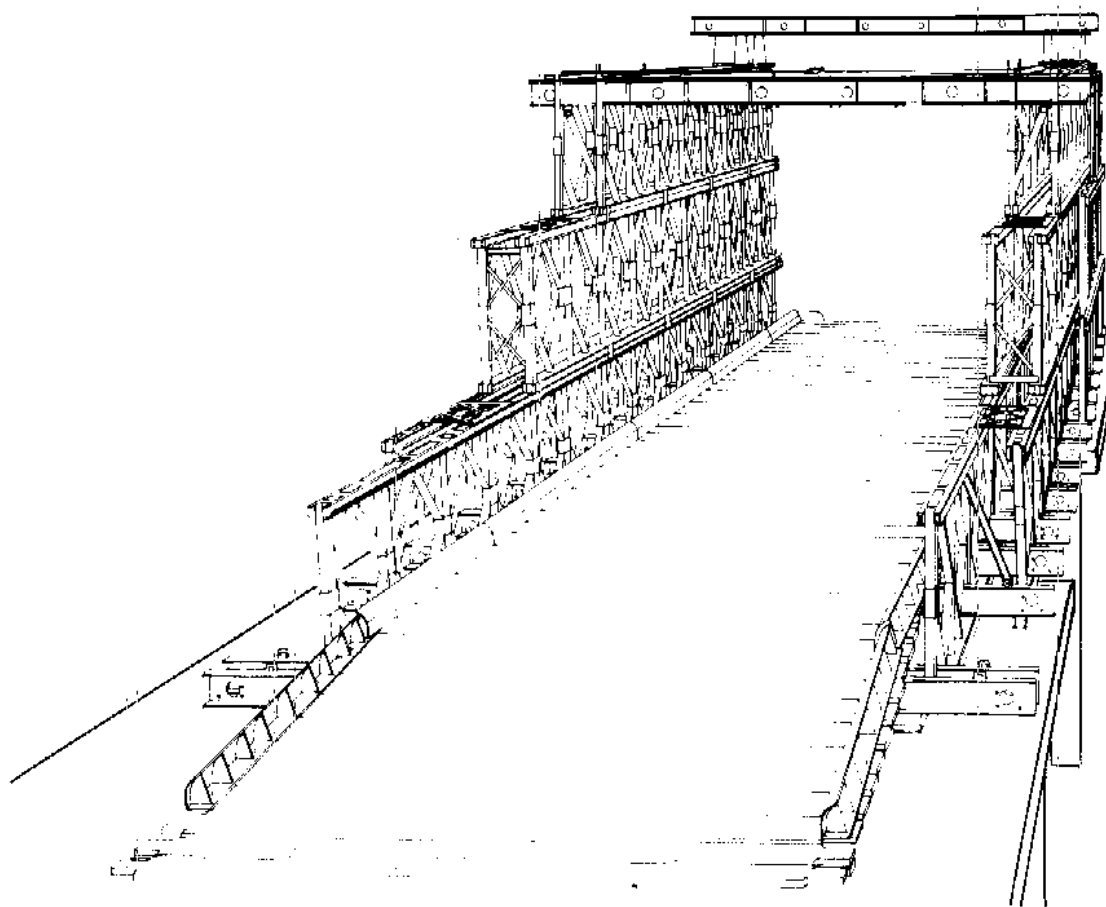


Figure 1a. Types of standard truss construction (end view).

Table 4. Required Midel Equipment for Construction of an 80-foot Triple-Single (TS) Bridge Conversion of Four Bays to Triple-Double (TD)

Component	Roller layout	Nose construction	Bridge assembly ¹	Total requirements
Bearer, footwalk	6		34	34
Bearing			¹ 8	8
Bolt, bracing, long.....			74	74
Bolt, bracing, short.....		20	114	134
Bolt, chord.....			48	48
Bolt, riband (with nut).....			80	80
Brace, sway.....		8	16	24
Chess.....			² 131	131
Clamp, transom.....		10	96	106
Footwalk.....			16	16
Frame, bracing			26	26
Link, launching nose.....		2		2
Nut, bracing bolt.....		20	188	208
Nut, chord belt.....			48	48
Panel.....		10	³ 72	72
Pin, panel, long.....		18	128	146
Pin panel, short			⁴ 16	16
Pin, safety		18	144	162
Plate, tie.....			24	24
Post, end, female			6	6
Post, end, male			6	6
Post, footwalk.....			34	34
Raker		10	18	28
Ramp, button.....			4	4
Ramp, plain.....			8	8

C-11

Table 1. Continued.

Nomenclature	Component parts	Storage in chest	
	Number per kit	Chest No.	Compartment
Pin, panel, long.....	² 210	3T	F
Pin, panel, short.....	² 60	3T	F
Pin, safety.....	² 270	3T	F
Pedestal, ramp	4	2B	N
Plate, tie	26	1T	K
Pliers, needle nose.....	3	2T	Q
Post, end, female.....	6	2B	B
Post, end, male.....	6	2B	C
Post, footwalk	40	2B	E
Raker.....	² 34	2B	G
Ramp, button.....	4	1B	C
Ramp, plain	8	1B	D
Riband (steel curb).....	24	2B	J
Roller, plain	12	1B	G
Roller, rocking	8	1B	H
Rope, footwalk.....	³ 1	2B	L
Screwdriver	3	2T	N
Stringer, button.....	20	1B	E
Stringer, plain	40	1B	F
Support, overhead bracing ...	12	3B	C
Transom, M2	28	3B	B
Wrench, open end, 5/16"	3	2T	O
Wrench, open end, 11/32"	3	2T	P

¹Chest designation also notes whether components are in tray "T" or bottom of chest "B"
Compartment letters refer to letters shown on schematic diagrams, figure 2.

²Include Spares.

³Ball.

Each bridge model kit is packed in three compartmented chests (fig. 2). The contents of each compartment are given in table 1.

Identifying colors. To aid the instructor in his presentation, one of each of the major component parts is painted an identifying color.

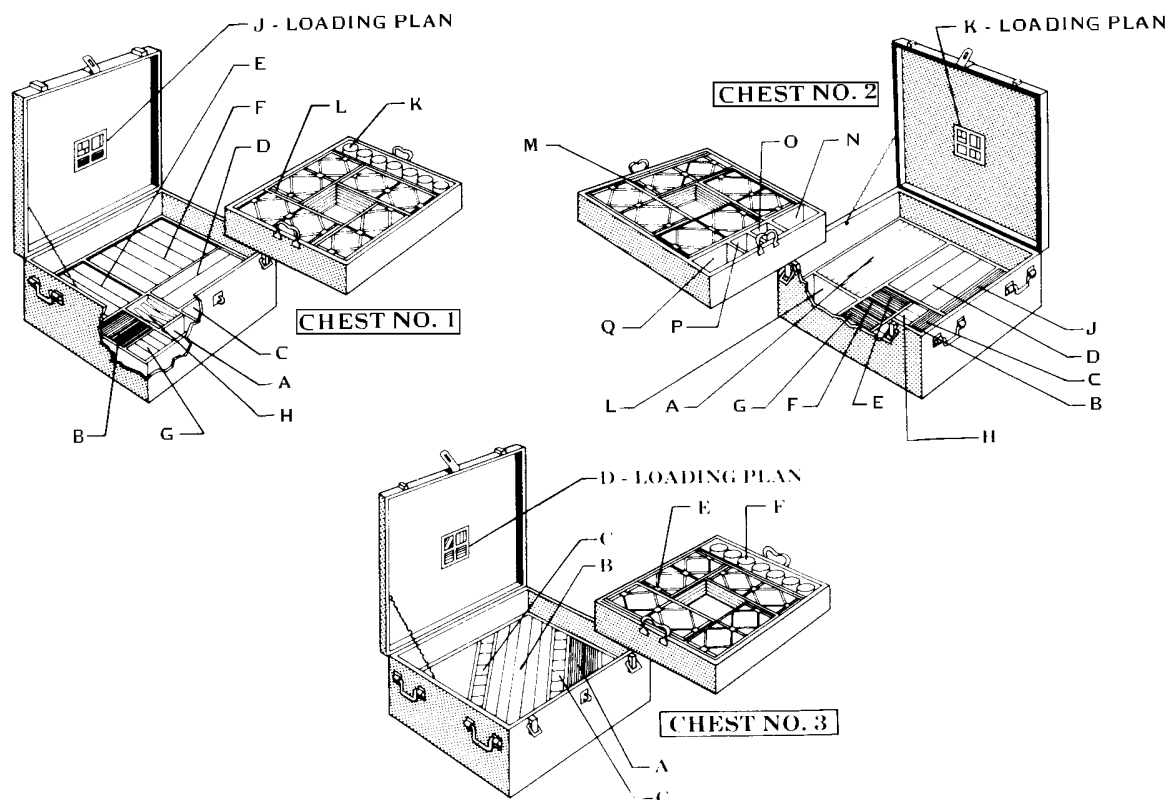


Figure 2. Schematic diagram of chests.
1-6

- **Work Station.** Lay out enough material to assemble and launch an 8-bay (80 foot) triple-single (TS) bridge. In addition, enough material should be provided to convert four bays of the bridge to triple-double (TD). See table 4 for list of required equipment. Equipment should be laid out as shown in figures 5 and 5a.
- **Surplus equipment.** Component parts not required for layout of work station should remain in their chests.

Conference

Refer to First Period, Conference suggestions for Introduction to Lesson, also Erection.

Practical work

Students are divided into crews (use information in table IV-2, chapter 4, TM 5-277, as a guide) and move to bridge-erection site. Have students lay out rollers, and assemble and launch the triple-single (TS) bridge. After bridge is launched, have four bays converted to triple-double (TD) construction.

Hold a critique and have students disassemble bridge and replace equipment in chests. If possible, assign students to a different crew or job for disassembly.

When each group has completed its work, hold a critique and have students disassemble the bridge and replace equipment in chests. If possible, assign students to a different crew or job for disassembly.

Second Period

Divide the 3-hour period of instruction into two parts: the first 20 minutes for conference (review), the remaining 2 hours and 40 minutes for practical work.

Scope of instruction

Instruction should cover erection of a triple-single (TS) bridge and conversion of several bays to triple-double (TD) construction.

Text references

Review text assignment in TM 5-277 for first period of instruction; in addition, study sections III of chapter 7 and IV of chapter 8.

Procedure prior to conference

The instructor should procure the items described in Aids Provided by Instructor of Appendix B. Arrange the student work stations as follows:

C-9

Chapter 2 Operating Instructions

The bridge model kit can be used for instruction in all phases of M2 Bailey bridge construction. It can also be used for instruction in demolition of the equipment, both in place and stockpiled. A suggested method of instruction for bridge construction is given in Appendix C.

Assembling and handling precautions

To avoid damage to the bridge model kit, the following precautions must be observed in assembling and handling this equipment.

- *The miniature bridge parts are very serviceable for their intended use, but may be damaged by rough handling or abuse. These parts are made of aluminum, wood, or flexible plastic. Handle, assemble, and disassemble the parts carefully and replace them in their proper compartments in the chest.*
- *All fabricated parts are manufactured with appropriate tolerances for simple, easy assembly. Use fasteners, pins, bolts, and clamps for their intended purposes only. In assembly, align holes correctly so that they do not require forcing. Do NOT under any circumstances, drive the pins, bolts, or clamps into the holes.*

2-1

- *Riband bolts are relatively weak. If a wrench is used, do NOT exert pressure when tightening.*
- **DO NOT APPLY TEST LOADS TO THE BRIDGE.** *Load tests applied to assembled model bridges may damage members and connectors.*
- *When removing and replacing parts in the chest, do so gently. Proper placement of parts in the trays, and trays in the chests, permits easy fitting and closing. Under no circumstances are the chest lids to be forced closed.*

Operation details

The Bridge Model Kit, Training Aid, Panel Bridge, M2 Bailey Type is primarily to be used for instruction on the basic assembly of the bridge. It may also be useful for illustrating the engineer missions in an overall operation requiring any one form of assembly of the bridge components. Appendix C describes and illustrates assemblies which may be demonstrated with this bridge kit.

In considering how to make use of the model, so that the class will obtain the greatest instructional value from it, the following factors should be kept in mind:

- *Specific subject matter of the lecture.*
- *Number of students.*

2-2

- **Nomenclature.** Using the colored components of the model, question or lecture students on nomenclature. If students are to be lectured on nomenclature, chapter 2, TM-5-277, should be used to provide a close-up view of individual parts.
- **Erection.** Explain construction steps outlined in pertinent section of TM 5-277. Adapt procedure for roller layout to the model by using blocks and tape as indicated in figure 5. Normally, equipment used in the model nose construction will have to be incorporated into the bridge proper, which requires launching as assembly progresses. Sag in launching the model is proportionately less than sag in the bridge proper. However, in calculating the number of launching links, assume that sag is proportionate to the bridge proper.

Practical work

Divide students into two groups and have them assemble at their assigned work stations. At each station, divide students into crews, using table IV-2, chapter 4, TM 5-277, as a guide. At each station, have students lay out the rollers, and assemble and launch the bridge specific for their station. Crews shown in the above table that are not required for model erection should not be provided.

C-8

Component	Roller layout	Nose construction	Bridge assembly ¹	Total requirements
Riband.....		3	12	12
Roller, plain	⁵ 6			6
Roller, rocking	2			2
Rope, footwear			(⁶)	(⁶)
Stringer, button.....			10	10
Stringer, plain.....			² 20	20
Transom.....			⁷ 12	14

¹One 10-foot ramp on end only. Footwalk on one side only.

²Requirements reduced by 50 percent because of shortage of equipment. Bearings used in roller layout also used in bridge assembly.

³Requirement reduced by 2 because of limited number available. Bridge can be assembled and launched with a total of 12.

⁴One additional member used on construction transom.

⁵Construction rollers (near blank) also used on far bank as landing rollers.

⁶As required.

⁷One transom used form dismantled nose.

Conference

- **Introduction to lesson.** Point out that erection of this model is typical of actual field erection of the bridge. In field construction, many variations in length, launching difficulties, and types of structures occur. The capacities of various types of bridges, traffic control, and maintenance procedures must also be included in this introduction.

C-7

- *Working space available.*
- *Time allotted.*
- *Number of participating instructors.*
- *Available training films and film strips.*
- *Reference materials.*

The instructor should carefully organize the period of instruction, using the hints in Appendix B and adopting a procedure of instruction similar to that outlined in Appendix C. Realistic simulated bridge sites, proper division of students into working groups, and facilities for group work stations will do much to insure the success of the instruction. This requires careful preplanning. TM 5-277 (Bailey Bridge) will be a valuable guide for the class in adapting the model erection procedures to the actual full-size Bailey bridge equipment. The instructors must be entirely familiar with TM-5-277 to enable them to compare each component of the model to the corresponding full-scale bridge component.

Erection of the model

The instructor must adapt the model kit to best illustrate a given course of instruction. In general, the step-by-step procedures should be the same as those used in assembly of the actual bridge. The instructor will use the following outline as a guide to his presentation:

Preparatory information

- *Site and approach problems.*
- *Factors affecting type, method, and direction of assembly.*
- *Types of approaches and development of shore connections.*
- *Type of span suited to specific conditions.*
- *Appropriate use of film, film strips, and references.*
- *Demolition measures.*

Erection procedures

- *Description of model to be assembled for a specific lecture.*
- *Direct comparison to actual bridge.*
- *Description of individual parts and their nomenclature.*
- *Pertinent review of TM 5-277.*
- *Standard methods of assembly.*

Table 3. Required Model for Construction of a 50-Foot Double-Single (DS) Bridge

Component	Roller layout	Nose construction	Bridge assembly ¹	Total requirements
Bearer, footwalk			11	11
Bearing	2		² 4	4
Bolt, bracing, long.....			42	42
Bolt, bracing, short.....		12	22	34
Bolt, riband			48	48
Brace, sway.....		4	³ 8	12
Chess.....			⁴ 79	79
Clamp, transom		6	44	50
Footwalk.....			5	5
Frame, bracing			10	10
Nut, bracing bolt		12	64	76
Panel.....		6	20	26
Pin, panel, long.....		8	48	56
Pin, safety		8	48	56
Post, end, female			4	4
Post, end, male			4	4
Post, footwalk.....			11	11
Raker		6	12	18
Ramp, button.....			2	2
Ramp, plain.....			4	4

Left side view showing equipment
Laid out on an elevated platform.

Step 2.

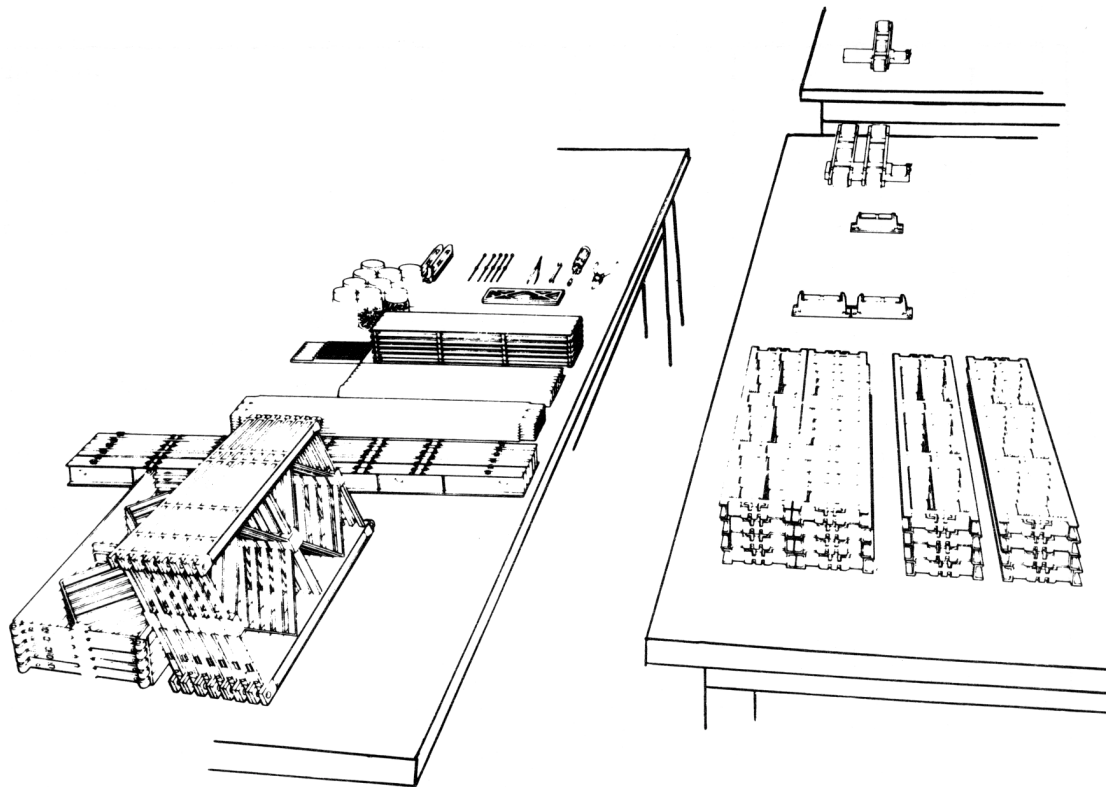


Figure 5a.

C-5

- *Truss configurations to meet class load requirements.*
- *When the model fails to incorporate all steps pertinent to actual assembly, the instructor should fill the gaps with lecture material.*

Tools and equipment

- *Description and explanation on use of tools, pins, and fasteners.*
- *Discussion on care of tools and parts.*
- *Indication of differences between model and actual, to include the following:*
 - *Simulated bolts and spring clips.*
 - *Lugs and built-up section for simulating.*
- *Emphasis on repacking instructions.*

Setup for work tables and classroom

- *Preparations for setting up the model.*
- *Division of class into work group with responsible instructors.*
- *Designation of work group stations.*

Roller and equipment layout on bridge assembly and landing surfaces.

Step 1.

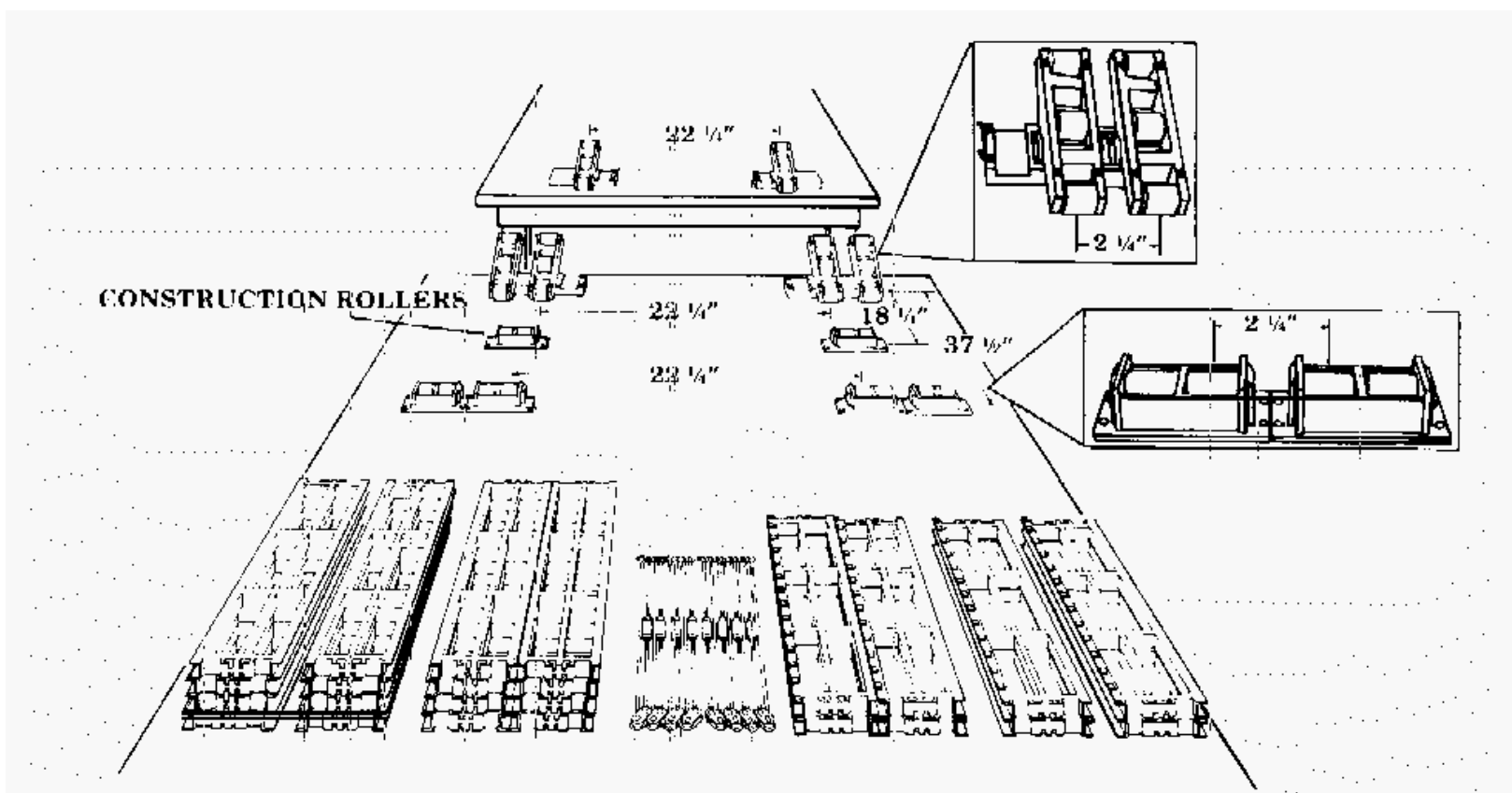


Figure 5. Layout of rollers and equipment for model bridge erection.

Table 2. Required Model Equipment for Construction of a 50-Foot Single Single Bridge.

Component	Roller layout	Nose construction	Bridge assembly ¹	Total requirements
Bearer, footwalk			22	22
Bearing	2		² 4	4
Bolt, bracing, long.....			2	2
Bolt, bracing, short.....		12	22	34
Bolt, riband (with nut).....			48	48
Brace, sway, M2.....		4	10	14
Chess, M2.....			³ 79	79
Clamp, transom.....		6	22	28
Footwalk.....			10	10
Nut, bracing bolt		12	24	36
Panel.....		6	10	16
Pin, panel, long.....		8	24	32
Pin, safety		8	24	32
Post, end, female			2	2
Post, end, male			2	2
Post, footwalk.....			22	22
Raker		6	12	18
Ramp, button.....			2	2
Ramp, plain.....			4	4
Riband (steel curb)			12	12
Roller, plain				4
Roller, rocking	⁴ 4			2
Rope, footwear	2		(⁵)	(⁵)
Stringer, button.....			10	10
Stringer, plain.....			20	20
Transom, M2.....		3	⁶ 12	14

¹One 10-foot ramp on one end only.

²Bearings used for roller layout also used in bridge assembly.

³One additional member used on construction transom.

⁴Construction rollers (near-bank) also used on far bank as landing rollers.

⁵As required.

⁶One transom used from dismantled nose.

Chapter 3
Maintenance Instructions

Maintenance instructions for agency assigned kit

Chests must be stored in a cool, dry place away from radiators or other heating devices. Interior and exterior of chests and individual parts must be painted and kept in good repair. CAUTION: Do NOT paint threaded portion of fasteners. Maintain a continuous check of chest contents. See figure 2 and table 1 for proper placement in the chests. Issue necessary instructions to prevent rough handling of chests and component parts.

Maintenance instructions for personnel using kit

Chests must be stored in a cool, dry place away from radiators or other heating devices. At all times, handle chests and components with care, and keep components clean.

After use, see that all items are replaced in proper compartments as shown on the charts inside the lid of each chest. Be **especially careful** with tools and fasteners; they are small and easily lost or misplaced.

Report any lost, damaged, or destroyed parts to the agency to whom the model is assigned.

Replacement and repair

Replacement parts may be obtained through local TASCs.

3-2

Procedure prior to conference

The instructor should procure the items discussed in Aids Provided by Instructor of Appendix B, and arrange the platform and two work stations as follows:

- **Platform.** Construct display section of DS bridge on display board as shown in figure 3 (colored model component parts are used in assembly).
- **Station 1.** Lay out enough material to assemble and launch a 5-bay (50 foot) single-single (SS) bridge. See table 2 for list of required equipment and figures 5 and 5a for layout of equipment at the site. Roller layout is to be used only as a guide, since actual layout should be done by the students.
- **Station 2.** Lay out enough material to assemble and launch a 5-bay (50 foot) double-single (DS) bridge. See table 3 for list of required equipment and figures 5 and 5a for a layout of equipment at the site. Roller layout should be done by the students.
- **Surplus equipment.** Component parts not required for layout of equipment at stations 1 and 2 should not be removed from their chests.

C-2

Suggested Method Of Instruction

A suggested method of using the model kit to good advantage follows. Divide the instruction into three periods, each at least 3 hours long. The first period should cover nomenclature and basic construction; the second and third periods, advanced construction.

First Period

Divide the 3-hour period of instruction into two parts: the first hour for conference; the second and third hours for practical work.

Scope of Instruction

Instruction covers nomenclature of component parts and erection of a single-single (SS) and double-single (DS) bridge.

Text references

TM 5-277, chapters 1,2,4,6, and 7.

C-1

Appendix A References

1. TECHNICAL MANUALS (TM)

TM 5-210	Military Floating Bridge Equipment
TM 5-277	Bailey Bridge

2. FIELD MANUALS (FM)

FM 5-34	Engineer Field Data
FM 21-6	How to Prepare and Conduct Military Training
FM 21-30	Military Symbols

3. ADMINISTRATIVE REGULATIONS (AR)

AR 310-25	Dictionary of United States Army Terms
AR 310-50	Authorized Abbreviations and Brevity Codes

4. DEPARTMENT OF THE ARMY PAMPHLETS (DA Pams)

DA Pam 108-1	Index of Army Motion Pictures, and Related Audi-Visual Aids
DA Pam 310-Series	Index of Administrative Publications Series
DA Pam 310-12	Index and Description of Army Training Devices

A-1

5. TRAINING EXTENSION COURSE LESSONS (TEC)

030-051-6442-F	Introduction and Construction Crews
030-051-6443-F	Double and Single Bailey Bridge Site Layout, Pt I
030-051-6444-F	Double and Single Bailey Bridge Site Layout, Pt II
030-051-6445-F	Double and Single Bailey Bridge Assembly Initial Launching Nose Bay
030-051-6446-F	Double and Single Bailey Bridge Assembly Bays 2 through 5 of Launching Nose
030-051-6447-F	Double and Single Bailey Bridge Assembly Bridge Bays, Pt I
030-051-6448-F	Assemble Bridge Bays, Pt II
030-051-6449-F	Jacking Down Near-Bank Bridge End
030-051-6450-F	Jacking Down Far-Bank Bridge End
030-051-6451-F	Site Layout
030-051-6452-F	Bridge Assembly, Pt I
030-051-6453-F	Bridge Assembly, Pt II
030-051-6454-F	Bridge Assembly, Pt III

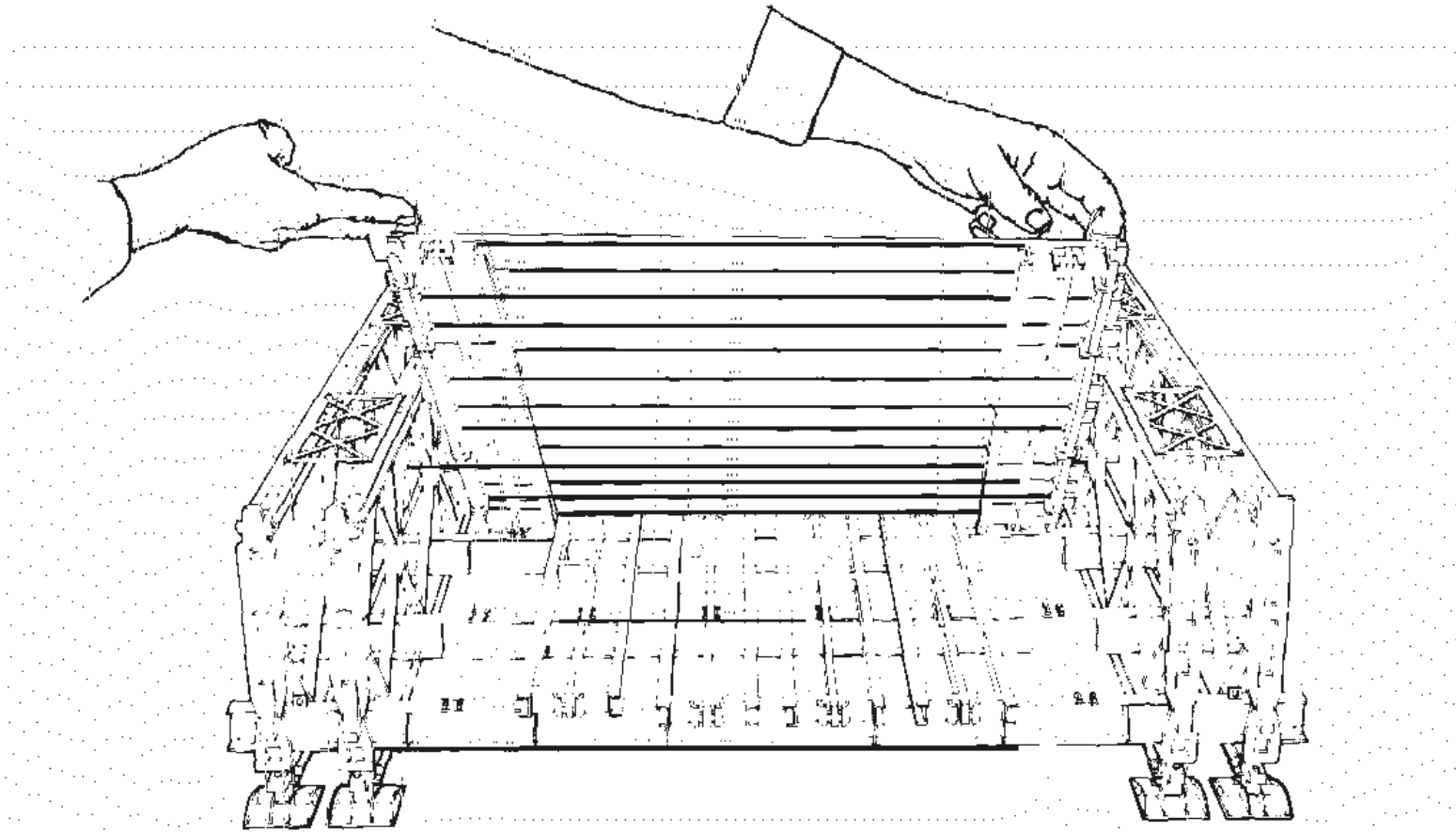


Figure 4d.

B-9

Appendix B
Hints To The Instructor

Aids provided by instructor

Simulated bridge sites

Provide tables or other suitable raised surfaces to simulate the near- and far-bank of an actual bridge site. The near-bank area should allow for layout of rollers and equipment, and bridge assembly and launching; the far-bank area should allow for bridge landing and disassembly of nose. The gap between near- and far-bank will depend on the length of bridge to be erected. The dimensions of the assembly surface provided for the near-bank should be about 3½ feet by 6 feet, and for the landing and disassembly surface on the far bank about 3½ feet by 3½ feet.

B-1

Display board

When basic instruction is conducted from a platform, it is desirable to display a section of the model at an angle. This can be done by using a board as illustrated in figure 3. A 32-inch by 36-inch board permits the use of two spans. Steps are placed on the board to prevent the model section from sliding, and on the support to prevent the board from sliding when it is raised.

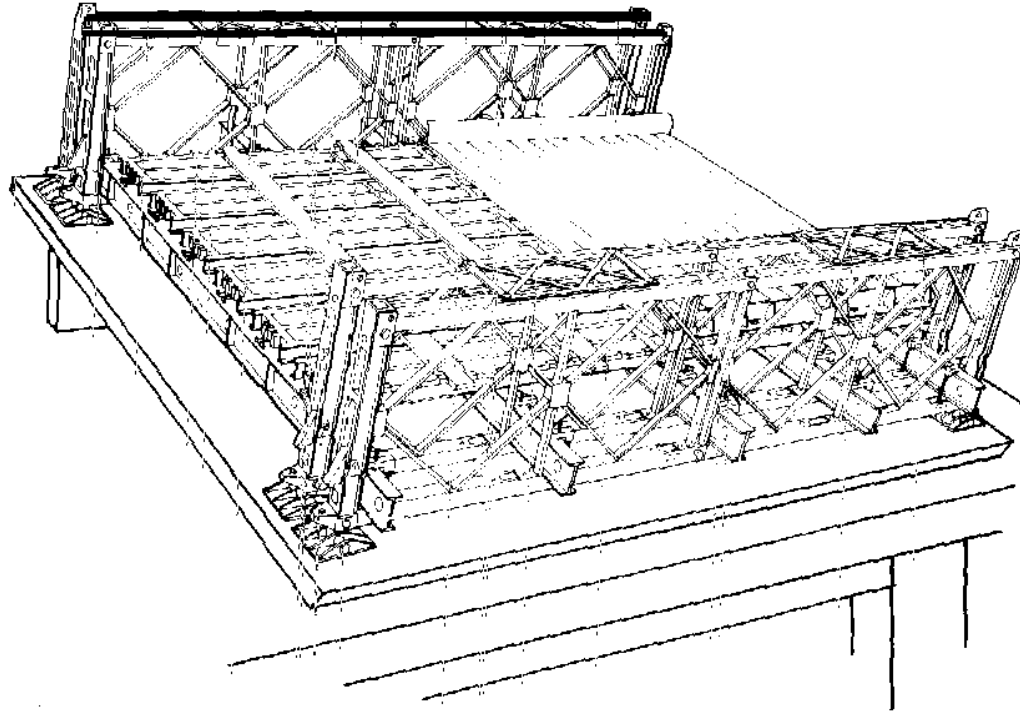


Figure 3. Section of double-single (DS) model bridge on display board.

B-2

Completed Section.

Step 4.

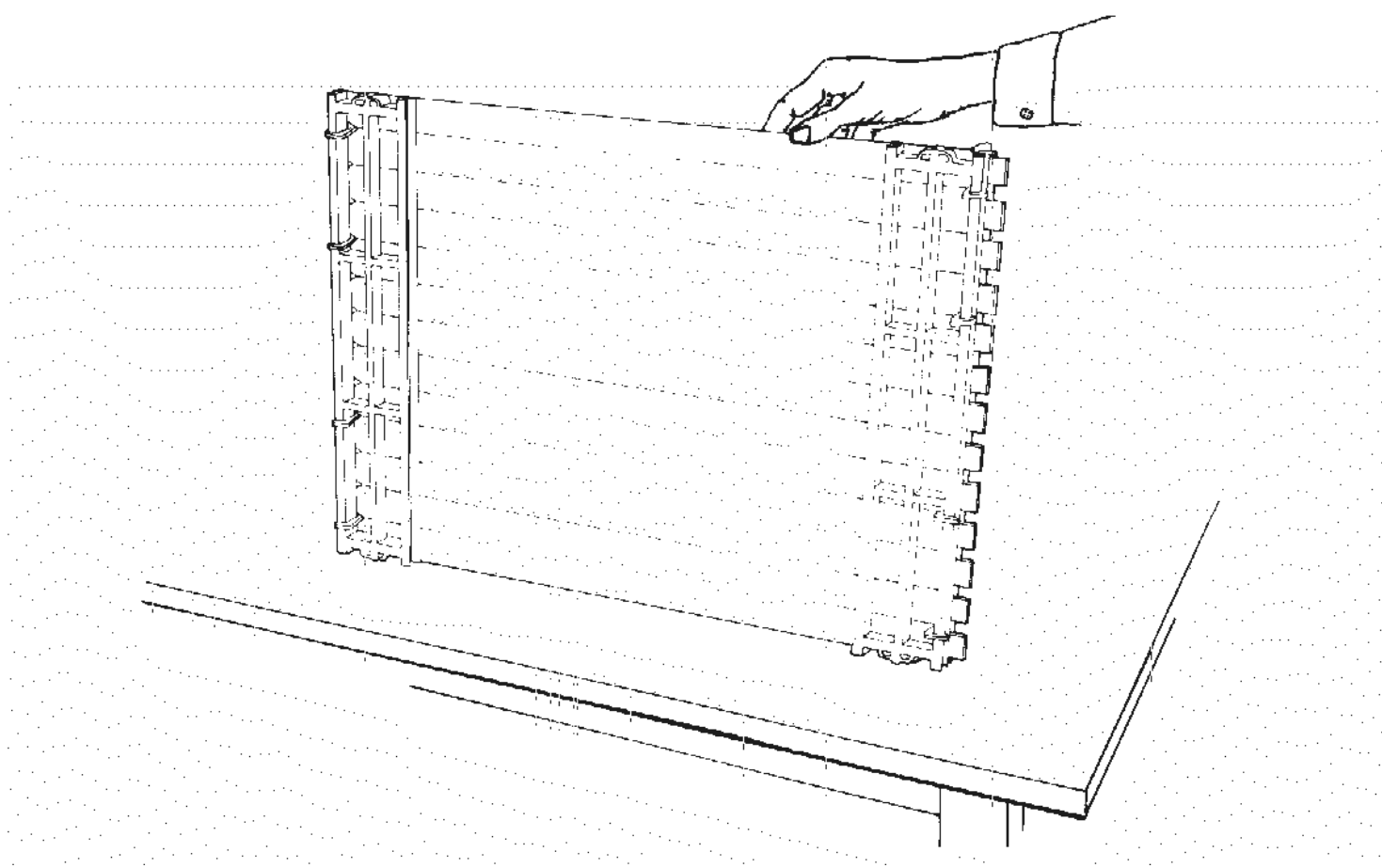


Figure 4c.

B-8

Insert riband bolts; turn section around,
position curb, and repeat process.

Step 3.

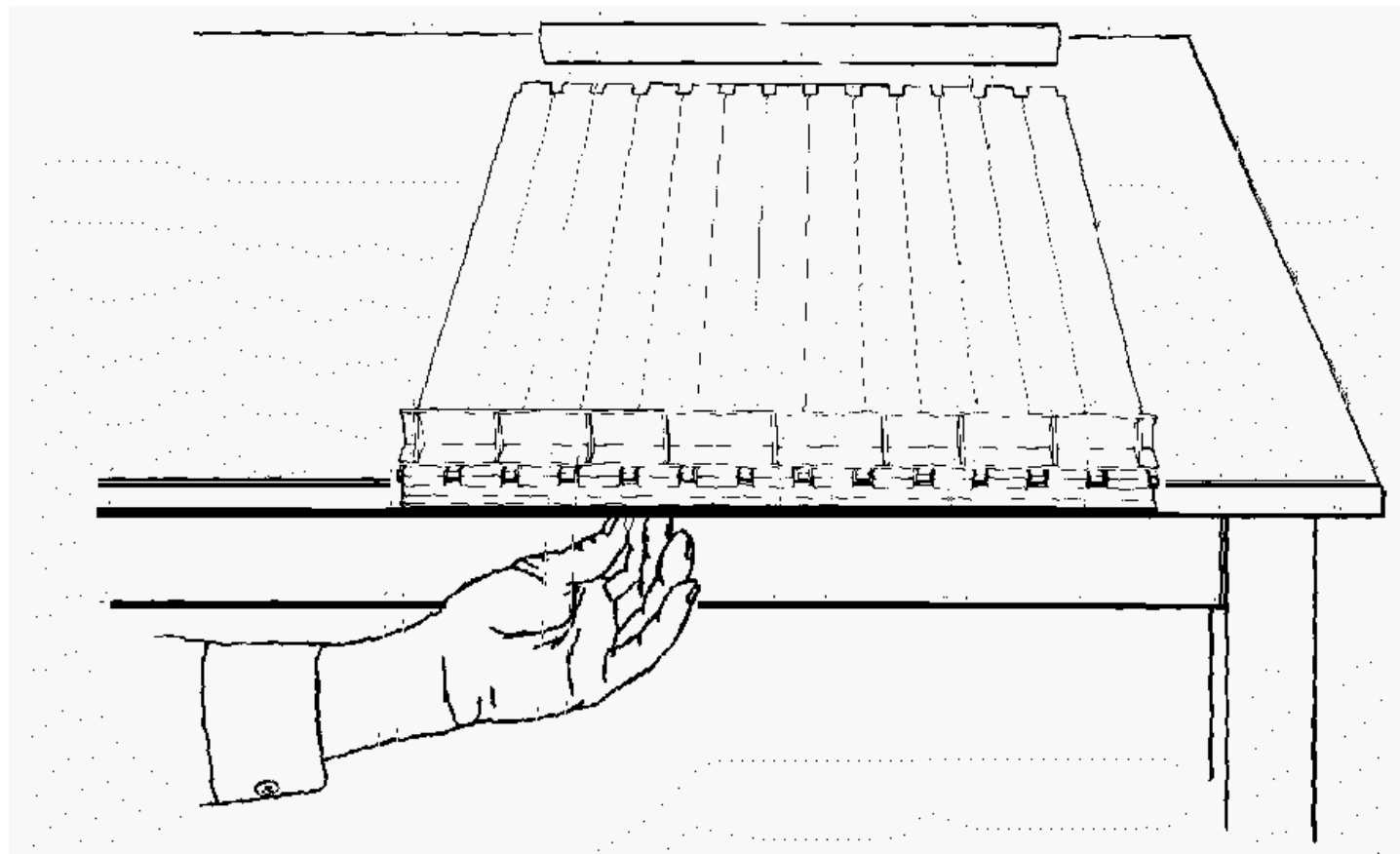


Figure 4b.

B-7

Reference manuals for students

For students to follow the instruction in nomenclature, layout of site, and erection procedures, at least one copy of TM 5-277 (Bailey Bridge) should be provided for every two students.

Simulated grillage

Secure small blocks suitable for providing the correct height for layout of the rollers. Adhesive tape and thumb tacks are desirable for fastening blocks to the work surface, and bearings and plain rollers to the blocks.

Miscellaneous

Full-scale items of the bridge, if available, can be used to supplement nomenclature instruction of model component parts.

Construction hints

These points should be brought to the students attention before beginning practical work.

The following components are difficult to place in position because of restricted space. A suitable method of reducing these difficulties should be adopted before the class begins.

- *Tie plates.*
- *Safety pins (difficult to insert on the lower pin in the outer truss of each story of triple-truss construction).*
- *Riband bolts. A suggested method of inserting these bolts is shown in figures 4 through 4d. This procedure is not necessary in assembly of the actual bridge.*

Remember that panels are placed with transom lugs down except when **expedient** overhead bracing is used in triple-story bridges. Third-story panels are then placed with transom lugs up.

Use long-bracing bolts to fasten bracing frames to top chords of panels, rakers to end post, and tie plates to end post. Use short bracing bolts to fasten bracing frames, rakers, and tie plates to vertical uprights of panels and to fasten rakers to tansoms. The use of long- and short-bracing bolts is required due to the construction of the model; however, the actual Panel Bridge, M2 Bailey Type, employs one length of bolt only.

B-4

Place deck and curb

Step 2.

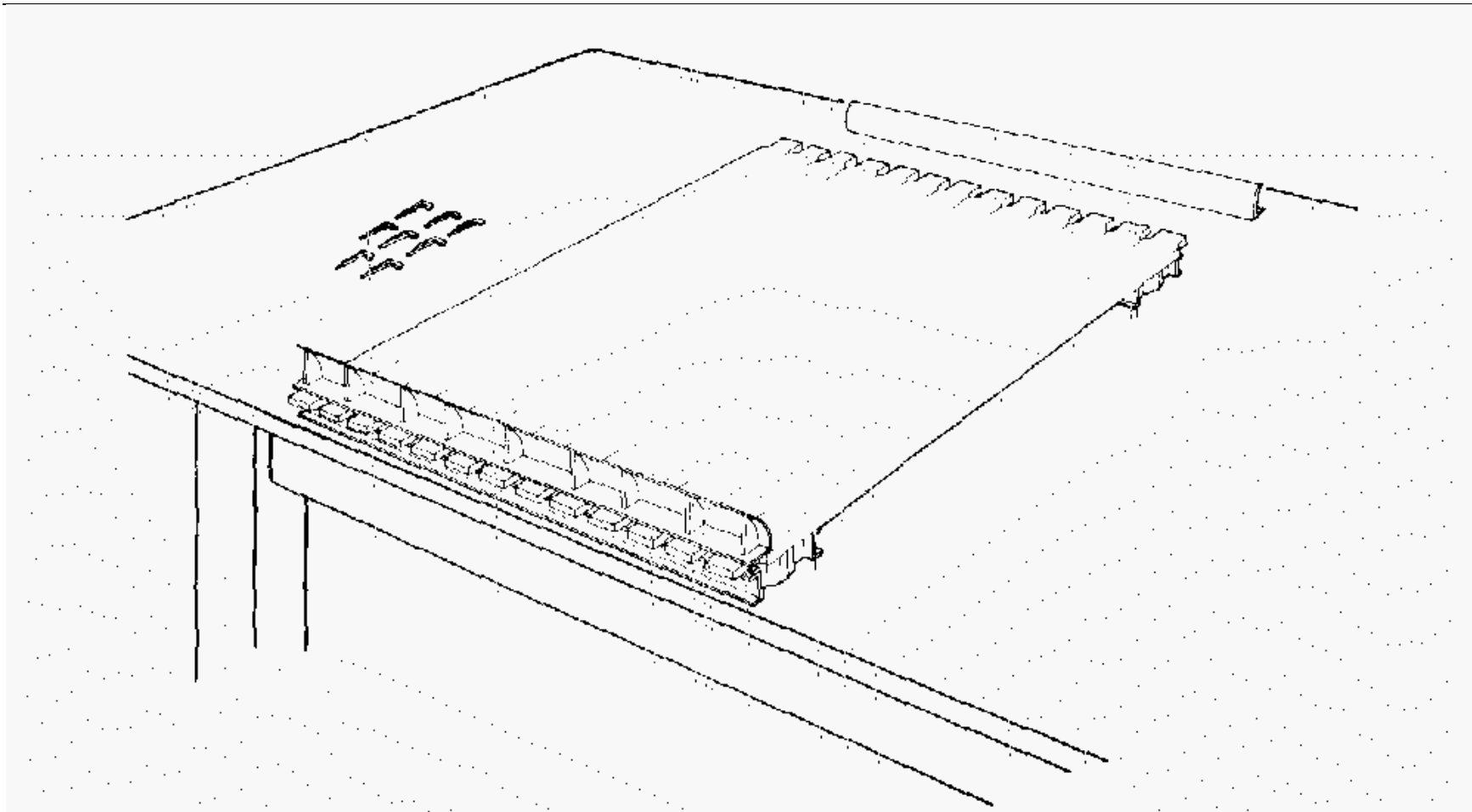


Figure 4a.

B-6

Position the button as shown.

Step 1.

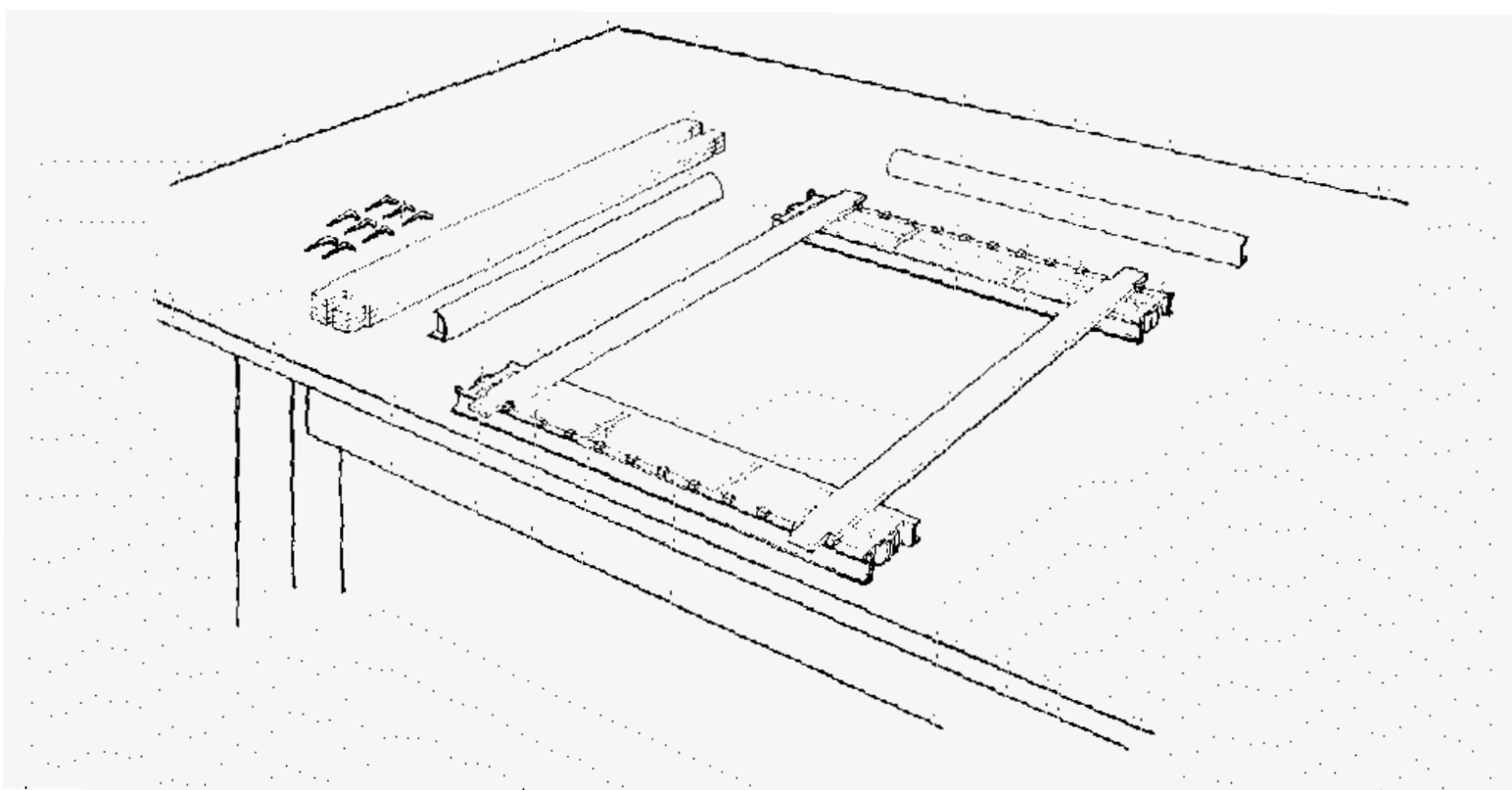


Figure 4. Suggested method of inserting riband bolts.