

55 ton PANEL SIDED HOPPER

Kit #4029

Era: 1933 to early 1970's



USRA DESIGN, AS MODIFIED WITH PRESSED STEEL SIDES

INTRODUCTION

The USRA "standard" design 55 ton hopper was one of the most popular pieces of rolling stock ever introduced to American railroading. To meet the post 1930 demand for increased capacity, the UNION METAL PRODUCTS COMPANY, in association with STANDARD STEEL RAILWAY EQUIPMENT MANUFACTURING COMPANY, introduced a retrofit "kit" of pressed steel "blister" sides designed to replace the flat side panels of existing hoppers.

This modification increased the capacity of these popular cars by sixty cubic feet. An interesting feature is the taper on the top of the panels, allowing use on rotary dumpers without packing the coal load into the car. When rebuilt, most of the cars were also equipped with AB brakes, improved trucks and AJAX power handbrakes, making them a modern and up-to-date piece of rolling stock.

The USRA design 55 ton hopper, originating in 1918 (available from TICHY TRAIN GROUP, kit #4027), thus saw extensive and long-lived service on almost all major railroads.

PLEASE READ BEFORE ASSEMBLY

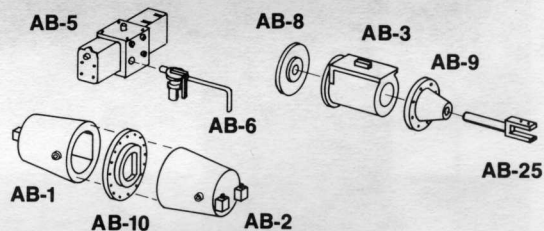
Each 'sprue', or group of parts, has an identification number and letter molded adjacent to the part. Example, A-3. Each part is attached to the sprue by a small 'gate' — when removing a part cut close to the sprue, then carefully trim the gate flush to the part. Do not twist the part off, and remove the part only when called for in the instructions to avoid confusion.

We recommend only "liquid cement for plastics" for assembly. Use ACC for plastic to metal joints. Test fit each part to see where cement should be applied, then do so with a small pointed brush, allowing cement to draw into joint by capillary action. Tack larger parts first for position, then flow cement into joint. Tacking can be compared to 'spot welding'. Be careful not to allow cement to flow under your fingertips.

Clean your workspace before starting, provide adequate lighting and work over a clean sheet of white paper for contrast. And remember — the most common problem is tipping over the cement bottle.

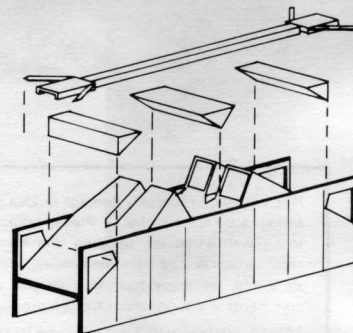
1 BRAKE COMPONENTS

- 1) Assemble **AIR TANK**, noting locator flat on center flange.
- 2) Assemble **BRAKE CYLINDER**, using only components indicated. Insert, but do not cement **CLEVIS** in place at this time. Drill cylinder head #80 for air line.
- 3) Drill **TRIPLE VALVE** #80 for piping.



2 GENERAL ASSEMBLY

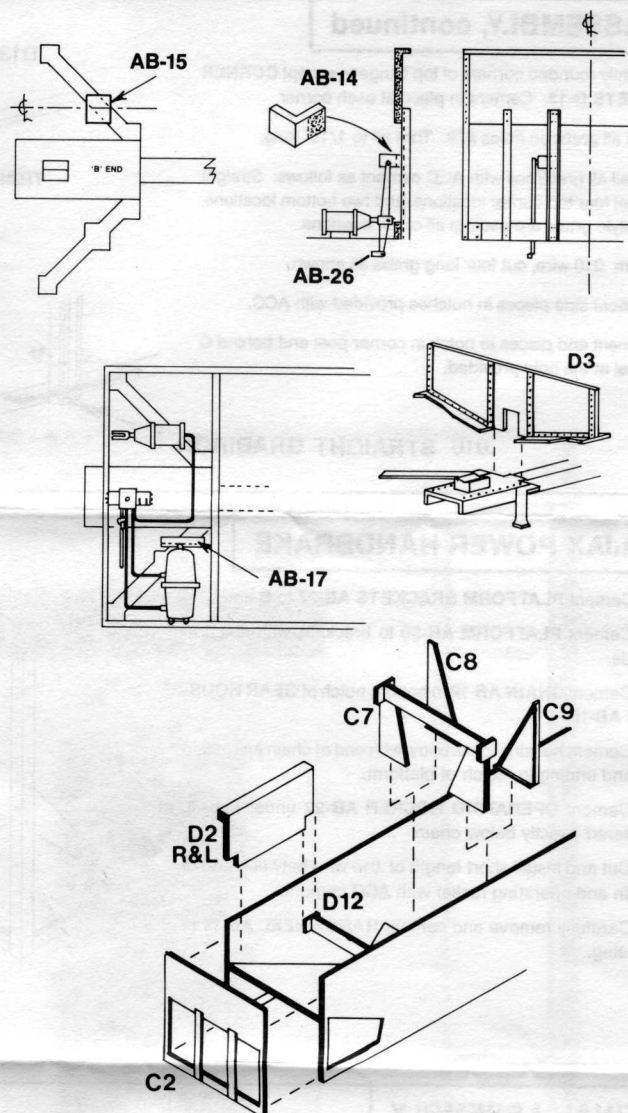
- 1) Test fit **FRAME** to **BODY** — fit should be firm, but not tight. Relieve with a flat file if necessary. **DO NOT CEMENT.**
- 2) Clean **WEIGHTS** with a coarse flat file; cement in place with ACC. Note scribed locator lines for position of the two end weights. **NOTE: Do not cement ends or frame at this time.**



ASSEMBLY, continued

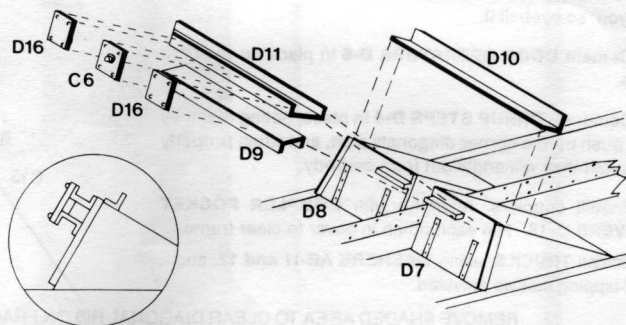
The AB shot (available separately, #3013) contains numerous parts suitable for many applications—only certain parts are required for this kit, and are specified below.

- 3) Cement **BRAKE CYLINDER PAD AB-15** to diagonal rib on B end of frame, locating pad so that brake cylinder is positioned as shown.
- 4) Carefully remove **END C-2**, trim with a fine flat file until proper fit is achieved. Cement **BRAKE LEVER PIVOT BRACKET AB-14** to inside of main vertical channel of end, located as shown. Cement end in place. Ends fit BETWEEN sides, with poling pocket overlapping sides. Be patient, as the end is delicate. There will be a small square notch resulting at the top corners, to be covered later with parts D13.
- 5) Cement opposite **END C-1** in place at this time.
- 6) Lightly file top surface of **BOLSTERS D-3** to match angle of slope sheet. Test fit to both frame and carbody; cement to frame.
- 7) Carefully cement frame in place.
- 8) Cement air tank **MOUNTING CHANNEL AB-17** to single lug end of **AIR TANK**.
- 9) Cement **AIR TANK** to frame and side-sill as shown.
- 10) Bend end of **DIRT COLLECTOR/BRANCH LINE PIPE** 90 degrees; cement dirt collector to triple valve.
- 11) Cement **TRIPLE VALVE** to raised pad at center of coupler pocket, with piping holes facing air tank.
- 12) Install piping to suit.
- 13) Cement **BRAKE LEVER AB-26** between clevis and pivot bracket.
- 14) File ends of **CROSSBRACE C-7** to be an easy fit between sides; cement in place. You may optionally choose the **LARGE GUSSETS C-8** and **C-9**.
- 15) Remove two **END BRACE LOCATORS D-2** from sprue. Trim ends of **END BRACES D-12** to fit, and install as shown. **DO NOT** cement locators to carbody!



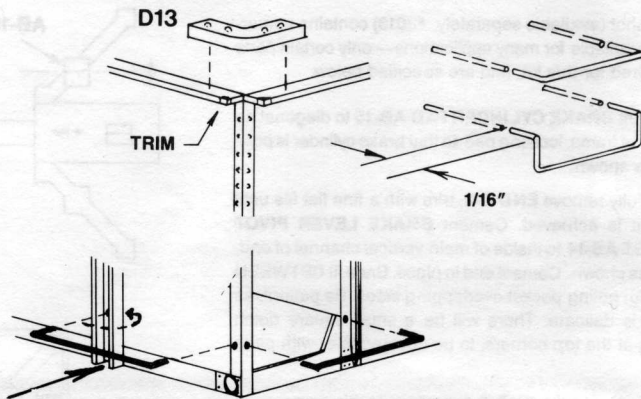
3 DOOR DETAIL

- 1) Cement **DOORS D-7 and D-8** in place, making sure the raised tab is in line.
- 2) Cement **SHORT CHANNEL D-9** in place.
- 3) Cement **LONG CHANNEL D-11** in place.
- 4) Cement **LONG ANGLE D-10** in place.
- 5) Cement two **PLATES D-16** in place as shown.
- 6) Cement one **PLATE C-6** in place at the center as shown.
- 7) Remove **SUPPORT STANDS D-1**, press into each truck bolster hole. It may be necessary to knurl or deform the post slightly to achieve a tight fit. The stands will provide a place to rest the car as we proceed with final details.



4 ASSEMBLY, continued

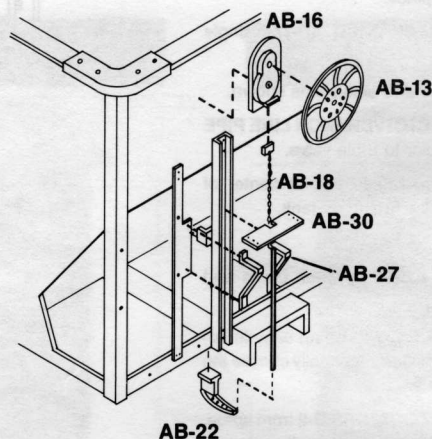
- 1) Slightly rounded corners of top flange to accept **CORNER GUSSETS D-13**. Cement in place at each corner.
- 2) Drill all grabiron holes #79. Trim all to 1/16" long.
- 3) Install all grabirons with ACC cement as follows: Straight grabs at four top corner locations, and two bottom locations. Drop style grabs are used at all other locations.
- 4) From .010 wire, cut four long grabs as shown.
- 5) Cement side pieces in notches provided with ACC.
- 6) Cement end pieces to notch in corner post and behind C channel at the hole provided.



.010 STRAIGHT GRABIRON

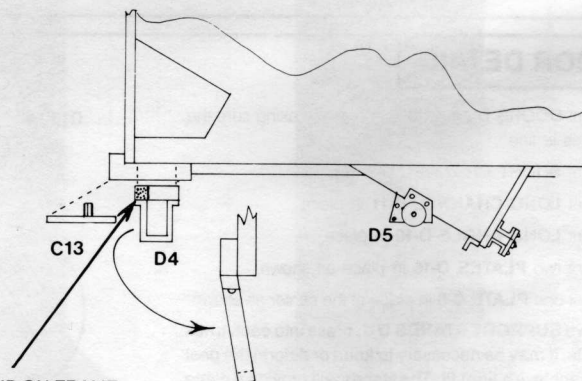
5 AJAX POWER HANDBRAKE

- 1) Cement **PLATFORM BRACKETS AB-27** to B end.
- 2) Cement **PLATFORM AB-30** to brackets, with notch to inside.
- 3) Cement **CHAIN AB-18** to bottom notch of **GEAR HOUSING AB-16**.
- 4) Cement housing to carbody, with end of chain just inside of, and ending in, notch of platform.
- 5) Cement **OPERATING ROCKER AB-22** under endsill, centered directly below chain.
- 6) Cut and install short length of .010 wire between end of chain and operating rocker with ACC cement.
- 7) Carefully remove and cement **HANDWHEEL AB-13** to housing.

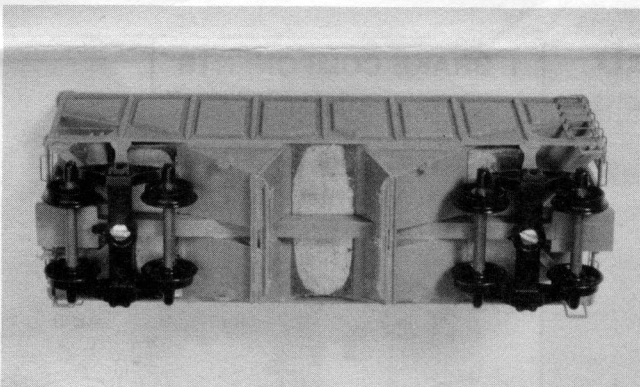
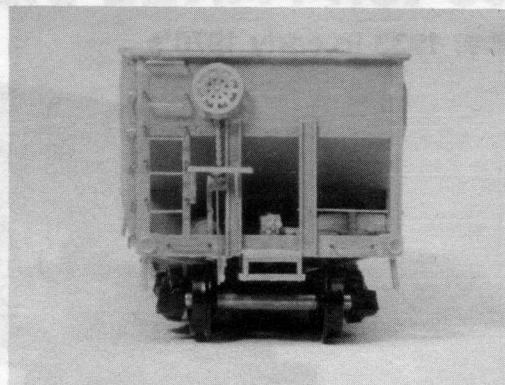
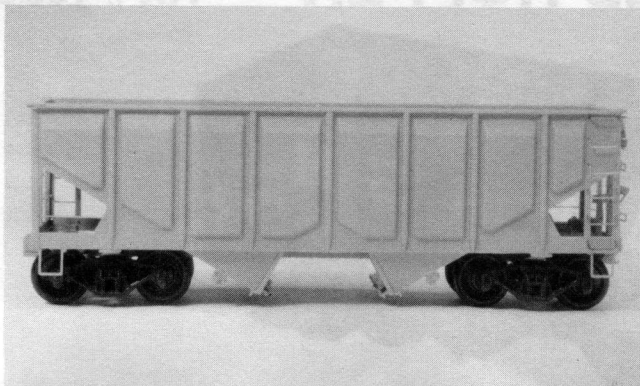


6 FINAL ASSEMBLY

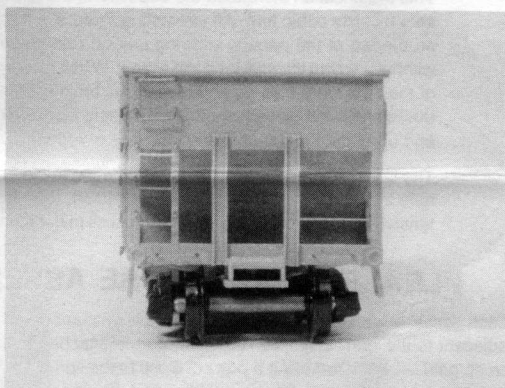
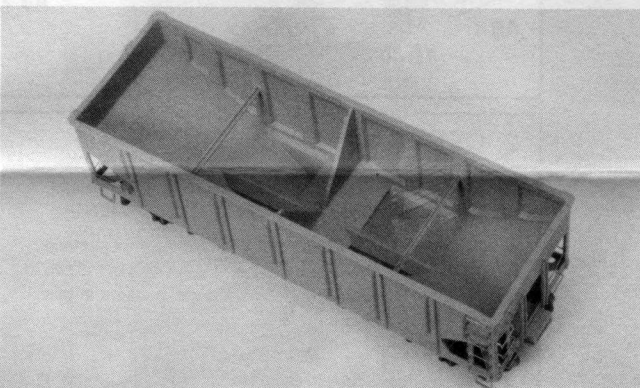
- 1) Cement **DOOR OPERATOR D-5** to the center of each left hand slope sheet. There is no means to mark the location for you, so eyeball it.
- 2) Cement **DOOR OPERATORS D-6** in place on the right side.
- 3) Cement **STIRRUP STEPS D-4** in place, noting that they will push up the corner diagonals a bit, and when properly installed they will angle out from carbody.
- 4) Install couplers, retaining with **COUPLER POCKET COVERS C-13**. File each notch in cover to clear frame.
- 5) Install **TRUCKS**, using **WASHERS AB-11 and 12**, and self-tapping screws provided.



REMOVE SHADED AREA TO CLEAR DIAGONAL RIB ON FRAME.



A special decal set (#9029) covering the C&O, D&H, Wabash and New Haven railroads is available directly from TICHY TRAIN GROUP: Please enclose \$2.50 and a LARGE self-addressed stamped envelope.



If you should irreparably damage or lose a part it will be replaced without charge. Please return the part/s to us with \$1.50 for shipping and handling — a replacement will be sent immediately. And, do drop us a line, we enjoy hearing from you with ideas, comments and suggestions for new products.

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