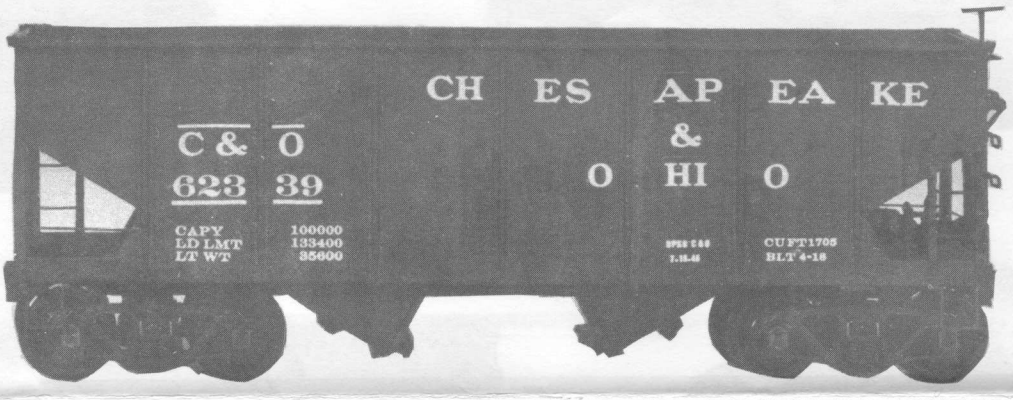
USRA 55 ton TWIN HOPPER

Kit #4027

Era: 1918 to early 1970's



INTRODUCTION

This familiar car is perhaps the most long lived and successful USRA design. Of 22,000 cars built, many were still in service into the 'sixties, and some even into the 'seventies. The basic design was adopted by the ARA, resulting in additional tens of thousands of nearly identical cars. Common variations included the popular covered hopper, and the often-seen pressed steel sided cars, both coming soon from TICHY.

This kit will model two versions; as built, with K-brakes and center crossrib with small gussets, or the large center gusset version used by P&LE and the NYC. Heavy coal service resulted in the center rib being damaged and the sides collapsing, which was remedied by the large gussets. If you wish to adapt the later type AB brake system, send us an SASE for data sheet #4027AB.

For numbering data and excellent prototype photos, **see** MAINLINE MODELER, March, 1982, and Bulletin #128 of the Railway and Locomotive Historical Society (RLHS).

The list below was provided by **Champion Decal Company,** available from your dealers.

HC-84	Baltimore & Ohio, 50 ton
HC-77	Baltimore & Ohio, 50-70 ton
HC-45	Berwind Coal, 50 ton
HC-87	Chesapeake & Ohio, 50 ton
HC-76	Chesapeake & Ohio, 50-70 ton
HC-666	Chessie, 50, 60 & 70 ton
HC-90	Erie, 50 ton
HC-44	Ford Motor Co., 50 ton
HC463	International Harvester, 50 ton
HC-392	Missouri Pacific, 50 ton
HC-81	Montour, 50 ton
HC-49	Norfolk & Western, 55-70 ton
HC-469	Norfolk & Western, 50-70 ton
HC-83	Pittsburgh & West Virginia 50-55 ton
HC-148	Reading, 50 ton
HC-80	Virginian, 50 ton
HC-91	NYC, 55 ton (old style lettering)
HC-458	NYC, 55-70 ton (later lettering)
HC-47	Pennsylvania, 50 ton
HC-464A	Pennsylvania, 50 ton twin
HC-89	Western Maryland, 50 ton

PLEASE READ BEFORE ASSEMBLY

Each 'sprue', or group of parts, has an indetification 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.

PARTS LIST

Quantity needed in ( )

4027- A		BODY	4027- D		
4027- B		FRAME	(2)	D-1	ASSEMBLY STAND
4027- C			(2)	D-2	CROSSBRACE LOCATOR
	C-1	END	(2)	D-3	BOLSTER
	C-2	END, B	(4)	D-4	STIRRUP STEPS
	C-3	BRAKE CYLINDER	(2)	D-5	DOOR OPERATOR
	C-4	AIR TANK	(2)	D-6	DOOR OPERATOR
	C-5	BRAKE CYLINDER	(2)	D-7	DOOR
(2)	C-6	PLATE, CENTER	(2)	D-8	DOOR
	C-7	CROSSBRACE, CENTER	(2)	D-9	DOOR CHANNEL, SHORT
	C-8	CENTER GUSSET P&LE, NYC.	(2)	D-10	DOOR ANGLE, LONG
	C-9	CENTER GUSSET P&LE, NYC.	(2)	D-11	DOOR CHANNEL, LONG
	C-10	BRAKE STAFF LOWER SUPPORT	(2)	D-12	CROSSBRACE
	C-11	BRAKE LEVER	(4)	D-13	BODY CORNER GUSSET
	C-12	MINER OPERATING LEVER		D-14	BRAKE WHEEL, OPTION
(2)	C-13	COUPLER POCKET COVER	(2)	D-15	BRAKE PLATFORM BRACKETS
	C-14	AIR LINE CROSSPIPE	(4)	D-16	PLATE ENDS

(2)	SCREWS
(1pr)	ANDREWS TRUCKS, TICHY
(2)	END WEIGHT
	CENTER WEIGHT
	.010 BRAKE ROD WIRE
	.020 TRAINLINE/BRAKESTAFF WIRE

1 GENERAL ASSEMBLY

Study fig. 1 carefully, and follow our assembly sequence exactly to avoid serious problems later.

1) Test fit **FRAME** to **BODY**—fit should be firm, not tight. Relieve with a fine 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 end weights.

3) Cement **BRAKE CYLINDER C-3** to pad on frame.

4) Cement **AIR TANK C-4** to other pad on frame.

5) Bend and install air line and trainline if desired, fig. 2. Drill #75 hole in end of cylinder.

6) Gently rotate brake clevis on cylinder to 45 degrees, install **BRAKE LEVER C-11** as shown. Trim off protruding lever under frame to prevent fouling wheelsets.

7) Install **BOLSTERS D-3** making sure they are square and fitted to the small notch. Let dry.

8) Insert Trainline (.020 wire) into hole in bolster; cement **AIRLINE CROSSPIPE C-14** between tank and trainline with ACC. Trim .020 wire flush with back of bolster.

Note: Very little rigging shows on this car, so to go further is an option — check your references for guidance.

9) Carefully remove **END C-1**, trim with a fine file until fit is achieved, cement in place. Ends fit between sides, with poling pocket overlapping. Be patient, as the end is delicate. There will be a small square notch resulting at the top flange, to be covered later.

10) Repeat with end **C-2**, also the **"B"**, or brake end.

11) Carefully insert frame into body, with the brake gear on the "B" end. Center into body, check and adjust fit at the coupler pocket — when all is set, cement, but do not cement the diagonal braces into the corners at this time.

12) File ends of **CROSSBRACE C-7** to be an easy fit between sides, cement in place. If modeling P&LE or NYC, or a later version, you may choose instead the **LARGE GUSSETS C-8 and C-9.**

13) Remove two **END BRACE LOCATORS D-2** from sprue. Remove **END BRACES D-12** from sprue, file ends to fit, and install as shown in fig. 3. Don't cement locators to carbody!

figure 1

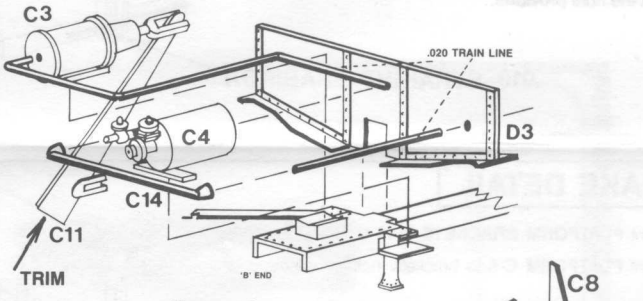
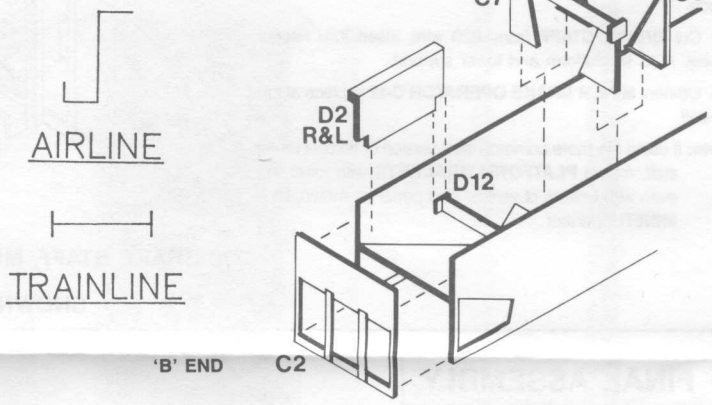


figure 2



2 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.

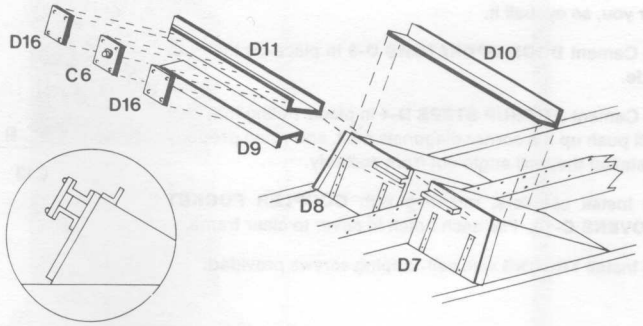
3) Cement **LONG CHANNEL D-11** in place.

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 holster hole. This will provide a place to rest the car as we finish it up.



3 ASSEMBLY, continued

1) Slightly rounded corners of top flange to accept **CORNER GUSSETS D-13.** Cement in place at each corner.

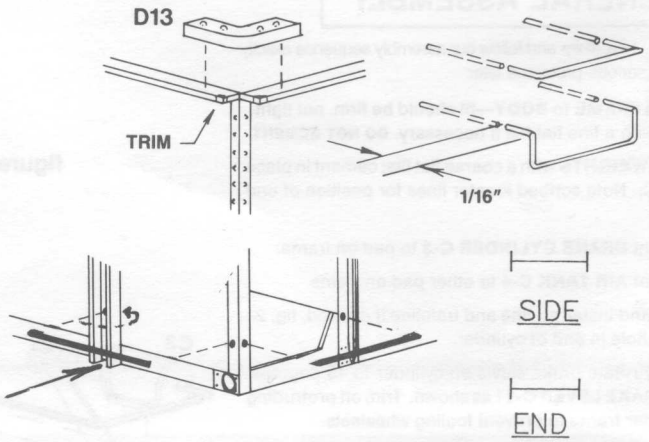
2) Drill all grabiron holes #79. Trim all to 1/16" long.

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

4 BRAKE DETAIL

1) Cement **PLATFORM BRACKETS D-15** to B end.

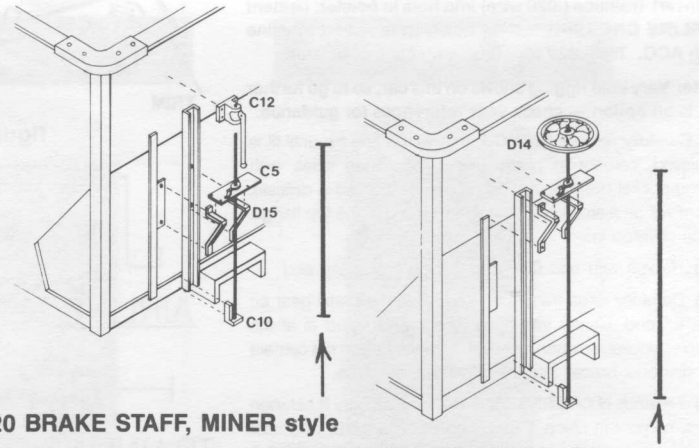
2) Cement **PLATFORM C-5** to brackets, noting bolt head locations.

3) Cement **LOWER BRAKE STAFF SUPPORT C-10** in place.

4) Cut **BRAKE STAFF** from .020 wire, insert thru ratchet wheel. ACC at platform and lower support.

5) Cement **MINER BRAKE OPERATOR C-12** in place at top of staff.

Note: If using the more common later version of Vertical brake staff, mount **PLATFORM BRACKETS** with lower leg even with bottom of vertical end panel as shown, omit **MINER** operator.



.020 BRAKE STAFF, MINER style

SHOWN FULL SIZE

.020 BRAKE STAFF, vertical

5 FINAL ASSEMBLY

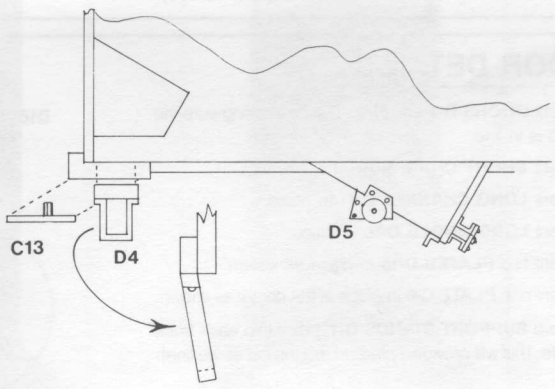
1) Cement **DOOR OPERATOR D-5** to the center of each left hand slope sheet. There is no means to mark the location for you, so eyeball it.

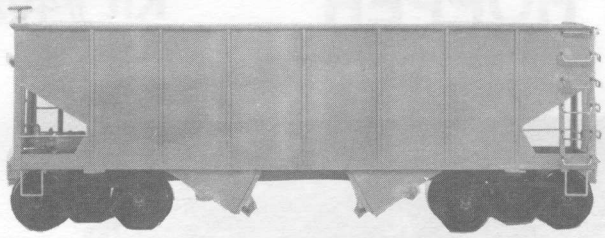
2) Cement **DOOR OPERATORS D-6** in place on the right side.

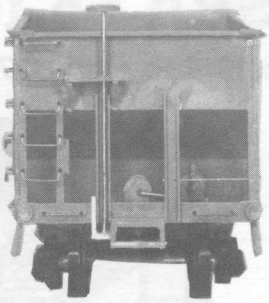
3) Cement **STIRRUP STEPS D-4** in place, noting that they will push up the corner diagonals a bit, and when properly installed they will angle out from carbody.

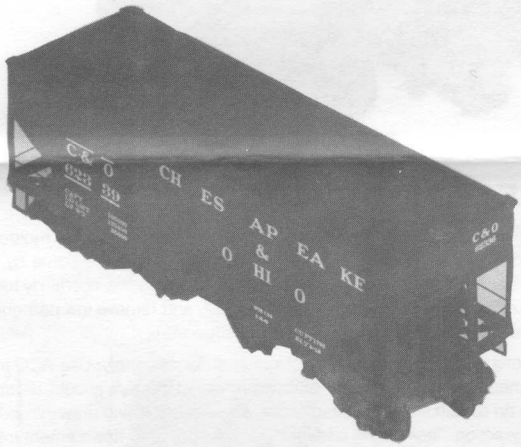
4) Install couplers, retaining with **COUPLER POCKET COVERS C-13.** File each notch in cover to clear frame.

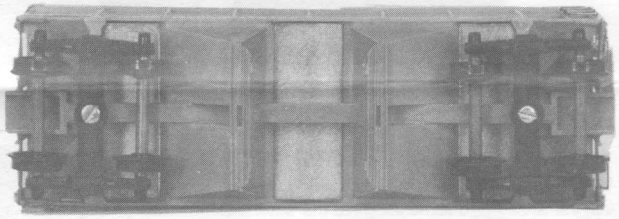
5) Install **TRUCKS** with self-tapping screws provided.

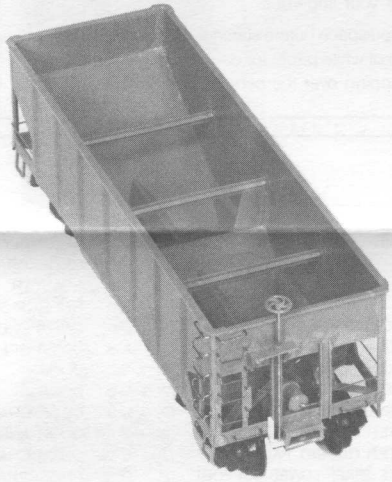


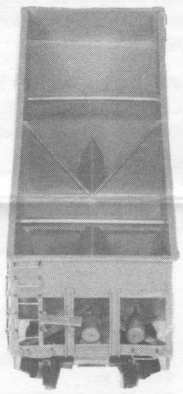












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