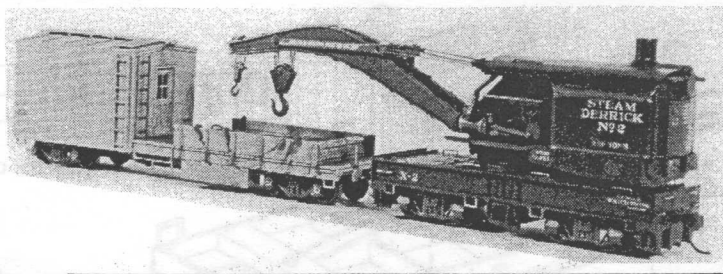


# BOOM CAR

Kit #4022



## PROTOTYPE HISTORY

The BOOM CAR, more correctly called a "Crane Tender", is one of many purpose built cars on the roster of the maintenance of way (MOW) department. The role of the boom car is as an idler or reach car to allow a wrecking crane to be coupled into the work train. Since it is almost always assigned to a specific wrecker, often with consecutive "X" numbers, it carries all the accessories assigned to the derrick including spreader bars, hooks and cables and special tools. In short, the crane and boom car make up a team called a "Wrecking Outfit" and were only uncoupled at the job site.

Almost all boom cars were designed and built in the company shops from old cars and parts that were available. Our kit represents the traditional style with

cabin and side boards, and is based on our #4021 Flat Car kit. Although based on a MoPac design, it follows no particular prototype or number. It matches well with our Kit #4010, the 120 ton Steam Derrick, and is a perfect compliment to any wrecking outfit.

As a standard design, you can modify it in almost any way you want and be correct. Suggestions include side windows, sliding side doors, additional chain boxes under on the deck, and of course tools, chain, wood blocks (12x12x72 inches), smokejack, etc. Remember that the wrecking outfit was vital to the running of the railroad and deserves a place of importance on yours.

This is a kit to have fun with, so let's get to work!

## PLEASE READ BEFORE ASSEMBLY.

Each sprue, or group of parts, has an identification number and letter, and each part (or identical parts) has a number. Example: 4021-B-3, or simply B-3.

Each part is attached to the runner by a small "gate". When removing a part, cut close to the sprue, then carefully trim and file gate to the part. Don't let the part "snap" off into the carpet! DO NOT remove parts until called for in the instructions, and DO NOT twist them off, as they will be damaged.

All plastic parts have a sharp witness line, usually on an edge, where the mold halves come together. This line should not be confused with "flash" which is a very thin area of plastic extending from this line. We try not to ship parts that have "flushed" as this indicates that the mold was not properly clamped, the part is thicker than intended and may not fit. For a neater appearance, this sharp line may be removed by scraping with the knife.

We recommend using ONLY "liquid cement for plastic". Use ACC cement for plastic to metal joints. Test fit each part to see where cement should be applied. Apply sparingly with a sharp pointed brush, allowing cement to "draw" into joint by capillary action. For larger surfaces, several "paint" passes may be required to soften the plastic.

We suggest you clean your workspace, and provide adequate lighting. Work on a piece of white paper to provide contrast. And — one of the most common problems is simply tipping over the cement jar or laying a wet cement brush on the plastic parts.

Yes — the parts DO FIT. If you think a part does not, STOP — you may be making a mistake. Check the drawings and instructions before proceeding. There are a few places that will require minor adjustments, but this is intentional, and you will be instructed when and how.

## PARTS LIST

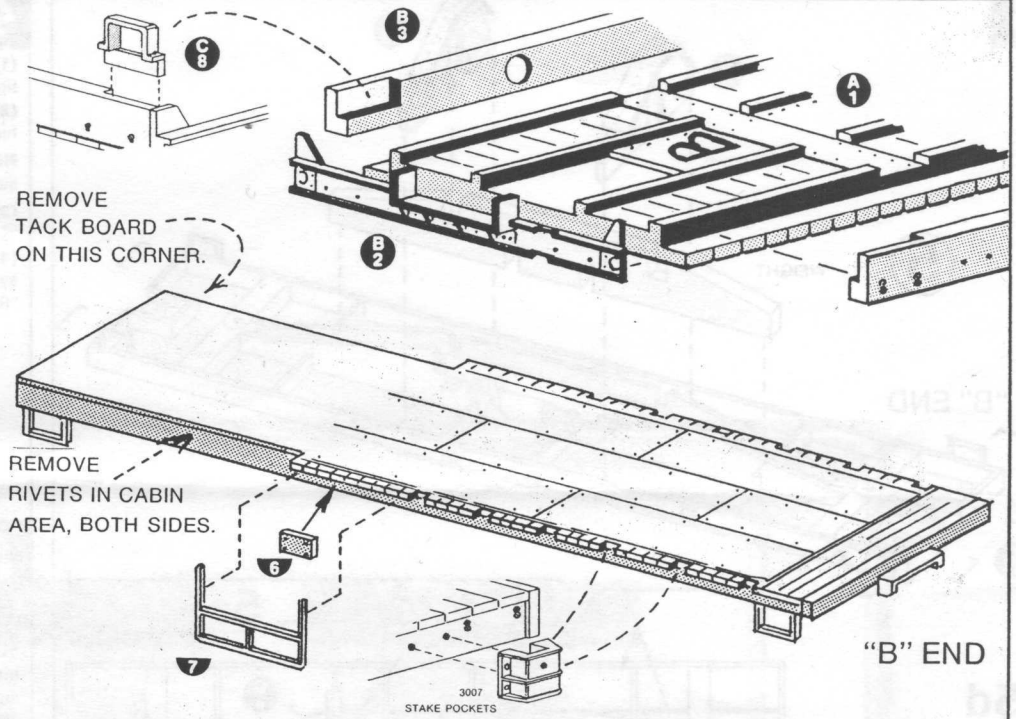
Quantity required in ( )

(1) 4022-A DECK	4021-C sprue:	4022-D CABIN SPRUE	(2) 5 LATERAL PLATFORM
4021-B sprue:	(2) 1 COUPLER POCKET	(2) 1 CABIN SIDE	(2) 6 Stake pocket BLANKING PLATE
(1) 1 "A" END BEAM	(1) 2 BRAKE CYLINDER BRACKET	(2) 2 CABIN END	(2) 7 SIDE STEP
(1) 2 "B" END BEAM	(1) 3 LEVER END (brake cyl. clevis)	(4) 3 ALIGNMENT GUSSET	(6) 8 GRAB IRONS
(2) 3 SIDE SILL	(1) 4 LEVER END	(1) 4 ROOF	(1) 9 CENTER SHACKLE for D-9
(2) 4 BODY BOLSTER	(1) 5 BRAKE CYLINDER	(2) 5 TOOLBOX BOTTOM/SIDES	(2) 10 END SHACKLE for D-9
(1) 5 FISHBELLY, right	(1) 6 BRANCH LINE SEGMENT	(2) 6 TOOLBOX DOOR PANEL	(8) 11 HOOKS
(1) 6 FISHBELLY, left	(1) 7 LEVER END (long)	(2) 7 SIDE BOARDS	(2) 12 SPREADER BAR
(2) 7 FISHBELLY SPACER	(4) 8 STIRRUP STEPS	(1) 8 END BOARDS	(1) 13 CENTER LINK for E-12
(1) 8 SMALL CROSS SILL	(2) 9 CURVED TRAIN LINE SECTION	(4) 9 SPREADER BAR PLATES	(2) 14 END LINKS for E-12
(1) 9 SMALL CROSS SILL	(1) 10 BRAKE WHEEL	4022-E BOOM CAR DETAILS	(12) 3007 STAKE POCKETS
(1) 10 SMALL CROSS SILL	(1) 11 RATCHET PLATE	(1) 1 ROOFWALK	1 pc. .020 PB WIRE
(1) 11 SMALL CROSS SILL	(1) 12 BRAKE STAFF BRACKET	(4) 2 ROOFWALK END BRACE	1 pc. .010 PB WIRE
(1) 12 MAIN CROSS SILL	(2) 13 SPACER WASHERS	(2) 3 LADDER, cabin side	1 ea. WEIGHT
(1) 13 MAIN CROSS SILL	(8) 14 GRAB IRONS	(2) 4 LADDER, cabin end	2 ea. 2-56 screws
(2) 14 COUPLER POCKET COVER	(1) 15 BRANCH LINE SEGMENT w/elbow		1 pr. BETTENDORF TRUCKS

# 1 BASIC ASSEMBLY

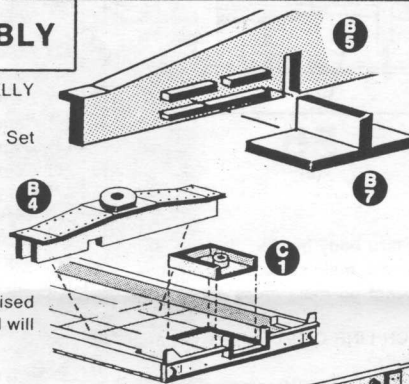
Note the "A" and "B" engraved on underside of deck. The "B" refers to "Brake Wheel" end of car, and will be referred to throughout the assembly.

- (1) File or scrape gate scar and parting line from ends of deck. Just remove, don't alter length.
- (2) Cement ENDBEAM B-1 to "A" end of deck.
- (3) Cement ENDBEAM B-2 to "B" end of deck.
- (4) Check SIDESILLS B-3 for length — they fit between end beams. If slightly long, carefully file or scrape to length. (this is one place where you may have to "fit" a part due to "differential shrink" of the plastic. However, this is the only place!) Cement sidesills to deck, with gate edge down, away from the deck boards, or "toward the track". Be sure deck is flat, not warped, and sidesills are tight into corner. After cementing, place deck on a flat surface, board side down, and place some weights on to keep it flat while cement sets up.
- (5) Remove tack board and rivets in cabin area with a sharp knife as shown.
- (6) Cement six STAKE POCKETS to side sill on deck end, with "spike hole" up. Small pins are molded on back of pocket for alignment.
- (7) Cement four STIRRUP STEPS C-8 into notches in corners of side sill.
- (8) Cement BLANKING PLATE E-6 to each side as shown, locating over unused stake pocket holes.
- (9) Cement SIDE STEP E-7 to each side sill.



# 2 UNDERFRAME ASSEMBLY

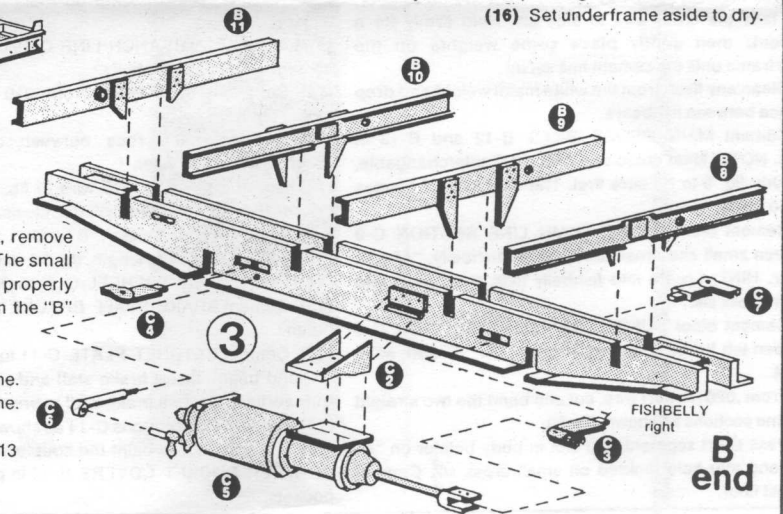
- (1) Cement FISHBELLY SPACERS B-7 to FISHBELLY RIGHT SIDE B-5.
- (2) Cement opposite FISHBELLY B-6 to spacers. Set aside.
- (3) Cement COUPLER POCKETS C-1 to deck, tight against endbeam.
- (4) Cement BODY BOLSTERS B-4 to deck. Note raised locators that fit into notch in bolster. The slot formed will pass the train line later in assembly.



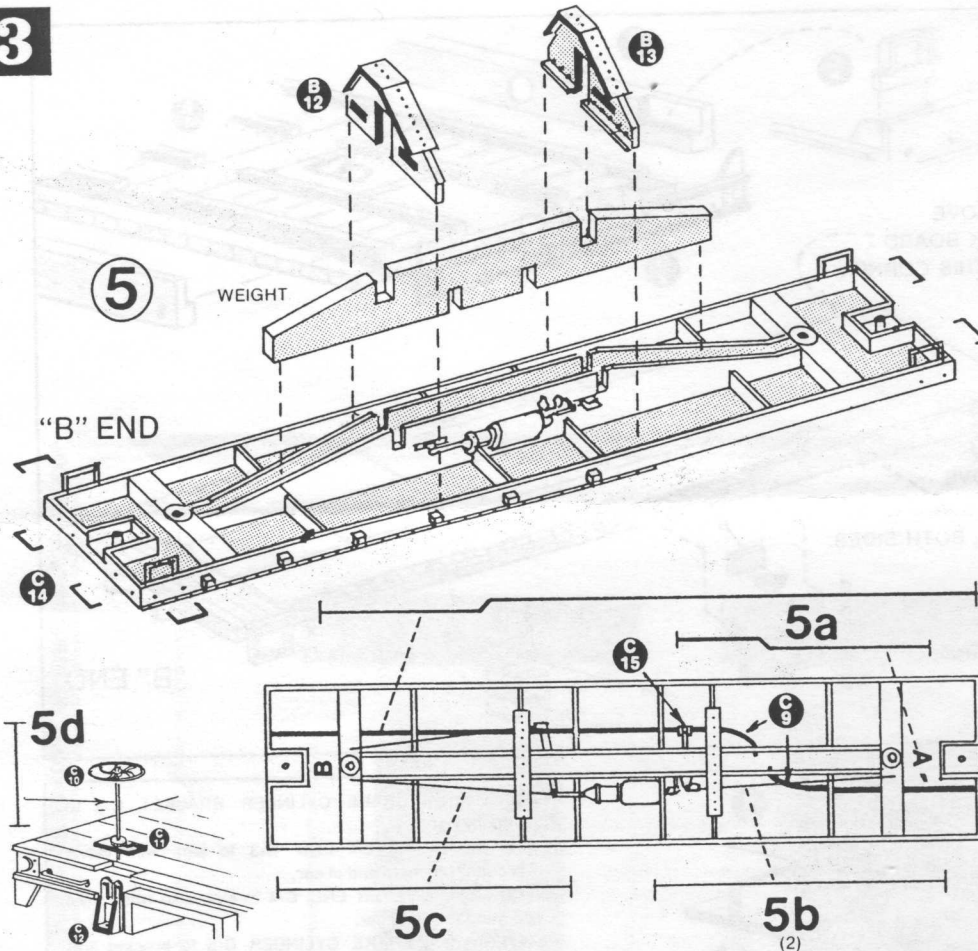
- (10) Cement BRAKE CYLINDER BRACKET C-2 to fishbelly right.
- (11) Cement LEVER END C-3 to slot, with clevis "prongs" facing to end of car.
- (12) Cement LEVER END C-4 to slot, also with clevis pointing to end of car.
- (13) Cement BRAKE CYLINDER C-5 to bracket and lever.
- (14) Cement BRANCH LINE STUB C-6 between dirt collector pipe on brake cylinder and hole in fishbelly.
- (15) Cement long LEVER END C-7 to slot in opposite side of fishbelly, with clevis pointing to "B" end.
- (16) Set underframe aside to dry.

Refer now to Fig. 3. NOTE: To avoid confusion, remove parts from sprue ONLY when called for below. The small cross sills are numbered in sequence, and when properly installed should read in sequence, starting from the "B" end.

- (5) Cement END CROSS SILL B-8 to frame.
- (6) Cement CENTER CROSS SILL B-9 to frame.
- (7) Cement CENTER CROSS SILL B-10 to frame.
- (8) Cement END CROSS SILL B-11 to frame.
- (9) DO NOT install Main Cross sills B-12 or B-13 at this time.



3



- (1) Place underframe assembly into floor, with brake cylinder clevis pointing toward "B" end of car. Put deck, board side down, on a truly flat surface, and have your weights handy. If all is ready, "run" your cement brush between fishbelly plates to cement underframe to floor. Also tack the cross sills to side sill. Hold firmly for a moment, then gently place some weights on the underframe until the cement has set up.
- (2) Clean any flash from the white metal weight and drop in place between fishbellies.
- (3) Cement MAIN CROSS SILLS B-12 and B-13 in place. NOTE: Main cross sills ARE NOT interchangeable, so study fig. 5 to be sure first. The rivet side of flanges face to center of car.
- (4) Cement one CURVED TRAIN LINE SECTION C-9 between small end cross sill and right fishbelly, "A" end of car. HINT: Locate into fishbelly first, then snap into hole in cross sill.
- (5) Cement other CURVED TRAINLINE SECTION C-9 between left fishbelly and main cross sill, "A" end, as in step 4.
- (6) From .020 (larger) wire, cut and bend the two straight trainline sections as shown, fig. 5a.
- (7) Pass short segment thru slot in body bolster on "A" end, and into hole molded on small cross sill. Cement against floor.

- (8) Feed long segment thru body bolster, "B" end, and thru holes in small cross sill, main cross sill, two center cross sills, and into pocket on main cross sill. Whew! cement in place.
- (9) Locate "T" of BRANCH LINE C-15 over train line and cement into hole in fishbelly.
- (10) Cut two BRAKE RODS from .010 (smaller) wire to length fig. 5b.
- (11) Cement brake rods between clevis and tabs molded on body bolster.
- (12) Cut one piece of .010 wire to fig. 5c. Cement into pocket formed by brake cylinder clevis/lever, and other tab molded on body bolster. "B" end.
- (13) Cut brake staff to length, fig. 5d, de-burr ends.
- (14) Cement BRAKE WHEEL C-10 to staff.
- (15) Cement BRAKE STAFF BRACKET C-12 to "B" end beam.
- (16) Cement RATCHET PLATE C-11 to recess on top of "B" end beam, insert brake staff and make sure staff is truly vertical. Cement brake staff to bracket/plate.
- (17) Cement six grabirons C-14 as shown.
- (18) It is wise not to paint the couplers, so simply snap COUPLER POCKET COVERS B-14 in place to mask off pockets.

## 4 TOOLBOXES, etc.

(1) Cement TOOLBOX BOTTOM D-5 to underframe, tight against edge of side sill.

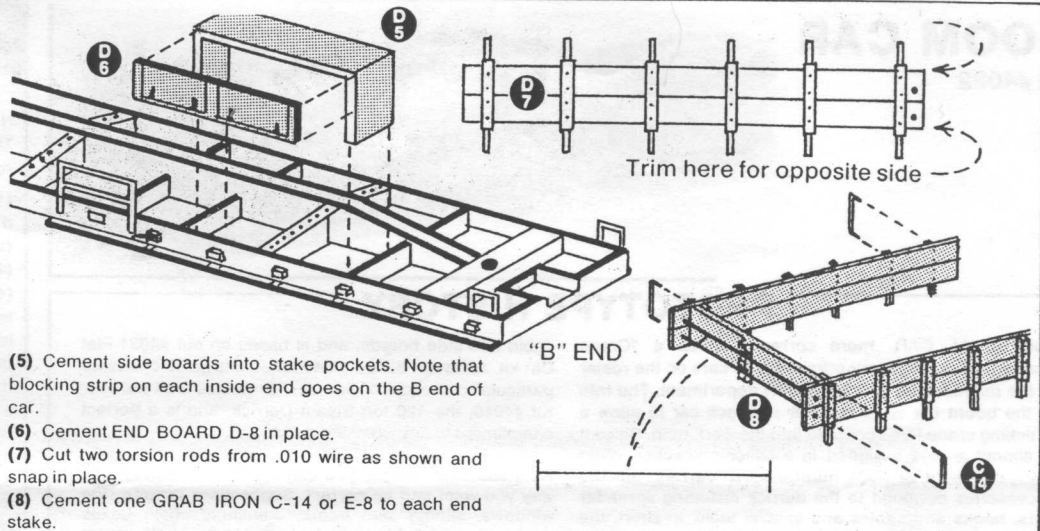
(2) Cement TOOLBOX DOOR PANEL D-6 to D-5, with hinge edge against side sill.

**NOTE:** You may wish to pre-paint the steel decking and side boards prior to this assembly.

(3) Remove END BOARD D-8 from runner and trim off "suckers".

(4) **CAUTION:** The side boards D-7 ARE NOT symmetrical. Proceed as follows to produce two "flop" or mirror images:

- From one D-7 trim off the protruding stakes that are "gated" to the runner system, using a sharp knife and file. Leave them just a little longer than the board height.
- From the other D-7 trim off the stakes that are ON THE OTHER SIDE of the stakes that were gated to the runner. Before trimming double check that you are making two side boards that are "back-to-back."



(5) Cement side boards into stake pockets. Note that blocking strip on each inside end goes on the B end of car.

(6) Cement END BOARD D-8 in place.

(7) Cut two torsion rods from .010 wire as shown and snap in place.

(8) Cement one GRAB IRON C-14 or E-8 to each end stake.

## 5 CABIN ASSEMBLY

(1) Test fit one SIDE D-1 to one END D-2. The side overlaps the ends, the fascia board of the side locks up to the fascia on the end. After a dry run, apply cement to the inside joint of the end, place side in position and hold till set.

**OPTION:** You may wish to use the alignment gussets D-3 to help square up the assembly.

(2) Assemble opposite side and end as above. Allow both to dry square.

(3) Cement assemblies together to create the "box".

(4) Cement ROOF D-4 in place.

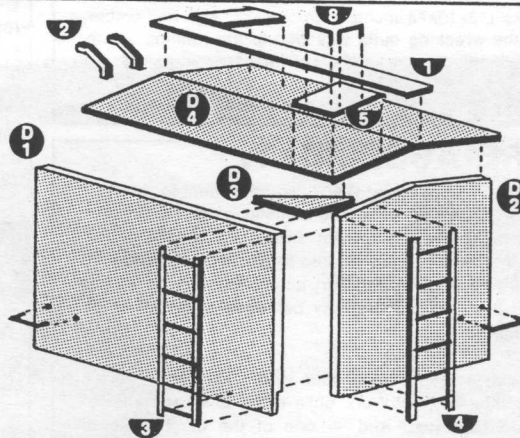
(5) Cement ROOFWALK E-1 in place.

(6) Cement two SUPPORTS E-2 in place at each end.

(7) Cement SIDE LADDERS E-3 to sides. Note: We did not provide locators for those who may wish to use grabirons (Part 3015 or 3021) instead of our ladders. Locate the ladder edge 1/2 boards from the end, flush up under the fascia board.

(8) Cement END LADDERS E-4 to ends as above, even with side ladders.

(9) Cement LATERAL PLATFORMS E-5 to roof corner above ladders.



(10) Cement two GRABIRONS C-14 or E-8 to each lateral platform.

(11) Cement two GRABIRONS to each cabin corner.

(12) If you wish to install window material (not included) paint the cabin and glaze windows at this time before proceeding with step 13.

(13) Cement completed cabin to deck.

## 6 ACCESSORIES

BEND HERE

(1) Gently bend and cement SPREADER BAR PLATES D-9 together. A paper clip makes a good clamp.

(2) Cement LARGE SHACKLE E-9 to center of bar.

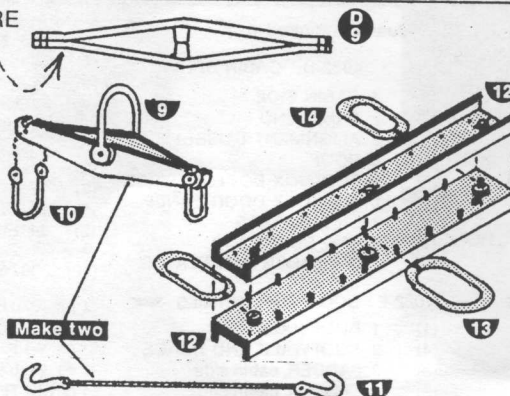
(3) Cement SMALL SHACKLE E-10 to each end of bar assembly.

(4) Cement large SPREADER BAR PLATES E-12 together.

(5) Carefully remove LARGE LINK E-13 from runner, cut thru bottom curve of loop and snap in place over center pin on E-12 assembly. Do not cement.

(6) Repeat step 5 for SMALL LINKS E-14, snapping them over end bolts of bar. Do not cement.

The completed large spreader bar is often used in lifting cars and loco front ends.



## 7 FINISHING TOUCHES

Work train cars are often painted light grey, silver or tuscan or box car red. The deck should be a rusty steel, using gunmetal and dry brushed rust. And of course lots of grease and oil stains. The spreader bars should be black or orange, very dirty, as are the hooks. We do not provide cable, but you can use thread or fine copper wire (lamp cord). Although wrecking cranes were usually kept clean and in good repair, the work cars were usually very dirty and grimy. This is a good time to practice your weathering technique — you can't go wrong. Apply decals of your choice following the maker's instructions.

(1) Install couplers (coupler pockets accept Kadee® #5 or NMRA hook). Coupler pockets can be snapped on or lightly cemented. Note: Polish off any overspray that may have gotten into pocket, and burnish the inside of covers with a soft lead pencil for lubrication.

(2) Install trucks with 2-56 screws provided. It is best to adjust the screws so that one truck is tight against bolster but still free to rotate easily, while the other truck is a bit looser to allow sideways pivoting as well as rotation. A simple three point suspension.

**Note:** If using our trucks, provided, also use spacer washers C-13 to put car at correct coupler height. If you use Kadee® trucks do not use the washers.

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.

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