

Diagram is approximately 1/2 'O' size

## GENERAL INSTRUCTIONS

**CEMENT.** A "weld" type adhesive is best for cementing plastic to plastic. Fit the parts together, and then, while holding them in position with clamps, rubber bands, fingers, or friction, apply the cement to the joint with a small brush. Capillary action will draw the liquid into the joint, where it will dissolve the surface of the material. When dry, the parts will be "welded" together. For joints where plastic is to be cemented to metal, wood, or other materials, we recommend Walthers Goo\*.

**WASHING AND PAINTING.** Plastic parts are often covered with a thin film of lubricant when received. This should be removed before painting by washing with detergent and water. Rinse well and let dry. It is often easier to clean and paint small parts BEFORE the are removed from the sprues, even if some touch-up is required after removing flash. We suggest that you leave the parts on the sprues until needed. Clean off any flash and file the draft (angle) off parts that are to be mated together. Be careful not to cut off any of the detail.

## ASSEMBLY

**SIDES (Fig 1).** Remove the "A" and "B" filler panels (1-W-1) from the sides (B-50-PS-1W), clean flash and fit into the car side behind the ladder rungs. Be careful in filing, as a press fit is wanted. (1b) Do not cement at this time. Remove the 4 extra waffles from the door opening and save. (These can be used for the IC or other modifications.) Cut door slides to length (Fig 1a) and fit into place. Black areas in 1b (and 4) are sprues that can be discarded. Do not cement yet.

Fit the 9' Youngstown doors (O-FD-9Y-1) into place. You will have to do some filing at the top and bottom lips so the door can slide freely. (but not too loose, Fig 1c) Also, file back of door flat if necessary and drill out the two holes (#56) for the tackboards. (Tackboards are shown in fig 2). Cement tack boards in place. Many modellers prefer to paint doors before assembly. In any event, be sure doors fit properly, as they cannot be removed once the slides are cemented in place.

When you have fitted all the parts for the sides, cement these together to make two complete side assemblies. (Be careful not to cement the doors by accident). See general instructions on cementing.

**ENDS (E3-2C) (Fig 2).** Remove flash, then drill #56 holes for ladders and other details, preparing one "A" and one "B" end. Holes are spotted on the back of the end. Drill brake-wheel hole on "A" end only. On "B" end, cut off the fulcrum hangers and file smooth. Tack boards are optional. Drill out these holes only if tack boards are to be installed.

Now is a good time to clean and wash (See General Instructions) all the body parts (ends, roof, doors, sides, and hardware parts). When dry, you can paint the body parts and let them dry while you work on the floor and underframe.

**FLOOR (Fig 3).** While paint is drying, prepare the floor (F-50-PS-3). Drill out the (4) bolster pin holes (spotted on inside) and open the king pin holes if necessary. Do not enlarge them, as the king pins must screw into these holes. Turn floor bottom up. "I" beams, which fit into the slots in the floor must be cut to length. Circular "spots" on the strips are guides to cutting (Fig 3c). There is a tongue on the top of each "I" beam that fits into the slot in the floor.

Clean flash from underframe (UP-50-1), check fit on floor, and remove. Cement all "I" beams in place. Lay aside to dry.

Cut the Centersills (CS-50-1) (Fig 3b) from their sprues. File the bottom flange on both sides until they are square and slide freely in the underframe (UF-50-1)

**SMALL PARTS (Fig 4)** Remove the brake wheel, brake lever, and mounting plate from the small parts sprue. In cleaning the wheel, file the outer edge to a rounded contour. Fit the three parts together as closely as possible, cutting a little off the end of the brake shaft as shown in Fig 2. Cement the assembly together and set aside to dry.

**ASSEMBLY OF BODY (Fig 1).** It is very important to keep the body square and in alignment. Assemble one side and one end, using a square wooden block if available, holding the parts together (and against the block) with heavy rubber bands. Make sure the joints fit tight and that there are no cracks showing where the end and side meet. Cement together. Repeat for second side-end. Let dry.

When dry, the two side-end assemblies can be joined together, setting them on a flat surface so you can check for squareness. Cement together. Make sure they remain square and properly aligned while drying.

When car body is dry, place roof (R-50-PS-2) in position. Make sure there is 1/32" to 3/64" overhang at each end. If fitting is necessary, file the inside (back) of the end. Don't try to re-work the roof. After fitting, cement roof in place, making sure that it is down snug all along both sides and ends.

Fit the floor into the car body. One side first, then the other, springing the second side out as required. Inspect to make sure it fits properly. Reach your fingers in through the door opening, press the floor down so the floor-lips fit snugly against the door sills, and cement in place. When these joints are dry and secure, turn car body over and, pressing the floor into the car body, cement the rest of the floor in place. The bottom of the floor should line up flush with the bottom of the end.

**CENTERSILL.** With car upside down, fit the centersill into the carry irons on the ends (Fig 2). File the inside of the carry irons as necessary so the center sill can slide through easily and freely. Place the two centersill springs in the pockets in the bottom of the floor (Fig 3), push the centersills in through the carryirons up to and over the springs, and engage in place.

The underframe now fits onto the floor to hold the centersills in place. Six locating pins (2 on each bolster and 2 in the middle of the underframe) fit into holes in the floor. Fit these carefully and do not force. When fitting the underframe at the end of the car, push the centersill in slightly. Do not force, and make sure that the centersills work in and out freely when the underframe is in position. The following instruction on cement is very important. When everything is in position and working properly, apply "weld" cement only where indicated in Fig 3. This is a must!

## COMPLETING END DETAILS.

**LADDERS (Fig 2).** 10 ladders are included with the kit, 5 for 3/64" standoff, and 5 for 1/64" standoff. You will need 4 of the 3/64" standoff, two for each end. The others are extra.

**BRAKE GEAR.** (Fig 2) Cement brake wheel assembly which was prepared under "Small Parts", and the fulcrum arm in place on the "A" end of the car.

**COUPLERS** Fit couplers into coupler pockets on each end sill, and when you are satisfied that they swing freely, fasten the covers in place with cement or a 2-56 x 1/4" screw.

**TRUCKS.** Special king pins and king pin springs are provided. The spring goes between the truck bolster and the head of the king pin (not between truck and car body). King pin screws into floor.

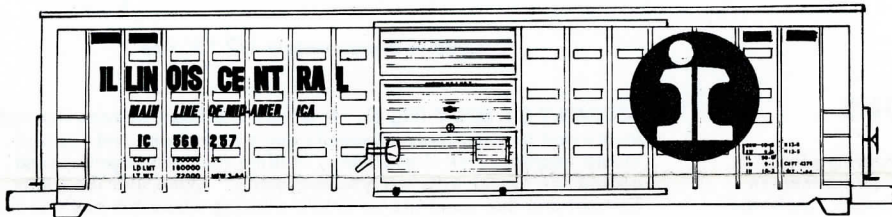
**DECALS.** Getting decals to snuggle down over the raised waffles is not difficult, but it will require Solvaset and patience. Follow the decal instructions, applying a little Solvaset on the car side before the decal is put down, then a little more Solvaset on top of the decal. Solvaset will soften the film so that it can stretch to conform to the waffles. As the Solvaset evaporates, the decal will be drawn into place. Excess Solvaset can be removed with the corner of a tissue, but do not touch the decal during this process as it is very soft.

## 5410 WAFFLE SIDE BOX CAR

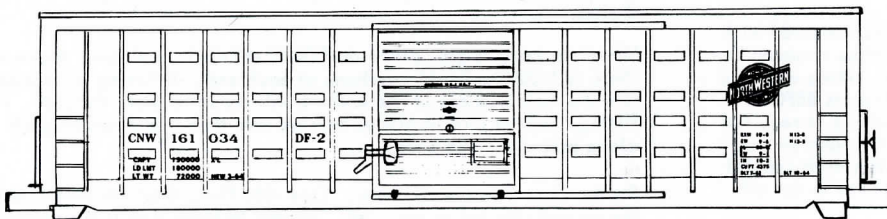
Wm K WALTHERS, Inc.

Milwaukee, Wis 53216

## 5410 'O' WAFFLE-SIDE BOX CAR

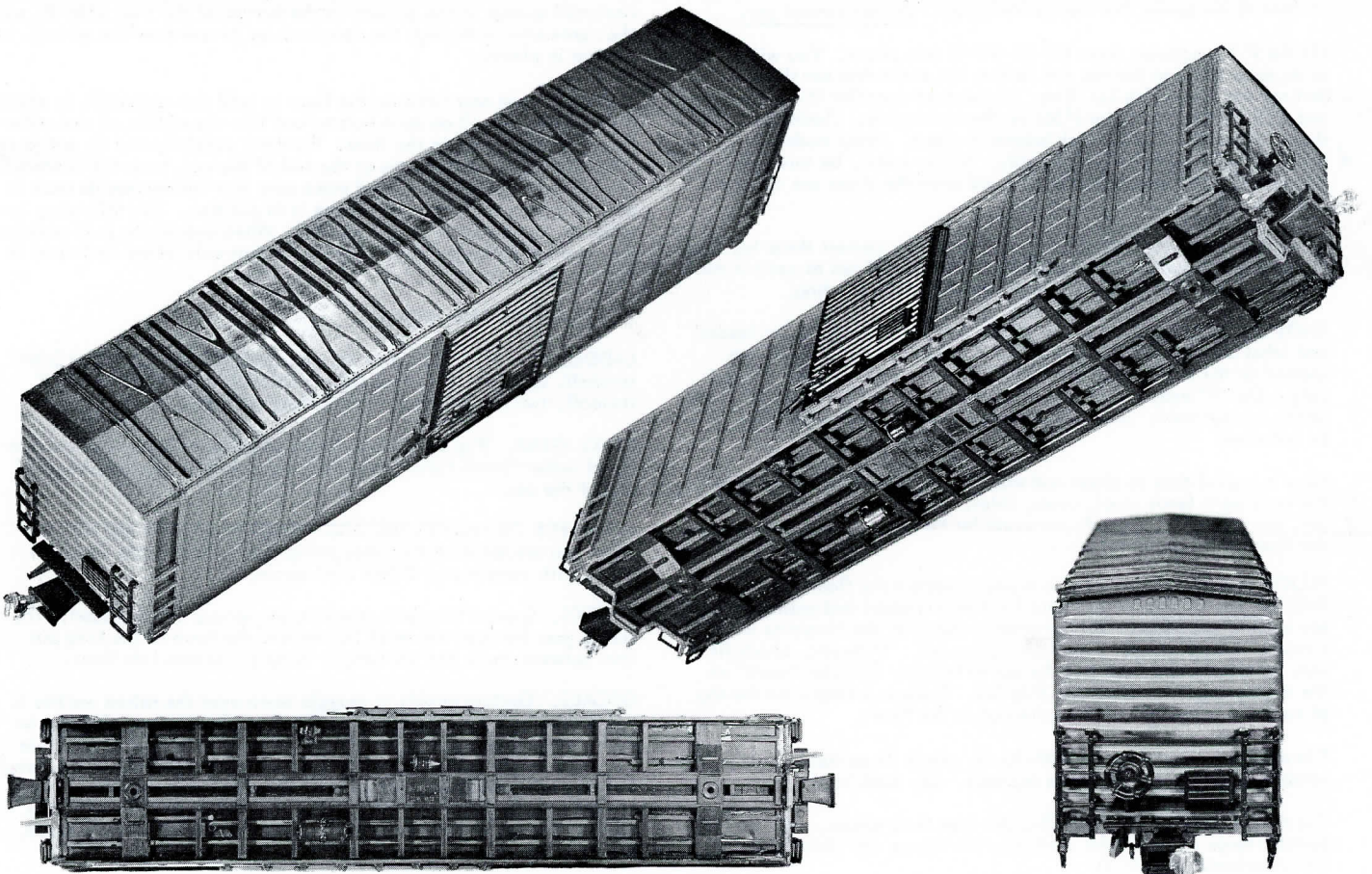


IC Car has 4 extra waffles (2 in each corner) on each side.



Diagrams are 1/3 'O' size.

### PHOTOGRAPHS OF FINISHED (UNPAINTED) MODEL



**DECAL SETS** include a variety of lettering. Use only what is required for your car. Please read directions carefully before using.

**PAINT:** A semi-gloss finish is the best for applying decals. They may not stick on a very flat (dull) surface. To obtain a semi-gloss finish, mix 20 to 25% glaze (gloss) in your flat paint. NEVER apply a decal until the paint is thoroughly dry.

#### HOW TO APPLY DECALS

**TRIM** decal close to lettering to eliminate excess film. WARNING: Hold up to a light so you do not cut into any white lettering.

**DIP** in water for 5-10 seconds and set aside on a blotter, towel, or tissue until it "straightens out". DON'T let the decal float around in a dish of water, as this will wash off all the adhesive. Stubborn decals will usually respond to warm water with a few drops of ammonia added.

**SLIDE** the decal off the paper, face up, into position. If necessary to move it, apply an additional drop or two of water with a tooth pick and use the tooth pick to move it.

**SOAK UP** excess water with the corner of a blotter or edge of tissue.

**SOLVASET** applied on top of the decal (directions on bottle) will snug it down over rivets and into crevices and other detail.

**DDV**, a special flat finish, applied to the entire model, decal and all, will give the entire model a uniform dull finish.

**STORE** unused decals away from excess heat or moisture.