

# #102 42 ft. SKELETON LOG FLAT

In opening the parts package and handling the contents, use great care to avoid loss or damage of the delicate pieces. The Instruction sheet should be read thoroughly first, then individual parts examined and related to construction notes and illustrations to better acquaint oneself with all components and their proper placement on the model, as well as relationship with each other.

Small amounts of light flashing may be encountered on castings and in most instances this can be removed with a knife blade, or a file. Note particularly, openings on the underside of the log bunks, these may be closed off with paper-thin flash that can be poked away with a sharp probe. Also one opening will be found near the end of each bunk side, through which stake chains must pass, these and the stakes as well may require cleaning out. The dirt trap and its piping must be detached from the air tank casting and relocated at right angles to its original position as shown in Fig. 6. Because this is a delicate casting, it is suggested the part be detached before an attempt is made to remove flash from the dirt trap itself. Note, the trap and piping does not fasten to the triple valve again until later during the brake rigging assembly. The brake wheel comes attached to a casting sprue which will serve as a handle while scraping away flash from the outer rim area.

When the wheels clean, the sprue piece can be removed as indicated in Fig. 1. During this operation be extremely careful to grip the wheel properly with pliers jaws while gently applying finger pressure in an upward and downward motion on the sprue, otherwise it is possible to break away a portion of the wheel rim.

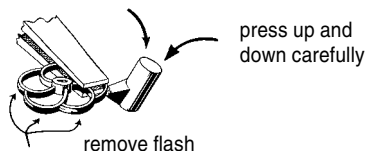


Fig. 1

## K-2 BRAKE SYSTEM:

Installation of the brake system is next and since the die cast body is pre-cast to accept all component parts, everything will go together with little difficulty. One should note however, the two end castings are not identical, one has a mounting plate to accommodate the brake wheel while the other does not. Before proceeding further carefully remove all flash from both end castings and center sills. The casting supporting the brake wheel fits at the "B" end, thus correctly placing it in a position to accept the brake chain from the rod affixed to brake lever "C" (Fig. 6). A few moments spent studying Figs. 7 and 17 should make this clear. The exploded assembly view (Fig. 7) shows all brake components clearly identified by letter to relate to the following instructions. Begin by placing air tank "A" and lever "C" on the car body at one time. Cement, with Super glue® or its equivalent, their mounting studs into the proper holes in the car body and at the same time, cement the correct clevis projection of lever "C" into the end of the air tank. If you fit these parts together one time on a trial basis without cement, you will gain a much better idea of how to go about the operation. Next, lever "D" is placed, the two mounting studs on its bracket to be entered into the holes of the car body and secured with cement. At the same time this part is being positioned, insert rod "F" into the correct clevis openings of lever "C" and "D". Using cement to form a bond.

The dirt trap (E) has been briefly mentioned above, note in Fig. 6. How it is to be detached from its original position as it comes joined to the triple valve at one end of the air tank. It is to be swung around to form a right angle with the air tank as shown in Fig. 6. Note also, air line pipe "J" must pass through the opening of the "tee" on the end of the dirt trap assembly "E". Since pipe "J" has been pre-bent, it will be necessary, using pliers, to reduce the angle of the sharp bend at one end sufficient to allow it to pass through the dirt trap pipe "tee". When this has been done, restore this bend in pipe "J" to its former angle for installation on the car. Slide dirt trap assembly along pipe "J" so it is correctly positioned to cement the free end of piping into the opening of elbow on the triple valve mounted atop one end of air tank "A" (see Figs. 6 & 7).

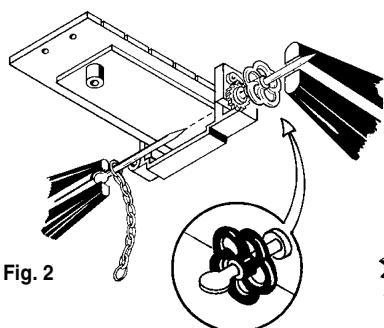


Fig. 2

Fig. 3

Next, install one of the rods marked "H" by inserting the straight end into the opening of outer clevis on long end of lever "C" and cement it there. The bent end of this rod cements into car body. Remaining rod "H" cements at the other end of the car, its straight end cementing into the opening of clevis at outer end of lever "D". Brake rod "G" will be installed later when it is possible to pass it through the log bunk where it belongs. Three staples designated "ST" fit into pre-cast holes as they are placed, two over lever "C" and one over lever "D", then cement into holes.

Now before proceeding further, flatten the head of the short 1/2" common pin with a pair of pliers. Thread it through the end link of a 5/8" piece of chain as shown in Fig. 2. Next push pin all the way into hole on the inside and out through the brake ratchet. Put brake wheel on exposed pin end and cut off pin leaving about 1/16" protruding beyond brake wheel. With pliers, pinch pin as close to brake wheel as possible to flare it, cut off just enough of the flat so the wheel will not come off. See Fig. 2 and Fig. 3. Assemble the end castings onto the center sill by sliding them together and tilting them up and then down so round end casting bosses fit into end holes of center sill. This must be done before any of the couplers and draft gear are installed. See Fig. 8.

## COUPLERS:

Make sure the coupler pocket is clear of any flash. Apply a little Kadee® #231 "Greas-em", burnishing and polishing will greatly reduce friction of working parts and improve coupler performance. Assemble the coupler as shown in Fig. 5. Add #231 "Greas-em" to inside of coupler unit and work coupler back and forth. Be sure coupler consistently snaps back to center position before continuing further. Slide assembled draft gear unit into the end casting as shown in Fig. 9 and secure it there with escutcheon pin "R" which presses through hole at rear of draft gear box and into the metal post on the underside of end casting, which now secures the draft gear and end casting to the center sill (see Fig. 9). Just be sure the casting with the brake wheel mounting plate is on the "B" end of car as related to brake rigging layout in Fig. 7. Use our #205 or #206 coupler height gauge to check for the correct height and trip pin clearance. The HO-Scale N.M.R.A. standard for coupler height is the centerline of coupler at 25/64" (.390"). Use our #237 Trip Pin Pliers to carefully adjust the trip pin clearance if necessary.



Fig. 5

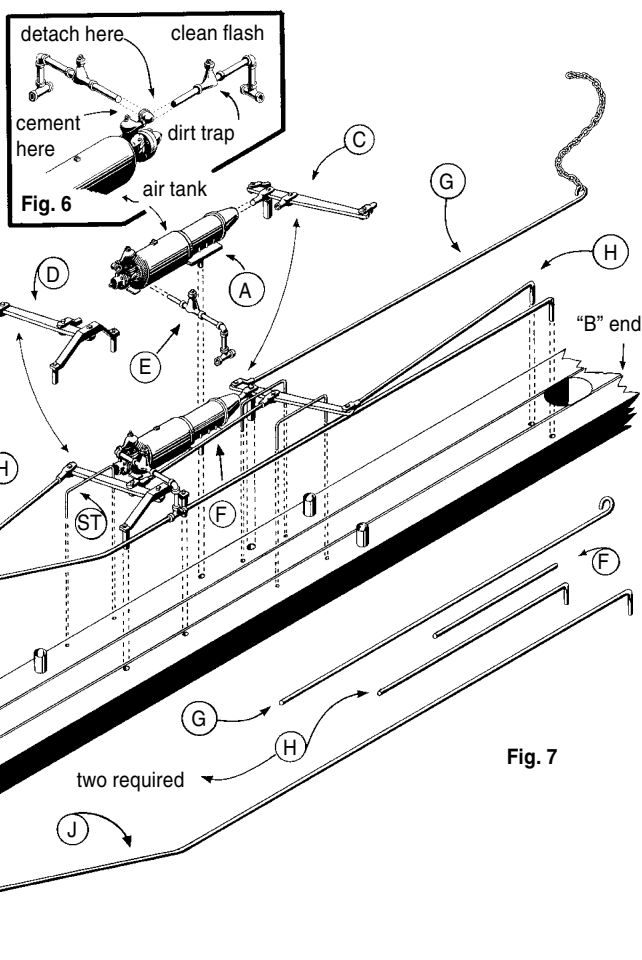
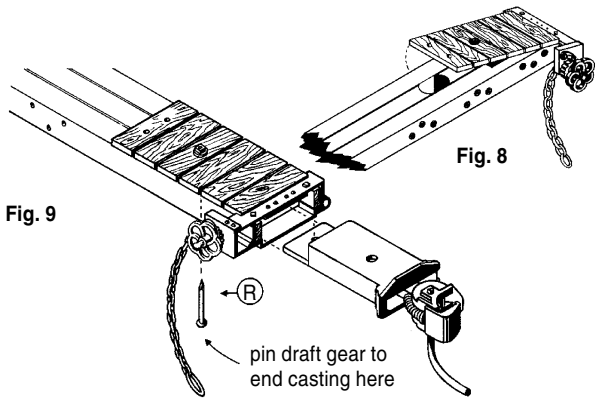


Fig. 7



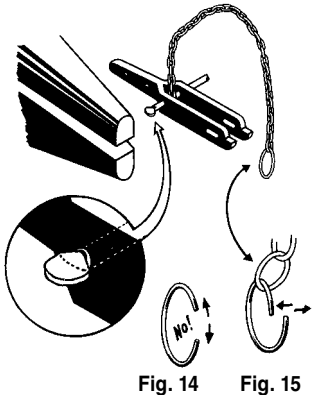
**STAKES ...**

A piece of chain 1 7/8" long is attached to each stake, and this can best be accomplished by suspending the chain from a fixed position in such a way that one end will hang free, thus leaving both hands available for the attachment. Fig. 12 shows one satisfactory method, which can be employed. A small clamp type tweezer, such as made by X-acto®, is held by burying the handle end in a lump of modeling clay while the chain is gripped so one end hangs free. Now hold the stake up to the chain with the last link entered between the stake legs and centered between the holes. Next feed a length of wire through the stake leg on one side, then through the end chain link, and finally through the opposite stake leg.



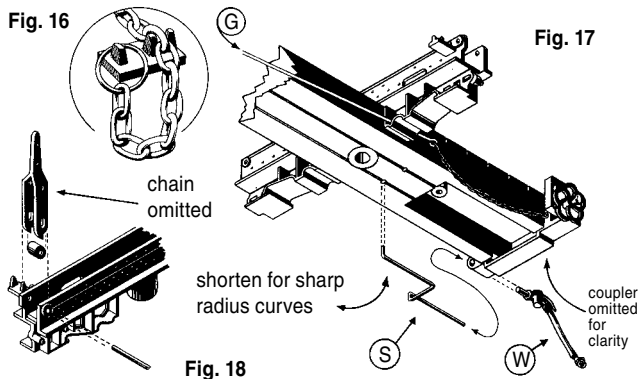
Flatten one end of the wire by squeezing between jaws of a pair of pliers. Trim this flattened end, as shown by dashed lines on flattened wire (inset Fig. 13), but leave sufficient flare to prevent the wire pulling back through the stake. Push this flattened end as close as possible to the stake side while other end of wire is trimmed close to the stake on its side. Repeat the flattening process once again with pliers and trim as recommended for the first side. The objective is to have as little excess wire as possible extending beyond the stakes sides, otherwise stakes will not fit down between the bunk sides when car is unloaded and they are in the down position.

small wire loop having two free ends, the ends must be spread apart and inserted through the end link of stake chain, one ring for each stake chain. Fig. 14 shows how NOT to spread this ring. Instead, foil on the direction of the arrows in Fig. 15 to spread ring ends sideways after the fashion of a split lock washer. After inserting ring through chain link, close ring ends "together" again, following this method the circular appearance of the ring is not so likely to be distorted.



**STAKE TO BUNK ...**

Insert small plastic bushing between legs of stakes and center over holes on the lower end of stake. Using wire provided, push a length of wire through hole in bunk end, through the bushing in stake and out through the other side of the bunk using pliers to force the wire through with a twisting motion. The wire is a snug fit in the bushing so this friction will keep the wire in place permanently. Trim wire close to bunk sides and proceed with other three stakes. Placement of these parts is shown in Fig. 18.

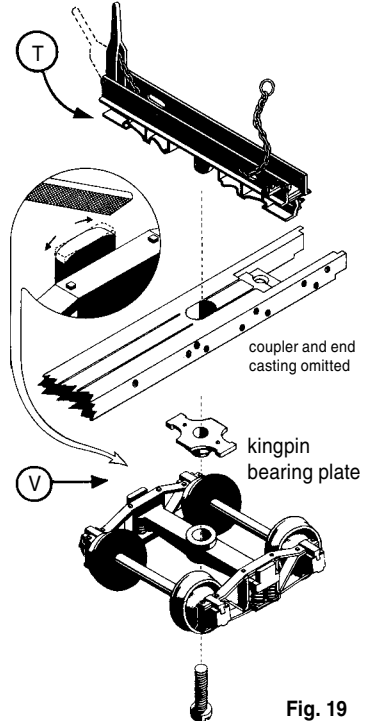


Once stakes are in place, feed free end of stake chains through side openings in bunk opposite from where stake is located. This is shown in Fig. 19 where only one stake and chain assembly is shown for sake of clarity. On the original log cars, to hold a load of logs, stakes must be near vertical and they are prevented from falling outwards by adjusting the chain length on the opposite side of the bunk.

At this point chain links are caught between two vertical projections on a small bracket on bunk side. The stakes on our models have elongated pivot holes and locking dogs on their lower ends, which when pushed down in the vertical position, locks against the bunks, preventing them from falling outwards. Pulling upwards releases the dogs and allows them to fall inwards as well as outwards. See Fig. 18 for clarification. See Fig. 16 and note how excess chain drapes downward from the bracket and is then brought back up to place grab ring over a third outer lug on the bracket.

**FINAL ASSEMBLY ...**

Before trucks are fastened in place, install air lines "S" in position, one on each end of car. Cement straight end of wire "S" into the hole of the end casting, the opposite end fits into a pre-cast hole in car body as shown in Fig. 17. On extremely sharp radius curves the wheel could possibly rub against air line "S", but this problem can be alleviated by cutting the wire shorter, replacing the correct bend and cementing it into a hole that can be drilled about 1/8" ahead of existing hole. This will allow greater truck swing and consequently permits operation over sharper radius curves. Now capture the end link of the 5/8" chain, from brake wheel, with the looped end of brake rod "G". Close the loop with pliers to secure the chain. Before pressing the bunks into place, this rod must pass through an opening on the underside of bunk, as seen in Fig. 17. Once this rod is passed through this space, press bunks into place, center stud of bunk passing through car body as shown in Fig. 19. Insert 2 - 56 truck mounting screw up through center of truck bolster and place kingpin bearing plate over this screw and down into truck kingpin hole. Screw truck up into bunk center but allow sufficient play here so trucks will swing freely. The opposite end of rod "G" now cements into clevis on brake lever "C" (see Fig. 7).



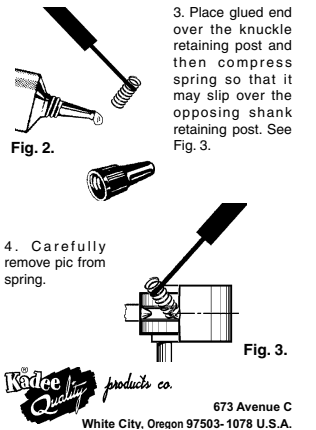
**Note:** the outer undersides of the bunks have bearing plates (T) that slide on the tops of truck bolsters (V) as truck pivots. This, of course, is to bear the weight of log load as it tends to tip on curves.

Where the model is intended to run on extremely sharp radius track curves, it is possible the truck bolster will bypass bunk bearing plates, thus when the truck straightens out again there could be a stubbing or jamming action at this point. This can be overcome by slightly rounding the tops of trucks bolsters (at V) with a few light file strokes as shown in enlarged view (inset in Fig. 19). To complete the model, add air hose and glad hand (W) by cementing into outer side of hole found in end casting. This is same opening wire air line "S" enters from rear (see Fig. 17).

**GLUING INSERT**

To prevent losing knuckle springs by being dislodged use the following steps and supplies. Kaddee® '241 Dual Tool (Manual Uncoupling Tool & Spring Pic), small piece of blue denim cloth, DUCO® CEMENT or WALTHERS® GOO®, or similar type cement. **CAUTION:** Always follow safety instructions for the cement that you may be using.

1. To pick up spring place it on the cloth (this allows the small springs to be seen and picked up easier) and insert '241 Dual Tool (Manual Uncoupling Tool & Spring Pic) into spring between coils near one end. See Fig. 1.
2. Touch one end of the spring into the cement so that no more than one or two coils are coated (too much cement will hamper coupler performance). See Fig. 2.
3. Place glued end over the knuckle retaining post and then compress spring so that it may slip over the opposing shank retaining post. See Fig. 3.
4. Carefully remove pic from spring.



**WARNING:**  
CHOKING HAZARD - Small Parts  
Not for children under 14 years.