

U.S.A. TRAINS EXTRUDED ALUMINUM PASSENGER CARS
#830 Coupler "G" Scale or #820 Coupler #1 Scale

The original coupler mounting platform is too low to mount a Kadee coupler onto and needs to be removed. Remove the entire mounting bracket and coupler assembly by removing the 4 screws at the base of the bracket and retain the screws, later the bracket will be used for a screw hole template.

To achieve the correct coupler mounting height for the #830 coupler you need to make a .120" thick platform from styrene sheet stock or other suitable material (see the illustration). The platform needs to be 1.575" wide x 1.550" long. Measure from one end of the platform forward .120" and mark a line across the surface, set the bracket onto the platform and line up the back edge (where the holes are) of the bracket with the line on the platform, and line up the outside edges of the bracket to the sides of the platform. Make sure both sides are even with the line, hold the bracket to the platform securely, and mark the screw hole locations as carefully as possible. Use a 4-40 clearance drill (#33 or #34) and drill the holes through the platform, be as accurate and careful as possible because it is easy to get the holes misaligned. If you are doing all of the cars in the set this is the same platform pattern needed for all of the cars except the observation end.

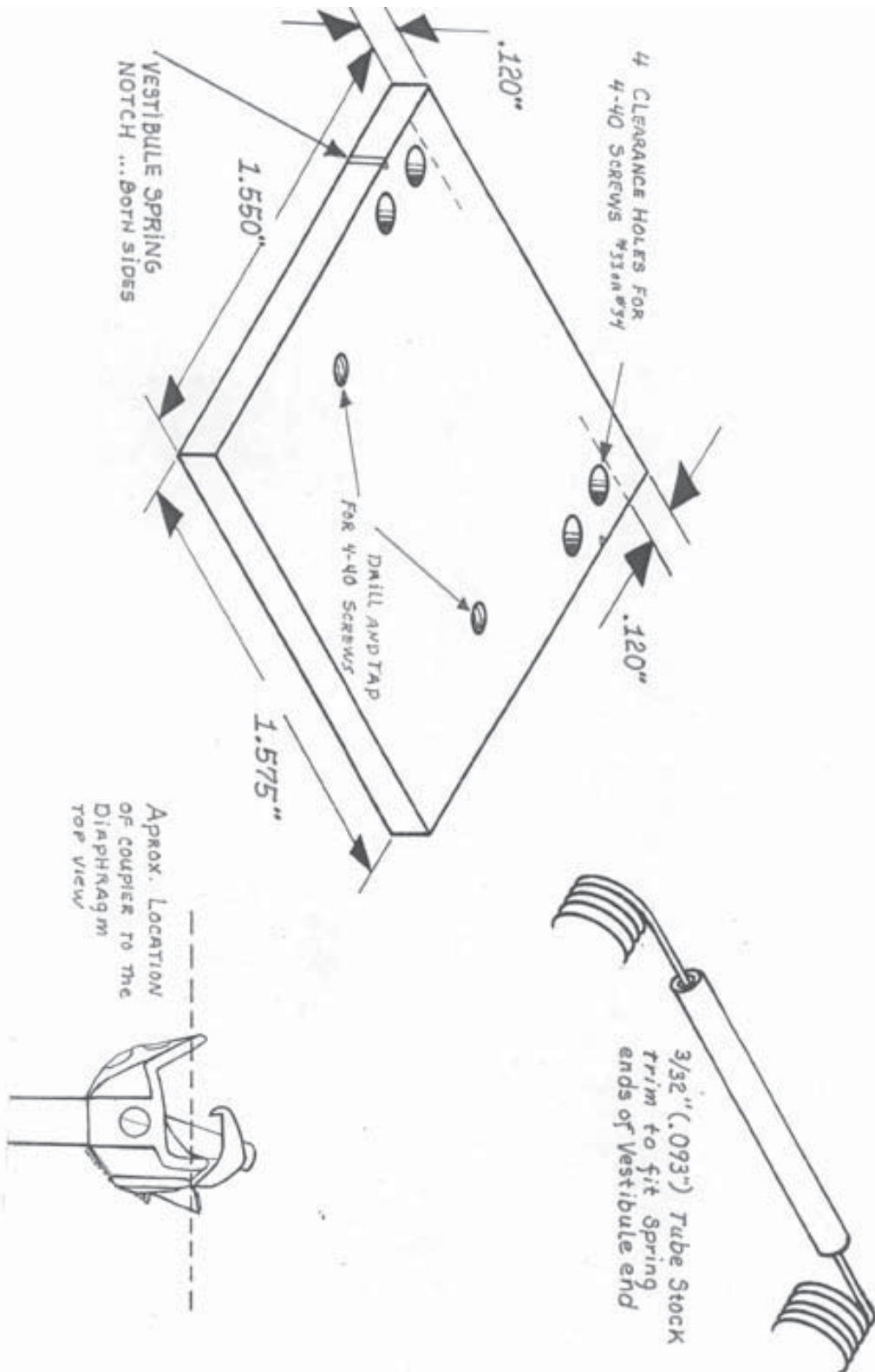
On the cars with a vestibule end (side doors and fold down steps), flip the long end of the springs down to the floor. Take the platform and file a notch into the edge between the holes, as illustrated, and set the platform onto the mounting holes adjust the springs where they fit into the notches. Also note that the short end of the spring now sticks out. You can simply snip them off with a wire cutter but we slipped the ends into a piece of 3/32" (.093") styrene tube stock that is long enough to hold the ends parallel to the floor. This retains the originality and keeps the spring from dragging or catching on the track.

Place the platform onto the car and secure it with the original screws. Place the assembled #830 coupler along the centerline with the lip of the lid against the front edge of the platform. If the platform is not square then adjust the coupler so it is correctly aligned with the car. The coupler head should be under the diaphragm where the knuckle is just outside the edge (see the illustrations). Mark the platform through the two outside holes. Use a 4-40 tap drill (#43) and drill the hole through the platform then tap the holes for a 4-40 screw. Use 4-40 x 1/2" screws to secure the coupler. The coupler comes with 2-56 x 3/4" screws and if you wish to use them then you will need to use a #50 drill and a 2-56 tap, then drill and tap the coupler holes through the shim platform and the original platform of the car.

To mount the #1 scale #820 coupler follow the above instructions for making the platform however you will need an additional .075" thick shim on the platform to lower the coupler to the correct #1 scale coupler height. You will also need to move the #820 coupler forward to achieve the same coupler distance to the end of the car. Be sure to allow enough room on the first platform for use of the original screws so the second .075" thick shim should be the same dimensions as the top of the #820 draft gear box. Use longer screws of appropriate length to compensate for the shim.

For the observation end build a similar platform using the same methods as above but use the two hole bracket for the template. Even though you use the G scale coupler on the other cars the #1 scale coupler may look better on the observation end. For a #1 scale coupler you can mount the #820 in its' draft gear box just behind the opening. Make adjustments for the coupler height. If you still want a G scale coupler on the observation end you may need to use an offset coupler like the #787 and mount the coupler only, without a centering system or draft gear box. With the #830 couplers mounted the cars will negotiate an eight foot diameter curve both pulling and pushing. The #1 scale couplers will negotiate a ten foot diameter curve but may not negotiate the eight foot curves without extra coupler swing by using the #882 flex bracket with the #820 coupler (or #819 coupler flex bracket combo). The flex bracket will not fit the vestibule ends so be sure to couple the vestibule end to an end with a flex bracket to negotiate the tighter radius curves.

Check the coupler heights and make any adjustments necessary. There may be some inconsistencies between the different cars so adjust the coupler heights with thicker or thinner shim stock.



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#830 Coupler Mounting Platform

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