Body-Mounting Kadee Couplers

Mount knuckles on LGB's 3080 and 3081 passenger cars

by Byron Fenton
Denver, Colorado

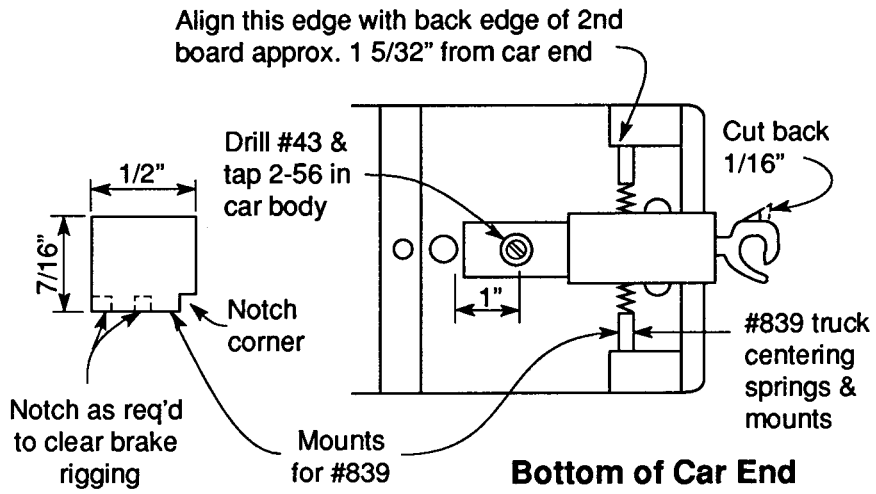
BODY-MOUNTED KADEE COUPLERS work and look much better than the truck-mounted style. They can be mounted on long cars and still work on short-radius curves. You can even use LGB's #1100s, but you will not be able to back your train through an S-curve with the couplers in the delayed position.

Basically, all that is needed is for the coupler to be mounted to an additional piece of plastic. This piece is then mounted on the underside of the car so that it has a pivot point farther back from the car end than a standard body-mounted coupler. This will allow a greater coupler swing angle from side to side.

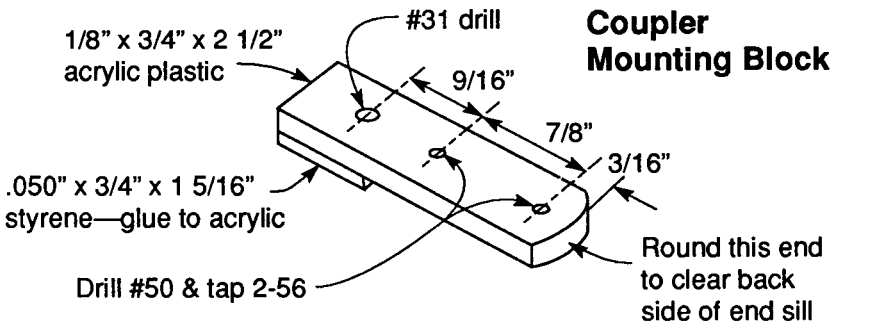
First refer to Kadee's instruction sheet for the #830 coupler (its fig. 12) and cut the coupler box back 3/16" on the sides to get maximum swing in the coupler box. Referring to the sketches in this article, cut back the triangular tang that protrudes from the movable portion of the coupler knuckle by 1/16". This improves coupling on short radius curves and has no effect on the proper function of the coupler in other situations. I would recommend cutting this off of all body-mounted couplers and all other couplers that may be mated with them. The LGB D&RGW passenger cars with body-mounted couplers will not couple on the shorter-radius curves without this modification.

Before assembling the coupler, cut the flange off of the top of the coupler lid, as this surface must slide against the bottom of the end sill of the car body. When you are ready to assemble your couplers, get out your soldering pencil (or iron) and warm it up. When you slip the lid on the coupler box, make sure the coupler operates freely, then take your soldering iron and melt the joint of the lid and box at four small places to secure the lid to the box. You'll need to puddle a *small* spot to get a good bond. Then smooth any projections in this area.

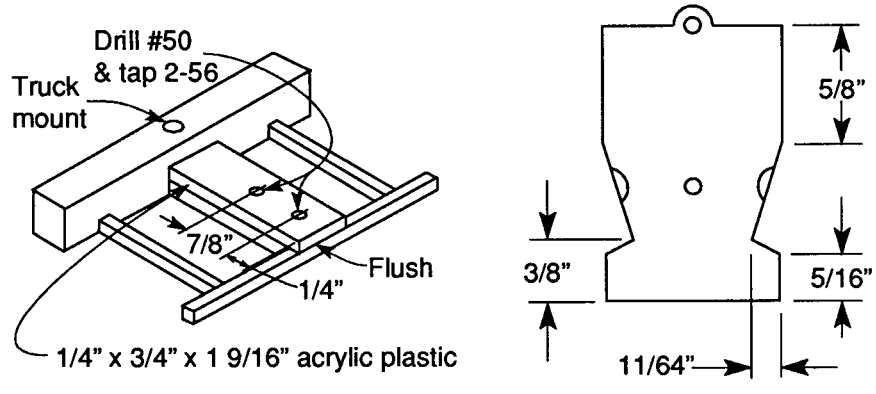
Next, cut the pieces that will form the coupler mounting block and mounts for the #836 spring retainers. Be sure to use an acrylic plastic (like plexiglass) for the main portion of the coupler mounting block. This must be a rigid piece without flex. Styrene can be used for all other pieces, and a piece slightly thicker than 1/8" would be a little better for the spring retainers. Glue a piece of .050" thick styrene to the bottom of the coupler mounting block with thin styrene cement such as Plastruct's glue. Then smooth all



Bottom of Car End



Coupler Mounting Block



Kadee #830 Coupler Mount for Delton Boxcar & Reefer

Template for #830 Coupler

Materials List (per car)

1 pkg. Kadee #830 couplers
1 pkg. Kadee #839 springs and retainers.
2 #4-40 x ½" long screws
2 #4 washers
Acrylic plastic ⅛" thick
Styrene plastic .050" thick

edges and round the coupler end as shown in the drawing. Drill and tap the holes as shown. Lubricate your tap with an oil suitable for use with plastic and it will tap much easier.

Remove the end sills with the railing from the car and cut off the U-shaped projection on the bottom side. Then file or sand the entire bottom side so that it will not project below the end sill of the car body and foul the coupler.

Remove the truck assembly and cut off the coupler tang beyond the cylindrical projections on each side (which should be left on the truck bolster), as these will be needed if you want to light this car. If you do not wish to, cut the coupler mounting tang off of your truck assembly at this time, remove the coupler, and when you remount the truck, turn it so that the coupler tang is pointing toward the center of the car.

Drill a #43 hole in the car floor, 2" from the edge of the hole provided for wiring (see sketch), and then tap with a 4-40 thread. Now glue the mounts for the spring retainers to the floor of the car, as shown. Use an all-purpose glue suitable for plastic, or a styrene cement with filler such as Testors styrene cement (in the tube). These adhesives will not hold terribly well, but there is no real strain on these pieces since they are butted to the back of the step. After they have dried, glue the spring retainers to the top of them. The back (closed end) goes against the step and sits on top of the ⅛" plastic. Align these so that they are level and there will be room for the spring to go freely into the open end. Insert a spring briefly before the glue dries to make sure it will work okay. Paint all the new parts (except the portion of the coupler mounting block that contacts the car underfloor) to match the car underbody or coupler.

Now all that's left is to attach the coupler to the mounting block. Cut the screw that goes closest to the knuckle down to ⅝" long, and put a lock nut on it after the coupler is mounted. Cut the other screw down to 7/16" long. Mount the assembly to the car with a 4-40 x ½" screw and washer. Place some dry graphite in the area where the coupler mounting block will contact the car body for lubrication. Tighten this screw down snugly and move the block back and forth to seat the graphite. Then loosen it slowly until it just moves freely. You do not want any more up-and-down play than necessary. Put the springs in the retainers and reinstall the truck.

This same prinicple can be applied to other long cars, as well as to cars in other scales. I have also included a sketch for body mounting the #830 coupler on Delton boxcars and reefers. The dimensions for cutting the coupler box for clearance are approximate; check for clearance before assembling the coupler. The sides of the coupler box must also be cut back 3/16", as described above and on the Kadee instructions. MS