

MODIFYING #804 COUPLERS TO On3 SCALE

If you wish to use a standard gauge coupler for narrow gauge equipment, such as in Denver and Rio Grande, you can modify the #804 as described below. If you would like to use a 3/4 size coupler on your narrow gauge equipment, such as in Colorado and Southern, use Kadee's® #803 On3-Scale Coupler.

Use Kadee's® #813 On3-Scale Height Gauge for your coupler installation and trouble-shooting measurements.

The #804 Draft Gear Box may be altered as shown in Fig. 11 for extra clearance needed to mount coupler to On3-Scale equipment. Be careful not to shorten it too much as this will cause the Centering Spring to fall out. Draft Gear Box Lid is left unaltered and attached to the mounting platform with an extra mounting screw. Round the back corners of the coupler shank slightly and file off the hook on the back of the shank.

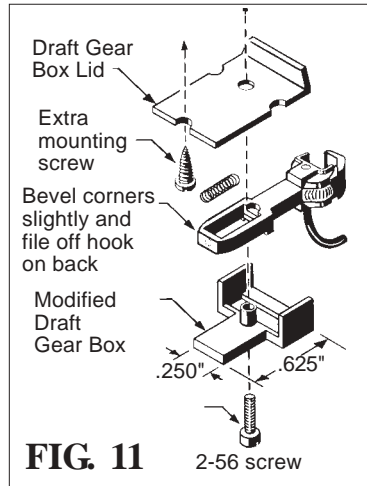


FIG. 11 2-56 screw

Fig. 12 shows the N.M.R.A. coupler centering height for On3-Scale (9/16"). Distance between mounting platform and railtop should be .650". Adjust Trip Pin as shown in Fig. 10 to be 1/16" above the railtop. Use Kadee's® #813 On3-Scale Height Gauge to check measurements.

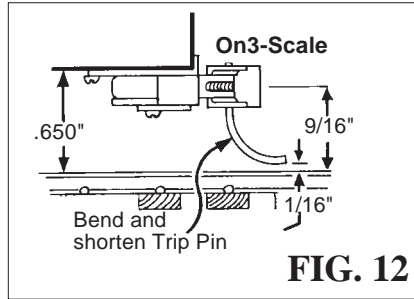


FIG. 12

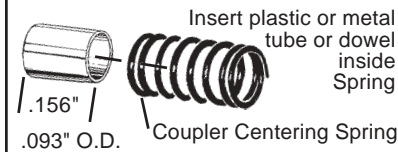
KADEE® O-SCALE UNCOUPLERS

With Kadee® Magne-Matic® Couplers, use our O-Scale #809 3 Rail Between-the-Rails, #811 Between-the-Rails and #308 Under-the-Track (double or triple stacked) Magnetic Uncouplers; or use our #810 "Magne-Electric" Electric Uncouplers. Kadee® Uncouplers are specially designed to operate Kadee® Couplers properly. Correct operation of our couplers cannot be guaranteed, should you wish to substitute other types of magnets. Kadee® Uncouplers include detailed instructions for locating and mounting uncouplers.

COUPLER LUBRICATION

Use Kadee® #231 Greas-em, a dry graphite lubricant recommended for use in all Kadee® Magne-Matic® couplers.

OPTIONAL: If you wish to decrease slack/runout of Coupler in Draft Gear Box use this modification:



Greas-em does not attract dirt or dust that can gum up the insides of couplers as oil and grease does.



673 Avenue C
White City, OR 97503-1078

Made in the U.S.A.

© 2002 Kadee® Quality Products Co.

100702



800 801 & 804 Plastic Coupler Instructions

Packet contains: two Couplers, two Draft Gear Boxes, two Draft Gear Box Lids, three coupler Centering Springs and one (extra) Knuckle Spring. See Fig. 1 for parts identification.

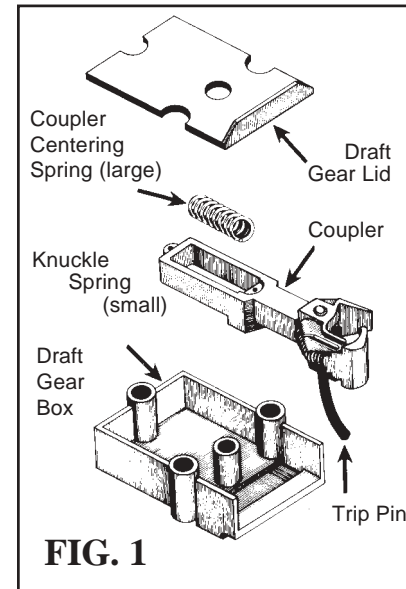


FIG. 1

ASSEMBLY:

1. IMPORTANT: Before assembling couplers, check areas shown with "arrows" in Fig. 2 for flash and rough spots - remove with a file.

2. Burnish the "arrow" marked surfaces shown in Fig. 2 with Kadee® #231 Greas-em (a fine dry graphite lubricant especially suited for Kadee® couplers).

NOTE: Follow and complete Assembly Steps 1 & 2 carefully, they are mandatory for smooth, trouble-free coupler performance.

3. Place coupler into Draft Gear Box, as shown in Fig. 3. Add a little more #231 Greas-em and "toggle" coupler back and forth in box to burnish further.

4. Place coupler and Draft Gear Box together. While holding with Kadee® #1020 Tweezers, install Centering Spring

Remove burrs and rough spots on areas indicated

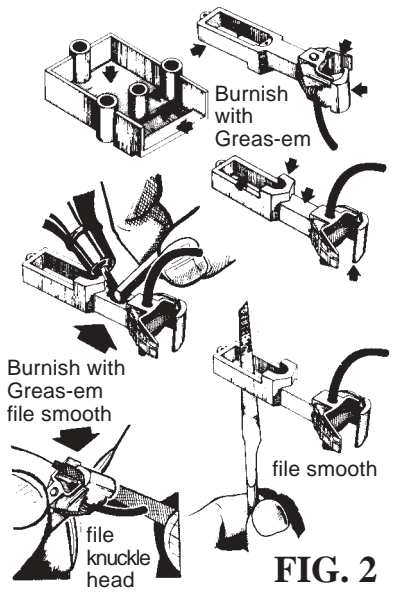


FIG. 2

into spring slot using a Kadee® #235 Spring Pic or small jewelers screwdriver wedged between the last two coils of the spring (see Fig. 4).

5. Place Draft Gear Box Lid on box, being careful not to dislodge Centering Spring,

then slip tweezers out. While holding lid in place, test coupler centering action by toggling it back and forth. Coupler

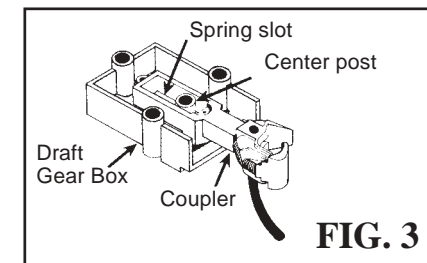


FIG. 3

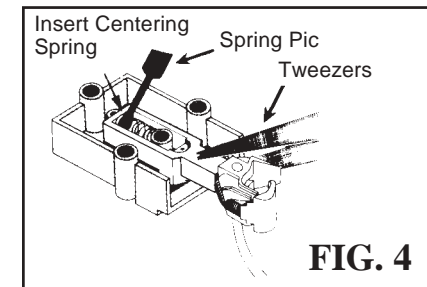


FIG. 4

should move freely and automatically snap back into center position. If needed, disassemble coupler, check for proper spring seating, then reassemble.

6. Coupler Knuckle Springs are pre-installed. If one should come out during mounting - replace as follows: Insert #235

Spring Pic (or small jewelers screwdriver) between end coils of spring. Place opposite spring end over cone shaped projection in knuckle spring slot, then compress spring until opposite end can be slipped over other cone. Remove Spring Pic (see Fig. 5). Do not substitute any other spring for knuckle spring. To assure proper coupler operation, use only Kadee® O-Scale #845 Knuckle Springs.

7. Coupler and Draft Gear Box are now assembled. For mounting on equipment with limited space, Draft Gear Box can be altered. Fig. 6 shows possible alterations.

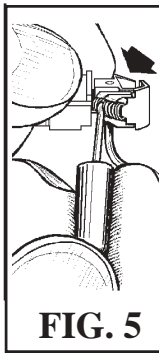


FIG. 5

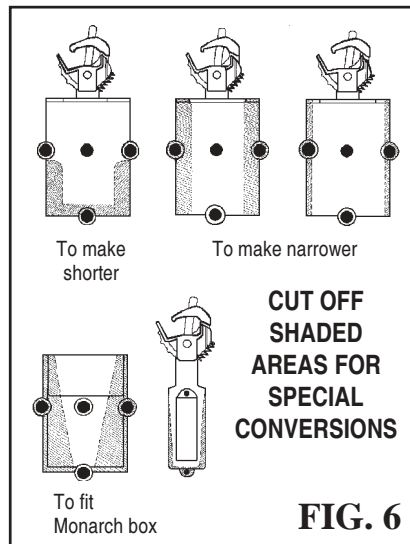


FIG. 6

c. If coupler mounting surface is too low and you cannot raise car with washers - cut out a section of car floor to raise coupler mounting surface (take care to make it level and straight), see Fig. 9.

3. When car body is at correct height, measure to find exact centerline of car, then mount coupler and draft gear to car (on centerline) using any of the four mounting holes. Truck kingpins must be on centerline also or couplers will not mate. **Finding the centerline:** measure the width of car divide the width by two and then scribe this measurement on the coupler mounting surface.

4. Check coupler Trip Pin height using the Kadee® #812 Height Gauge - set car on track and roll car up to gauge. Trip Pin should just skim over top of gauge. If Trip Pin is too high or too low, adjust as shown in Fig. 10. Trip Pin standard O-Scale

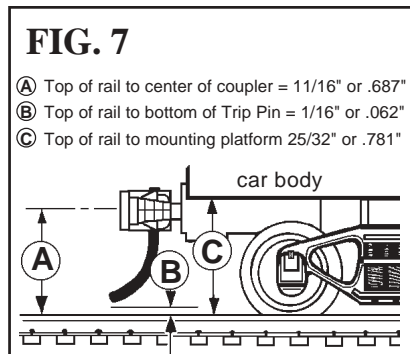


FIG. 7

- (A) Top of rail to center of coupler = 11/16" or .687"
- (B) Top of rail to bottom of Trip Pin = 1/16" or .062"
- (C) Top of rail to mounting platform 25/32" or .781"

MOUNTING:

Check coupler mounting height, using Kadee® #812 O-Scale Height Gauge.

1. To permit standardization of your rolling stock and interchange of equipment on different model railroads - we recommend mounting couplers at N.M.R.A. standard height, which is .687" or 11/16" from top of rail to centerline of coupler, see Fig. 7.

2. To mount coupler and Draft Gear Box at correct height, it may be necessary to alter coupler mounting surface or car height by one of the following methods:

a. Install spacer washers between truck and body bolsters. Use Kadee® #208 red (.015" thick) or #209 grey (.010" thick) fiber washers. This will raise car body, thus raising coupler mounting surface. Two red or three grey washers will raise car 1/32" inch.

b. If coupler mounting surface is too high - use a shim of correct thickness to lower coupler to N.M.R.A. height in between coupler and car mounting surface, see Fig. 7 and 8.

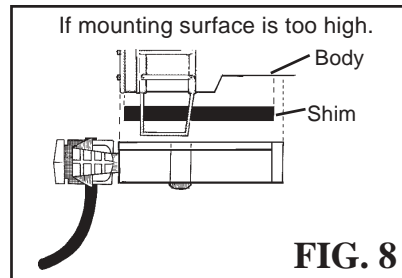


FIG. 8

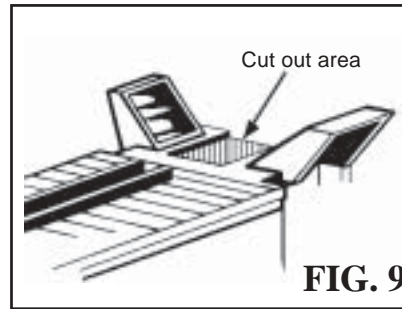


FIG. 9

height is 1/16" above railtop.

5. Your Kadee® #804 Plastic O-Scale Coupler is made with an acetal plastic, so it is completely insulated for mounting on metal cars or locomotives. It is ideal for pilot mounting for double heading on metal locomotives and cars. Use metal screws to hold draft gear and couplers in place. With steep grades and/or long trains we suggest the #805 Coupler and insulating it with a plastic screw and shim.

6. We recommend making up a 36" long test track with an uncoupler mounted about center for measuring, testing and adjusting each coupler and each Trip Pin, before putting equipment to work on your layout.

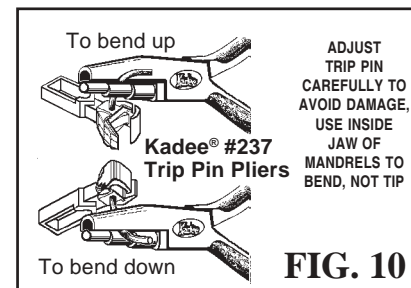
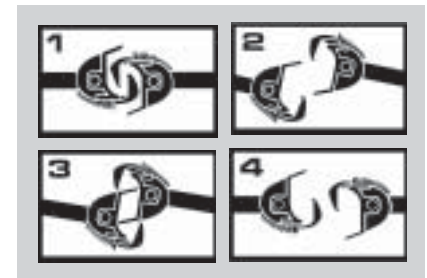


FIG. 10



COUPLER OPERATIONS

TO COUPLE - Simply push cars together. Upon touching, the operating knuckles move apart and then close in the coupled position. Only a "feather touch" is required to couple.

TO UNCOUPLE - Stop with couplers centered over magnetic uncoupling ramp (mounted in or under the track). Allow slack between couplers, they will automatically disengage (uncouple). Now, back away. Each coupler knuckle has a metal "Trip Pin", (glad hand), which extends downward towards the track. Magnetic force upon the Trip Pins automatically pulls knuckles apart. **See #1.**

FOR DELAYED UNCOUPLING -

To set couplers in delayed position: Uncouple and withdraw slightly, keeping couplers over uncoupler. Magnetic force swings couplers off-center. (Couplers will hold this position as long as they are over the magnetic uncoupling ramp). **See #2**

To delay uncouple: Move forward gently until couplers touch in off-center delayed position. Now, push car(s) to any desired point. **See #3.**

Withdraw, leaving uncoupled car(s) "spotted" at the desired position on your track. Couplers will automatically snap back to center position, ready to couple. **See #4.**

The Kadee® Magne-Matic® Coupling System offers automatic, hands-free, realistic operation of your railroad. The unique "delayed action" uncoupling feature allows full operations, while using a minimum of uncoupler ramps, plus the ability to spot cars anywhere.