



COUPLER CONVERSION FOR
Aristo-Craft™ RS-3 (large radius)
U.S.A. Trains® NW-2 (large radius)
Lionel® GP20 (large radius)

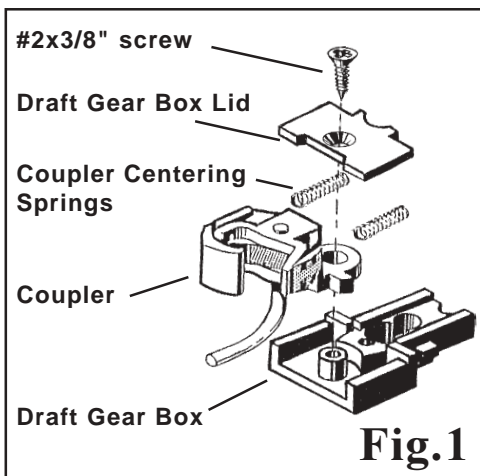
Note: Suggested minimum radius is larger than 4' (8' diameter).

To operate Aristo-Craft™ RS-3 on smaller radius use #788/1788 or the #786/1786 package

U.S.A. Trains® NW-2 (small radius) also available. Contact Kadee® for information. (541) 826-3883

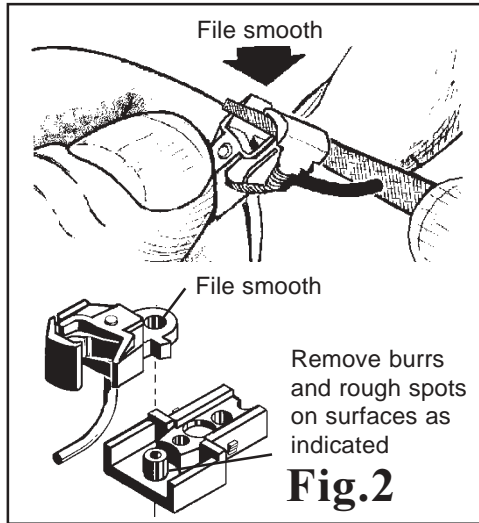
Check packet, it should contain: 2ea. Couplers, 2ea. Draft Gear Boxes, 2ea. Gear Box Lids, 5ea. Coupler Centering Springs, 1ea. Knuckle Spring, 2ea. #2x3/8" screws, 2ea. #4x3/8" screws, 2ea. #4x1/2" screws, 4ea. plastic plates, 2ea. black plastic .032" shims and 4ea. white plastic .010" shims. Extra springs are provided should any become damaged or lost. All springs are made of stainless steel so they will not be affected by outdoor use.

Note: Some mountings require alteration of the gear box prior to assembly. Read instructions and the mounting section concerning your conversion before proceeding.

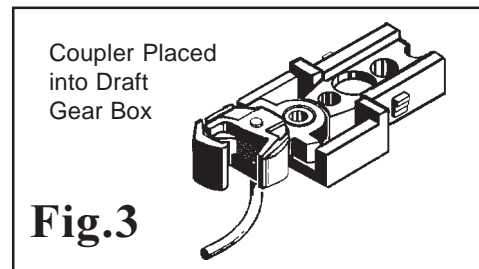


ASSEMBLY

1. **IMPORTANT:** Before assembling Couplers, check arrow-marked areas shown in Fig.2 for burrs and rough spots. Remove all flash and burrs with fine file or a hobby knife to assure freedom of movement after the Coupler is assembled.



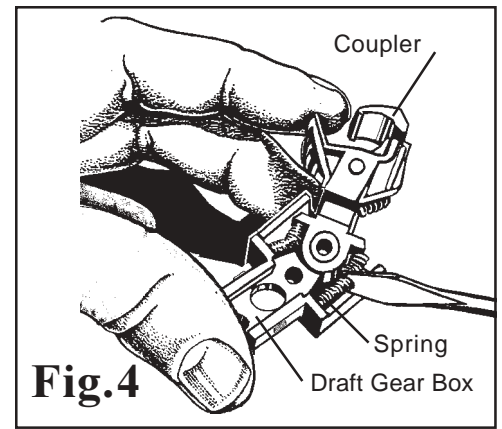
2. **Burnish** the surfaces indicated by arrows in Fig. 2 with Kadee® #231 Greasem, a fine, dry lubricant specially suited for Kadee® Couplers. **DO NOT** skimp on steps 1 and 2, they are mandatory for smooth, trouble-free, Coupler performance.



3. Place Coupler into Draft Gear Box as shown in Fig. 3. Add a little more Greasem and work Coupler back and forth within gear box to polish.

4. Swing Coupler to either side and install the first Centering Spring with a small screwdriver or tweezers as shown in Fig. 4. Now swing the Coupler to compress the installed spring and hold in place with your thumb. This will give you room to fit the second Centering Spring in place. After installing both springs, allow the Coupler to center itself. Then, assured the springs are properly seated, carefully place Draft Gear Box Lid on Gear Box and secure with a #2 x 3/8" screw to hold in place.

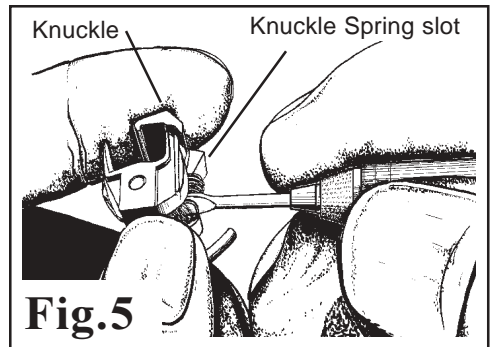
5. Test Coupler centering action by working it back and forth. If it doesn't work



freely and snap back to the center position, take Coupler and Draft Gear apart and start over again. It is possible that the springs aren't properly set in place or a burr is preventing proper movement.

6. Coupler Knuckle Springs are factory installed. If one should come out during mounting, replace as follows: Insert small screwdriver blade between coils at one end of spring, then place other end of spring over either of the cone-shaped projections in the knuckle spring slot. Compress spring until the end can be slipped over opposite cone, see Fig. 5. Use only #860 Kadee® G Scale Knuckle Springs or #1875 Kadee® #1 Scale Knuckle Springs designed for this purpose. Any substitutions will not allow the coupler to work properly.

7. Coupler Assembly is now ready for mounting. **NOTE:** If after extended use, the Coupler does not snap back to center as when new, it is because the uncoupling action tends to collapse one centering spring more than the other and it takes a slightly shorter set. To correct this, simply remove and switch springs from one side to the other.

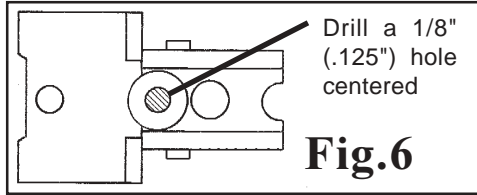


MOUNTING

U.S.A. TRAINS® NW-2
LARGE RADIUS TRACK

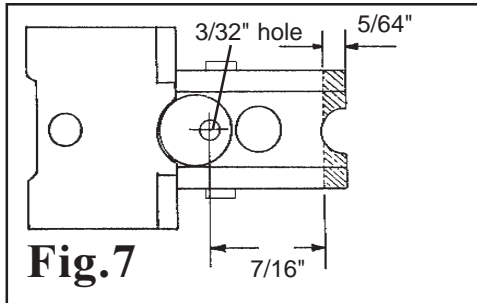
Drill a 1/8" (.125") hole centered in the recessed clearance hole of the gear box shank FIG. 6. After assembling the

coupler, mount onto the coupler mounting block with a #4x3/8" screw. If the coupler is too low use one .010" white shim (included) under the back of the gear box shank. To prevent the gear box from moving and to improve appearance, use the 4 plastic plates which are included to fill the gaps on the sides of the draft gear boxes. File them to fit snugly and secure with a plastic compatible cement.

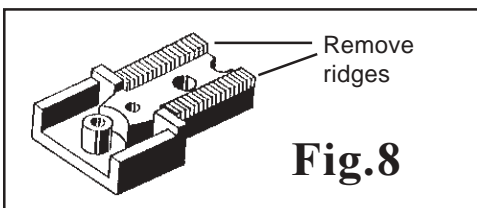


ARISTO-CRAFT™ RS-3 LARGERADIUS TRACK

The shank end of the gear box needs to be trimmed until you can fit the top of the mounting post into the large recessed hole of the gear box shank. Slide the gear box over the post until the shank touches the back wall of the coupler pocket area. Trim small amounts at a time off the end of the shank until it slips over the post (about 5/64") **FIG. 7**. Be careful not to remove too much at this time as it is important to keep a very snug fit where the post is against the back edge of the recessed hole and the trimmed end of the shank is against the back wall.

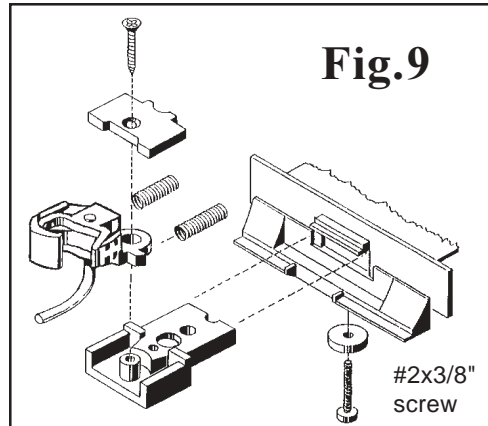


After trimming the gear box shank, mark for the new mounting hole location. It should be 7/16" from the rear and on center. Use a 3/32" drill bit and drill a hole for the posts mounting screw. **Note:** This hole will not be centered in the large recessed hole **FIG. 7**. Slip the coupler over the post and secure with the original screw without the washer.



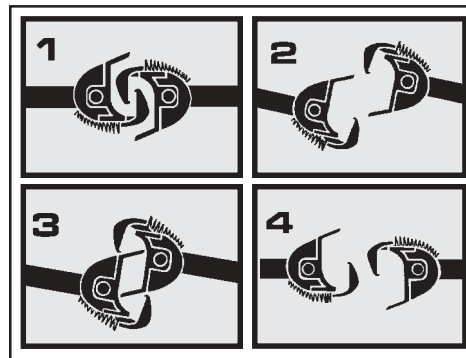
LIONEL® GP20

Remove just enough off the top of the ridges of the gear box shank **FIG. 8** to fit the pocket opening **FIG. 9**. After assembling the coupler slip the gear box shank through the pocket opening on loco and secure with a #2 x 3/8" screw and washer. Check coupler height.



OPERATION

One of the many desirable features of Kadee® Magne-Matic® Couplers is their ability to perform "delayed uncoupling". **TO COUPLE:** Simply push cars together. Upon touching, the operating knuckles move to opposite sides then couple in a closed position. Only a "feather touch" is



required to couple. **TO UNCOUPLE:** Stop over a Magnetic Uncoupler so your Kadee® Magne-Matic® Couplers are approximately half way over the Uncoupler. You must create slack between the Couplers which will allow them to be drawn open by the magnetic force acting on the two Trip Pins. Each Coupler has a wire or "Trip Pin" extending down from its knuckle, towards the track, that looks like an unhooked air hose. **See #1. Note:** You may find it best to pull the train past the magnet, then back the cars over it. Now, when you pull forward, the Couplers disengage. At this point, magnetic force will draw the Couplers off-center, **see #2**. Couplers will hold this position as long as they remain over the magnet. When you back up, bringing

Couplers together again over the magnet, they will not recouple, but will mismatch in the "delayed" position, **see #3**. With a single Kadee® Uncoupling Ramp, you can set the Couplers on one car, or a string of cars, in the "delayed" position for spotting cars at several points beyond the Uncoupler. Just push the car or cars to the desired location and drop off. As you pull forward again, the two Couplers in the "delayed" position separate and snap back to their normal centered position, ready for recoupling, **see #4. Kadee® Magne-Matic® "delayed action" uncoupling** has unlimited possibilities for realistic operation of your railroad. Kadee® Couplers work even better than the prototype because they work automatically, with nothing touching them.

Use Kadee® #231 Greas-em, the dry lubricant recommended for use with all Kadee® Magne-Matic® Couplers. Greas-em will not attract the dirt and dust that gums up the inside of couplers like oil, grease or other lubricants will.

Use Kadee® #840, #841, #842, and #844 Magnetic Uncouplers with our G and #1 scale Couplers. The #840 and #841 Uncouplers are mounted in the track section of your choice, either LGB™ #840, or Kalamazoo #841. #842 Uncouplers come without track and are for mounting in LGB™ or other similar tracks. It will be necessary to cut the track, complete instructions are included. #844 Uncouplers also come without track and are for use with LGB™ or other similar types of track. No cutting of the track is necessary. We cannot guarantee the satisfactory operation of our Couplers if other kinds of magnets are substituted for the Kadee® Magnetic Uncouplers.

NOTE: To prevent damage to couplers: If you plan to store your equipment in the original box, the gear box may need to be modified to properly allow clearance for your new Kadee® Couplers. Simply cut openings in the gear box ends to give extra clearance for Kadee® Couplers.

MAGNE-MATIC®

Kadee Quality products co.

673 Avenue C
White City, OR 97503
(541) 826-3883

Made in the U.S.A.