



# MAGNE-MATIC<sup>®</sup> Standard Couplers

**CONTENTS:** 4 Draft Gear Boxes & Lids, 4 Bronze Centering Springs, 4 Couplers, 2 Knuckle Springs

Kadee<sup>®</sup> Standard, Scale & Shelf coupler heads have been designed & tested to function with all Kadee<sup>®</sup> HO & HO<sub>N3</sub> Couplers.

To avoid electrical shorting through the coupler Kadee<sup>®</sup> does not recommend a metal to metal coupler mounting. Use a plastic draft gear box or an insulated coupler from our 20 or 30 series coupler lines.

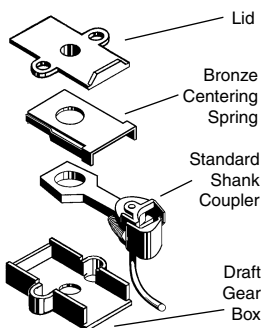
**Shelf Coupler NOTE:** The top hood (shelf) protrudes quite a bit and may interfere with bodywork on certain models. There will be certain mounting limitations with the height of the top hood on Shelf Couplers. Because Kadee<sup>®</sup> shelf couplers keep the couplers from slipping apart, modelers may desire to use them to keep cars from unwanted uncoupling over rough or uneven trackage. However, there are limitations to shelf couplers that will cause derailments. Couplers are not designed to compensate for rough trackage. Although they may help in areas, don't expect them to alleviate problems with poor modular connections, dips, bumps, gaps, sharp grade changes, other rough track work.

**Note:** The bronze centering spring plate must always be installed on the top of the coupler with the spring leaves (arms) facing down straddling both sides of the standard shank coupler.

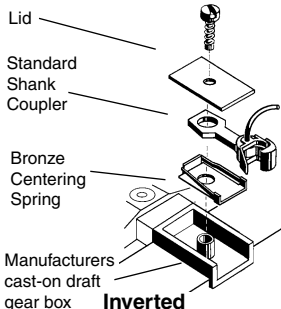
After removing the draft gear box from the sprue file off the break away point and any flash, making sure the inside of the box is smooth. Burnish the coupler shank on both sides.

**Note:** the two leaves of the centering spring should be outside and resting on the end stop (the up-bent piece at the end of the plate). If they are not, carefully lift them out past the edge of the end stop. Bend the end stop forward if needed. File any burrs from the front lip and around the hole of the centering spring. Place the coupler shank between the two leaves (arms), remember the spring is always on the top of the coupler. To assemble/install the coupler follow the illustrations in these instructions. Add a "puff" of our #231 Greas-em into the draft gear box. Make sure the coupler flexes back and forth freely.

You can cement the lid on the box using a small amount of solvent cement carefully placed along the seams if you wish.



Mount the draft gear box on a flat surface on the centerline of the car, with the lip of the gear box against the edge or end of the car or locomotive.



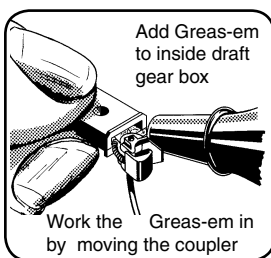
Drill and tap (if necessary) your mounting holes and secure with a #2 or 2-56 screw through the center hole or with two 0-48 or 0-80 screws through each of the two outer holes. Where the use of a screw is not possible a solvent cement can be used on a styrene mount and a "CA" glue can be used for other mounts. **NOTE:** that where glue or cement is used that it will be more or less a permanent mount and adjusting and servicing the coupler will be difficult. So be sure before cementing a coupler to a mount that the correct coupler height, function, and clearance is achieved before cementing.

The coupler and centering spring will simply "drop in" many cast-on draft gear boxes (a draft gear box that is a part of molded framework or body of a car or locomotive).

It will also fit into many manufacturers screw on and clip on draft gear boxes. Make sure the inside of the box is free of any obstructions and flash. Test fit the spring, it must have room to flex the arms without binding. Some centerposts may be too small, allowing too much coupler play and will hinder centering action. Compare the play in the supplied draft gear box to the cast on draft gear box and check if the spring functions properly. Make a small bushing (or sleeve) to slip over the post. We include two sizes of sleeves in our 20 series coupler packages (.055" ID and .100" ID) and they also are marketed separately as product #213. Place the spring and coupler into the draft gear box, again making sure the spring is on top of the coupler. Place the lid on the box and secure according to the manufacturers instructions. Do not over tighten for some lids may bind the spring. On Athearn and other types of clip

on lids you may need to file the edge of the tabs the lids clip onto to relieve any binding.

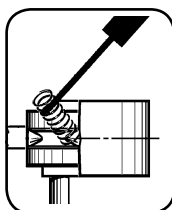
Use our #205 Height Gauge to check for the correct coupler height and trip pin clearance. The HO-Scale N.M.R.A. standard for coupler height is the centerline of coupler at 25/64" (.390"). Use our #237 Trip Pin Pliers to carefully adjust the trip pin clearance if necessary. Note: The Knuckle Spring used on Kadee® "SCALE" couplers are unique and should not be interchanged with the standard #622 HO-Scale Knuckle Spring. Replacement springs for "SCALE" couplers are sold as the #625 Knuckle Spring.



We include extra knuckle springs in a small capsule. To replace the knuckle spring, use our #241 Dual Tool (Manual Uncoupling Tool & Spring Pic) and insert it between the last two coils on either end of the spring. Then slip the end of the spring onto one of the retaining cones in the knuckle and compress the spring until you can slip the other end onto the opposing cone then withdraw the pick.

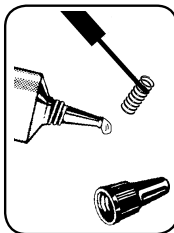
NOTE: To secure the knuckle spring more durably carefully dip the last two coils in DUCO® (or similar type of glue) or a thick slow drying CA glue ("do not" use the thin CA glue because it can easily "wick" into the knuckle and ruin the coupler). Then slip the end of the spring onto one of the retaining cones in the knuckle and compress the spring until you can slip the other end onto the opposing cone then withdraw the pick.

For Non-Delayed Uncoupling use our #312 Between the Rails Permanent Magnet Uncoupler. For Delayed Action Uncoupling use our #321 Between the Rails Permanent Magnet Uncoupler, #308 Under the Track Permanent Magnet, or our #309 Magne-Electric (Electro-Magnet) Under the Track Uncoupler.



Kadee® coupler conversion lists are available in the Walthers Reference Book. Kadee® coupler conversion list & coupler conversions are on the Kadee® web sight for your convince.

[www.kadee.com/conv/convpl.htm](http://www.kadee.com/conv/convpl.htm)

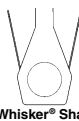


41, 141* 21, 31		"LU" Long all metal <b>Underset</b> shank raises knuckle height Long plastic <b>Underset</b> shank raises knuckle height	 <b>Long Center Set Shank</b>
146*, 156* 26, 36		"LC" Long all metal <b>Centerset</b> shank knuckle is centered Long plastic <b>Centerset</b> shank knuckle is centered	
49, 149* 29, 39		"LO" Long all metal <b>Overset</b> shank lowers knuckle height Long plastic <b>Overset</b> shank lowers knuckle height	
147* 27, 37		"MU" <b>Medium</b> all metal <b>Underset</b> shank raises knuckle height <b>Medium</b> plastic <b>Underset</b> shank raises knuckle height	 <b>Medium Center Set Shank</b>
105*, 9, 58, 118*, 119*, 148*, 158* 28, 38		"MC" <b>Medium</b> all metal <b>Centerset</b> shank knuckle is centered <b>Medium</b> plastic <b>Centerset</b> shank knuckle is centered	
42, 142* 22, 32		"MO" <b>Medium</b> all metal <b>Overset</b> shank lowers knuckle height <b>Medium</b> plastic <b>Overset</b> shank lowers knuckle height	
44, 144* 24, 34		"SU" <b>Short</b> all metal <b>Underset</b> shank raises knuckle height <b>Short</b> plastic <b>Underset</b> shank raises knuckle height	 <b>Short Center Set Shank</b>
43, 143*, 153* 23, 33		"SC" <b>Short</b> all metal <b>Centerset</b> shank knuckle is centered <b>Short</b> plastic <b>Centerset</b> shank knuckle is centered	
45, 145* 25, 35		"SO" <b>Short</b> all metal <b>Overset</b> shank lowers knuckle height <b>Short</b> plastic <b>Overset</b> shank lowers knuckle height	

**This Chart Represents Kadee® Coupler Shank Variations.  
Not Possible Variations in Draft Gear Boxes.**

A \* represents couplers with the Whisker® Shank all other couplers use the Standard Shank. All couplers listed will function in each others draft gear boxes with exception of the 30-Series gear box will not work with Whisker® Couplers. The #252 gear box is the Whisker® Coupler 30-Series equivalent gear box.

All the #140 series couplers may not be available at this time. They will be made available as necessary.  
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\* Whisker® Shank



Standard Shank

**Kadee®**

Quality Products Co.  
071509

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



Made & Assembled Entirely  
in the U.S.A.

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