



## Quality Products Co.

# **Catalog** The Coupler People®

**#148 Whisker<sup>®</sup> Coupler** Setting the standard in model railroading coupling.

Kadee<sup>®</sup> Quality Products Co. 673 AVENUE C WHITE CITY, OR 97503-1078 (541) 826-3883 Fax: (541) 826-4013 www.kadee.com mail@kadee.com



Patent number 5,662,229

## MAGNE-MATIC®









Stopped over a Magnetic uncoupler, allowing slack to occur between the couplers. Knuckles have opened.

Withdraw slightly to disengage couplers. Magnetic force of the uncoupler draws couplers apart, uncoupling them.

Enter over uncoupler again, couplers are in delayed position allowing pushing of car(s) without causing re-coupling.

Withdraw, leaving uncoupled car(s) on desired track. Couplers automatically return to normal coupling position.

#### Notes:

MARNING: Cancer and Reproductive Harm - www.p65warnings.ca.gov

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

## **INTRODUCTION AND TABLE OF CONTENTS**

Here is the latest product catalog from Kadee° featuring HOn3, HO, S, Sn3, O, On3, On30, \*1 and G scale products offering you the finest line of scale components for model railroading. The needs of our customers encourage us to try harder to make new and better products. Many changes we make simply reflect these changing needs as well as taking advantage of new technology in precision machining and die casting. The one thing that never changes though is the Kadee° Product Guarantee.

#### KADEE° PRODUCT GUARANTEE

All Kadee<sup>®</sup> products are guaranteed to be free of defects in workmanship or materials for 1 Year. Product defects arising from improper usage, shipping by sources other than Kadee<sup>®</sup> or abuse will not be honored. Cosmetic or environmental defects will not be honored. All returns must be authorized prior to return. Returns are shipped at the full expense of the customer unless prior arrangements have been made. Return defective materials directly to us for replacement or repair. Be sure to package items carefully as we cannot replace parts damaged in transit, nor parts that are determined to be damaged due to misuse or abuse. Subject to change without notice.

#### KADEE° PRODUCT RETURN POLICY

Product returns must be authorized prior to return. Returns may be made only up to 30 days from date of invoice & will be subject to a 20% restocking fee. Returns must include a copy of the original invoice and reason for the return. Returns are shipped at the full expense of the customer unless prior arrangements have been made. We cannot accept the return of products purchased from sources other than Kadee<sup>®</sup> Quality Products. Returns with defects arising from improper usage or abuse will not be honored.

Most Kadee<sup>®</sup> products are available at your local hobby shop. Your hobby dealer is your best source of Kadee<sup>®</sup> products and can provide many suggestions to help you enjoy your hobby. If your dealer is unable to provide you with the products you need, you may place your order directly with us. Orders may be placed by Phone, Fax or Online. Some items may only be available factory direct.

#### **RETAIL CUSTOMER ORDERING**

All orders must be placed through our website. <u>www.kadee.com</u> The Kadee<sup>®</sup> website has live inventory and will give you current pricing and shipping options for your order as well as calculate your shipping and handling fees on checkout. Orders may be paid for using VISA, MasterCard, Check, Cashiers Check or Money Order in US Dollars prior to sending the fulfilled order. A returned check fee of \$25 will be charged and accrued interest until paid in full. No C.O.D.'s. All customers are responsible for all taxes, duties, or customs fees.

We always welcome your questions or suggestions are always welcome at Kadee<sup>®</sup> for a reply to your questions e-mail us or mail us your Kadee<sup>®</sup> product related question, please include a self-addressed, stamped #10 envelope. Be sure to mention the scale you are working in.

Orders are usually shipped the same day as received. All merchandise is subject to availability at the time the order is placed. All prices, Shipping & Handling charges are subject to change without prior notice. UPS Surcharges may apply.

We reserve the right to correct errors and to modify designs or discontinued products without notice or obligation.

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### **COUPLER PRIMER**

The Kadee<sup>®</sup> coupler primer will better acquaint you with the basics of the Magne-Matic<sup>®</sup> coupling and uncoupling system. Kadee<sup>®</sup> Quality Products Company is proud that its Magne-Matic<sup>®</sup> couplers are regarded as "the hobbies most respected couplers," and in fact have become "The Standard by Choice" of model railroaders around the world. Also, we have included a list of terms and definitions used by Kadee<sup>®</sup> and much of the modeling world.

#### How We Arrived at Our Present Model Coupler

Model Railroading is a continually growing hobby beginning sometime in the early 1900's and has grown to the present day and it will continue into the distant future.

Manufactured models began as basic "toy like" models that could hardly be considered representative of the prototypes. Now days we have models that are so accurate that they are compared directly to the prototypes in almost every detail. Unfortunately, couplers did not advance at the same speed as the models and the industry suffered for a long time without a reliable functioning knuckle coupler. Modelers that have been in the hobby for a long time will remember the situation in the "old days" when, generally, couplers were not very reliable, realistic, or automatic.

When Kadee<sup>®</sup> Quality Products was formed it was with the idea of providing a reliable, realistic, automatic coupler and since 1942 Kadee<sup>®</sup> has remained a leader within the hobby.

Our earliest version of a knuckle coupler, the "K" series prototype was the first to combine a realistic looking coupler with a feature where the coupler is never "locked" in a closed position. This allows the coupler to actually be "coupled" to at anytime and because of this feature the knuckle will flex while negotiating tight curves but still remain securely coupled. This was a major achievement, enthusiastically welcomed by the hobby.

Although a big stride forward, the "K" still required physical contact with a mechanical uncoupler. This was quite conventional for its day but not the most satisfactory arrangement. So after arriving at this acceptable "K" style coupler head with its realism and dependability, the next logical step was to eliminate the physical contact with mechanical uncoupling ramps.

This was achieved with the introduction of **Magne-Matic**<sup>®</sup> **Uncoupling** and was a major breakthrough utilizing magnetic force to actuate the coupler. The letter "M" was added to indicate a "K" style coupler operated magnetically and these became our "MK" series. Not long after this breakthrough, Kadee<sup>®</sup> developed **Delayed-Action Uncoupling**. Now it was possible to "spot" cars at most any location without having to actually uncouple them before pulling away. This, however, was not the end of the modelers coupler

problems. Now, even with a dependable functioning coupler, the modelers still faced the problems of properly mounting them on the many different types and makes of models, which sometimes required extensive modifications.

Kadee<sup>®</sup> realized that model manufacturers don't always agree on standards for coupler mounting. Because of this, we developed and now offer the largest variety of coupler box styles, "offset" couplers, and different shank lengths to help compensate for these coupler mounting variations. Since "all" of our couplers are actuated magnetically we no longer use the "MK" to designate them. We simply use a product number sign such as <sup>№</sup>5<sup>®</sup> coupler or #148 coupler, etc.

Kadee<sup>®</sup> Couplers have become the most respected couplers world wide due to constant research and development and a commitment to quality. We are always striving to improve the standards of the model railroading hobby.

1. Uncouple Here

2. "Spot" Car Anywhere

## What is Delayed Uncoupling

**Delayed Magnetic Uncoupling**<sup>®</sup> It is a unique way of keeping the couplers open and uncoupled while you push the cars to be dropped off (or spotted) at most any location. The Delayed Uncoupler is mounted just ahead of the leading turnout (switch) in any track serving a number of spurs and sidings. Couplers can be automatically set in the "**delayed position**" by first uncoupling (see illustrated uncoupling steps) then pulling forward to completely disengage couplers. The couplers are now in the delayed position, **offset** in opposing directions and will remain this way over the magnet. Now push back into the couplers and as long as there is "constant" pressure against the delayed couplers the cars now can be pushed or "**spotted**" to any location beyond the uncoupler without recoupling. Once at the desired location, simply pull away leaving the car/s at that location. The couplers will now snap back to center and are ready to be coupled again.

Kadee® Magne-Matic® Couplers are usually easy to install and can

be adapted to almost any locomotive and rolling stock. Our couplers come with complete assembly instructions and, upon request, we provide special instructions and drawings for installations not covered in the couplers instructions, usually ones requiring some modifications.

## KADEE<sup>®</sup> AUTOMATIC COUPLING AND UNCOUPLING

#### KADEE<sup>®</sup> COUPLERS AND UNCOUPLERS

Kadee<sup>®</sup> Magne-Matic<sup>®</sup> Couplers with Delayed-Action Uncoupling offer freedom of operation and realistic prototype train movements, with a minimum of uncoupling devices. It is a complete "Hands Off System" and much more automatic than even those on full-size railroads. No actual hand contact occurs during uncoupling, thus assuring smooth, reliable performance. Our couplers can also be set in a "delayed" position that allows you to "**spot**" cars anywhere on the layout.

#### HOW KADEE° COUPLERS AND UNCOUPLERS WORK

The Delayed-Action Couplers are ready to couple at all times—just push two cars together and they automatically "couple up". As two couplers are pushed together, the knuckles pivot aside to bypass each other, then are returned to the closed position by a coil spring, known as the knuckle spring.

Uncoupling with Kadee<sup>®</sup> Couplers is done over a magnetic "**uncoupler**" (uncoupling ramp). Uncoupling takes place when mated couplers are pushed to a stop over a magnetic uncoupler. Kadee<sup>®</sup> Couplers are equipped with a metal wire "**trip pin**" that curves down from the knuckle of the coupler head. The trip pins are slightly off center so when a pair of couplers are stopped over an uncoupler and slack occurs between the two couplers, the magnetic force of the uncoupler pulls the two trip pins in opposite directions out towards the rails thus opening and "uncoupling" the couplers. If you push or pull the cars away from the magnet, each coupler will automatically snap back to its centered position. (Knowing this, you realize that you "cannot recouple" over a magnetic uncoupler.) This operation is known as "**slack uncoupling**", a very simple and reliable principle. Kadee<sup>®</sup> Couplers are designed so that it requires two conditions to be met for them to uncouple: **1**. Positioning the couplers over an uncoupler; and **2**. Slack being caused between the couplers. Therefore a train can be pulled over the uncoupler while keeping a steady tension and the cars will not accidentally uncouple.

In HO, to uncouple without Delayed-Action you must use our non-delayed '312 uncoupler mounted in correct position in your track. For HO Delayed-Action uncoupling, you must use one of our delayed uncouplers, '321 between the rails, '308 under the ties or '309 electric uncoupler.



Stopped over a magnetic uncoupler, allowing slack to occur between the couplers. Knuckles have opened.





Withdraw slightly to disengage couplers. Magnetic force of the uncoupler draws couplers apart, uncoupling them.



Enter over uncoupler again, couplers are in delayed position allowing pushing of car(s) without causing recoupling.



Withdraw, leaving uncoupled car(s) on desired track. Couplers automatically return to normal coupling position.

#### **STANDARDS**

The National Model Railroad Association, Inc. (NMRA), is an organization formed in 1935 to bring order out of chaos caused by the lack of standardization in the fledgling hobby of model railroading. It is made up of hobbyists like yourself, who have set down the *standards* accepted and used by the majority in the hobby. Official NMRA "Standards": Cover basic scale specifications and information on items which are critical to the functioning of model railroads and necessary to the interchange of equipment between layouts.

NMRA "Recommended Practices": Cover items of preferred design that are slightly less critical than those in *standards*, but are desirable for improved performance and maximum interchange between components.

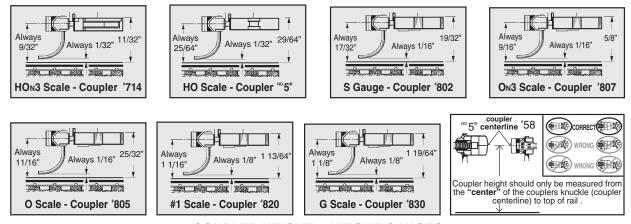
The *standards* set down by the **NMRA** help to standardize the industry, so to speak. They are the basics that most manufacturers try to follow when making model railroad equipment. This enables you to use equipment from different manufacturers and be assured that it will match up. We at **Kadee**<sup>e</sup> follow these **NMRA** *Standards* and *recommended practices* as closely as possible in all of our products. Our couplers are very close to prototype appearance, so they do require a different approach to adapting and mounting on your equipment. For this reason we included the illustrations for *standard* dimensions for HOn3, HO, S, O, and On3 couplers. It is very important that you mount the couplers (in all scales) at the proper height and exactly centered on your equipment. If the manufacturer of a particular car or locomotive has followed the NMRA standards for height of the coupler pocket or draft gear box on their model, you should be able to adapt the Kadee<sup>e</sup> Coupler and Draft Gear to their equipment without difficulty. If they have not, you may have to do some custom work to adapt Kadee<sup>e</sup> Couplers.

#### NMRA

If you are not already a member, there is much that you are missing, so we urge you to join. Write to NMRA, Inc., 4121 Cromwell Rd., Chattanooga, TN 37421, web site www.nmra.org, e-mail hg@hqnmra.org, phone (423) 892-2846, fax (423) 899-4869.

#### **COUPLER CENTERLINE HEIGHTS**

The N.M.R.A. Standard for coupler heights is measured from the top of the rail to the "**center**" of the couplers knuckle (coupler centerline). All Kadee<sup>®</sup> height gauges are designed to meet the N.M.R.A. standard which will ensure dependable and reliable performance.

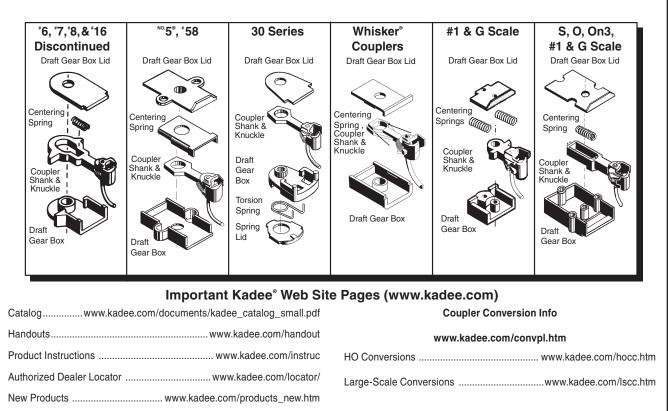




For the best and most reliable coupler performance the couplers need to be mounted at the "same height". To achieve the correct coupler height requires a coupler height gauge or couplers mounted correctly on a locomotive or rolling stock to be used as a gauge. Kadee° offers coupler height gauges for HOn3 ('704), HO ('205 or '206), S ('814), On3 ('813), O ('812), #1 ('829), and "G" ('880) scale. The above chart indicates the correct coupler heights for each scale. Also note, that now in HO scale there are couplers made to actual "scale dimensions" (our #58, #178, and #2100) where the coupler head is about 20% smaller than the standard <sup>∞5</sup><sup>5</sup> type of coupler. You still can use a #205 or #206 HO height gauge with a standard coupler or a scale coupler because you are only measuring or looking at the "center" and not the top or bottom of the coupler regardless of the actual size of the coupler head.

#### TYPICAL PARTS OF KADEE® COUPLERS

The illustrations below will help easily identify the various coupler components. Regardless of scale, all couplers are essentially the same and operate in similar ways.



## Kadee<sup>®</sup> HO-Scale Standard & Whisker Coupler Chart

Kadee® Manufactured & Assembled in the U.S.A. World's Best Magnetic Couplers!													
Chart Key SC = Short Centerset Shank SU = Short Underset Shank SO = Short Overset Shank MC = Medium Centerset Shank MU = Medium Underset Shank MO = Medium Overset Shank LC = Long Centerset Shank LU = Long Underset Shank LO = Long Overset Shank	Plastic Standard Head with Metal Knuckles Standard Couplers Standard Couplers Plastic Shank with 213 & 232 or 234 Cear Box Short Shank Short Shank Short Shank	Plastic Standard Head with Metal Knuckles Standard Couplers Plastic Shank with 233 With 233 Gear Box	Stan He Stan Cou	addard aad oddard plers Shank with 9 Shank Gear Box	Metal "Scale" Head Standard Couplers Metal Shank with 232 Control Control Metal Shank Gear Box	with 451 Extended Swing Gear Box	Stan He Whis Court Metal Wi 24 Sn Togg Ge	sker <sup>e</sup> sker <sup>e</sup> shank <u>Shank</u> tht ap ether sar ox	with 115 Log Car Narrow Gear Box	"Sc He Whi: Cou	shank with 178 Shank With 178 Scale" Gear Box	Metal "SF" Head Whisker <sup>e</sup> Couplers Metal Shank with 242 Snap Together Gear Box	Metal "SE" Head Whisker <sup>a</sup> Couplers Metal Shank with 242 with 242 Snap Together Gear Box
Short Centerset	КІТ	кіт	кіт	кіт	кіт	кіт	кіт	ASSY	КІТ	кіт	кіт	кіт	КІТ
Shank "SC"	23	33					143			153			
Short Underset Shank "SU"	24	34					144						
Short Overset Shank "SO"	25	35					145						
Medium Centerset Shank "MC"	28	38	5	9	58	451	148	3	115	158	178	118	119
Medium Underset Shank "MU"	27	37					147						
Medium Overset Shank "MO"	22	32					142						
Long Centerset Shank "LC"	26	36					146			156			
Long Underset Shank "LU"	21	31					141						
Long Overset Shank "LO"	29	39					149						
	Patent numbers 5,662,229 & 5,785,192												

## Kadee<sup>®</sup> HO-Scale Couplers

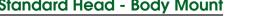


Kadee<sup>®</sup> Manufactured & Assembled in the U.S.A.



World's Best Magnetic Couplers!

## **Standard Shank Couplers** Standard Head - Body Mount



2 pair of Couplers , #634 Centering Springs & Draft Gear Boxes Note: The #148 coupler is the Whisker® Equivalent to the #5 coupler. See Offset Charts HO-1, HO-3, HO-4

- <sup>№.</sup>5<sup>®</sup> Metal - Medium (9/32") Centerset Shank - #232 Gear Box
- #9 Metal - Medium (9/32") Centerset Shank - #9 Gear Box has a smaller center mounting hole in the gear box than the #232 Gear Box.

#### 20-Series - Body or Talgo Mount



2 pair of Couplers, Offset Plastic Coupler Series with Metal Knuckles, with (#622) Coil Knuckle Spring, (#634) Bronze Centering Spring,

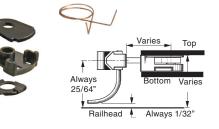
(#212) Talgo Truck Adapter, (#213) Gear Box & Sleeves, & Insulated (#232 or #234) Draft Gear Box. Note: A 140-Series coupler mounted using the 213 or 232 gear box is equivalent mounting dimensions but stronger. See Offset Charts HO-1, HO-3, HO-4

- #21 Plastic - Long (25/64") Underset Shank - #213 & #232 Gear Box
- #22 Plastic - Medium (9/32") Overset Shank - #213 & #232 Gear Box
- Plastic Short (1/4") Centerset Shank #213 & #234 Gear Box #23
- #24 Plastic - Short (1/4") Underset Shank - #213 & #234 Gear Box
- #25 Plastic - Short (1/4") Overset Shank - #213 & #234 Gear Box
- Plastic Long (25/64") Centerset Shank #213 & #232 Gear Box #26
- Plastic Medium (9/32") Underset Shank #213 & #232 Gear Box #27
- #28
- Plastic Medium (19/64") Centerset Shank #213 & #232 Gear Box #29
- Plastic Long (25/64") Overset Shank #213 & #232 Gear Box

#### 30-Series - Body Mount

2 pair of Couplers, Offset Plastic Coupler Series with Metal Knuckles, with (#622) Coil Knuckle Spring, (#621) Torsion Spring, & Insulated (#233) Draft Gear Box. Note: A 140-Series coupler mounted with the #252 gear box is the 30-Series equivalent. mounting dimensions but stronger. See Offset Charts HO-1, HO-3, HO-4

- Plastic Long (25/64") Underset Shank #233 Gear Box #31
- Plastic Medium (9/32") Overset Shank #233 Gear Box #32
- #33 Plastic - Short (1/4") Centerset Shank - #233 Gear Box
- Plastic Short (1/4") Underset Shank #233 Gear Box #34
- Plastic Short (1/4") Overset Shank #233 Gear Box #35
- #36 Plastic - Long (25/64") Centerset Shank - #233 Gear Box
- #37 Plastic - Medium (9/32") Underset Shank - #233 Gear Box
- #38 Plastic - Medium (19/64") Centerset Shank - #233 Gear Box
- Plastic Long (25/64") Overset Shank #233 Gear Box #39



Always 25/64

Railhead

#### "Scale" Head - Body Mount

2 pair of "Scale" Head, Die Cast All Metal (9/32") Medium Centerset Standard Shank Coupler, with (#625) Coil Knuckle Spring, (#634) Bronze Centering Spring & Insulated (#232) Draft Gear Box. Note: The #158 coupler is the Whisker Equivalent to the #58 coupler. See Offset Charts HO-1, HO-3, HO-4

Metal - Medium (19/64") Centerset Shank - #232 Gear Box #58

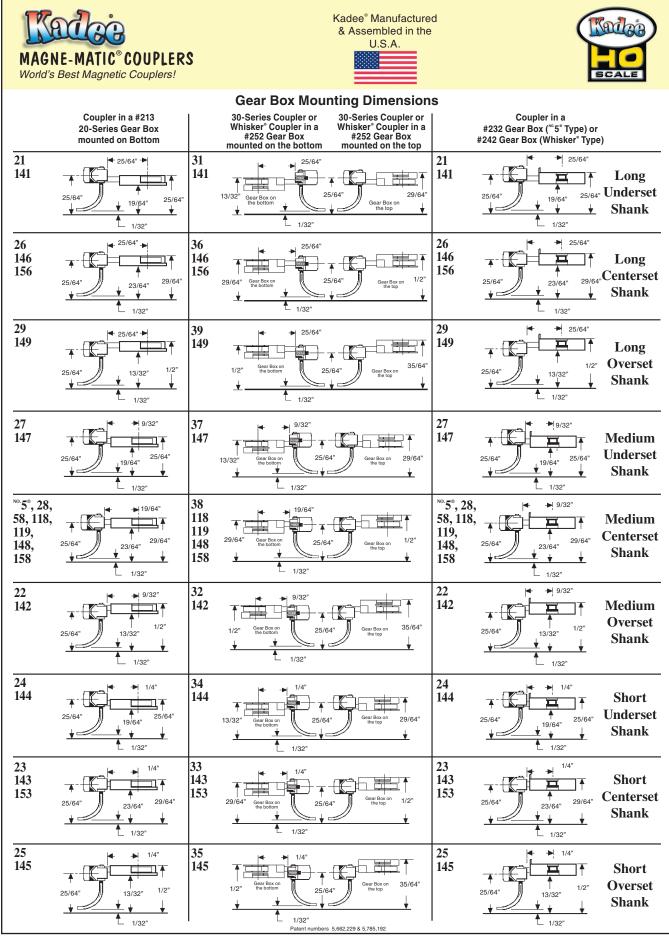


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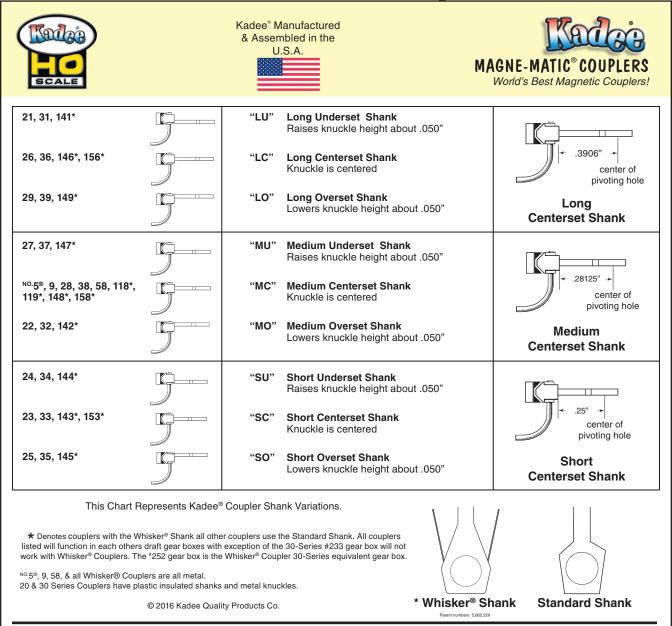
Always 1/32"



### Kadee® HO-Scale Gear Box Mounting Dimensions



### Kadee<sup>®</sup> HO-Scale Offset Couplers Chart

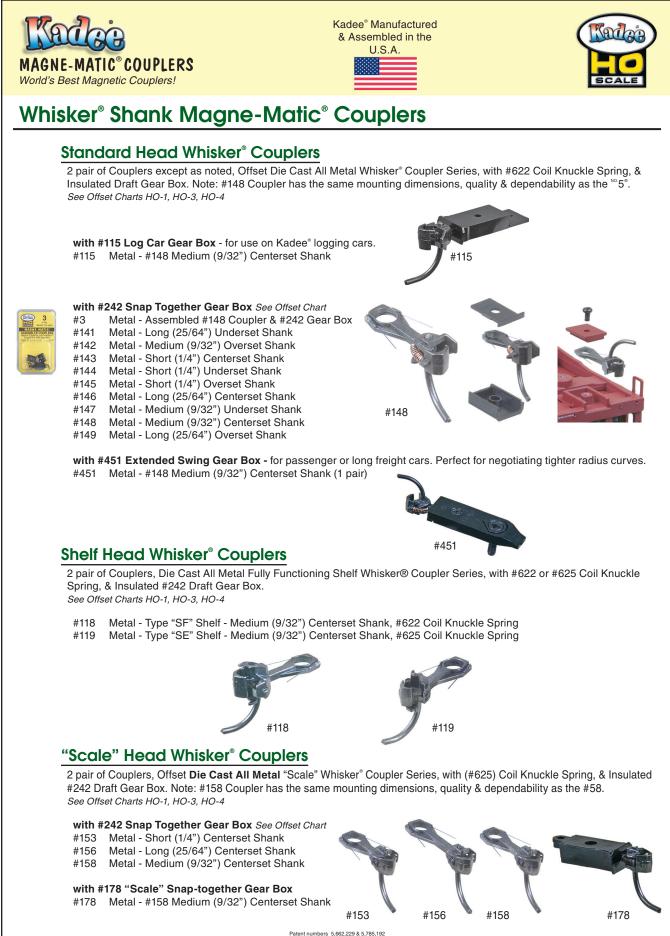


The Standard Shank design found on the #5, 9, 58, 20-Series, & 30-Series Couplers allows the couplers to be easily interchanged with #213, 232 (medium & long), 233, 234 (short), & 242 draft gear boxes as well as "molded on" coupler pockets.

The Whisker<sup>®</sup> Shank design found on the new #3, 115, 118, 119, 141, 142, 143, 144, 145, 146, 147, 148, 153, 156, 158, 178, & 451 couplers allows the couplers to be easily interchanged with #213, 232, 234, 242, 252, & 262 draft gear boxes as well as "molded on" coupler pockets.



## Kadee<sup>®</sup> HO-Scale Whisker<sup>®</sup> Couplers



### Kadee<sup>®</sup> HO-Scale Bulk Pack Couplers



Kadee<sup>®</sup> Manufactured & Assembled in the U.S.A.



World's Best Magnetic Couplers!

### **Bulk Pack Couplers**

	<sup>∞</sup> 5* Couplers without Gearboxes	#58 "Scale" Couplers without Gearboxes	#148 Whisker <sup>®</sup> Couplers without Gearboxes	#158 "Scale" Whisker <sup>®</sup> Couplers without Gearboxes
10 Pair Bulk Pack	10			
20 Pair Bulk Pack	11	12		
25 Pair Bulk Pack			14	150
50 Pair Bulk Pack			140	151

### **Bulk Packs Standard & Whisker® Couplers**

Kadee<sup>®</sup> Metal Knuckle & Centering Springs Won't Take a Set.



#### Standard Shank Bulk Pack Couplers

Standard Shank, Die Cast All Metal Couplers, with Coil Knuckle Springs, & (#634) Bronze Centering Springs, without draft gear boxes.



Metal - <sup>№</sup>.5<sup>®</sup> Couplers (10 Pair)

- Metal <sup>№</sup>5<sup>®</sup> Couplers (20 Pair)
- Metal #58 "Scale" Couplers (20 Pair)





Whisker® Shank, Die Cast All Metal Couplers, with Coil Knuckle Springs, without draft gear boxes.

 #14
 Metal - #148 Couplers (25 Pair)

 #118-25
 Metal - #118 "SF" Couplers (25 Pair)

 #119-25
 Metal - #119 "SE Scale" Couplers (25 Pair)

 #140
 Metal - #148 Couplers (50 Pair)

 #150
 Metal - #158 "Scale" Couplers (25 Pair)

 #151
 Metal - #158 "Scale" Couplers (50 Pair)

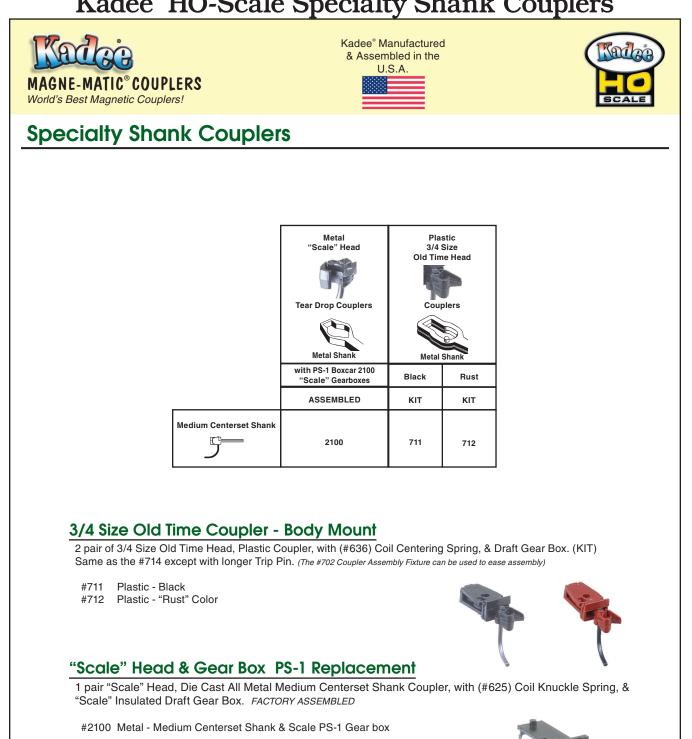
 #153-25
 Metal - #153 "Scale" Couplers (25 Pair)

 #156-25
 Metal - #156 "Scale" Couplers (25 Pair)

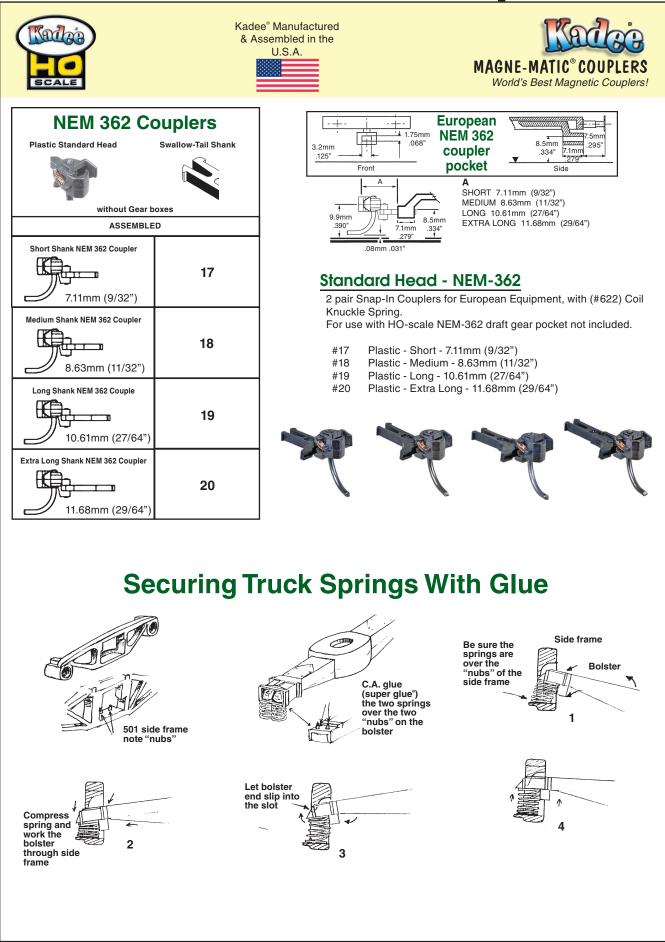


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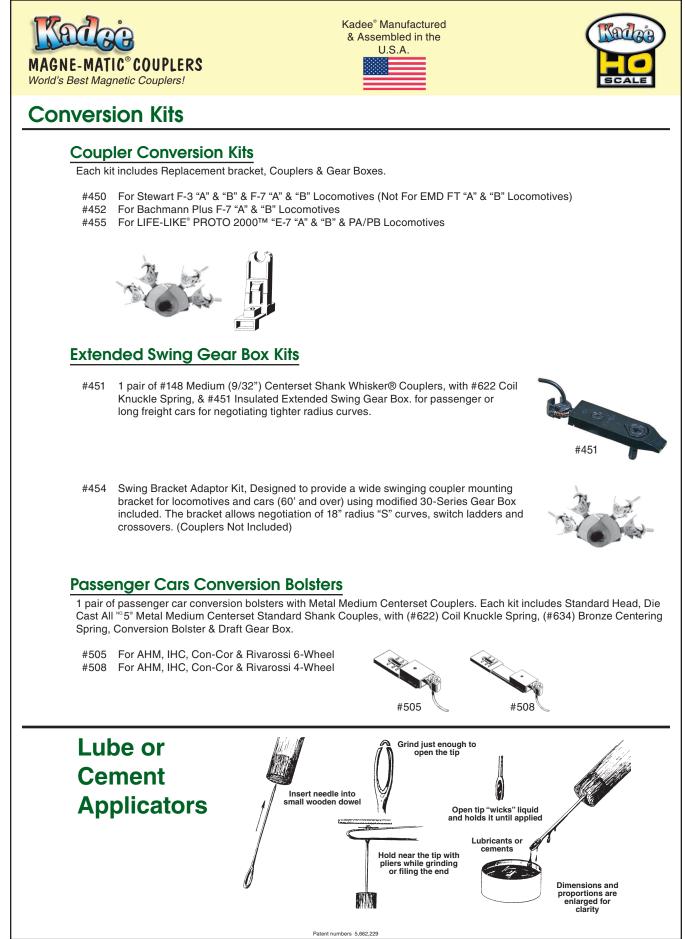
### Kadee<sup>®</sup> HO-Scale Specialty Shank Couplers



### Kadee<sup>®</sup> HO-Scale NEM-362 Couplers



### Kadee<sup>®</sup> HO-Scale Conversion Kits



## Kadee<sup>®</sup> HO-Scale Coupler Kits



Kadee<sup>®</sup> Manufactured & Assembled in the U.S.A.



### **Coupler Kits**

#### Coupler Sample Test Kit

#### #13

#### **Couplers One Pair of Each**

<sup>No</sup>5<sup>o</sup> Medium Centerset - Metal, #21/31 Long Underset - Plastic, #22/32 Medium Overset - Plastic, #23/33 Short Centerset - Plastic, #24/34 Short Underset - Plastic, #25/35 Short Overset - Plastic, #26/36 Long Centerset - Plastic, #27/37 Medium Underset - Plastic, #28/38 Medium Centerset - Plastic, #29/39 Long Overset - Plastic, #141 Long Underset - Metal, #142 Medium Overset - Metal, #143 Short Centerset - Metal, #144 Short Underset - Metal, #145 Short Overset - Metal, #146 Long Centerset - Metal, #147 Medium Underset - Metal, 148 Medium Centerset - Metal, #149 Long Overset - Metal, #158 "Scale" Medium Centerset

Gear Boxes, Adaptors One Sprue of Each #212 Talgo Truck Adaptors #213 20-Series with Sleeves #232 <sup>№</sup>.5<sup>®</sup> Type #233 30-Series #234 Short <sup>№</sup>.5<sup>®</sup> Type #242 Whisker® Snap-Together #252 Small Whisker® Snap-Together Screws, Springs, Washers, & Shims #208 .015" Red Fiber Washer #209 .010" Gray Fiber Washer #211 .010" & .015" Shims #256 Plastic 2-56 x 1/2" Screws #621 30-Series Torsion Spring #622 Knuckle Springs #634 <sup>№</sup>.5<sup>®</sup> Type Centering Spring **Uncouplers One Each** #321 Code 100 Between-The-Rails #322 Code 83 Between-The-Rails **Tools One Each** #231 Greas-em #206 Coupler Height Gauge #241 Dual Tool



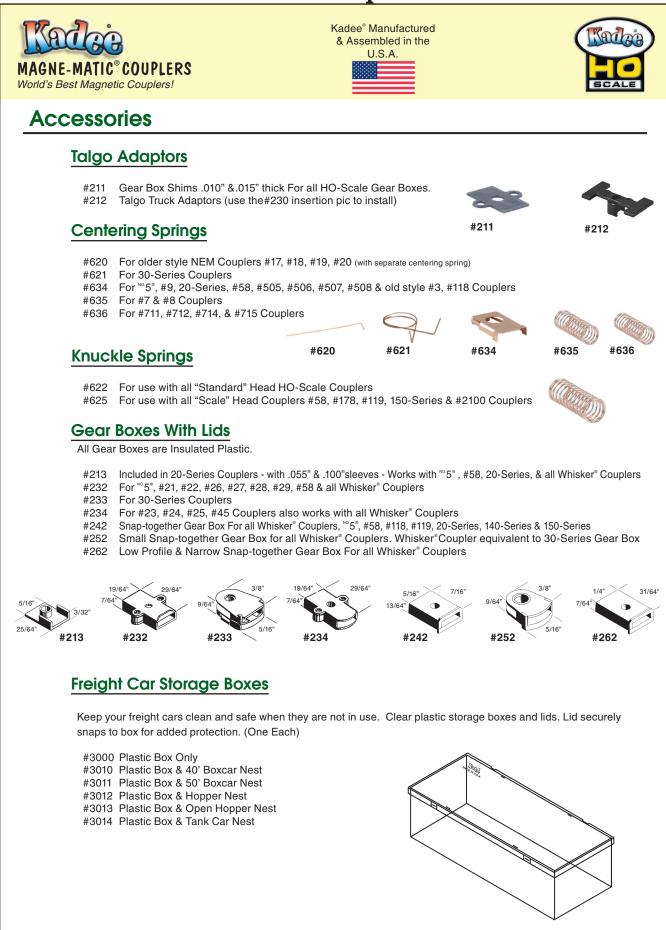
#### **HO-Scale Starter Kit**

This package of Kadee<sup>®</sup> products is designed to assist the beginning model railroader in learning the basic modeling skills of proper coupler mounting and use of the Magne-Matic<sup>®</sup> coupler system. The following items are a basic selection of assorted couplers and related products that should be enough for the beginner to acquire the knowledge needed for proper coupler selection and mounting. **Includes Two Pair of Couplers** 

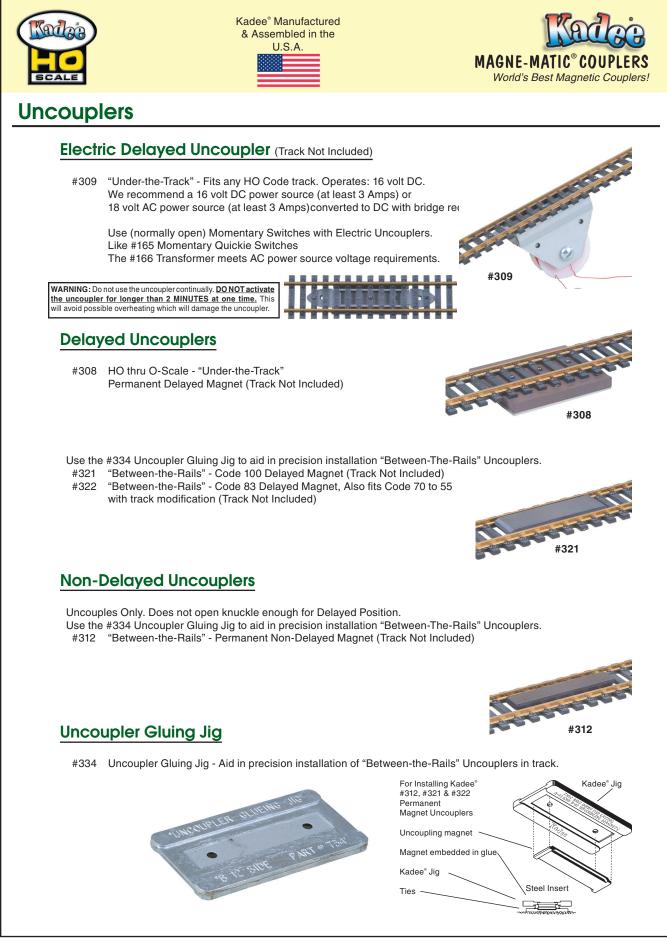
#### #1030

v			
	<sup>∾.</sup> 5° #142	2 Pair of Couplers, All Metal Medium Centerset Whisker Coupler, 2 Pair, All Metal Medium Overset	
		Whisker Coupler, 2 Pair, All Metal Short Centerset	· · · · · · · · · · · · · · · · · · ·
	#146	Whisker Coupler, 2 Pair, All Metal Long Centerset	Greasem 1
	#147	Whisker Coupler, 2 Pair, All Metal Medium Underset	Processing Consult Consult State
	#148	Whisker Coupler, 2 Pair, All Metal Medium Centerset	## an -11 .
	#158	Whisker Coupler, "Scale Head" All Metal Medium Centerset	
	#206	HO Coupler Height Gauge, Multi Purpose	
		.010" Thick Fiber Washer Shims, Red	J J J C OO OS
	#209	.015" Thick Fiber Washer Shims, Gray	
	#211	Plastic Shims .010" and .015" Thick, for draft gear boxes	
	#231	Greas-em Dry Graphite Lubricant	
	#237	Trip Pin Pliers (For adjusting coupler trip pins, HOn3 to O Scale	)
		"Dual" Tool (Manual Uncoupling and Spring Pick Combination	
	#256	Plastic 2-56 x 1/2" Screws	
		Permanent Code 100 Between the Rails Magnetic Uncoupler	
		Permanent Code 83 Between the Rails Magnetic Uncoupler	
	#334	Uncoupler Gluing Jig	
		Patent numbers 5,662,229 & 5,785,192	

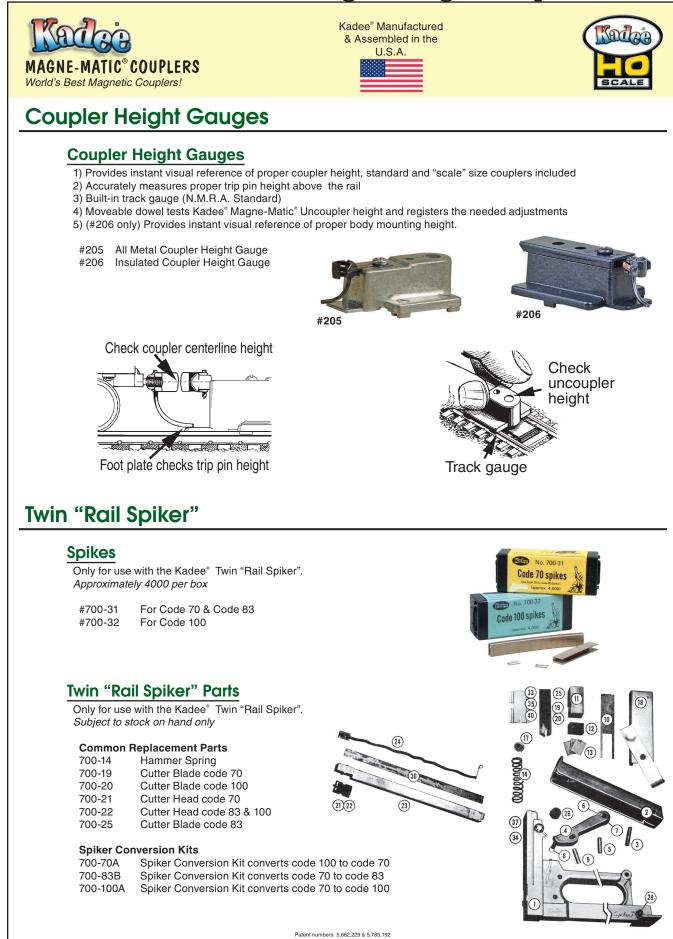
### Kadee<sup>®</sup> HO-Scale Coupler Accessories



## Kadee<sup>®</sup> HO-Scale Uncouplers

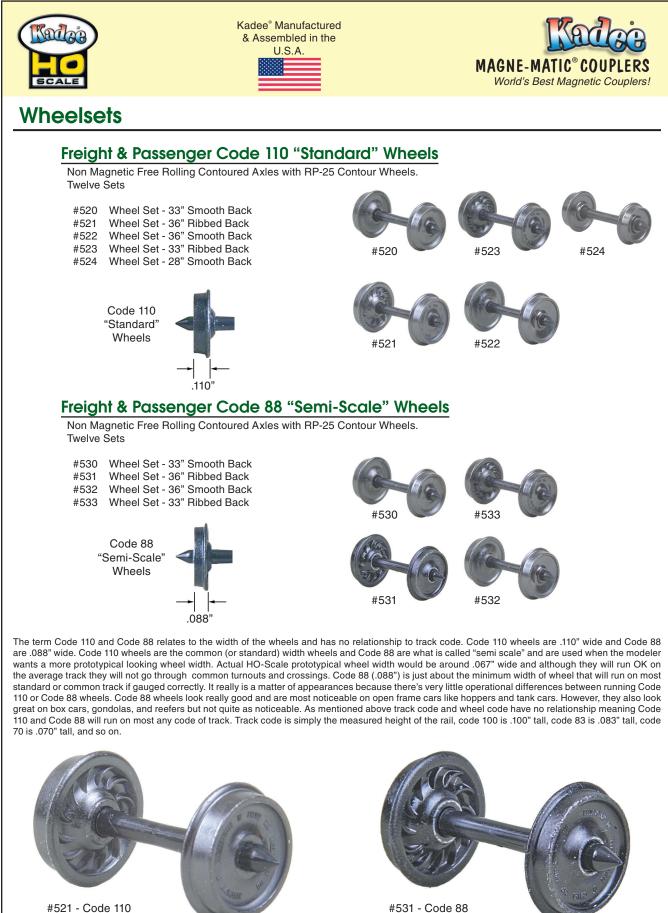


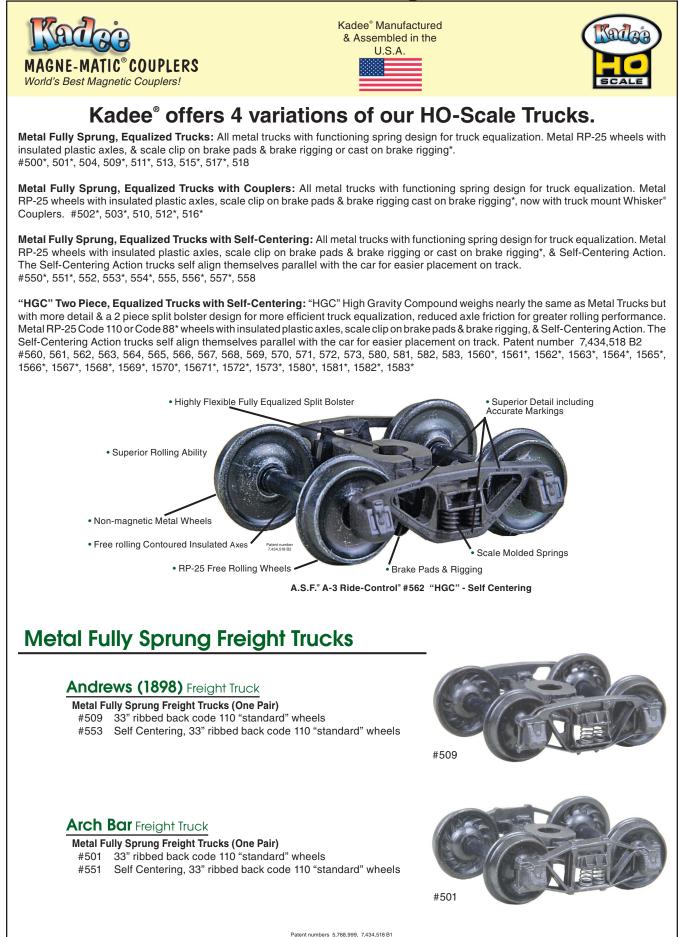
## Kadee<sup>®</sup> HO-Scale Height Gauges & Spikes



HO - 13.0

### Kadee<sup>®</sup> HO-Scale Wheelsets



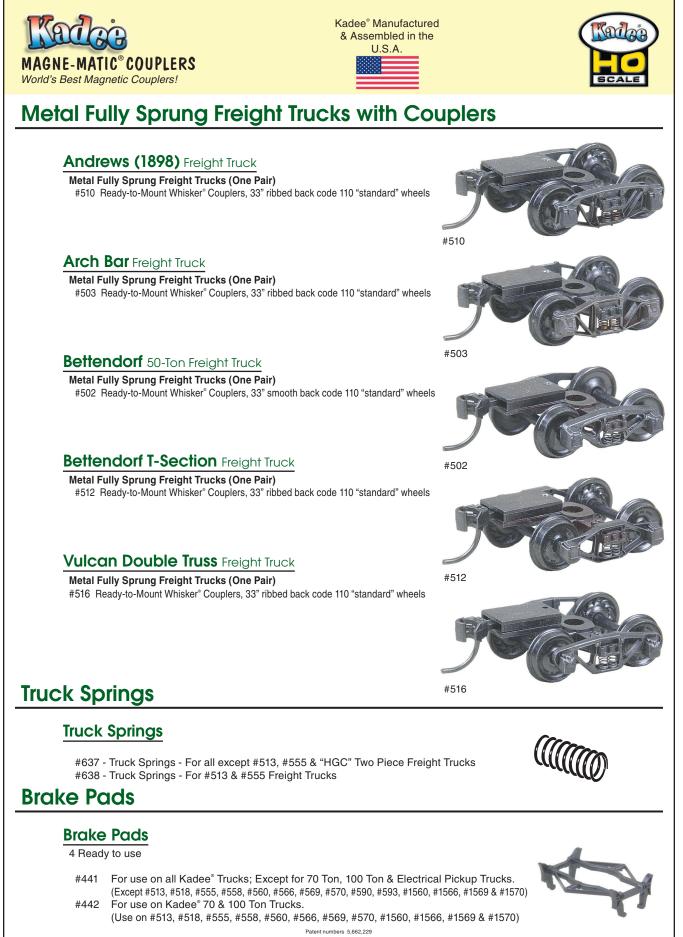


## Kadee<sup>®</sup> HO-Scale Freight Trucks



Patent numbers 5,768,999, 5,832,837

## Kadee<sup>®</sup> HO-Scale Freight Trucks with Couplers



### Kadee<sup>®</sup> HO-Scale "HGC" Freight Trucks

MAGNE-MATIC<sup>®</sup>COUPL

#56

#560

#570

#564

#567

#569

World's Best Magnetic Couplers!



Kadee<sup>®</sup> Manufactured & Assembled in the U.S.A.

### "HGC" Two Piece Freight Trucks

#### Arch Bar Freight Truck

- "HGC" Two Piece Self Centering Freight Trucks (One Pair)
- #561 33" ribbed back code 110 "standard" wheels
- #1561 33" ribbed back code 88 "semi-scale" wheels

#### A.S.F<sup>®</sup> A-3 Ride-Control<sup>®</sup> 50-Ton Freight Truck

- "HGC" Two Piece Self Centering Freight Trucks (One Pair)
- #562 33" smooth back code 110 "standard" wheels
- #563 33" ribbed back code 110 "standard" wheels
- #1562 33" smooth back code 88 "semi-scale" wheels
- #1563 33" ribbed back code 88 "semi-scale" wheels

### Barber<sup>®</sup> S-2, S-2-B, & S-2 (ACL) 70-Ton Freight Truck

"HGC" Two Piece Self Centering Freight Trucks (One Pair)
#560 S-2 (ACL) Truck, 33" smooth back code 110 "standard" wheels
#566 S-2-B Truck, 33" smooth back code 110 "standard" wheels
#570 S-2 Truck, 33" smooth back code 110 "standard" wheels
#1560 S-2 (ACL) Truck, 33" smooth back code 88 "semi-scale" wheels
#1566 S-2-B Truck, 33" smooth back code 88 "semi-scale" wheels
#1570 S-2 Truck, 33" smooth back code 88 "semi-scale" wheels
#1570 S-2 Truck, 33" smooth back code 88 "semi-scale" wheels

#### Bettendorf 50-Ton Freight Truck

- "HGC" Two Piece Self Centering Freight Trucks (One Pair)
- #564 33" smooth back code 110 "standard" wheels
- #565 33" ribbed back code 110 "standard" wheels
- #1564 33" smooth back code 88 "semi-scale" wheels
- #1565 33" ribbed back code 88 "semi-scale" wheels

#### National type B-1 50-Ton Freight Truck

- "HGC" Two Piece Self Centering Freight Trucks (One Pair)
- #567 33" ribbed back code 110 "standard" wheels
- #568 33" smooth back code 110 "standard" wheels
- #1567 33" ribbed back code 88 "semi-scale" wheels
- #1568 33" smooth back code 88 "semi-scale" wheels

#### Roller Bearing 100-Ton Freight Truck

"HGC" Two Piece Self Centering Freight Trucks (One Pair) #569 36" smooth back code 110 "standard" wheels #1569 36" smooth back code 88 "semi-scale" wheels



"HGC" = "High Gravity Compound"

Patent numbers 7,434,518 B1

Code 88

"Semi-Scale"

Wheels

## Kadee<sup>®</sup> HO-Scale "HGC" Freight & Caboose Trucks



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### Kadee<sup>®</sup> HO-Scale Electrical Pickup Caboose Trucks



Kadee<sup>®</sup> Manufactured & Assembled in the U.S.A.



### "HGC" Two Piece Electrical Pickup Caboose Trucks

#### Bettendorf - AAR

"HGC" Two Piece Self Centering Electrical Pickup Caboose Trucks (One Pair) #590 33" smooth back code 110 wheels

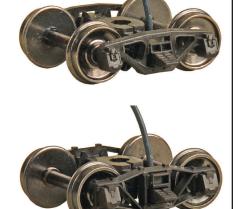
#### Arch Bar

"HGC" Two Piece Self CenteringElectrical Pickup Caboose Trucks (One Pair)#59333" smooth back code 110 wheels





The red dot indicates the hot side or the side that picks up the current.



**Optional:** Use the #169 Rectifier Kit to Convert AC or DC track current to polarized DC current suitable for LED lighting and other electronic devices that require DC current.

"HGC" = "High Gravity Compound"

WARNING: If the trucks are not orientated correctly it will cause an electrical short.

### **Rectifier Kit**

#### **Rectifier Kit**

Converts AC or DC track current to polarized DC current suitable for LED lighting and other electronic devices that require DC current.

#169 Rectifier Kit

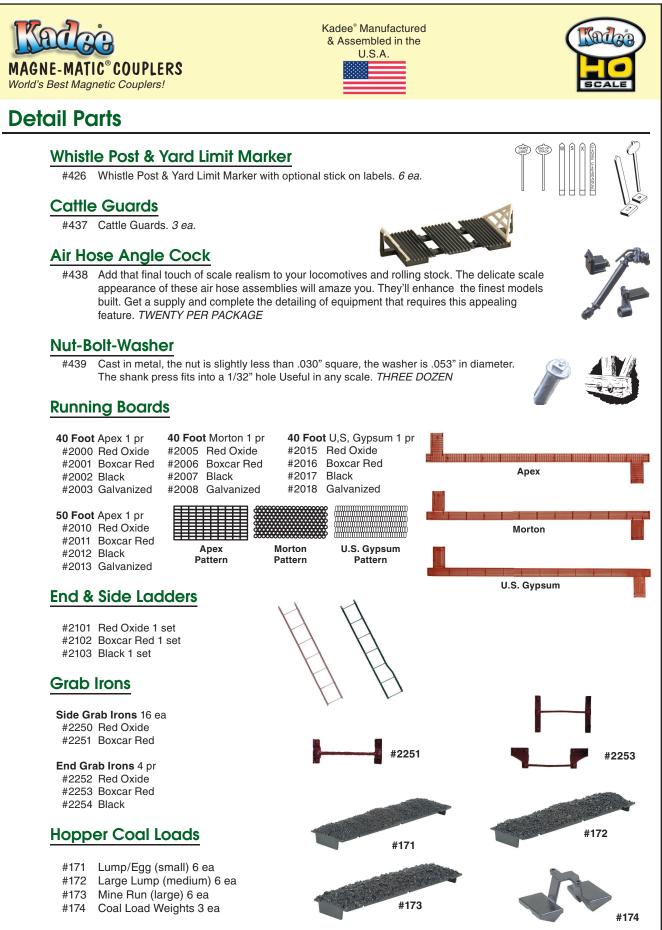
Optional: For Kadee® #590 & #593 Electrical Pickup Trucks.

See kadee website for wiring diagram.

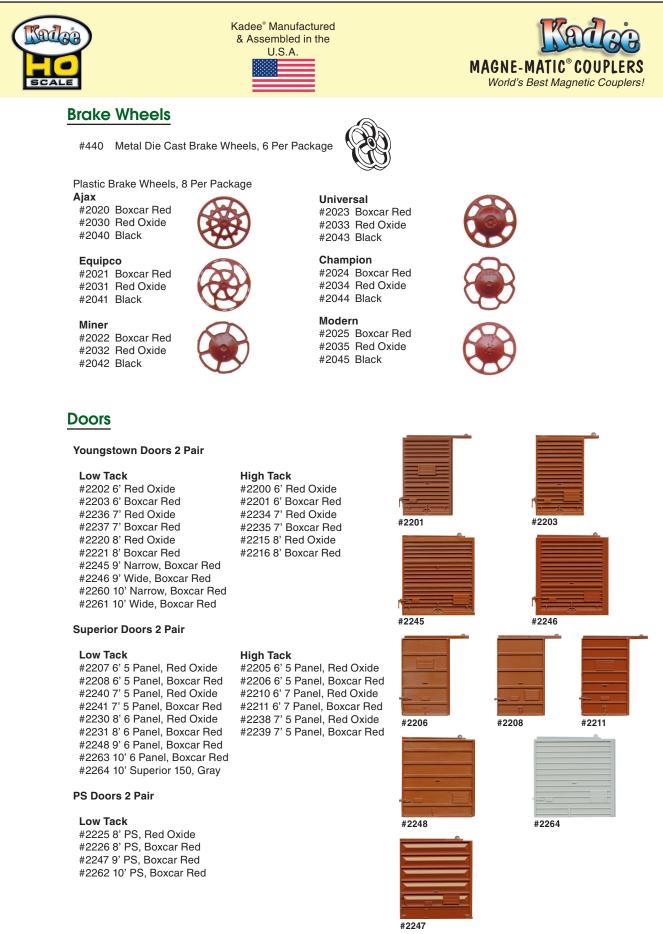


Patent numbers 7,434,518 B1

### Kadee® HO-Scale Detail Parts



## Kadee<sup>®</sup> HO-Scale Detail Parts



### Kadee<sup>®</sup> HO-Scale Log Car Kits



### Kadee<sup>®</sup> HO-Scale Undecorated & Kit Cars



Kadee<sup>®</sup> Manufactured & Assembled in the U.S.A.

### **Undecorated Cars & Boxcar Kits**

Craftsman Quality detailing engineered throughout the plastic & die-cast metal components, No Glue Required. Equipped with Kadee® Scale Couplers, highly detailed Trucks & RP-25 Wheels, Apex running board, Youngstown doors, highly detailed hand brake, Precision balanced.

#### **Undecorated Cars**

Fully Assembled, Painted, Ready to Run.

#### **Boxcar Kits**

Require Assembly, Painting & have a partially assembled underframe

#### 40' PS-1 Boxcars

- #4000 Undecorated 6' Door, Boxcar Red
- #4100 6' Door Boxcar Kit
- #4101 7' Door Boxcar Kit
- #4102 8' Door Boxcar Kit

50' PS-1 Boxcars

- #5199 Undecorated 8' Door, Red Oxide
- #5200 Undecorated 8' Door, Boxcar Red

#6000 Undecorated 9' Door, Boxcar Red #4105 9' Door Single Door Boxcar Kit #4110 15' Door Double Door Boxcar Kit #4115 10' Door Hydrocushion Boxcar Kit





#4100 - 6' Door Boxcar Kit

#4115 - 10' Door Hydrocushion Boxcar Kit Fully Functioning Cushion Underframe

MAGNE-MATIC<sup>®</sup>COUP

World's Best Magnetic Couplers!

#### PS-2 Covered Hoppers - 2-Bay

#4121 9' Door Hydrocushion Boxcar Kit - Unpainted

- #8001 Hat Rib Undecorated Gray
- #8601 Channel Rib Undecorated Gray



#### AAR Open Hoppers - 2-Bay

#7001	Wine Doors - Undecorated Black
#7002	Wine Doors - Undecorated Boxcar Red
#7501	Enterprise Doors - Undecorated Black

#7001 - AAR Open Hopper

Patent numbers D 410,709 D 414,533 5,785,192 7,434,518 B1

### Kadee<sup>®</sup> HO-Scale "RTR" Cars



Ines, chains, & AB valve

### **New Roads Released Monthly**

Due to Limited Production Runs. Check the Kadee<sup>®</sup> Monthly Flyer, Web Site or Call for Current Road Name Availability.

### "RTR" Availability Car Styles Include

Pacific Railroad Comp

40' PS-1 Box Cars

6, 7, 8 Foot Doors & Various Side Sills

#### 50' PS-1 Box Cars

8, 9, 10, 15 Foot Doors, Various Side Sills, Stiffeners, & Underframes Including the Functioning Hydrocushion Underframe

#### 2-Bay PS-2 Covered Hoppers

Channel & Hat Rib

### 2-Bay AAR "Standard" Open Hoppers

Wine & Enterprise Doors

### ACF 11,000 Gallon Insulated Tank Cars

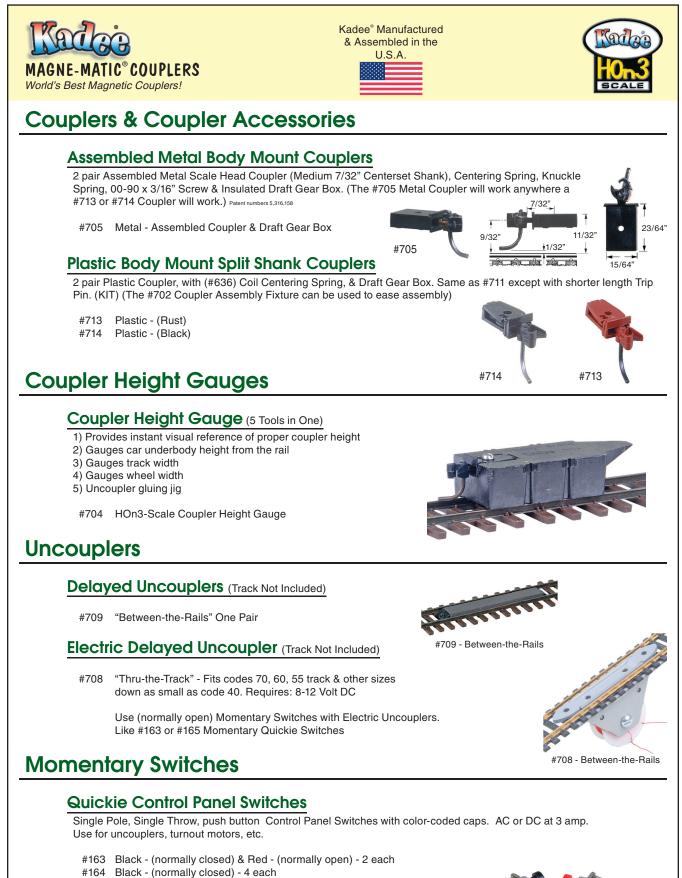
Step & Full Platform

## CALL OR CHECK WEBSITE FOR AVAILABLE CARS, DUE TO LIMITED PRODUCTION RUNS!

Patent numbers D 410,709 D 414,533 5,785,192 7,434,518 B1

UNCOUPLING

Notes:



#165 Red - (normally open) - 4 each







Kadee<sup>®</sup> Manufactured & Assembled in the U.S.A.



### **Trucks**

#### Metal Fully Sprung Fully Equalized Truck

Unassembled Metal Freight Truck with 26" Ribbed back wheels (Use the #715 HOn3 Truck Assembly Fixture to assist assembly)

#716 Arch Bar Truck - 3'-7" Wheel Centers

#717 Arch Bar Truck - 4'-6" Wheel Centers



#716 - Arch Bar Truck 3'-7" Wheel Centers



#717 - Arch Bar Truck 4'-6" Wheel Centers

#### "HGC" Two Piece Fully Equalized Truck

Unassembled "HGC" Freight Truck with 26" Ribbed back wheels. These are simple and easy to assemble and install.

"HGC" Two Piece, Equalized Trucks: "HGC" High Gravity Compound weighs nearly the same as Metal Trucks but with more detail & easy to assemble design, a 2 piece split bolster design for more efficient truck equalization, reduced axle friction for greater rolling performance. Metal RP-25 wheels with insulated plastic axles.

Included are center bushing adapters for attaching the trucks to various makes of cars such as Blackstone<sup>®</sup> and Micro-Trains<sup>®</sup>. These trucks require a flat mounting surface and some models may require trimming and filing of the car's bolster to make a flat surface. The bushings are designed for the original screws or where appropriate 0-48 self-tapping, 0-80 machine screws, or 1mm to 1.25mm metric equivalent. **Screws not included.** 

- #720 Arch Bar Truck 3'-7" Wheel Centers
- #721 Arch Bar Truck 4'-6" Wheel Centers
- #722 A.S.F.® A-3 Ride-Control® Trucks
- #723 Andrews (1898) Trucks
- #724 Bettendorf T-Section Trucks
- #726 Vulcan Trucks



#720 - Arch Bar Truck 3'-7" Wheel Centers



#722 A.S.F.® A-3 Ride-Control® Truck



#724 Bettendorf T-Section Truck



#721 - Arch Bar Truck 4'-6" Wheel Centers



#723 Andrews (1898) Truck



#726 Vulcan Truck

### Wheelsets

#### Freight Wheels (Code 110)

Non Magnetic Free Rolling Contoured Axles with RP-25 Contour Wheels. Eight Sets

#718 Freight Wheel Set - 26" Ribbed Back







### Springs

#### **Coupler Centering Springs**

#636 For #711, #712, #714, & #715 Couplers



#### **Truck Springs**

MAGNE-MATIC<sup>®</sup> COUPLERS World's Best Magnetic Couplers!

#624 For #716, & #717 Trucks

### **Assembly Fixtures**

#### **Coupler Assembly Fixture**

Assembly fixtures are innovative tools that will assist you in assembling the Kadee<sup>®</sup> Magne-Matic<sup>®</sup> Split Shank Couplers.

#702 For #711, #712, #714, & #715 Split Shank Couplers



#702 - Coupler Assembly Fixture

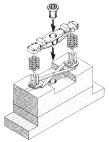
#### Sprung Truck Assembly Fixture

When you buy Kadee<sup>®</sup> HOn3 #716 & 717 Sprung Trucks be sure to get this wonderful "HELPFUL HAND" The Kadee<sup>®</sup> Truck Assembly Fixture will save you frustration, lost springs and time.

#715 - Sprung Truck Assembly Fixture For #716 & #717 Trucks



#715 - Truck Assembly Fixture



For use with #716 & #717 HOn3 Trucks

### Track Gauge

### Track Gauge

#342 For Code 55, Code 70 on the other side. Can also be used for code 66. Includes a built in track centerline indicator.





Kadee<sup>®</sup> Manufactured & Assembled in the U.S.A.



Notes:

# Kadee<sup>®</sup> S-Scale, On3-Scale, On30-Scale & O-Scale



# Kadee<sup>®</sup> S-Scale, On3-Scale, On30-Scale, & O-Scale



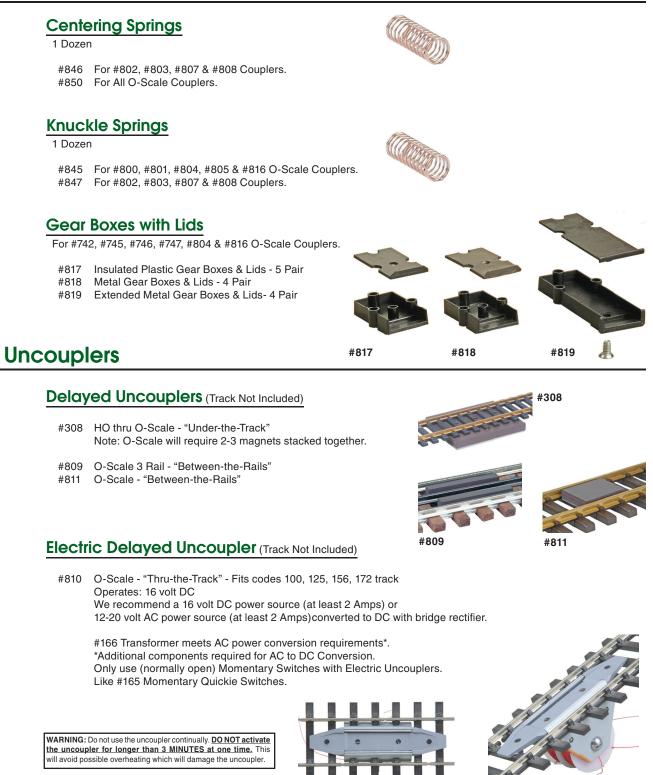
Kadee<sup>®</sup> Manufactured & Assembled in the U.S.A.





World's Best Magnetic Couplers!

### Accessories



#810

# Kadee® S-Scale, On3-Scale, On30-Scale, & O-Scale



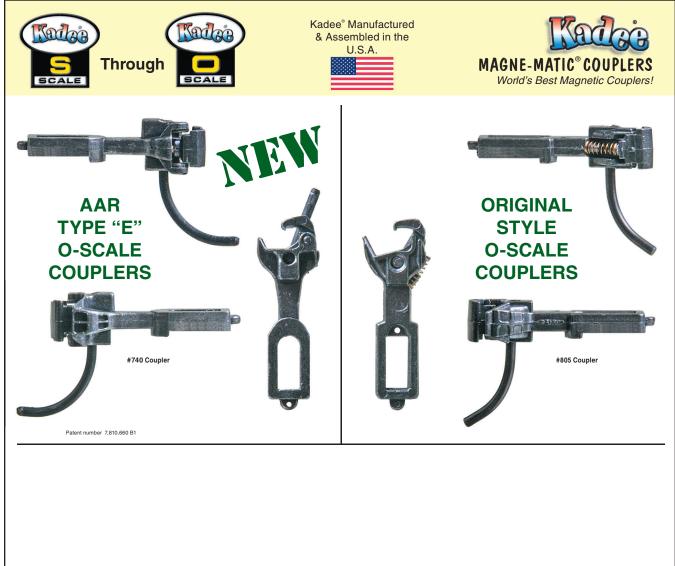
Eight Sets, Non Magnetic Free Rolling Contoured Axles with RP-25 Contour Wheels.

#300 24" Griffin Ribbed Back



#300

# Kadee® S-Scale, On3-Scale, On30-Scale, & O-Scale



	()			,
<b>MAGNE-MATIC® COUPLERS</b> World's Best Magnetic Couplers!	Kadee <sup>®</sup> Manufactu & Assembled in th U.S.A.		H1 BCALE	Cales
Couplers Only	#1-SCAL	E (1:32)	G-SCALE	E (1:22.5)
	ORIGINAL	AAR TYPE "E"	ORIGINAL STYLE	AAR TYPE "E"
Straight Centerset Couplers				
<ul> <li>#1900 #1-Scale (AAR Type "E" Coupler) Black</li> <li>#1900R #1-Scale (AAR Type "E" Coupler) Rust</li> <li>#900 G-Scale (AAR Type "E" Coupler) Black</li> <li>#900R G-Scale (AAR Type "E" Coupler) Rust</li> </ul>	* Lu #820 / #920 Kits Only	#1900 Black, #1900R Rust	* Un #830 / #930 Kits Only	#900 Black, #900R Rust
Centerset Couplers	III # 6207 # 320 Kits Only	#1900 Black, #19001 Hust	m #0507 #950 Kits Only	#300 Black, #3000 Hust
<ul> <li>#1840 #1-Scale (Original Style)</li> <li>#1901 #1-Scale (AAR Type "E" Coupler)</li> <li>#1850 G-Scale (Original Style)</li> <li>#901 G-Scale (AAR Type "E" Coupler)</li> </ul>	#1840	#1901	#1850	#901
Medium Offset Couplers				
<ul> <li>#1838 #1-Scale (Original Style)</li> <li>#1902 #1-Scale (AAR Type "E" Coupler)</li> <li>#902 G-Scale (AAR Type "E" Couplers)</li> </ul>	7			
Large Offset Couplers	#1838	#1902	In Kits Only	#902
<ul> <li>#1839 #1-Scale (Original Style)</li> <li>#1903 #1-Scale (AAR Type "E" Coupler)</li> <li>#903 G-Scale (AAR Type "E" Couplers)</li> </ul>	~	<b>_</b>	*	-
Bachmann <sup>®</sup> Shank Couplers	#1839	#1903	In Kits Only	#903
#1916 #1-Scale (AAR Type "E" Coupler) #916 G-Scale (AAR Type "E" Couplers)				
Straight Shank Couplers		#1916		#916
Stationary Mounting				
<ul> <li>#822 #1-Scale (Original Style)</li> <li>#1904 #1-Scale (AAR Type "E" Coupler)</li> <li>#904 G-Scale (AAR Type "E" Couplers)</li> </ul>	#022	#1004		#004
Straight Thick Shank Couplers	#822	#1904		#904
Stationary Mounting	Ching and Ching			
#823 #1-Scale (Original Style)	]			
Centerset Short Couplers	#823			
Not Sold Separately		-		
* Not Sold Separately Patent number 7,810,660 B1	* In #821 / #921 Kits Only	* In #1917 Kits Only		



**Gear Boxes Only** 

#1920

#1920R #910

#910R

#911

#912

#913

#915



Standard Body Mount Gear Boxes

#1-Scale (#820 type) Body Mount Gear Box

G-Scale (#830 type) Body Mount Gear Box

#1-Scale (#920 type) Body Mount Gear Box (Rust)

G-Scale (#930 type) Body Mount Gear Box (Rust)

for #1 & G-Scale Centerset, Medium Offset, Large Offset Couplers.

for #1 & G-Scale Centerset, Medium Offset, Large Offset Couplers.

for #1 & G-Scale Centerset, Medium Offset, Large Offset Couplers.

#1 & G-Scale (#832 type) Swinging Gear Box

#1 & G-Scale (#831 type) Truck Mount Gear Box

#1 & G-Scale (#835 type) Short Body Mount Gear Box

Draft Gear Box Black unless noted

Truck Mount Gear Boxes

Swinging Gear Boxes

Short Body Mount Gear Boxes

Kadee<sup>®</sup> Manufactured & Assembled in the U.S.A.



MAGNE-MATIC<sup>®</sup>COUP World's Best Magnetic Couplers!

#1920

Standard Body

Mount Gear Box

#### #910 Standard Body Mount Gear Box



#911 Truck Mount Gear Box



#912 Short Body Mount Gear Box



#913 Swinging Gear Box

#791 & #911 Gear Boxes #1 & G Scale #791 Gear Box for Centerset, Couplers. #911 Gear Box for Centerset, Medium Offset, Large Offset Couplers. #1 & G-Scale Mixed Style Gear Box



# #791 Pilot Pocket Truck Mount Gear Box

### Gear Boxes Not Sold Separately



#779 Coupler Sill Mount Pocket Not Sold as Gear Box Only

#821 or #921 Coupler Extra Short Body Mount Gear Box Not Sold as Gear Box Only

### **Springs**

### Centering Springs 1 doz unless noted

for all #1 & G-Scale Couplers, except #820, 821, 830, 900, 906, 920, 921, 930, 1900, 1906, 1917 & 11115 #861

- #876 for #820 or 920 #1-Scale Couplers
- #877 for #821, 921, 1917 #1-Scale Couplers
- #878 for #830, 930, 900, 906, 11115 G-Scale Couplers
- for #820, 920, 1900, 1906 #1-Scale Couplers #879

### Knuckle Springs 1 doz unless noted

Note: All Type "E" Couplers don't have replaceable Knuckle Springs.

- for all G-Scale Couplers. Except Type "E" Couplers #860
- for #1-Scale Couplers #820 through 828, 920 & 921 #875
- #1875 for #1-Scale Couplers 1700 & 1800 Series

### Truck Springs 1 doz unless noted

- Truck Centering Springs & Retainers, for LGB 2-axle cars 2pr. #839
- #864 Truck Centering Springs, for LGB 2-axle cars

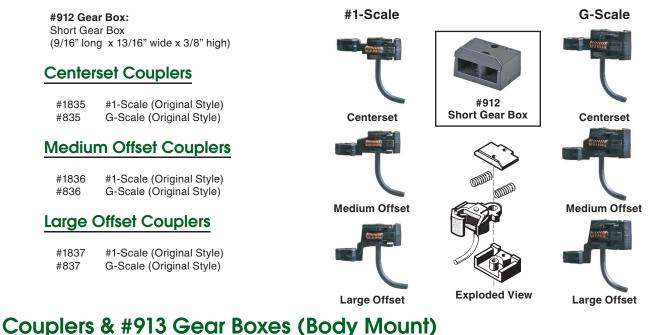






1 pair Couplers, with Coil Knuckle Spring, (#861) Coil Centering Spring, & Draft Gear Boxes.

### Couplers & #912 Gear Boxes (Body Mount)

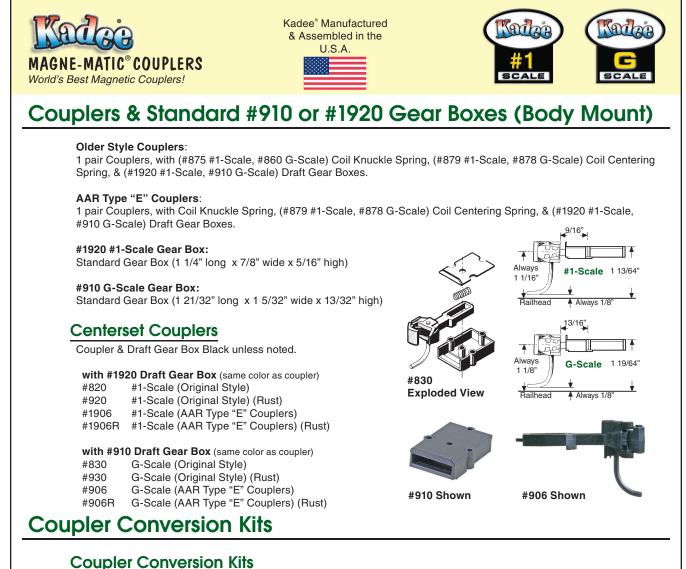


#### Older Style Couplers:

1 pair Couplers, with (#1875 #1-Scale, #860 G-Scale) Coil Knuckle Spring, (#861) Coil Centering Spring, & (#913)Draft Gear Boxes.

#1-Scale **G-Scale** #913 Gear Box: Swinging Gear Box Large Offset Couplers #1832 #1-Scale (Original Style) #913 #832 G-Scale (Original Style) Swinging Large Offset Large Offset Gear Box Exploded View **Couplers & Extra Short Gear Boxes Extra Short Gear Box:** (17/32" long x 25/32" wide x 3/8" high) Centerset Couplers Centerset Short Shank Couplers with Extra Short Gear Boxes. Extra Short #821 #1-Scale (Original Style) Gear Box #921 #1-Scale (Original Style) (Rust) Short Shank #1917 #1-Scale (AAR Type "E" Coupler) **Exploded View** Patent number 7,810,660 B1

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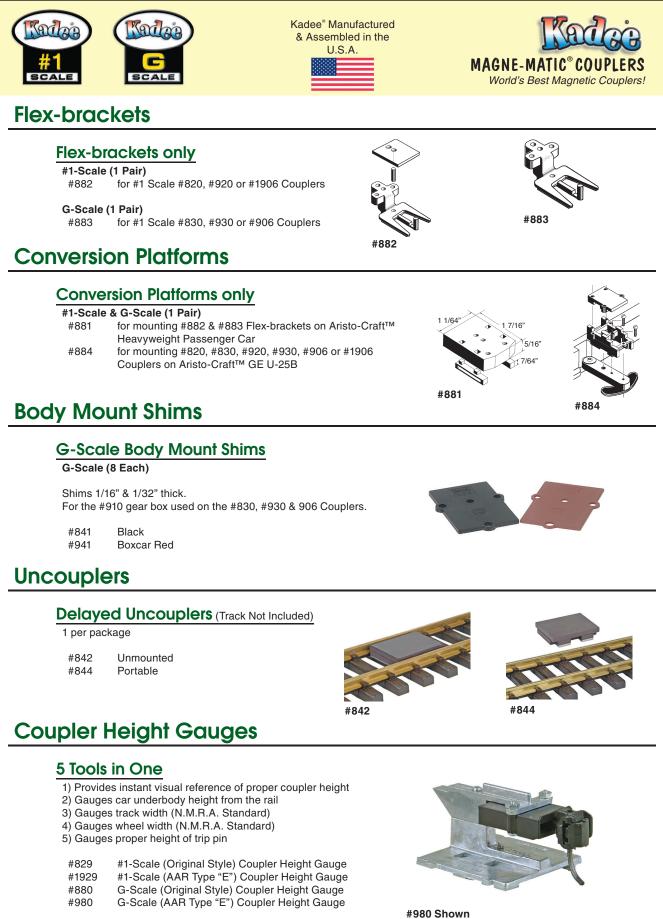


1 pair Original Style Couplers & Draft Gear Boxes. NOTE: Packaging descriptions below do not include miscellaneous shims, brackets, screws, etc. that may be included in packages. Couplers & or Draft Gear Boxes may have to be modified from there original state for the conversions.

#### Use the #1 & G-Scale Coupler Conversion List to choose appropriate coupler for Locomotive or Rolling Stock.

#1-Scale	G-Scale	
#1781	#781	Centerset Coupler & Medium Offset Coupler with Pilot Pocket Gear Box & Truck Mount Type Gear box
#1782	#783	Cut Couplers with Mounting Brackets.
#1783	#783	Cut Coupler with Mounting Bracket & Large Offset Coupler with Truck Mount Type Gear box.
#1784		Large Offset Couplers with Truck Mount Type Gear boxes.
#1785	#785	Large Offset Couplers with Truck Mount Type Gear boxes.
#1786	#786	Medium Offset Couplers with Swinging Type Gear boxes.
#1788	#788	Medium Offset Couplers with Truck Mount Type Gear boxes.
#1790	#790	Large Offset Coupler & Modified Medium Offset Coupler with Truck Mount Type Gear boxes.
#1792	#792	Large Offset Couplers with Truck Mount Type Gear boxes.
#1793	#793	Large Offset Coupler & Medium Offset Coupler with Truck Mount Type Gear boxes.
#1798	#798	Large Offset Couplers with Truck Mount Type Gear boxes.
#1799	#799	Large Offset Couplers with Truck Mount Type Gear boxes.
#824		Straight Centerset Shank Couplers with Standard Gear boxes.
#827		Straight Thick Shank Type Coupler & Centerset Short Shank Coupler with Extra Short Gear box.
#1833	#833	Large Offset Couplers with Truck Mount Type Gear boxes.

Patent number 7,810,660 B1







### Wheelsets

The terms "Large Scale" refers to #1 (1:32 ratio) up to Fn3 (1:20.3 ratio). All of these scales run on the common 45 mm gauge track, which is actually #1 scale standard gauge track. This is considered narrow gauge track for the other large scales. Unfortunately, all of these Large Scales are generally referred to as "G" gauge or "G" Scale modeling. In fact G-Scale is the ratios of 1:24 (1/2") and 1:22.5.

Kadee<sup>®</sup> New "Large Scale" Freight or Passenger Wheels come in a 33" (1:29) wheel that happens to be the same as 36" (1:32) wheel. The Kadee<sup>®</sup> wheels sets will work in most manufactures truck journals. This is because of the different actual scale ratios, that Large Scale manufactures use, changing wheels may alter coupler heights. So when you change wheels or trucks always re-check the coupler heights with our Large Scale height gauge. When using Kadee<sup>®</sup> couplers it's important to make sure all your couplers are at the correct coupler height.



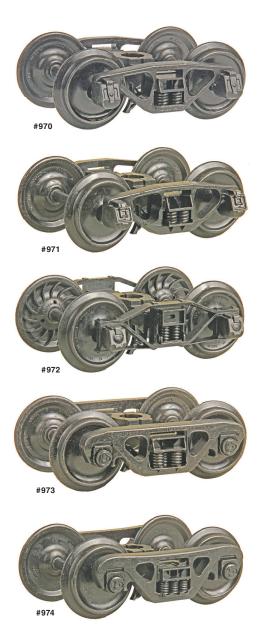


### **Trucks**

The terms "Large Scale" refers to #1 (1:32 ratio) up to Fn3 (1:20.3 ratio). All of these scales run on the common 45 mm gauge track, which is actually #1 scale standard gauge track. This is considered narrow gauge track for the other large scales. Unfortunately, all of these Large Scales are generally referred to as "G" gauge or "G" Scale modeling. In fact G-Scale is the ratios of 1:24 (1/2") and 1:22.5.

### Large Scale 1:29 Scale Ratio Metal Trucks

- 1 Pair 1:29 Scale Metal Trucks.
- All Metal Non-Magnetic 2 Piece Self Equalizing design.
- All Metal Non-Magnetic Wheels with Free Rolling Insulated Axles.
- Clip on pads & brake rigging.
- Mounting adapters for Bachmann, USA Trains, Aristo-Craft, Peco & LGB are included.
- #970 A.S.F° A-3 Ride-Control° 50-Ton
- #971 AAR Bettendorf style 50-Ton
- #972 Arch Bar
- #973 Barber® S-2 Roller bearing 70-Ton
- #974 A.S.F® 100-Ton Roller bearing











Notes:

SN	μ	ЦЩ (	CHA	USE THE CHART BELOW TO HELP IDENTIFY THE CONTENT OF EACH
	#	11 &	5	SCALE COUPLER PACKAGE OR CONVERSION KIT.
MAG	SNE-	MA	S C C C	MAGNE-MATIC <sup>®</sup> Cross Reference Chart
AAR Type "E"	Original Style	AAR Type "E"	Original Style	Coupler Conversions with Gearboxes
G	. G	#1		NOTE: Packaging Descriptions below do not include miscellaneous shims, brackets, screws, etc. that may be included in each package.
905	779	1905	1779	Centerset Couplers with Sill Mount Pockets. (1 Pair) Note: AAR Type "E" couplers are modified for sill mount pocket clearance.
	781		1781	Coupler Conversion - Centerset Coupler & Medium Offset Coupler with Pilot Pocket Gear Box & Truck Mount Type Gear box. (1 Pair)
	/82		1/82	Coupler Conversion - Modified Couplers with Mounting Brackets (1 Pair)
	/83		1/83	Coupler Conversion - Modified Coupler with Mounting Bracket & Large Uffset Coupler with Truck Mount Type Gear Dox. (T Pair) Counter Conversion - Lorge Officet Coupler with Truck Mount Truck Control of Control of Doir)
	795		1785	
	786		1786	ouplet Conversion - Large Onset Couplets with Ruch Mouth Type dear boxes. (I Fair) Compler Conversion - Medium Offset Complers with Swinging Type Gear hoxes. (I Pair)
908	787	1908	1787	Medium Offset Couplers with Truck Mount Type Gear boxes. (1 Pair)
	788		1788	Coupler Conversion - Medium Offset Couplers with Truck Mount Type Gear boxes. (1 Pair)
206	789	1907	1789	Centerset Couplers with Truck Mount Type Gear boxes. (1 Pair)
	790		1790	Coupler Conversion - Large Offset Coupler & Modified Medium Offset Coupler with Truck Mount Type Gear boxes. (1 Pair)
	791		1791	Large Offset Coupler & Centerset Coupler with Pilot Pocket Gear Box & Truck Mount Type Gear box. (1 Pair)
	792		1792	
	793		1793	Coupler Conversion - Large Offset Coupler & Medium Offset Coupler with Truck Mount Type Gear boxes. (1 Pair)
	796			Large Offset Couplers with Truck Mount Type Gear box & Swinging Type Gear box. (1 Pair)
	797		1797	
	798		1798	Coupler Conversion - Large Offset Couplers with Truck Mount Type Gear boxes. (1 Pair)
	799		1799	Coupler Conversion - Large Offset Couplers with Truck Mount Type Gear boxes. (1 Pair)
906/906R	830/930		1906/ 1906R 820/920	Straight Centerset Shank Couplers with Standard Body Mount Gear boxes (820-Black) (920-Rust) (830-Black) (930-Rust) (1 Pair)
		1917	821/921	Centerset Short Shank Couplers with Extra Short Gear boxes(821-Black) (921-Rust) (1 Pair)
			824	Coupler Conversion - Straight Centerset Shank Couplers with Standard Gear boxes (1 Pair)
			827	Coupler Conversion - Straight Thick Shank Type Coupler & Centerset Short Shank Coupler with Extra Short Gear box (1 Pair)
606	831	1909	1831	Large Offset Couplers with Truck Mount Type Gear boxes (1 Pair)
	832		1832	Large Offset Couplers with Swinging Type Gear boxes (1 Pair)
	833		1833	Coupler Conversion - Large Offset Couplers with Truck Mount Type Gear boxes. (1 Pair)
	835		1835	Centerset Couplers with Short Gear boxes. (1 Pair)
	836		1836	Medium Offset Couplers with Short Gear boxes. (1 Pair)
	837		1837	Large Offset Couplers with Short Gear boxes. (1 Pair)
				7

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				Kadee <sup>®</sup> RC Remote Couplers
We recol	mmend op	perating Ka	adee® RC	We recommend operating Kadee <sup>®</sup> RC Remote Couplers using the Kadee <sup>®</sup> RC Remote System, other means of operating & controlling the standard hobby servos can be used with Kadee <sup>®</sup> RC
Remote	Couplers,	as long as	s the degr	Remote Couplers, as long as the degree of servo rotation is adjustable. The Kadee® RC Remote Couplers are designed to operate with 90 degree servo rotation only.
11115				Body Mount Coupler Kit (1 Kit) Includes: 2 - #906 Individual Couplers & Body Mount Gearboxes, 2 - Trip Pin Linkage Collars, 2 - Short Linkage Rods, 1 - Long Linkage Rod, 2 -
				#841 Shims, 1 - Mounting Screws & Hardware, 1 - Standard Servo Kit #11120
11220		11221		Actuated Body Mount Coupler with Gearbox (1 Kit) Includes: 1 - Actuated Body Mount Coupler with Gearbox - Assembled
				Couplers Only
904		1904	822	Straight Shank Couplers Stationary Mounting (1 Pair)
			823	Straight Thick Shank Couplers Stationary Mounting (1 Pair)
900/ 900R		1900/ 1900R		Straight Centerset Shank AAR Type "E" Couplers (1 Pair)
901	1850	1901	1840	Centerset Couplers (AAR Type "E" Couplers (1 Pair)) ("Older Style" Couplers (2 Pair))
902		1902	1838	Medium Offset Couplers (AAR Type "E" Couplers (1 Pair)) ("Older Style" Couplers (2 Pair))
903		1903	1839	Large Offset Couplers (AAR Type "E" Couplers (1 Pair)) ("Older Style" Couplers (2 Pair))
916		1916		Bachmann® Shank AAR Type "E" Couplers (1 Pair)
				Gearboxes, Flex-brackets & Conversion Platforms
			828	Long Flex-brackets & #820 Couplers (1 Pair)
		882	2	Flex-brackets for #1 Scale #820, #920 or #1906 Couplers (1 Pair)
	838			#883 Flex-brackets & #830 Couplers (1 Pair)
883	33			Flex-brackets for G Scale #830, #930 or #906 Couplers (1 Pair)
	8	881		
		884		Conversion Platforms for #1 & G Scale mounting #820, #830, #930, #906 or #1906 Couplers on Aristo-Craft <sup>TM</sup> GE U-25B (1 Pair)
910/ 910R				#830 (type) Body Mount Gear Boxes for G-Scale Straight Centerset Shank Couplers. #900 AAR Type "E" Couplers (1 Pair)
	5	911 010		#831 (type) Truck Mount Gear Boxes for #1 & G Scale Centerset, Medium Offset, Large Offset Couplers. (1 Pair)
	פ	912		#535 (type) Short Booy Mount Gear Boxes for #1 & G Scale Cenerset, Medium Oriset, Large Oriset Couplets. (1 Pair)
	6	913 015		#832 (type) Swinging Gear Boxes for #1 & G Scale Centerset, Medium Ottset, Large Ottset Couplers. (1 Pair) #701 Plint Protet & #011 #831 (tyre) Truck Mount Gear Boxes #1 & G Scale #701 for Centerset Counlers. #871 for Centerset Medium Offset I area Offset Counlers. (1 Each)
	2	1920/ 1920R	920R	#3011 Port Port and Type/ Had man your dear power and count #15 reliable Straight Centerset Shank Couplers. #1900 AAR Type "E" Couplers (1 Pair)
				Center of Coupler 1/2" (.500") Center of Coupler 3/3") 7
				1 1/16" (1.0625")
				Coupler Coupler Coupler
				Top of rail Parantinimitier 7800.680 B1





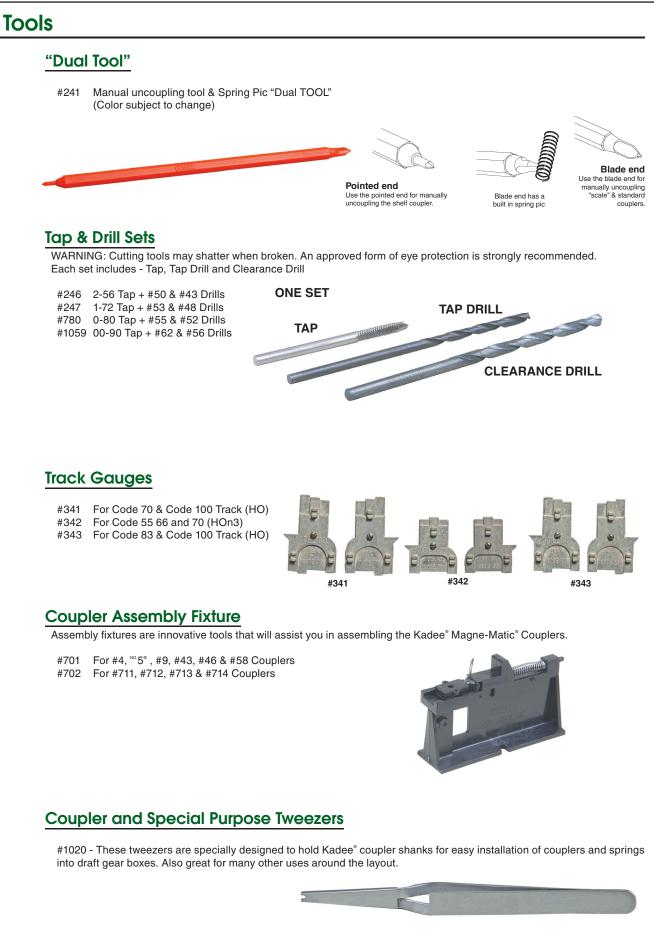




Notes:



### Kadee<sup>®</sup> Tools



## Decal Paper, Momentary Switches, Transformer

### **Decal Paper**

Store decals & decal paper flat in a cool dry place. Avoid exposer to heat, sun light, & moisture.

#### **Application Instructions:**

Don't leave in dish of water for more than 1 min. to avoid decal separating from backing in dish.

Cut out decal as close to lettering as your comfortable with, dip decal in clean water for about 10-15 sec. and remove. Place on wet cloth for 90+ sec., decal should now slide from backing easily.

Hold decal in desired location on model and slide backing away.

With a small soft wet paint brush you may fine-tune positioning. *Keep decal wet.* 

Gently dab/blot with a towel to remove extra water and allow to dry.

Test finishing solutions before applying to entire decal.

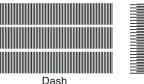
### **Clear Decal Paper**

For use with ALPS printers, most laser printers, and color copiers. Before making multiple copies, always check to make sure the paper is compatible with the printer or copier you are using.

#3098 8-1/2 x 11 Clear (5) Sheets #3099 8-1/2 x 11 Clear (1) Sheet

### **Street Marking Decals**

#3123 Dash - Yellow#3124 Solid/Dash - Yellow#3125 Solid/Solid - White#3126 Solid/Solid - Yellow



Solid /Dash



Solid/Solid

### **Momentary Switches**

### **Quickie Control Panel Switches**

Single Pole, Single Throw, push button Control Panel Switches with color-coded caps. AC or DC at 3 amp. Use for uncouplers, turnout motors, etc.

#163 Black - (normally closed) & Red - (normally open) - 2 each

- #164 Black (normally closed) 4 each
- #165 Red (normally open) 4 each



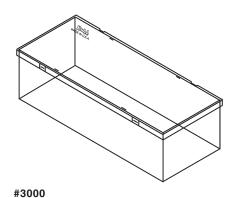


#### **Fiber Washers** Metal Screws, Washers, Nuts by Size Fiber Washers Four Dozen Size 0-80 One Dozen #208 Red .015" Thick (1/4" O.D. x 1/8" I.D.) #209 Gray .010" Thick (1/4" O.D. x 1/8" I.D.) #1640 0-80 Stainless Steel Nuts #1641 0-80 Stainless Steel Washers #1643 0-80 x 1/8" Stainless Steel Screws #1646 0-80 x 1/4" Stainless Steel Screws #1648 0-80 x 3/8" Stainless Steel Screws #1649 0-80 x 1/2" Stainless Steel Screws **Plastic Washers** Plastic Washers Two Dozen Included in 30 Series Couplers. Size 0-48 Two Dozen #210 1/32" Thick (5/32" O.D. x 5/64" I.D.) 0-48 x 1/8" Metal Screws #400 #401 0-48 x 3/16" Metal Screws #402 0-48 x 1/4" Metal Screws #403 0-48 x 3/8" Metal Screws and the second state **Insulated Nylon Screws** 2-56 Insulated Screws One Dozen Size 1-72 One Dozen #1680 1-72 Stainless Steel Nuts #1681 1-72 Stainless Steel Washers #256 2-56 x 1/2" Long #1683 1-72 x 1/8" Stainless Steel Screws #1686 1-72 x 1/4" Stainless Steel Screws #1688 1-72 x 3/8" Stainless Steel Screws #1689 1-72 x 1/2" Stainless Steel Screws Nvlon Plastic Screw Screw Assortment #1715 0-48 & 0-80 Screw Assortment 4 each 0-48 x 1/8" Metal 0-48 Size 2-56 One Dozen 0-48 x 3/16" Metal Screws 0-48 x 1/4" Metal #1700 2-56 Stainless Steel Nut 0-48 x 3/8" Metal #1701 2-56 Stainless Steel Washer #1703 2-56 x 1/8" Stainless Steel Screws 0-80 x 1/8" Stainless Steel Stainless Steel #1706 2-56 x 1/4" Stainless Steel Screws 0-80 x 1/4" Stainless Steel Screws #1708 2-56 x 3/8" Stainless Steel Screws 0-80 x 3/8" Stainless Steel #1709 2-56 x 1/2" Stainless Steel Screws 0-80 x 1/2" Stainless Steel #1710 2-56 x 5/8" Stainless Steel Screws #1711 2-56 x 3/4" Zinc-Plated Steel Screws #1716 1-72 & 2-56 Screw Assortment 4 each 1-72 x 1/8" Stainless Steel Stainless Stee 1-72 x 1/4" Stainless Steel Screws 1-72 x 3/8" Stainless Steel 1-72 x 1/2" Stainless Steel 2-56 x 1/2" Nylon Plastic 2-56 x 1/4" Stainless Steel 2-56 x 3/8" Stainless Steel 2-56 x 1/2" Stainless Steel Nylon Plastic Screw

### **Plastic Storage Boxes**

Clear plastic storage boxes. 3000, 3010, 3011, 3012, 3013, 3014 are also listed on page HO - 11 (One Each unless noted)

- #3000 Plastic Box only
- #3010 Plastic Box with 40 Ft. Boxcar nest
- #3011 Plastic Box with 50 Ft. Boxcar nest
- #3012 Plastic Box with Covered Hopper nest
- #3013 Plastic Box with Open Bay Hopper nest
- #3014 Plastic Box with Tank Car nest
- #3020 Medium Plastic Jewel Storage Boxes 2.56 x 2.56 x 0.5 Plastic Storage Boxes with foam
- #3020-6 Medium Plastic Jewel Storage Boxes 2.56 x 2.56 x 0.5 Plastic Storage Boxes with foam 6 pack
- #3020-12 Medium Plastic Jewel Storage Boxes 2.56 x 2.56 x 0.5 Plastic Storage Boxes with foam 12 pack
- #3021 Small Plastic Jewel Storage Box 3.5 x 0.69 x 0.38 Plastic Storage Box
- #3022 Plastic Storage Box, 4 Medium (with foam)& 2 Small Jewel Boxes





#3020



#3021



#3022

# Drill Size, Decimal Equivalents Chart

DR	ILL SIZE CHART WI	TH DECIMAL, FRAC	TION, WIRE NUMBE	ER AND METRIC SIZ	ES
Decimal Inch         Wire mm           .0135         80           .0138         .35           .0145         79           .0156         1/64	Decimal Inch         Wire mm           .0469         3/64           .0472         1.20           .0492         1.25           .0512         1.30	Decimal Inch         Wire mm           .0965         2.45           .0980         40           .0984         2.50           .0995         39	Decimal Inch         Wire mm           .1610         20           .1614         4.10           .1654         4.20           .1660         19	Decimal Inch         Wiremm           .2323         5.90           .2340         A           .2344         15/64           .2362         6.00	Decimal Inch         Wire mm           .3150         8.00           .3160         O           .3189         8.10           .3228         8.20
.0158 .40 .0160 78 .0177 .45 .0180 77	.0520         55           .0531         1.35           .0550         54           .0551         1.40	.1015 38 .1024 2.60 .1040 37 .1063 2.70	.1673 4.25 .1693 4.30 .1695 18 .1719 11/64	.2380         B           .2402         6.10           .2420         C           .2441         6.20	.3230 P .3248 8.25 .3268 8.30 .3281 21/64
.0197 .50 .0200 76 .0210 75 .0217 .55	.0571         1.45           .0591         1.50           .0595         53           .0610         1.55	.1065 36 .1083 2.75 .1094 7/64 .1100 35	.1730 17 .1732 4.40 .1770 16 .1772 4.50	.2460         D           .2461         6.25           .2480         6.30           .2500         1/4         E	.3307 8.40 .3320 Q .3346 8.50 .3386 8.60
.0225 74 .0236 .60 .0240 73 .0250 72	.0625 1/16 .0630 1.60 .0635 52 .0650 1.65	.1102         2.80           .1110         34           .1130         33           .1142         2.90	.1800 15 .1811 4.60 .1820 14 .1850 13 4.70	.25206.40.25596.50.2570F.25986.60	.3390 R .3425 8.70 .3438 11/32 .3445 8.75
.0256 .65 .0260 71 .0276 .70 .0280 70	.0669         1.70           .0670         51           .0689         1.75           .0700         50	.1160         32           .1181         3.00           .1200         31           .1220         3.10	.1870 4.75 .1875 3/16 .1890 12 4.80 .1910 11	.2610 G .2638 6.70 .2656 17/64 .2657 6.75	.3465 8.80 .3480 S .3504 8.90 .3543 9.00
.0292 69 .0295 .75 .0310 68 .0312 1/32	.07091.80.07281.85.073049.07481.90	.1250 1/8 .1260 3.20 .1280 3.25 .1285 30	.19294.90.193510.19609.19685.00	.2660         H           .2677         6.80           .2717         6.90           .2720         I	.3580 T .3583 9.10 .3594 23/64 .3622 9.20
.0315 .80 .0320 67 .0330 66 .0335 .85	.0760 48 .0768 1.95 .0781 5/64 .0785 47	.1299         3.30           .1339         3.40           .1360         29           .1378         3.50	.1990 8 .2008 5.10 .2010 7 .2031 13/64	.2756 7.00 .2770 J .2795 7.10 .2810 K	.3642         9.25           .3661         9.30           .3680         U           .3701         9.40
.0350 65 .0354 .90 .0360 64 .0370 63	.0787 2.00 .0807 2.05 .0810 46 .0820 45	.1405 28 .1406 9/64 .1417 3.60 .1440 27	.2040 6 .2047 5.20 .2055 5 .2067 5.25	.2812 9/32 .2835 7.20 .2854 7.25 .2874 7.30	.3740 9.50 .3750 3/8 .3770 V .3780 9.60
.0374         .95           .0380         62           .0390         61           .0394         1.00	.0827 2.10 .0846 2.15 .0860 44 .0866 2.20	.1457         3.70           .1470         26           .1476         3.75           .1495         25	.2087 5.30 .2090 4 .2126 5.40 .2130 3	.2900 L .2913 7.40 .2950 M .2953 7.50	.3819 9.70 .3839 9.75 .3858 9.80 .3860 W
.0400 60 .0410 59 .0413 1.05 .0420 58	.0886 2.25 .0890 43 .0906 2.30 .0925 2.35	.1496         3.80           .1520         24           .1535         3.90           .1540         23	.2165 5.50 .2188 7/32 .2205 5.60 .2210 2	.2969 19/64 .2992 7.60 .3020 N .3031 7.70	.3898 9.90 .3906 25/64 .3937 10.00 .3970 X
.0430         57           .0433         1.10           .0453         1.15           .0465         56	.0935         42           .0938         3/32           .0945         2.40           .0960         41	.15625/32.157022.15754.00.159021	.22445.70.22645.75.22801.22835.80	.3051         7.75           .3071         7.80           .3110         7.90           .3125         5/16	.4040 Y ©2009, Kadee" Quality Products Co. 673 Avenue C White City, OR 97503-1078

#### DECIMAL METRIC EQUIVALENTS

Fractional	Decimal	Decimal	Fractional	Decimal	Decima
Inch	Inch	Metric	Inch	Inch	Metric
1/64	.015625	0.3969	33/64	.515625	13.0969
1/32	.03125	0.7937	17/32	.53125	13.4937
3/64	.046875	1.11906	35/64		13.8906
1/16	.0625	1.5875	9/16	.5625	14.2875
5/64	.078125	1.9844	37/64		14.6844
3/32	.09375	2.3812	19/32	.59375	15.0812
7/64	.109375	2.7781	39/64	.609375	15.4781
1/8	.125	3.1750	5/8	.625	15.8750
9/64	.140625	3.5719	41/64		16.2719
5/32	.15625	3.9687	21/32	.65625	16.6687
11/64	.171875	4.3656	43/64	.671875	17.0656
3/16	.1875	4.7625	11/16	.6875	17.4625
13/64	.203125	5.1594	45/64	.703125	17.8594
7/32	.21875	5.5562	23/32	.71875	18.2562
15/64	.234375	5.9531	47/64	.734375	18.6531
1/4	.25	6.3500	3/4	.75	19.0500
17/64	.265625	6.7469	49/64	.765625	19.4469
9/32	.28125	7.1437	25/32	.78125	19.8437
19/64	.296875	7.5406	51/64	.796875	20.2406
5/16	.3125	7.9375	13/16	.8125	20.6375
21/64	.328125	8.3344	53/64	.828125	21.0344
11/32	.34375	8.7312	27/32	.84375	21.4312
23/64	.359375	9.1281	55/64	.859375	21.8281
3/8	.375	9.5250	7/8	.875	22.2250
25/64	.390625	9.9219	57/64	.890625	22.6219
13/32	.40625	10.3187	29/32	.90625	23.0187
27/64	.421875	10.7156	59/64	.921875	23.4156
7/16	.4375	11.1125	15/16	.9375	23.8125
29/64	.453125	11.5094	61/64	.953125	24.2094
15/32	.46875	11.9062	31/32	.96875	24.6062
31/64	.484375	12.3031	63/64	.984375	25.0031
1/2	.5	12,7000	1	1.0	25,4001

	Dimer				ial: PB - phot				) Stainless Steel		
Part Number (catalog)	Part Number (in house)	Outside Diameter	Inside Diameter	Wire Diameter	Pitch	Total Coils	Free Length	Solid Height	Load (Solid Height)	Closed Coils (per end)	Material
622	HO-1	0.052	0.044	0.004	0.014	10.0	0.148	0.040	9.0	3/4	PB
623	HO-2	0.052	0.046	0.003	0.012	12.0	0.148	0.036	2.5	3⁄4	PB
	HO-3	0.050	0.040	0.000	0.000	15.0	0.100	0.045	0.0	3⁄4	PB
	по-з	0.052	0.046	0.003	0.008	15.0	0.128	0.045	2.0	9/4	FD
625	HO-4	0.054	0.046	0.004	0.012	10.0	0.133	0.040	5.0	3⁄4	PB
	HO-T-1	0.100	0.084	0.008	0.026	7.0	0.200	0.056	50.0	3⁄4	PB
637	HO-T-2	0.080	0.066	0.007	0.021	6.0	0.140	0.042	110.0	1/2	MW
638	HO-T-3	0.062	0.048	0.007	0.024	6.5	0.170	0.045	90.0	3⁄4	PB
	HO-C-1	0.094	0.080	0.007	0.021	29.0	0.625	0.203	30.0	1	MW
847	S-1	0.055	0.049	0.003	0.016	11.0	0.186	0.033	3.0	3⁄4	PB
846	S-2	0.070	0.060	0.005	0.022	8.0	0.186	0.040	14.0	3⁄4	PB
840	5-2	0.070	0.060	0.005	0.022	8.0	0.186	0.040	14.0	9/4	PB
845	0-1	0.070	0.060	0.005	0.024	8.0	0.208	0.040	16.0	1	PB
850	0-2	0.110	0.096	0.007	0.029	7.0	0.218	0.049	24.0	3⁄4	PB
875	1-1	0.110	0.090	0.010	0.025	12.0	0.325	0.120	95.0	3⁄4	SS
876	1-2	0.135	0.115	0.010	0.033	10.0	0.350	0.100	80.0	3⁄4	SS
877	1-3	0.104	0.084	0.010	0.029	14.0	0.425	0.140	55.0	3/4	SS
	1-4	0.150	0.130	0.010	0.034	7.0	0.260	0.070	50.0	3⁄4	SS
1875	1-5	0.118	0.098	0.010	0.025	12.0	0.310	0.120	75.0	3⁄4	SS
	1-6	0.094	0.076	0.009	0.036	14.0	0.530	0.126	150.0	3⁄4	SS
	1-7	0.074	0.060	0.007	0.021	7.5	0.170	0.052	35.0	3⁄4	PB
860	G-1	0.135	0.115	0.010	0.035	10.0	0.375	0.100	95.0	3⁄4	SS
861	G-2	0.125	0.105	0.010	0.027	22.0	0.625	0.220	50.0	1	SS
864	G-4	0.125	0.101	0.012	0.036	19.0	0.710	0.228	220.0	3⁄4	SS
	G-6	0.125	0.105	0.010	0.033	16.0	0.550	0.160	85.0	1	SS
	G-9	0.114	0.098	0.008	0.023	10.0	0.250	0.080	30.0	3⁄4	SS
878	G-39	0.155	0.135	0.010	0.046	12.0	0.580	0.120	60.0	3⁄4	SS
	701	0.165	0.137	0.014	0.057	19.0	1.125	0.266	350.0	1	MW
	702	0.135	0.117	0.009	0.040	27.0	1.100	0.243	90.0	1	MW

# Kadee® Spring Specifications

NAME	SCALE		COUPLER	
OF	то		CENTER ABOVE	TRACK
SCALE	FOOT	PROPORTION	RAILHEAD	GAGE
1-1/2"	1.500" (38.1mm)	1:8	4 5/16" (109mm)	7.250" (184.15mm)
1-1/2"	1.500" (38.1mm)	1:8	4 5/16" (109mm)	7.500" (190.5mm)
		1.0		
1"	1.000" (25.4mm)	1:12	2 7/8" (73mm)	4.750" (121mm)
М	.886" (22.5mm)	1:13.5		4.173" (106mm)
Mn2	.886" (22.5mm)	1:13.5		1.772" (45mm)
3/4"	.75" (19mm)	1:16	2 1/4" (57mm)	3.500" (88.9mm)
F	.591" (15mm)	1:20.3		2.776" (70.5mm)
Fm	.591" (15mm)	1:20.3		1.949" (49.5mm)
Fn3	.591" (15mm)	1:20.3		1.772" (45mm)
Fn2-1/2	.591" (15mm)	1:20.3		1.476" (37.5mm)
Fn2	.591" (15mm)	1:20.3		1.181" (30mm)
G	.533" (13.55mm)	1:22.5		2.519" (64mm)
Gm	.533" (13.55mm)	1:22.5		1.772" (45mm)
Gn3	.533" (13.55mm)	1:22.5		1.614" (41mm)
Gn2-1/2	.533" (13.55mm)	1:22.5		1.259" (32mm)
		1.22.0		1.203 (0211111)
17/32"	.531" (13.5mm)	1:22.6	1 7/16" (37mm)	2.500" (63.5mm)
1/2"	.500" (12.7mm)	1:24	1 7/16" (37mm)	2.500" (63.5mm)
А	.414" (10.51mm)	1:29		1.949" (49.5mm)
An3-1/2	.414" (10.51mm)	1:29		1.476" (37.5mm)
An2-1/2	.414" (10.51mm)	1:29		1.259" (32mm)
An2	.414" (10.51mm)	1:29		.886" (22.5mm)
#1	.375" (9.52mm)	1:32	1 1/16" (27mm)	1.766" (45mm)
#1m	.375" (9.52mm)	1:32		1.259" (32mm)
#1n3	.375" (9.52mm)	1:32		1.126" (28.6mm)
#1n2	.375" (9.52mm)	1:32		.752" (19.1mm)
O(17)	.266" (6.75mm)	1:45.2	11/16" (17mm)	$1.250^{\circ}(21.9mm)$
0(17)	.250" (6.35mm)	1:48	11/16" (17mm)	1.250" (31.8mm) 1.250" (31.8mm)
On3	.250 (6.35mm)	1:48	9/16" (14mm)	.750" (31.8mm)
	.250 (6.35mm)		See HO or On3	.649" (16.5mm)
n30 (On2.5)	· · · · · · · · · · · · · · · · · · ·	1:48	11/32" (8.7mm)	
On2	.250" (6.35mm)	1:48	11/32 (8./mm)	.500" (12.7mm)
S	.188" (4.76mm)	1:64	17/32" (13mm)	.875" (22.2mm)
Sn3	.188" (4.76mm)	1:64	13/32" (10mm)	.563" (14.3mm)
00	.1575" (4mm)	1:76.2	29/64" (12mm)	.750" (19mm)
НО	.1378" (3.5mm)	1:87.1	25/64" (9.9mm)	.649" (16.5mm)
HOn3	.1378" (3.5mm)	1:87.1	9/32" (7.1mm)	.413" (10.5mm)
HOn2	.1378" (3.5mm)	1:87.1	、 /	.276" (7.01mm)
ТТ	.100" (2.54mm)	1:120	9/32" (7.1mm)	.471" (12mm)
TTn3	.100" (2.54mm)	1:120	7/32" (5.54mm)	.300" (7.62mm)
Ν	.075" (1.90mm)	1.160	.216" (5.5mm)	252" (2 07mm)
	( )	1:160	.210 (0.01111)	.353" (8.97mm)
Nn3(40")	.075" (1.90mm)	1:160		.250" (6.35mm)
Z	.055" (1.39mm)	1:220		.257" (6.52mm)

# Kadee<sup>®</sup> Quality Products Co.

673 AVENUE C WHITE CITY, OR 97503-1078 (541) 826-3883 Fax: (541) 826-4013 www.kadee.com mail@kadee.com Kadee<sup>®</sup> - RC System



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### Components

### Standard Servo Kit

#### #11120 Standard Servo Kit

Includes: One Hitec (HS-311) Servo, One Standard Vertical Servo Tray, Four 1/8 X 1/4 X 1/16" Grommets, Four Eyelets, Two #4 X 1/4" Screws, Alcohol Wipe, Double Sided Tape.





Hitec (HS-311) Servo

Standard Vertical Servo Tray - for Hitec (HS-311)

**#11200** Standard Vertical Servo Tray - for Hitec (HS-311)

Includes: One Servo Tray, Four 1/8 X 1/4 X 1/16" Grommets, Four Eyelets, Two #4 X 1/4" Screws, Alcohol Wipe, Double Sided Tape.



Standard Vertical Servo Tray

### Components

### Body Mount Remote Coupler Kit Designed for use with Freight & Passenger cars.

The Kit includes the necessary components to convert both ends of one car to Remote Couplers. The #11115 Kit includes #906 couplers that will body mount anywhere a #830 coupler will. The car can be setup to remotely operate a single coupler or both couplers simultaneously.

If Kadee® RC Remote System is being used to operate Remote Coupler, the #11110 Receiver Kit (sold separately) is needed.

We recommend operating Kadee<sup>®</sup> RC Remote Couplers using the Kadee<sup>®</sup> RC Remote System, other means of operating & controlling the servo can be used with Kadee<sup>®</sup> RC Remote Couplers, as long as the degree of servo rotation is adjustable. The Kadee<sup>®</sup> RC Remote Couplers are designed to operate with 90 degree servo rotation only. **Note: The use of any other means of operating the Kadee<sup>®</sup> RC Remote Couplers other than a Kadee<sup>®</sup> RC Servo Controller (Example: #11110 Receiver Kit) will void the warranty.** 

#### #11115 G-Scale Body Mount Coupler Kit (single or dual remote uncoupling)

Contains: Two #906 G-Scale Couplers & Gearboxes, Two Trip Pin Linkage Collars, Two Short Linkage Rods, One Long Linkage Rod, Two #841 Shims, Mounting Screws & Hardware, One #11120 Standard Servo Kit (One One Hitec (HS-311) Servo, One Standard Vertical Servo Tray, Four 1/8 X 1/4 X 1/16" Grommets, Four Eyelets, Two #4 X 1/4" Screws, Alcohol Wipe, Double Sided Tape).



#### Actuated Body Mount Coupler with Gearbox Designed for use with Locomotives, Freight & Passenger cars.

This product allows you to convert to a Remote Coupler easily. The #1 & G Scale Actuated Body Mount Gearboxes are the same & will body mount anywhere a #830 gearbox will mount. The #11220 will mount on a #830 platform and be at the #830 G-Scale coupler height. The #11221 will mount on a #830 platform and be at the #820 #1-Scale coupler height. Couplers can be custom body mounted to most locomotives. The kit contains one ready to mount assembled "all in one remote coupler" (coupler and gearbox with built in ultra nano servo).

If Kadee® RC Remote System is being used to operate Remote Coupler, the #11110 Receiver Kit (sold separately) is needed.

We recommend operating Kadee<sup>®</sup> RC Remote Couplers using the Kadee<sup>®</sup> RC Remote System, other means of operating & controlling the servo can be used with Kadee<sup>®</sup> RC Remote Couplers, as long as the degree of servo rotation is adjustable. The Kadee<sup>®</sup> RC Remote Couplers are designed to operate with 90 degree servo rotation only. Note: The use of any other means of operating the Kadee<sup>®</sup> RC Remote Couplers other than a Kadee<sup>®</sup> RC Servo Controller (Example: #11110 Receiver Kit) will void the warranty.

#11220 G-Scale Actuated Body Mount Coupler with Gearbox (Assembled)#11221 #1-Scale Actuated Body Mount Coupler with Gearbox (Assembled)

Patents Pending, Patent numbers 7,810,660 B1



### Components

### Servo Controller

Adds servo control to DCC, AirWire, Bluetooth, or other locomotive control decoders with auxiliary/function output. Allows control of Kadee® RC Remote Couplers (factory programmed), turnouts, crossing gates, semaphores, windmills, water wheels, gondolas, trams, roundabouts, cranes, & drawbridges...

Note: The #11130 Servo Controller is equipped with a On-board 250mA Relay for lighting or other remote switching needs.

**#11130** Servo Controller (DCC, AirWire, etc.)



#### LIMITED WARRANTY

Kadee Quality Products will repair or replace, at our sole option without charge, any Kadee Remote Control Product or Kadee Remote Control system products affiliated with Kadee Remote Control system (#1110, #1130, #11215, #11225, #11230) determined by Kadee to be defective, where such product fails due to a defect in material or workmanship within (1) Year following the initial consumer purchase. Kadee's responsibility and liability pursuant to this warranty is expressly and solely limited to the replacement and repair of the Kadee Product in accordance with this warranty.

This warranty is limited to the original "Purchaser" and is not transferable or assignable. This warranty covers only those Kadee Products purchased from an authorized dealer. Third party transactions (such as EBAY) are not cover by this warranty.

Proof of purchase or product registration reflecting a purchase within the warranty period is required for warranty claims. Further, Kadee reserves the right to change or modify this warranty without notice and disclaims all other warranties, express or implied.

This warranty does not cover: normal wear and tear, cosmetic or physical damage to the surface of the product, including cracks or scratches. Any damage due to improper installation, operation, maintenance, handling, accident, fire, water or liquids, power changes, abuse, alteration, modification, negligence, battery leak, damage caused by third parties, damage due to attempted repair by anyone other than Kadee, acts of God, devices purchased from anyone other than an authorized retailer or distributor or devices that have been previously registered.

This warranty is considered void if the product case has been opened or the protective wrap has been removed by anyone other than Kadee.

Any device needing to be returned to Kadee must have a return merchandise authorization (RMA) number. Any device received at Kadee without a valid RMA number will be returned to the sender at sender's expense. RMA numbers are valid for (10) business days.

Kadee reserves the right to inspect any and all equipment involved in a warranty claim. Repair or replacement decisions are at the sole discretion of Kadee

A technical representative will be able to determine if the device is defective and still under the limited warranty period. It also may be necessary for the device to be sent for evaluation to determine the validity of the warranty claim. If the device is not deemed defective or is out of the limited warranty period, you may be given the option to repair the device for a fee or have the device returned as is at your expense

DISCLAIMER:

REPAIR OR REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS YOUR EXCLUSIVE REMEDY. THIS WARRANTY IS IN LIEU OF ALL OTHER EXPRESS OR IMPLIED WARRANTIES. KADEE SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY OT THIS PRODUCT. EXCEPT TO THE EXTENT PROHIBITED BY LAW, ANY IMPLIED WARRANTY, INCLUDING THE WARRANTY OF MERCHANTABILITY OR THE WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE ON THIS PRODUCT IS LIMITED IN DURATION TO THE TERM OF THIS WARRANTY. states/countries do not allow limitations of how long an implied warranty lasts or the exclusion or limitation of such damages, so these limitations and exclusions may not apply to you. This warranty gives the consumer specific legal rights and you may also have other rights which vary from location to location. If any portion of this warranty is held to be invalid or unenforceable for any reason, such finding will not invalidate any other provision.

Note: Powering the #11110 Receiver Kit from any other power source will void the warranty. Note: The use of any other means of operating the Kadee\* RC Remote Couplers other than a Kadee\* RC Controller (Example: #1110 Receiver Kit or #11130 Servo Controller) will void the warranty.



Cancer and Reproductive Harm - www.p65warnings.ca.gov

MARNING:

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

