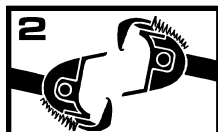


Kadee® Delayed-Action, Magne-Matic® Uncoupling



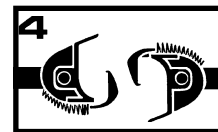
Stop over a Magnetic uncoupler, allowing slack to occur between the couplers. Knuckles have opened.



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.

Kadee® Magne-Matic® Couplers are designed so it takes two things to uncouple them: a magnetic uncoupler and slack between the couplers. The uncoupling is accomplished over a magnetic uncoupler, either permanent or electrical, mounted between the rails, under the track, or lowered into the road bed (electrical). A permanent uncoupler has a continuous magnetic force like a common magnetic and an electrical uncoupler has "on demand" magnetic force using an electrical switch. When there is enough "slack" between the couplers the magnetic force of the uncoupler pulls the "trip pins" (wire hanging down from the coupler head) in opposite directions outward to open the couplers.

"Delayed Uncoupling" is a unique way of keeping the couplers open and uncoupled while you push the cars to be dropped off (spotted) at most any location. After uncoupling, as long as the couplers are over the magnetic uncoupler they will remain open. Now you can push one coupler back into the other and as long as there is continuous pressure against the couplers they will not re-couple or "latch"; this is the "delayed position". Continue to push the car/s to the desired location, stop and pull away, thus "spotting" the car/s. Now the couplers will snap back to center and are ready to couple again.

Also note, two locomotives doubled headed can not be uncoupled over an uncoupler unless one has no power or can be switched off (by DCC or such). Since both are powered, both will move in the same direction, etc.

Mounting the couplers correctly is the most important thing you can do to achieve the most consistent

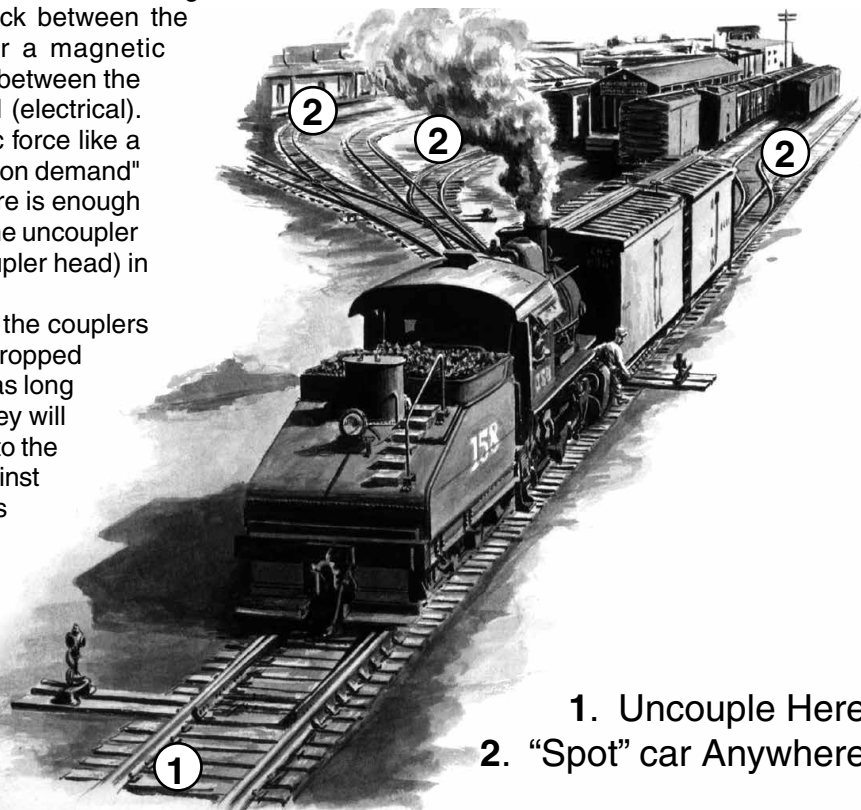
and reliable coupler performance. They need to be mounted at the correct height, along the centerline, and be as level as possible. We strongly recommend that you use our coupler height gauges that are set at the correct (NMRA S-1) coupler heights and will also gauge the track and uncoupler heights and on some the mounting heights. The following are our coupler height gauges: HO#n3 #704, HO #205 or #206, S #814, On3 #813, O #812, #1 #829 or #1929, and G #880 or #980.

All of our couplers have the "delayed action" feature and if you do not need this feature (in HO scale) we offer our #312 "non-delayed" uncoupler. All of the following uncouplers are delayed action uncouplers:

- HO#n3 #709 permanent between rails
- HO#n3 #708 electro-magnetic
- HO, Sn3, S, On3, O #308 permanent under track
- HO..... #309 electro-magnetic
- HO..... #312 permanent between rails "non-delayed"
- HO..... #321 permanent between rails "code 100"
- HO..... #322 permanent between rails "code 83"
- O Three Rail #809 between rail
- O #810 electro-magnetic
- O Two rail #811 permanent between rails

#1 Gauge track for all common "Large Scales" #1, A, G, and F scales and others that run on the #1 gauge track.

- #842 permanent between rail
- #844 permanent between rail, portable mounting



1. Uncouple Here
2. "Spot" car Anywhere

All of our uncouplers come with complete instructions. The magnetic force is equal on both outside edges of the uncouplers so it is very important that they are mounted correctly and on the "centerline" of the track. We do offer our #334 HO uncoupler gluing jig that assures correct uncoupler mounting height and alignment of the #312, #321 or #322 uncouplers.

Placement of Kadee® Couplers: The following information is based on general practices and tests conducted on "our" test layout. This will give you the basic procedures to follow so you can adapt them to your layout and operation. Since no two layouts (or modelers) are the same, each individual modeler needs to decide the location of the uncouplers according to their particular layout and operational needs. Due to the many variables that enter into coupler and uncoupler performance it would be impossible for us to give you the best uncoupler placement for your layout. We can only give you the basic procedures, suggestions, and general nature of operations.

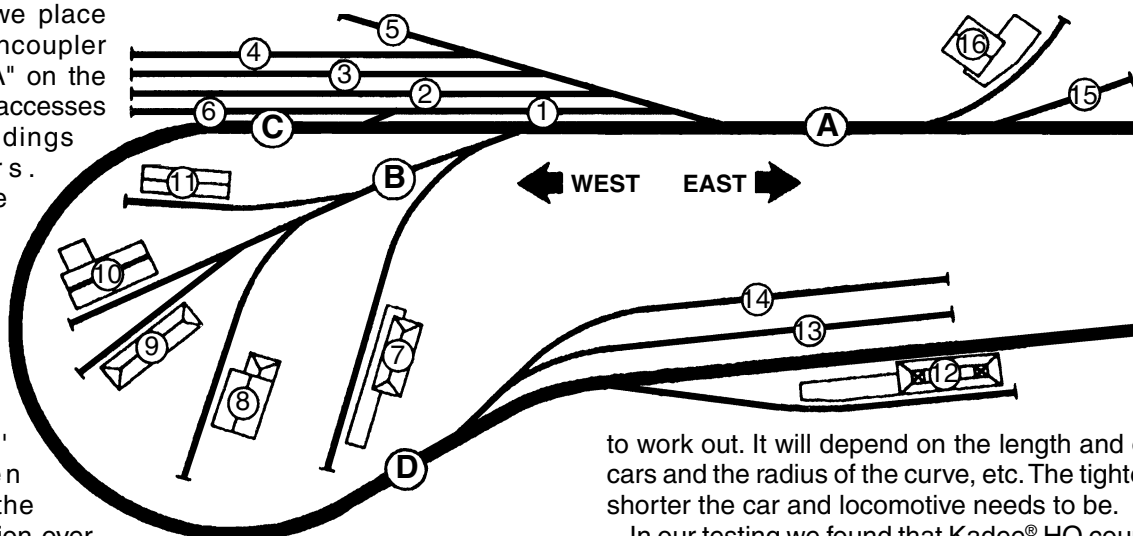
It is highly recommended to install the uncouplers in a straight and level piece of track, not on a curve or a grade. A curve would not allow proper alignment of the couplers to open and a grade would not allow the needed slack between the couplers. Although, if absolutely necessary that you have to mount an uncoupler on a curve the larger the radius the better. This will, however, present many possible problems with uncoupling and coupling. It mostly depends on the coupler mounting (whether a truck mounted or body mounted coupler), the length of the car or locomotive and the coupler overhang. Short cars with truck mounted couplers will have less problems than long cars with body mounted couplers, etc. It will be a trial and error effort and you'll find many limitations of uncoupling and coupling on a curve.

To mount an uncoupler on a straight piece of track you need a piece that's long enough for your two longest cars or car and locomotive combination to set on so the couplers will be properly aligned. The uncoupler should be mounted in the center of this straight piece so no matter what direction you are running or the length of the cars there will be enough straight track on both sides of the uncoupler.

Study the layout illustration below and note the location of the various numbers and letters and the east (right) and west (left) directions. The term "car" in the following text is used generally meaning a single or multiple cars, whichever applies.

Suppose we place a delayed uncoupler at location "A" on the mainline that accesses the many sidings and spurs. Now with the locomotive at the head end of the train heading east, it is possible to 'set' any chosen couplers in the delayed position over uncoupler 'A'. From here the car can be pushed to any point west of 'A' to be dropped (spotted) at any of the locations of (1) to (11) and even (12) to (14) by pushing it all the way around the loop (a little unnecessary though). After reaching the spur where the car is to be dropped the train is halted and reversed to pull away leaving the uncoupled car. The couplers will re-center and are ready to couple.

Multiple Uncoupler Locations: In order to spot a car at location (8) and another at (10) you will set the couplers in delayed position at 'A' for the car to be dropped at (8). After leaving it there pull back to 'A' and uncouple the car to be left at (10) and repeat the procedure to drop it. This shows that the distance between 'A' and locations (8-11) are rather inconvenient. You would be better off placing an uncoupler at 'B' to eliminate the long trip back to 'A' for switching operations. Another uncoupler at 'D' would be useful to serve spurs (12-14). Your particular layout design and operation will determine your uncoupler locations.



If you drop a car at turnout locations (15) or (16) with a train facing east (head end) and cars behind, you would use passing siding (1). The car to be dropped is stopped over uncoupler 'A' to set the coupler in delayed position, then push it back onto passing track (1) and leave it there. The train is then pulled forward back onto the mainline. Now back the train (locomotive) west on the mainline to clear the switch at the west end of the passing siding. Enter the siding and couple the opposite end of the previously dropped car. Push the car to location 'A' and set the locomotive's pilot coupler and cars coupler in the delayed position. The car now can be pushed to locations (15) or (16).

An uncoupler at location 'C' will allow westbound trains to make use of the passing track (1) for positioning a car ahead of the engine to permit switching them to any location west of location 'A'. Uncoupler 'C' would serve the opposite end of the passing track (1) and, again, an uncoupler at 'D' serves the (12-14) locations.

This shows you the minimum of delayed uncoupling magnetics that allows switching moves to the numerous positions on the layout. Beyond this, you still may install uncouplers anywhere you desire to further refine your operation. Either permanent magnetic uncouplers, whether between the rails or under the ties, or the electric type of uncouplers may be intermixed throughout your layout to suit your needs.

When the couplers are in the delayed position you can actually drop the car just about anywhere on your layout. You can even drop them on curves as long as you can couple them again. This is one of the variables you will have

to work out. It will depend on the length and overhang of the cars and the radius of the curve, etc. The tighter the radius the shorter the car and locomotive needs to be.

In our testing we found that Kadee® HO couplers will couple and even uncouple on 18" radius track (again, depending on the cars and coupler mounting). However, we recommend that you make many tests to determine what radius of curves will allow consistent coupling performance using your equipment. Trackage where you would be switching will then be kept to the radius you determine best suited for your equipment.

If you find that you can not couple a car that you dropped off on a curve, you still can push it through the curve until it will couple. Keep this in mind when you are laying your track, particularly on dead end spurs, so you can allow enough room for coupling before reaching the end of the track.

Another item to remember is to allow enough room between the uncoupler and the switch to pull your average size train far enough away to clear the switch. This will allow you to take cars out of the middle of the train, drop them, and go back to pick up the rest and be on your way.