

PROTO:HO Accumate® Instructions

Congratulations on your purchase of the most realistic automatic coupler ever produced in HO scale. Not only does the PROTO:HO coupler follow all the major dimensions of the AAR type E coupler, introduced in 1932 and still the standard; it comes with a mounting box that simulates the prototype draft gear. When equipped with PROTO:HO couplers, coupled cars will be spaced a prototypical distance apart. This sheet gives assembly instructions, tips on mounting, and ideas for enhanced detailing for all HO scale models.

The PROTO:HO Accumate® has been designed with appearance foremost in mind, yet it will couple with all knuckle style couplers in use in HO scale today. In addition, it will mate with most dummy knuckles applied to brass models, although it will not couple automatically to them. Model railroad couplers have been made larger than scale size for a number of reasons, chiefly because of our sharper than scale curves. The PROTO:HO coupler is exact scale width, therefore it cannot be expected to always couple on our un-prototypically sharp curves. This can usually be remedied with a slight nudge with the Switchman® uncoupling tool. Just picture yourself as a real switchman lining couplers. For greater reliability on sharp model curves we recommend the full size version of the Accumate® coupler.

Because it is so important that the couplers align, it is critical that the couplers be centered on the car body and in line with the centerline of the car. For this reason two mounting holes have been provided in the draft gear box. In addition, reducing the amount of side to side motion in the model trucks will improve coupling reliability. The easiest way to accomplish this is to change the wheel sets to ones with axle lengths closely matched to the trucks; select the longest axle that still turns freely in the truck bearings.

ASSEMBLY and MOUNTING

The PROTO:HO Accumate® consists of five parts, illustrated in Fig. 1: the Hook and Blade that make up the coupler itself; a steel Operating Pin that enables remote magnetic operation; and a detailed draft gear Box and Cover, which friction fit together so that the assembled draft gear can be easily handled. Assemble as follows:

- 1) Remove the parts from the parts sprue with a sharp hobby knife or razor blade; pulling or twisting them off will leave burrs that interfere with free operation.
- 2) Place the Hook in the end of the Box opposite to where it was attached to the sprue, with the socket for the Operating Pin facing down.
- 3) Add the Blade half of the coupler and position the Cover above, then gently squeeze together. Be careful not to pinch the spring molded on the Blade between the Cover and Box, or it may be damaged. The lip on the top surface of the Cover goes at the coupler end.
- 4) Place the assembled coupler / draft gear assembly on a flat, hard surface and gently press the Operating Pin into its socket with a needle nose pliers.
- 5) A puff of powdered graphite or Teflon lubricant may be blown into the coupler box at this time, if desired. **Do not use oil**, it will only turn gummy with time and impede the operation of the coupler.

When assembled as shown in Fig. 1, the draft gear box can be mounted on any model that has a mounting surface at the NMRA recommended 29/64" (.453") above the rail. Two holes are provided for the 0-80 screws supplied, and it is suggested that both be used to ensure that the coupler remains centered on the car. After mounting, adjust the Operating Pin to clear the rails by 1/32" (.031"). If remote magnetic operation is not desired, the Operating Pin may be omitted with no adverse effect on operating reliability.

MOUNTING in LIMITED SPACE

Some applications require that the PROTO:HO occupy the minimum amount of space, such as the front couplers on steam locomotives and use on HO_n3 narrow gauge equipment. The Box and Cover can easily be cut to the internal bulkhead at the interlock pins, and will then have the same mounting dimensions as other popular HO_n3 couplers. Because this removes one of the two mounting holes, the car body must make some provision to prevent the coupler box from turning.

The PROTO:HO coupler can be mounted in even less space; the Box can be cut to a minimum length of 9/32" (.281"). At this short length the Cover will no longer interlock with the Box, so some provision must be made to keep them in line, such as a close fitting opening the pilot. **NOTE: It is not recommended that the coupler box be shortened from the front. All Accumate® couplers require that the shank halves be held in close vertical alignment, and the coupler box must extend all the way to the coupler head for this purpose.**

MOUNTING in EXISTING COUPLER BOXES

Many times it is desirable to mount the coupler in the existing coupler box molded into the floor of the model. The surface of most these boxes is only 27/64" (.421") from the rail. The PROTO:HO coupler can be easily mounted in these situations:

- 1) Carve the existing pivot post flush with the bottom of the existing box. The new mounting hole locations are designed to avoid the existing holes, if any.
- 2) As the resulting surface will take the place of the Cover, scrape it perfectly flat with a sharp new single edge razor blade as shown in Fig. 2.
- 3) Place the Cover in place, trimming its length as needed. The PROTO:HO simulated draft gear is long enough to extend all the way to the car body bolster in most cases, and can be trimmed on the bolster end as needed. Drill the two mounting holes with a 3/64 Drill, and tap 0-80, or simply thread the 0-80 screws into the drilled holes, allowing them to form their own threads in the plastic.

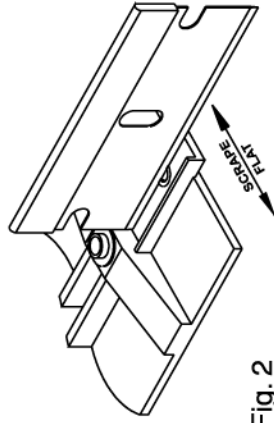


Fig. 2

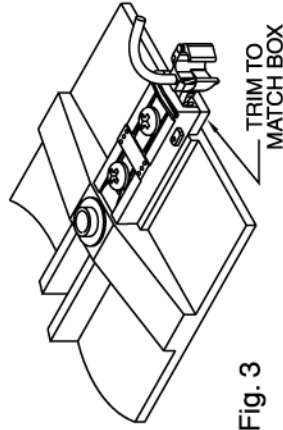


Fig. 3

- 4) Trim the Box to the same length as the Cover. If the sides of the existing box are to remain in place, the simulated drawer key may have to be trimmed from the sides of the Box. For greater realism, trim the sides of the existing box away, leaving the new PROTO:HO draft gear exposed for its entire length.

- 5) Now assemble the coupler, omitting the Cover as shown in Fig. 3. The coupler parts will stay in place if handled gently. Grasp the assembly by the coupler head, carefully place it in position, and screw it in place. Do not over tighten the screws. Check for free operation of the coupler, and loosen the screws slightly if needed. This mounting technique should place the coupler centerline at the NMRA standard height.

SIMULATING CUSHION DRAFT GEAR

One of the most distinctive features of contemporary freight cars is the extra distance between coupled cars created by modern cushioned draft gears. Typically, these draft gears extend an additional 10 or 15 inches beyond the end of the center sills. The PROTO:HO Accumate® with its two mounting holes, is ideally suited for replicating this. Simply use the outer hole to hold the extended draft gear together, while using the inner hole to mount it to the car. Fig. 4 shows a typical installation on a model with a molded on coupler box.

- 1) Cut the Cover off at the back (flat side) of the bulkhead.
- 2) Lay the cut off Cover on the underframe in the proper position, extending either 10 or 15 scale inches beyond the normal position.
- 3) Mark around this, and notch the floor. Be sure this notch is centered, as it holds the new draft gear installation centered on the car. Remove the unused sides of the existing coupler box.
- 4) Assemble the coupler, and secure the Cover to the Box with one screw and a 0-80 nut (not supplied).
- 5) Insert the assembly in the notch, and drill and tap the second hole in the underframe. Secure the new draft gear with the other 0-80 screw.
- 6) Fill any resulting gaps in the center sills with strip styrene, and the installation is finished.

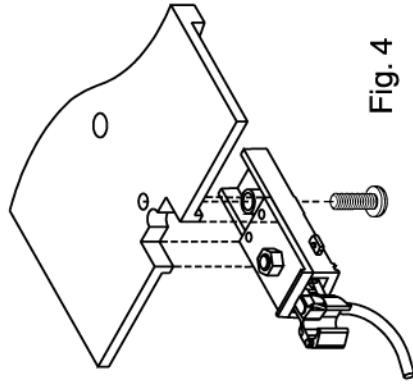


Fig. 4

PAINTING and WEATHERING

While the PROTO:HO Accumate® is made of a high strength engineering resin that is impervious to oil, solvent cement, and paint, the outer surfaces have been left rough so that they may be weathered. Dry-brushing with rust colored model paint will help to highlight the edges, and bring out the detail. Do not paint the working surfaces, however, as these have been brought to a high polish to aid easy operation. The Operating Pin may be painted black to simulate an air hose.

The PROTO:HO Accumate® is protected by U.S. Patent No. 5,620,106 and U.S. Patent No. 5,931,322. Accumate® and Switchman® are registered Trademarks of Accurail, Inc. P.O. Box 278, Eiburn, IL 60119.

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