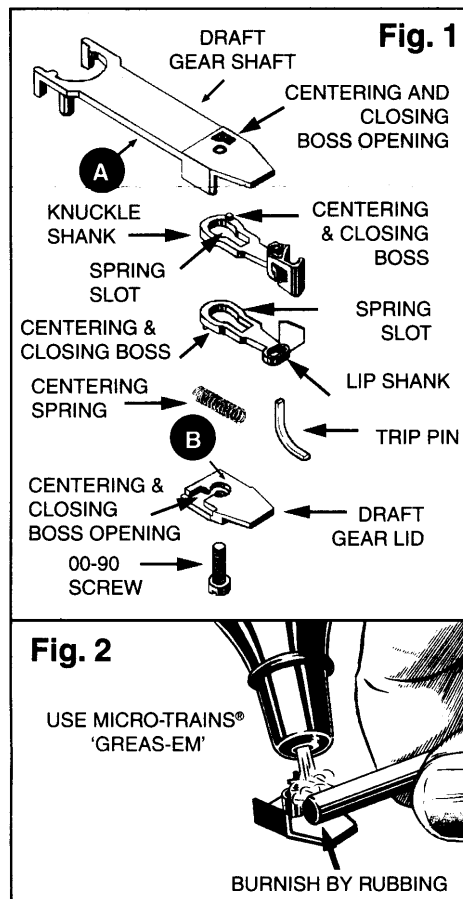
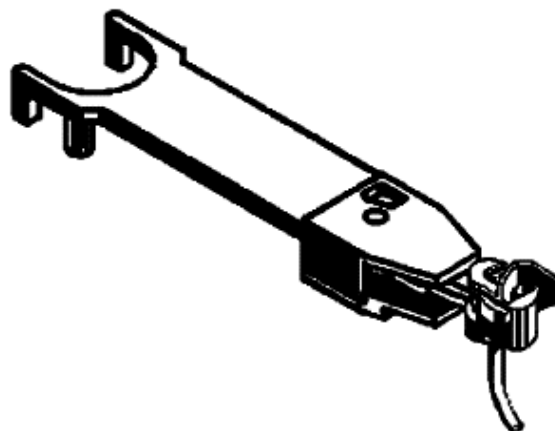
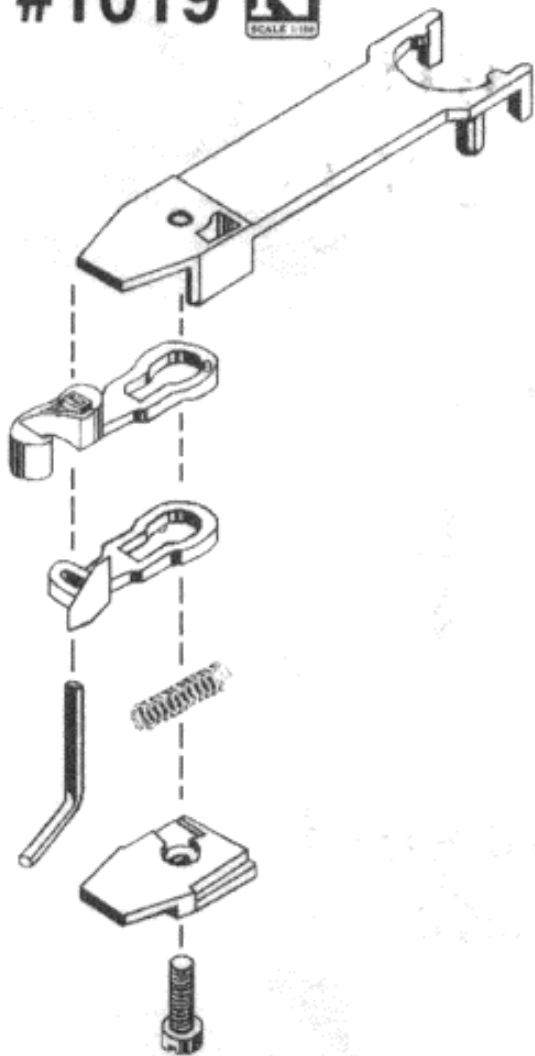


Micro-Trains #1019 Truck or Body Mount Coupler

Truck or Body Mount Coupler & Draft Gear Box w/ underset mounting for 89ft 4in TOFCs.

#1019 



Underslung Coupler Assembly Instructions

Read all instructions through at least before you start. Study Fig. 1 to familiarize yourself with the name of each part.

CONTENTS: 2 pair couplers (4 each coupler knuckle shanks; 4 each coupler lip shanks; 6 each trip pins; 4 each draft gear shafts; 4 each draft gear lids; 6 each centering springs; and 6 each 00-90 x 1/4" screws).

ASSEMBLY

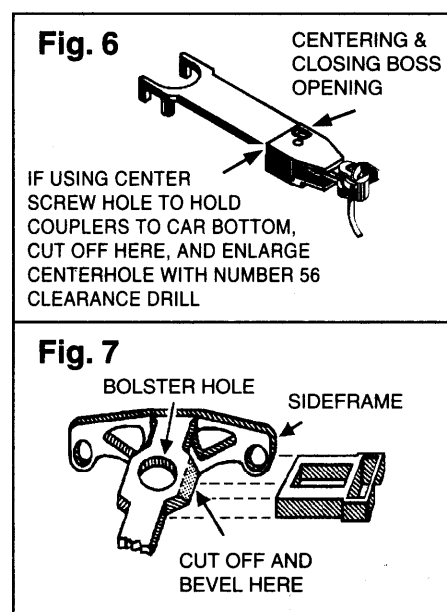
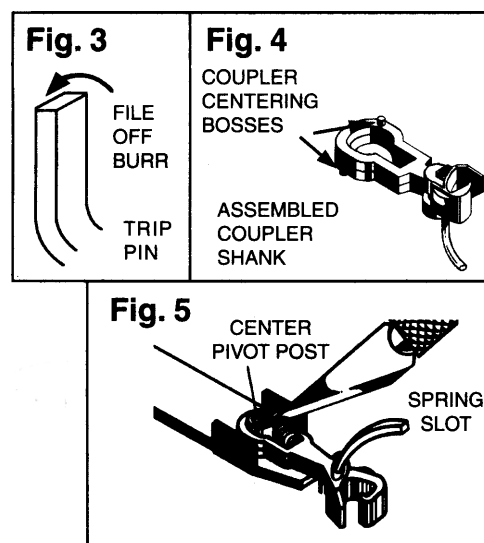
- 1) With a sharp hobby knife, carefully cut each part from sprue so no flash remains.
- 2) Burnish all working surfaces using round end of small drill bit and Micro-Trains 'Grease-em' (Fig. 2). Give special attention to areas 'A' and 'B' (Fig. 1).
- 3) File off burr on end of trip pin (Fig. 3), then insert longer end of trip pin into slot in underside of knuckle shank. Push pin in until it is visible coming through the top of slot.
- 4) Assemble two (2) halves of the coupler shank. Insert trip pin through loop of the lip shank, then fit two (2) halves together (Fig. 4).
- 5) Place draft gear shaft upside down on the edge of a slightly raised surface. Place assembled coupler shanks in draft gear box so trip pin is up, and hole in coupler shank is over center pivot post.
- 6) Using a knife blade, pick up a coiled centering spring by inserting blade between coils at one end of spring. Insert other end of spring into slot in front of center pivot post (Fig. 5).
- 7) Now carefully, so not to dislodge spring, place draft gear lid over assembly. **MAKE SURE** small coupler centering bosses are correctly positioned in centering and closing openings of draft gear box and lid (Fig. 6).

- 8) Hold assembled draft gear box together and test coupler action (See Testing Procedure). Attach draft gear lid with 00-90 screw provided. If you are not using center screw hole to hold couplers to car bottom, cut or file off any unused screw length flush with top of draft gear box.

MOUNTING COUPLER AND DRAFT GEAR

Body Mounting. When mounting, be sure coupler assembly is in exact center and at correct height. The coupler centerline height is $7/32"$ or $.216"$ (5.5mm) above rail top. The area on car underbody where draft gear box mounts should be $.226"$ (5.7mm) from top of rails (Fig.8). For easier, more accurate measuring, use Micro-Trains Height Gauge. If coupler sits slightly too low, add washer(s) between truck bolster and body bolster. If coupler is way too low, file or trim appropriate amount from coupler mounting platform. When car underbody height is correct, proceed with mounting coupler assembly. If using existing trucks, remove wheel pairs over coupler extension and cut off Rapido type coupler (Fig. 7). This is best done with a jewelers saw or carefully with a sharp hobby knife or single edge razor blade.

- 1) Locate and mark position for car body mounting hole, on centerline exactly $13/64"$ or $.205"$ (5.2mm) back from end of car.
- 2) Drill a No. 62 or $.038"$ (.96mm) diameter hole and tap it for a 00-90 screw (For your convenience, Micro-Trains offers the Tap and Drill Set).



3) If using draft gear centerhole for mounting, cut off draft gear support shaft at rear of draft gear box (Fig. 6). But, first enlarge centerhole in draft gear box with #56 or .0465" (1.18mm) clearance drill (Fig. 6). Mount the Micro-Trains coupler using 00-90 screw provided in kit.

4) After mounting, add a puff of Micro-Trains 'Greas-em' into the draft gear box, and work coupler back and forth within box to lubricate and burnish working parts.

Truck Mounting (where truck mounting hole is .860" (21.85mm) inboard from car end). We recommend using Micro-Trains nonmagnetic trucks for this conversion. When installed, the bulge in the offset bolster hole of the truck should face toward center of car.

1) Truck mounting boss on car body bolster should be .165" (4.19mm) diameter and protrude downward .035" (0.9mm) from underbody, with the bottom at .185" (4.70mm) above rail top (Fig. 9).

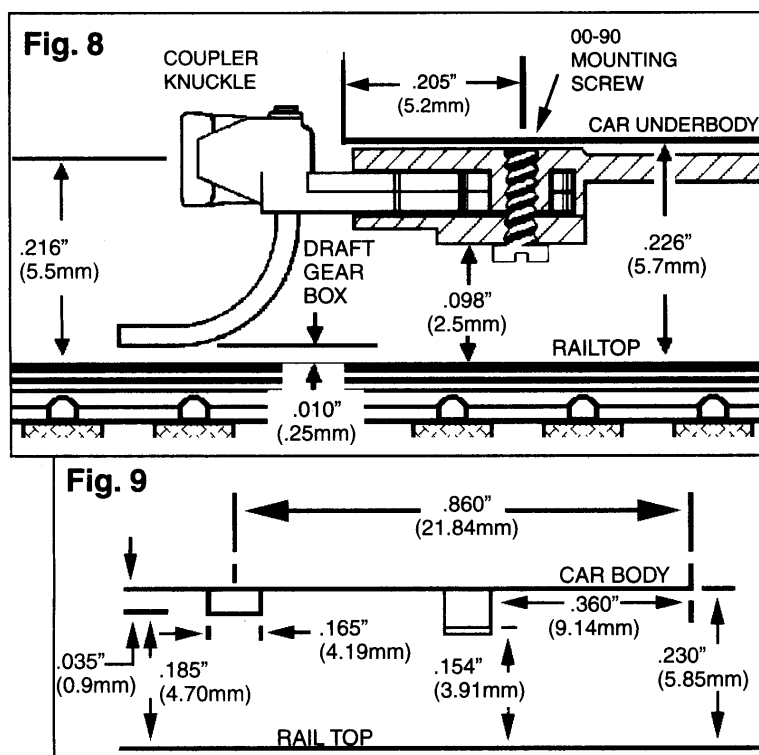
2) Make a draft gear shaft support as shown (Fig. 10) using scrap styrene. Dimension "A" should be just long enough so

that, when installed on the car underbody, top surface of support is .154" (3.91 mm) above rail top. Dimension "B" is the width of car underbody where support is to be mounted. Test fit to car, but do not cement in place yet.

3) To ensure unrestricted coupler swing and to prevent upward warp of draft gear shaft when car is being pushed, end of car underbody should be flat and smooth at .230" (5.85mm) above rail top. If necessary, install a small piece of thin scrap styrene, modifying car end underbody as necessary to gain correct height.

4) Assemble coupler in draft gear box as previously described and test coupler action. If using screw to assemble lid to draft gear box, trim end of screw flush with top of draft gear box. File as necessary to get smooth surface.

5) Attach draft gear shaft over center of truck bolster, then attach truck to car. Test fit again the draft gear shaft support to ensure correct height, clearance and operation; making sure coupler centerline height is .216" (5.5mm) above rail top. When satisfied, glue support in place and allow to dry. Paint draft gear shaft support to match car underbody color.



TESTING:

A) Test coupler for proper centering action. Coupler should move freely from side to side, in and out, always returning to center position. If it doesn't, disassemble and check spring for proper centering, damage, or improper seating. Correct and add a puff of Micro Trains 'Grease-em', and work couplers back and forth to lubricate and burnish parts. **DO NOT USE OIL.**

B) Place car on track and check coupler height using Micro-Trains Coupler Height Gauge (Fig. 8).

C) Check trip pin height with Micro-Trains Trip Pin Height Gauge (Fig. 8). Lay gauge across rails and roll trip pin up to it. Pin should just clear gauge, but not be so low it fouls on turnouts and crossover rails. If trip pin is too short or long, adjust by pulling or pushing up or down in coupler shank.

D) If couplers cross the wrong way over uncoupler, locking closed instead of open, adjust trip pin angle. Trip pin should line up with knuckle part of coupler (Fig. 11).

E) Remove trip pin by carefully pulling straight down while holding coupler knuckle.

F) Twist pin top so it angles outward slightly more, then reinstall. **DO NOT** bend or twist trip pin while in coupler.

If lightweight cars and cars with steel axles and weights are drawn into coupler magnet, replace the magnetic wheelsets with Micro-Trains non magnetic wheelsets or modify existing wheelsets in the following way: Remove the back wheel pair from one truck on each car (back wheel pair would be closest to center of car, away from coupler end of truck) and add one truck restraining spring. To do this, turn axle cone up. Add a dab of saliva to capture spring and help hold it in place. Place the spring over axle cone. Reinstall wheel pair to truck (Fig. 12). This spring should create enough drag to keep car from being pulled into magnet. If not, add another spring to car's other truck. You may also replace steel weight with soft white metal or flattened fishing sinker.

