

Supplementary Installation Instructions for RW-1019 GMC / CHEVY 4500/5500 Series Trucks

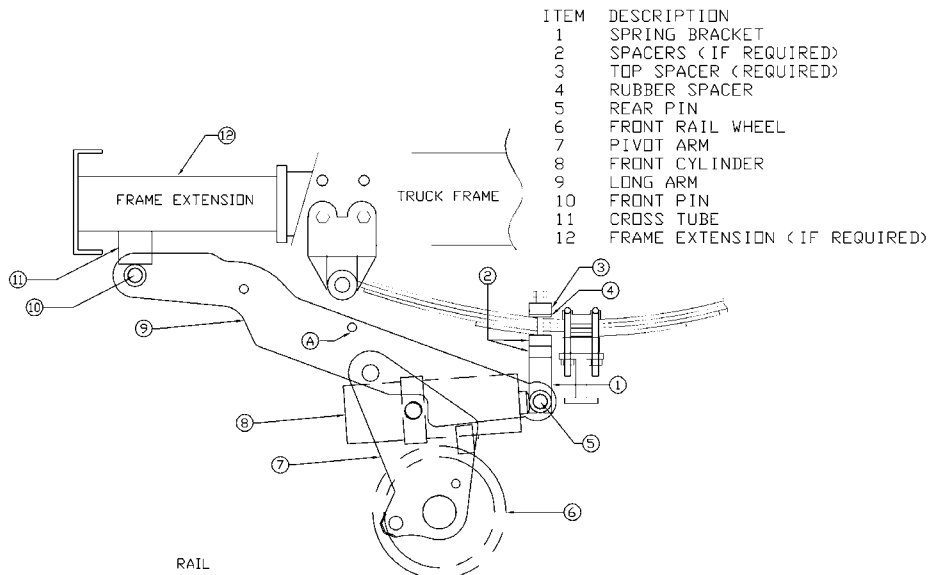
OVERVIEW:

GMC / Chevrolet no longer offers the 3500HD pickup truck. There is still a dual rear wheeled 3500, but its maximum GVWR is only 11,400lbs. The Class 4 & 5 GVWR ranges (14,001 to 19,500lbs) that used to be covered by the 3500HD are now part of the GMC / Chevrolet TopKick / Kodiak (4500/5500 family) line of trucks.

The TopKick / Kodiak line of trucks is much more similar in overall construction to its heavier GVWR cousins than it is to the old 3500HD pickup trucks. Therefore, the DMF RW-1019 railgear has been modified to better suit this line of trucks. The redesigned RW-1019 for TopKick /Kodiak trucks is very similar to the larger DMF RW-1212 and RW-1420 railgear. The only difference between this RW-1019 for the Chevy /GMC 4500 / 5500 series trucks and the RW-1212 and RW-1420 line is the size of the rail wheels, bearings, axle and the pivot arms.

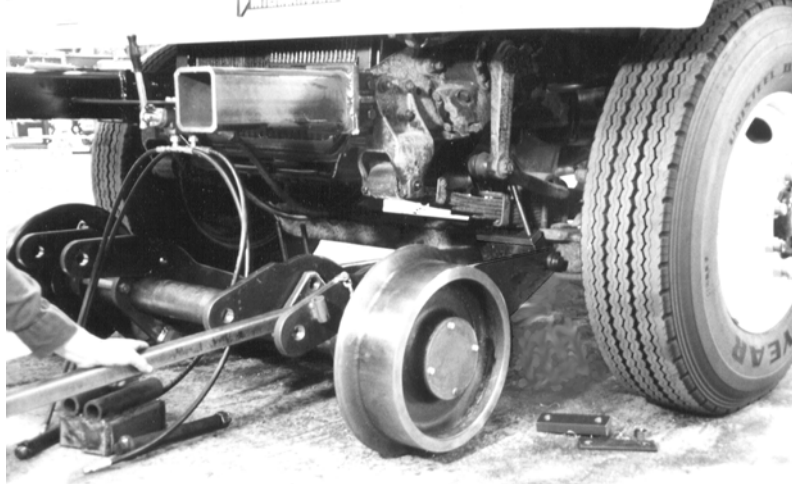
FAMILIARIZATION:

Please take some time to familiarize yourself with the terms in this diagram prior to proceeding with installation. The following instructions will be much clearer if you're familiar with the terminology. Furthermore, if you need to contact DMF for assistance, we will be better able to understand your questions if you use the same terms we do.

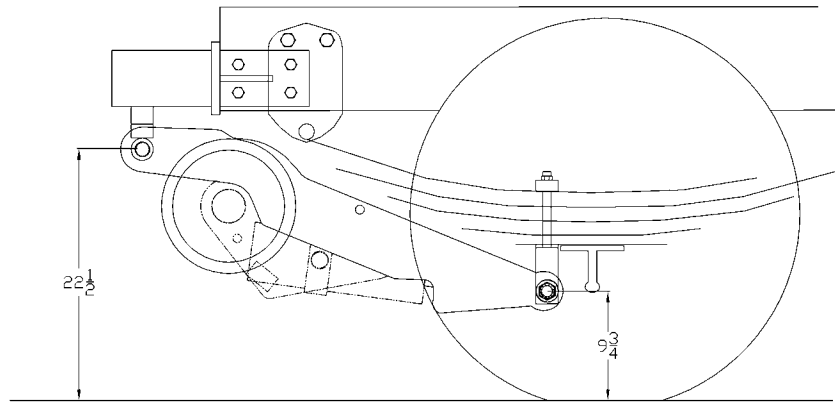


ATTACHING GEAR TO TRUCK:

- 1) Remove front bumper and store for re-installation later.
- 2) Bolt on front frame extensions provided with railgear.
- 3) Slide Railgear under truck.
- 4) Raise the rear of one pair (passenger or driver's side) of long arms so that the two sections of threaded rod straddle the leaf spring. Continue to raise the spring hanger until it comes in contact with the lower most leaf. This can be made easier by inserting an appropriately sized bolt through hole marked "A" in BOTH inner and outer long arms. Then slide a long lever (e.g: 1-1/2" tube steel) OVER the bolt and UNDER the rear pin / spring hanger (see picture below)



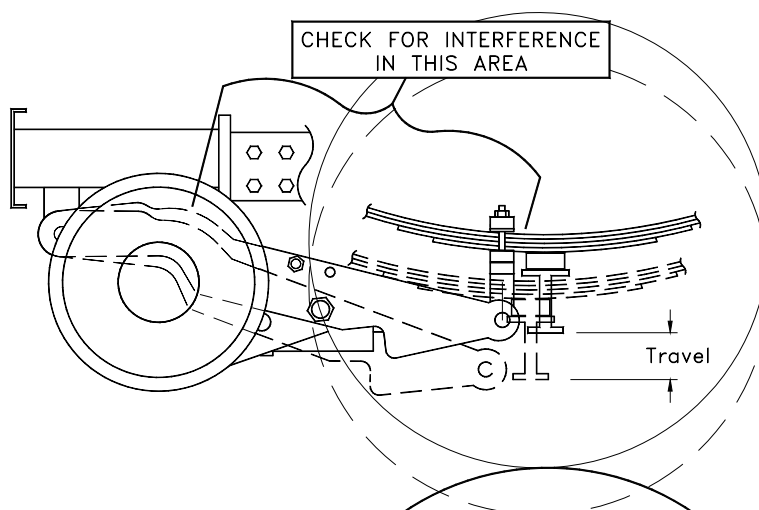
- 5) Measure the height of the rear pin as the spring hanger is in contact with the spring. Add or remove spacers as necessary so that the centerline of the pin will be at approximately 9-3/4" when secured in place.
- 6) Install rubber pad over the top of the leaf springs and then the top 1" spacer. Thread 2 nuts on EACH of the threaded rods of the spring hanger. Tighten until the rubber just starts to deform. Do not overtighten.
- 7) Repeat steps 4&5 for the opposite side of the railgear. Both spring hangers should now be clamped around the leaf springs.
- 8) Raise the railgear until the spring hanger just touches the frame or frame extensions. The easiest way to do this is to actually connect the truck hydraulics, remove the safety pin offs, and "lower" the railgear. This will force the long arms up toward the frame / frame extensions. When the cross tube just contacts the frame stop and measure the height of the front pin. The height should be about 22-1/2 to 23-1/2" inches. If it is higher, you will need to space the cross tube down with flatbar. If it is too low you will have decreased road clearances in the highway position. Please see following diagram for proper highway position pin heights.



*****CLEARANCE NOTE*****

Proper clearances will allow the railgear to move up and down with the truck front suspension. As the truck tire hits bumps in the road, the truck spring allows the front axle to move upward (see following figure). Since the railgear is attached to the spring just in front of the axle, sufficient clearance must be allowed to prevent interference with other parts on the truck (i.e. frame, steering boxes, shocks, oil filters, spring hangers, hydraulic lines, etc.). The Front Mounting Pin does not move in relation to the vehicle frame because it is fastened through the Frame Extension (or directly to the truck frame). As the Front Mounting Pin does not move and the Rear Mounting Pin (at the axle) does, the rail gear effectively rotates about the Front Mounting Pin. Therefore, the part of the rail gear near the Rear Mounting Pin moves more than the part near the Front Mounting Pin, and attention needs to be paid to the possible clearance problems that can be caused by this movement.

Front Railgear Clearance:



Align Front Rail Gear Longarms:

The front Railgear now is ready to be squared up and aligned. Three measurements need to be taken to insure that everything is aligned properly.

- The passenger and driver side long arms must have the same fore and aft position relative to the truck axle.
 - The long arms must be parallel to the frame.
 - The long arms must be parallel to each other.
- 1) Relative fore and aft position: The first step is to make sure that the front to rear position of the railgear is the same for both passenger and driver's side long arms. The best way to determine this is to measure from the passenger's side front pin of the railgear to a point on the truck. For factory installs DMF technicians usually use the point where the front leaf springs are attached to the front spring shackles. (NOTE: Do not use a point on the frame extensions.) Then compare this measurement to the same dimension on the driver's side. If one pair of long arms is further fore or aft than the other, the nuts on one of the spring hangers must be loosened and that side moved forward or backwards until the measurements on both passenger's and driver's sides are equal. Re-tighten the spring hanger and remeasure. Once the front pin-to-suspension measurements are equal, you should verify that the measurement between the rear pins and the truck's front axle are also equal. If they are not, it is possible that the truck axle is not square with the frame.
 - 2) Align long arms to frame: Place a straight edge, such as a framing square, against the outboard surface of the outer driver's side long arm. Orient the straight edge such that a measurement can be made between the truck frame and the edge that is against the long arm. Repeat this measurement with the straight edge at another location on the same long arm that is at least 12" away from the first location. The measurements taken at the two separate locations should be equal. If they are not use a hammer to slide the front of the driver's side long arms in towards or out from the center line of the truck as required. Repeat this process until the two measurements are equal. Then perform the same measurements on the passenger's side long arms.
 - 3) Aligning long arms to each other: If the rails of the truck frame are straight and parallel, then the long arms should be parallel after performing the previous step. However, you must make sure that they are or the gear will bind when moving up and down. Take a measurement from the outboard passenger's side long arm near the rear pin to the same location on the outboard driver's side long arm. Repeat this measurement near the front pin. Adjustments should be made by tapping the long arms towards or away from the centerline of the truck. If adjustments are made during this step then step 2 (Aligning long arms to frame) **MUST** be repeated to verify that the whole assembly is still in line with the truck frame.

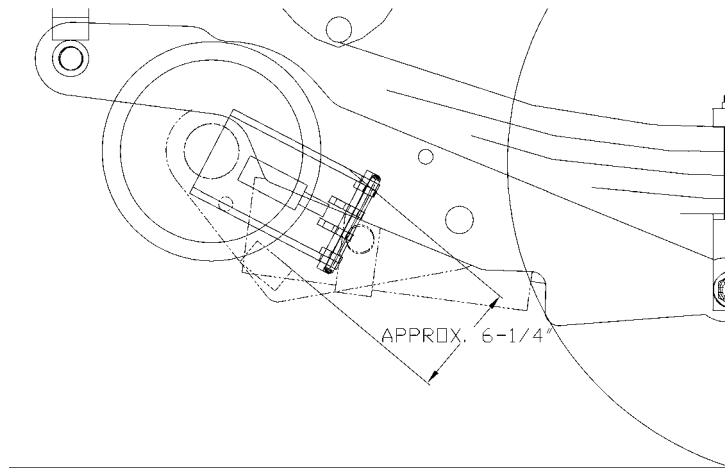
After all the alignment measurements have been checked you may TACK weld the front cross tubes to the frame / frame extensions. (Do NOT fully weld off yet!)

Axle Alignment and Weld Off:

- 1) Raise the front railgear to the highway position and pin off.
- 2) Center the Front Axle relative to the truck frame. To do this, put the gear in the highway position and place a straight edge along the outboard edge of the passenger's side rail wheel. Take a measurement from the straight edge to a point on the truck frame or suspension. Move the straight edge to the driver's side wheel and take the same measurement to the corresponding point on the

driver's side. Slide the rail axle to the passenger's or driver's side, as required, in order to get the measurements equal.

- 3) If equipped with brakes: rotate the outer axle tubes to align brake cylinders so that they will be vertical in the fully deployed (rail) position. If you measure between the forward brake arm and the pivot arm stop block a good starting point is about 6-1/4". (see diagram below). In this same position the railsweep rubber (if supplied) should be vertical when in rail position. Tack weld axle tube to the inboard surface of the outer pivot arm ONLY.



CAUTION: in the following step be careful to ensure that the rail brakes do not hit the floor:

- 4) Fully lower the gear to the rail position and verify proper orientation of brake cylinders and rail sweeps.
- 5) Fully raise and lower the front rail gear several times and watch for any binding that occurs. If you note any problems, you must re-check the alignment and resolve any binding issues before continuing. If there are no binding issues you may fully weld the cross tube to the frame extension (or frame).
- 6) Fully raise the gear and re-verify that the axle is centered. You may then fully weld the axle tubes to the inboard surface of the outboard pivot arms ONLY! Do not weld the axle tube to the inner pivot arm at all. You will need to be able to slide the inner pivot arms toward the center of the truck if a hydraulic cylinder ever needs to be replaced.

These instructions are intended to enhance and clarify the differences between this application and previous RW-1019 installations. Any information not covered here is covered in the Parts & Service Manual and or Installation Manual. This information will be incorporated into the next revision of the RW-1019 manual. Please check our website periodically for updates. Please contact DMF if you have any questions at:

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