

Overview

This procedure applies to all Racine Railroad Product equipment. Start the procedure with the stationary axle and finish with the pivoting axle.

Four dimensions are required to verify that the axles are (1) parallel to each other and (2) the left and right-side wheels are in line, front to back.

Checking the Axle Tram

1. Park the machine on a straight, level track.
2. Mark the rail and the edge of the wheel at the wheel/rail contact point for all four wheels.
 - Use a straight edge or level to aid in marking the wheel/axle vertical center point.
 - Be as exact as possible and mark a fine line on the wheel. Mark the rail with a dot on top of the ball outer edge.
3. Move the machine clear of the marked area.
4. Using the wheel marks, measure the wheel base on each side from front to back.
 - The left and right side measurements should be equal $\pm 1/16"$.
 - Measure diagonally, LF to RR and RF to LR the measurements should be equal $\pm 1/16"$.
 - The front to back measurement indicates axle parallelism.
 - The diagonal measurement indicates wheel alignment, front to back.

If Adjustments are Needed

1. Move the machine back and align the wheel marks with the marks made on the rail at all four wheels.
 - Block the floating axle to prevent it from pivoting down on the drive motor side.
2. Raise and support the machine using the installed jackstands or another method to safely support the machine with the wheels off the rail.
3. Cage the brakes and release the tension on the drive chain for the stationary axle.

Square and Center the Stationary Axle to the Frame

1. Measure the distance from the flat edge on the axle bearing to a common frame cross tube.
 - The left and right dimensions should be equal, and the bearing should be roughly centered between the jackscrew tabs.
 - If the dimensions are not equal, determine which bearing needs to be moved.
2. Loosen the bearing mounting bolts.
3. Loosen the jackscrew jam nuts then use the jackscrews to move the bearing in the direction needed so the bearing to frame dimension is equal on the left and right sides.
4. Torque the bearing mounting bolts to 330 ft.lbs. and tighten the jackscrews and jam nuts.
5. Check that the axle is centered in the frame left to right.
 - Measure the distance between the frame tube and the inner surface of the wheel flange, left and right should be equal.

If Adjustments are Needed

1. Loosen the split collars and the bearing collar set screws, then center the axle.
 2. Remove and apply the supplied Primer and Loctite to the set screws, reinstall and tighten.
 3. Remove the split collar bolts and apply the supplied Primer and Loctite.
 4. Reinstall the bolts, position the split collars tight against the bearing then torque the bolts to 52 ft.lbs.
6. Check that all the axle fasteners are tight. Adjust the drive chain and uncage the brakes.
 5. Lower the machine onto the rail. Check that the wheel and rail marks line up on the wheels that were not moved.
 6. Remark the wheel position for the wheel that was moved.
 7. Raise the machine up and support it with the jackstands.
 8. Using the wheel marks, measure the wheel base on each side from front to back.
 - The left and right side measurements should be equal $\pm 1/16"$.
 - Measure diagonally, LF to RR and RF to LR the measurements should be equal $\pm 1/16"$.
 - If the measurements are not within the allowed $\pm 1/16"$, adjust the pivoting axle.

Adjusting the Pivoting Axle

The pivoting axle adjustments need to be done in relation to the stationary axle. Using the measurements just taken, determine where the adjustments need to be made.

If the front to back measurements are not equal, one of the bearings will need to be moved. The bearings should be roughly centered between the jackscrew tabs. This may help in determining which bearing to move.

1. Loosen the drive chain and cage the brake chambers.
2. Loosen the bearing mounting bolts.
3. Loosen the jackscrew jam nuts, then use the jackscrews to move the bearing in the direction needed so the dimension is equal on the left and right sides.
4. Torque the bearing mounting bolts to 330 ft.lbs and tighten the jackscrews and jam nuts.
5. Lower the machine down on the rail, aligning the wheel marks for the three wheels that were not moved.
 - Make sure you are using the new mark on the stationary axle if a bearing was moved.
6. Remark the wheel that was moved.
7. Raise the machine up and support it with the jackstands.
8. Check the front to back and diagonal measurements.
 - The front to back measurements should now be equal. If diagonal adjustment is needed, move the pivoting axle left or right.

Centering the Axle

Centering the axle should correct any discrepancy in the diagonal measurements.

1. First check if the axle is centered in the frame left to right.
 - Measure the distance between the frame tube and the inner surface of the wheel flange, left and right should be equal.
 - To center the axle, loosen the split collars and the bearing collar set screws then center the axle.
2. Remove and apply the supplied Primer and Loctite to the set screws, reinstall and tighten.
3. Remove the split collar bolts and apply the supplied Primer and Loctite.
 - Reinstall the bolts, position the split collars tight against the bearing then torque the bolts to 52 ft.lbs.
4. Check that all the axle fasteners are tight.
5. Lower the machine on the rail. Check that the wheel and rail marks line up on the wheels that were not moved.
6. Remark the wheel position for the pivoting axle.
7. Raise the machine up and support it with the jackstands.
8. Check that all the measurements are within specifications.
9. Adjust the drive chain and uncage the brakes.
10. Remove the material used to block the pivoting axle.
11. Lower the machine onto the rail and return to service.