Installation

Responsibility for proper axle alignment lies with the axle installer. The axle must be installed so that it will be parallel to the drive axle(s) of the tractor. This will allow good vehicle control when cornering, longer tire wear, and it will eliminate dog tracking. Alignment can be determined by measuring from the center of the trailer king pin to the center of each end of the axles. The difference should not vary by more than 1/16". In the case of multiple axles, the axles must also be in line with each other. The difference between the centers of one axle and end centers of the other axle must not vary more than 1/8".

⚠ CAUTION

Safety glasses should be worn at all times when assembling or disassembling axles and their components.

Dexter tubular axles are made of high strength steel for better fatigue life and superior welding qualities. The round tubular axles provide a uniform section modulus no matter how the beam is rotated.

Brake spiders are positioned and welded to specific requirements at our factory. Welding the spider directly to the axle beam provides a higher strength and more reliable brake attachment over bolt-on versions.

In welding suspension components to a Dexter trailer axle, extreme care must be exercised to obtain correct location and ensure the spring seat load bearing surfaces are parallel to each other. Any welding of additional attachments to the axle should be approved by Dexter's engineering department.

Alignment

For safe and efficient trailer operation, to prevent excessive tire wear off-tracking and hard pulling, it is recommended that after a short break-in period you have a qualified trailer mechanic check the alignment.

To align a four (4) spring suspension, the track arms need to be adjusted. There is one adjustable track arm (rod) on each axle; typically on the road (left) side.

Loosen the clamp nuts at each end of the adjusting bolt so the adjusting rod can rotate (see Figure 1). Align front axle with the king pin or coupler and adjust rear axle parallel to the front axle. Be sure to secure the clamps on the adjustable track arm after alignment (see Figure 1).

Before taking axle alignment measurements, make sure the trailer is unloaded and free the suspension of any binds by pushing the trailer backwards and then pulling the trailer forward. While pulling the trailer forward on a level floor, apply the brakes and release. This will ensure that an adjustable undercarriage is in its rearmost lock position. The trailer MUST be level from side to side as well as from front to rear.

Note: Neither service nor parking brakes should be applied during the measurement procedure.

Ensure the king pin or coupler is at the correct height. Use axle end extenders (or remove outer wheels and any obstructions) to achieve a straight line for measuring from king pin to the axle ends or axle centers.

Proper tools for axle alignment inspection are:

- Spring loaded kingpin extender with level or plum-bob.
- Axle end extenders.
- 50 foot steel tape.
- Optional; adjustable tram.
- A means to measure axle center to axle center.
- Optional; Extra adjustable track arm (rod) clamp bolts if required.

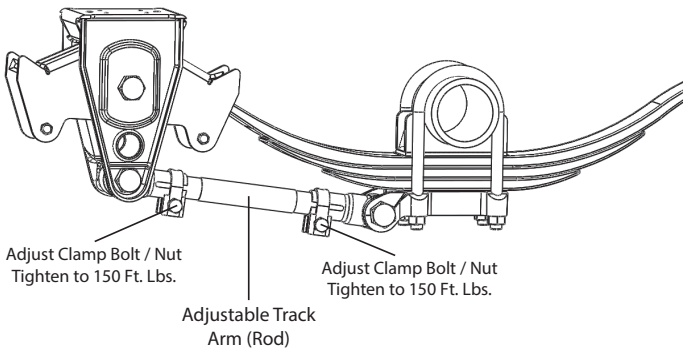

Figure 1

Measuring

See Figure 2.

1. **Lateral Centerline (E).** Determine lateral centerline of trailer body and axles by measuring distance E between trailer and axle centerlines first, and correct so that distance E is 1/4" or less for each axle.
2. **Thrust Angle (A, B).** Measure distances A (curbside) then B (roadside) from the king pin or coupler to the front of the axle extension or axle centers. These must

be equal to within 0.1 degree or ⅛" of each other (A = B ± ⅛"). Ensure the lateral tension (pulling force) applied to the measuring tape is the same for both A and B measurements. Use a tensioning device scale or optical (laser) to ensure accuracy.

3. **Scrub Angle (C, D).** Measure distances C (curbside) then D (roadside) between axles, measuring from front of axle extension to front of axle extension, or axle center to center. Adjust the rear axle so it aligns to the front axle. These also must be equal to within 1/16" of each other (C = D ± 1/16"). This measurement should be as close to zero as possible. The smaller the offset, the lower the rolling resistance and the better the fuel economy.

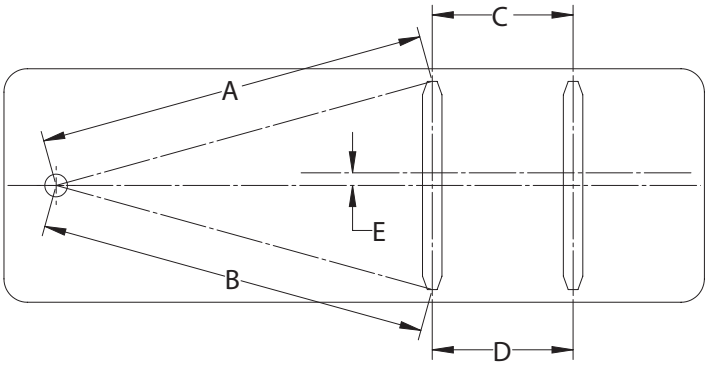

Figure 2

Adjusting

1. Loosen the adjustable track rod clamp bolts (Figure 1) and turn the center rod to adjust as necessary per above.
2. After adjusting, tighten the adjustable track rod clamp nuts (Figure 1) to proper torque. Recheck measurements and readjust as needed.

Precautions

1. Always measure to the front axle ends for accurate alignment.
2. Avoid measuring to rims, suspension brackets, hub cap, vent holes, brake drums, etc. This can result in improper alignment. For accurate measurements, use axle extenders.
3. Always align any succeeding axles with the front axle, not to the kingpin or coupler.

Additional Suspension Maintenance Check

Track arms should be checked for clearance. If slack is found, it should be repaired immediately since this indicates that there is wear in the rubber bushing or track arm parts. Check the adjustable track arm clamps for proper torque. Loose clamps will cause wear on the adjusting threads and the suspension cannot be kept in alignment. On leaf spring type suspensions, have the trailer checked for axle alignment after two to three thousand miles.

Check leaf springs for broken leaves. Replace broken leaves immediately to prevent the other leaves from being overloaded. On taper leaf springs, be sure the plastic liner is serviceable and on top of the spring. The liners between leaves should be in place and serviceable.

Suspension Torque Requirements

CAUTION

Before torquing equalizer bolts, level equalizers parallel to main frame members. After initial break-in period (up to 1,000 miles) and at least every 4 months thereafter; all bolts and nuts should be checked to ensure recommended torque is being maintained.

Torque Values for Bolts

(With Clean Dry Threads)

Description	Torque Ft. Lbs.
1⅛-7 UNC Nut	
Oiled	615
Dry	815
1-8 UNC Nut; Dry	350
Spring Keeper Nut ⅝-18 UNF; Dry	50
Track Rod Clamp Nut ⅝-11 UNC; Dry	150
U-Bolt 3/4-10 UNC Nut; Dry	200