

Trolleys

450 Series

These instructions are for trolleys as used on TC/American Crane 450 Series Patented Track rail.

Also refer to the TC/American Crane Systems Catalog (available on the TC/American Crane website, www.tcamerican.com).

DANGER

Lifting Operations

Installation of equipment such as TC/American Crane's Trolleys requires performance of overhead lifting operations. Proper lifting procedures involve training, skills and experience beyond the scope of this document. Workplace supervisors are responsible to assure that all persons under their supervision are properly trained, properly equipped, and are following safety practices appropriate for the lifting operation being employed.

DANGER

Overhead Mechanical Assembly

Persons performing installation and assembly of overhead equipment must use caution while lifting, assembling and adjusting components. These operations are frequently conducted from manlifts or platforms that require specific knowledge, training and operation skills beyond the scope of this document.

Access to the floor below the work area must be restricted to reduce the potential of personnel injury due to falling objects.

Workplace supervisors are responsible to assure that all persons under their supervision are properly trained, properly equipped, and are following appropriate safety practices.

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Trolleys

TC/American Crane offers several models of trolleys. Selection of the appropriate model depends upon the size of the rail on which the trolley will operate, the load to be carried on the trolley, curved or straight rail, type of fittings required, service duty class, and possibly other factors.

Trolley Model Numbers:

(general information for all trolleys)

- The first character(s) of the Model Number denotes the rail size on which the trolley operates:
 - 2 = 200 Series Rail
 - 3 = 325 Series Rail
 - 4 = 400 Series Rail
 - 45 = 450 Series Rail
- The second character, "T," identifies the product as a "Trolley."
- The intermediate numbers are the trolley capacity; i.e.:
 - 2000 = 2000 pound capacity
 - 5600 = 5600 pound capacity
 - 12400 = 12400 pound capacity
 - 16000 = 16000 pound capacity
 - etc.
- The last number, or number and letters, identify the trolley model
 - 2 = 2-wheel trolley with flanged wheels
 - 2SR = 2-wheel trolley with flangeless wheels and side rollers ("SR")
 - 4 = 4-wheel trolley with flanged wheels
 - 4SR = 4-wheel trolley with flangeless wheels and side rollers ("SR")
 - 8 = two 4-wheel trolleys connected by a secondary loadbar, with flanged wheels
 - 8SR = two 4-wheel trolleys connected by a secondary loadbar, with flangeless wheels and side rollers ("SR")
 - 2L = 2-wheel "laundry trolley" (no grease in bearings, no grease fitting)
 - 4L = 4-wheel "laundry trolley" (no grease in bearings, no grease fitting)
 - 8L = 8-wheel trolley with longer wheelbase than basic trolley
 - 4SRL = 4-wheel trolley with longer wheelbase than basic trolley
 - 8SRL = 8-wheel trolley with longer wheelbase than basic trolley
 - 2C = Crane trolley (applies only to 3T-850-2C, 3T-850-2C, 3T-2700-2C and 3T-2700-2SRC trolleys)
 - 4CC = 4-wheel, "close coupled" trolley (shorter wheelbase than basic trolley)
 - 8CC = 8-wheel, "close coupled" trolley (shorter wheelbase than basic trolley)

Trolley Part Numbers

Trolleys and Fittings are ordered and shipped by an associated computer (part) number. See the TC/American Crane Systems Catalog and Price List for part numbers.

NOTE: See the appropriate section(s) of these instructions for assembly, installation and maintenance details specific to your Trolley model.

NOTE: For a specific parts breakdown of the Trolley provided with an order, see the drawings provided with that shipment and the Trolley Section of TC/American Crane Systems Catalog.

General Installation Instructions

Before beginning the installation:

- When shipment is received, remove all shipping materials and check all parts for damage. Repair and/or replace if necessary.
- Check packing lists against materials received and identify all parts.
- Gather all TC/American Crane and other vendor equipment drawings and associated manuals and keep in a secure location for reference during installation and start-up, and to give to the end user for future reference.
- Turn trolley wheels and guide rollers by hand to check for possible damage in shipment. Check for rough bearings, loose bearings and axles.
- Store all equipment in a clean, secure area prior to final assembly.

Installing Trolleys on rail:

- Orient all components relative to their eventual position when assembled on the rail (i.e., if being used with a drivetractor, or if being installed on an end truck, etc.).
- Trolley assemblies can be threaded onto an open end of rail (remove end stop). If there is no open end, or if obstructions or other barriers prevent access to an open end, install trolleys on the rail by removing trolley wheels from the trolley yoke. Reinstall wheels after the yoke is in place, straddling the riding tread of the rail.
- Before installing trolleys on rail, verify that appropriate fittings (flanged swivels, load eyes, etc.) are installed.
- For 2-wheel trolleys where a loadbar saddle lug rests upon a thrust bearing and a spherical seat in the base of the yoke, be sure these areas are clean and smooth. The pocket in these trolleys does not require lubrication, but a coating of good quality EP grease may be applied if desired.
- For 4-wheel trolleys with a load bar that supports a load fitting (load eye, flanged swivel, etc.), there will usually be a spherical bearing mounted in the loadbar. Be sure the bearing is properly seated and the head of the fitting rests solidly upon it. Grease as noted in the *Lubrication* section.
- Lift into position on runway or monorail and re-assemble. Use extreme caution when lifting trolleys and other equipment into place.

Trolleys mounted on End Trucks:

- Crane end trucks or carriers use 45T-15000-2SR 2-wheel trolleys, or combinations of 2-wheel trolleys to make 4-wheel trolleys. For more detail, see *450 Series End Truck Installation Instructions*.

Electrical Collectors:

- 450 Series trolleys are not designed to have side contact collectors mounted on them. Use bottom contact collectors in conjunction with 450 Series systems. See *Electrical Collectors Installation Instructions*. Use extreme caution when working around electrical conductors.

Initial Start-Up:

- Operate trolleys through entire system.
- Check clearances of all portions of trolleys, fittings, load bars or other attachments or carrier structure through curves and switches.

450 Series Trolleys

45T-15000-2SR	Figure 1	
45T-30000-4SR	Figure 2	15" wheelbase
45T-30000-4SRL	Not Shown	21" wheelbase
45T-30000-4SRC	Figure 3	27" wheelbase

These trolleys feature fabricated trolley yokes and loadbars, and are only available with 9" diameter flangeless wheels and side rollers. See Figures 1, 2 and 3.

Side rollers are held in fixed positions in fabricated brackets, as shown in Figures 1, 2 and 3.

An axle bolt with grease fitting in head, see Figure 4, screws into the trolley wheel hub. The hub is held from turning by a machined notch in the yoke, as shown in Figure 5.

The base plate of the 2-wheel trolley is machined as shown in Figure 6 to accept a Thrust Bearing and Spherical Washer. The Saddle Lug (see Figure 7) of the Loadbar sits on the Thrust Bearing as shown in Figure 8. Install the Felt Washer (dust shield) as shown. The Retaining Screw is inserted into the Saddle Lug from underneath the trolley base plate as shown. Be sure lock washer is used.

For assembly of a motorized trolley to a crane loadbar (see Figure 3), refer to *Motorized Trolley Installation Instructions*.

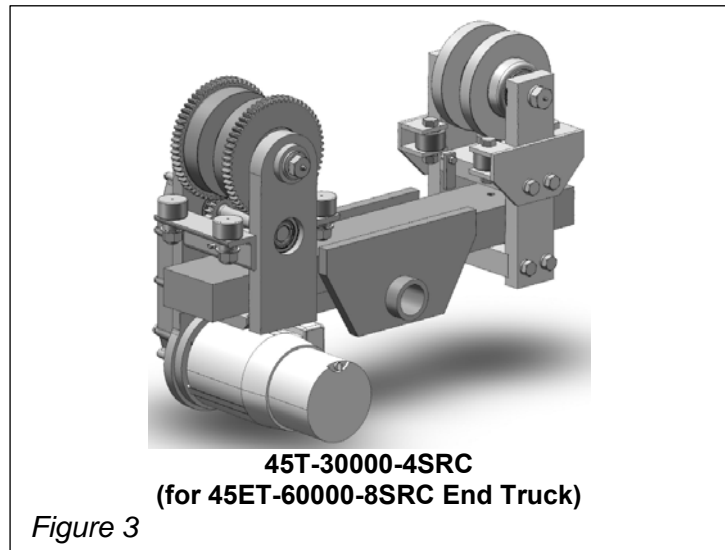
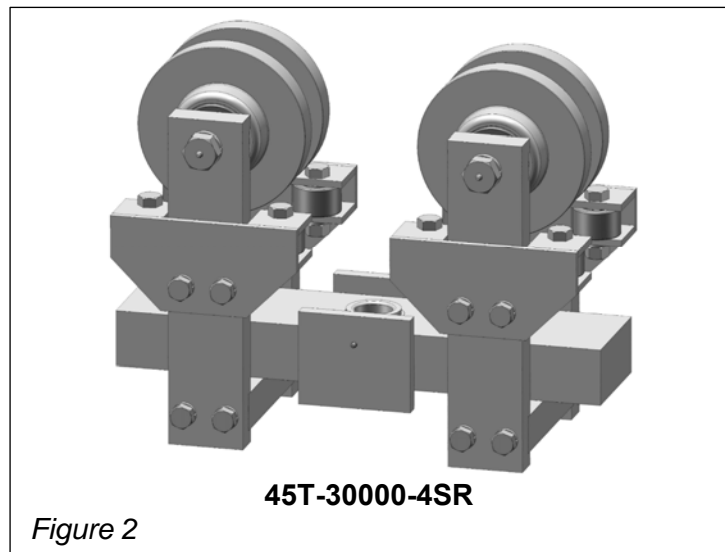
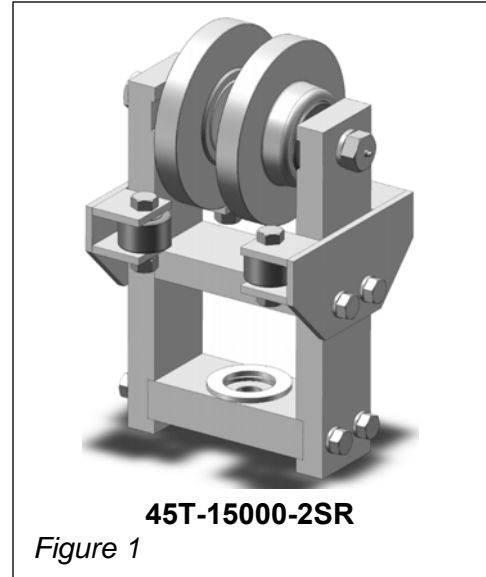
Fittings

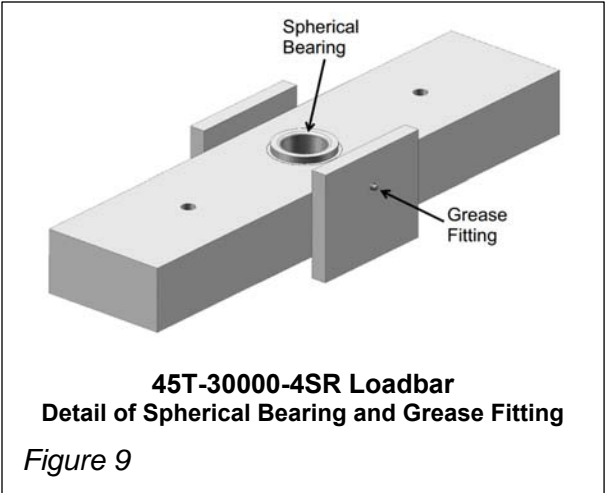
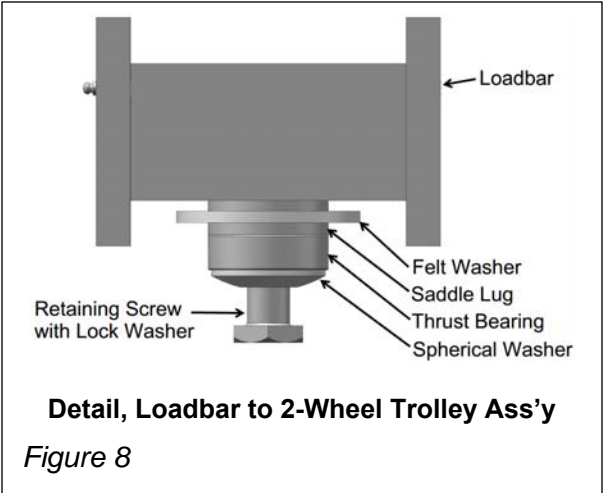
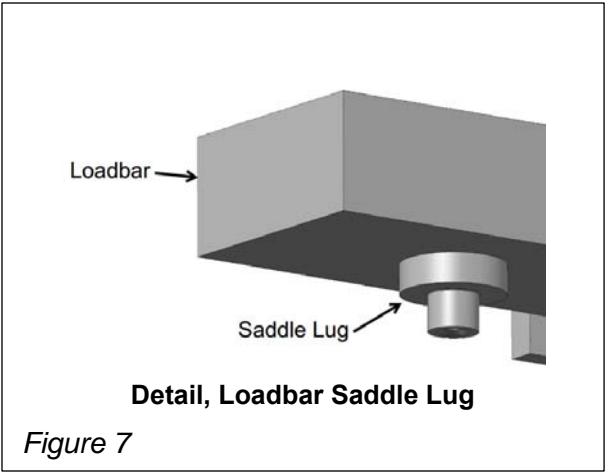
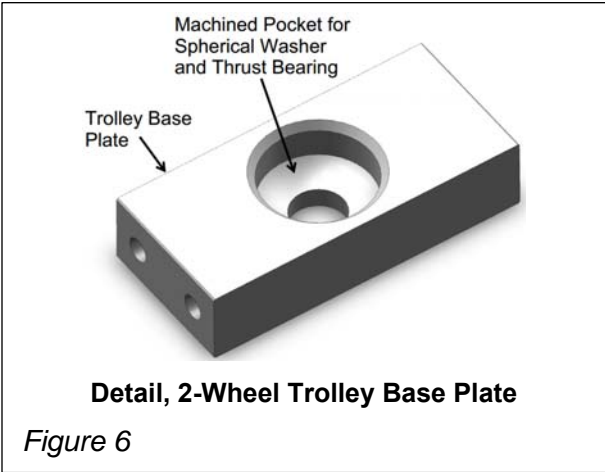
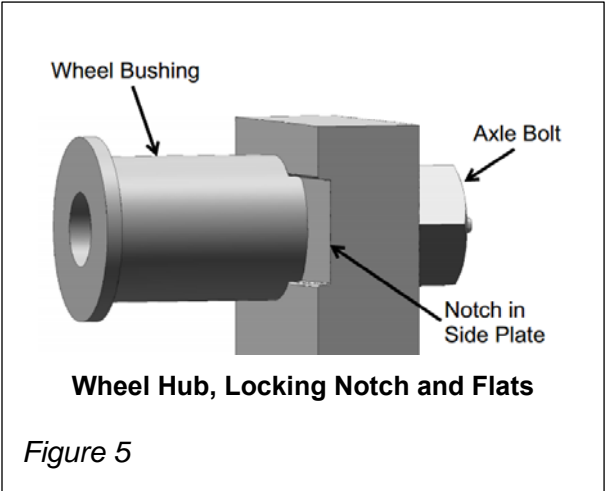
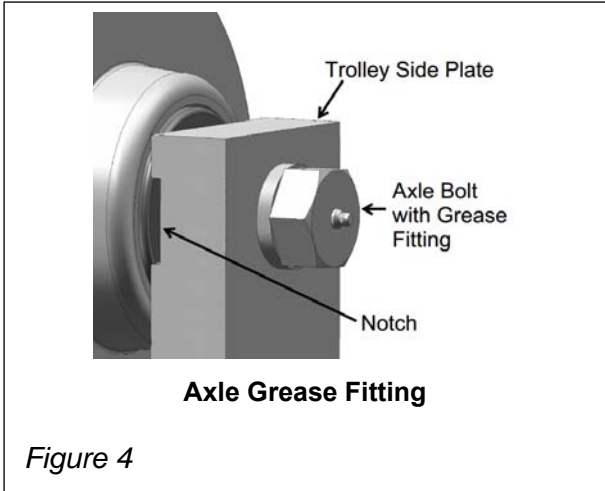
See the Trolley Section of the TC/American Crane Systems Catalog and the *Fittings* section of these instructions for fittings (load carrying devices) available for these trolleys.

See Figure 9 for detail of a spherical bearing used in the trolley loadbar to support the load eye or flanged swivel, plus location of a grease fitting for the bearing.

Collectors

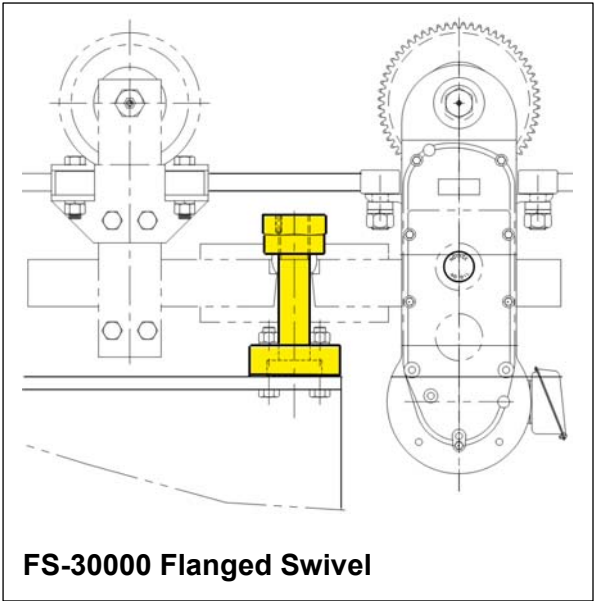
450 Series trolleys are not designed to have collectors mounted on the trolley yoke (side contact). Use bottom contact electrification systems.





**Fittings
(for 4-wheel trolleys)**

See Trolley Section of TC/American Crane Systems Catalog for more detail.



Contact the factory for other fitting options.

Lubrication

General Lubrication Information

1. Trolley Wheels
 - Trolley wheels are packed with grease when assembled. Relubricate after use with multi-purpose lithium grease until a light film of grease appears around wheel hub. Wipe clean after greasing.
 - Trolley wheels (special order) with sealed bearings have no grease fittings and require no further lubrication.
2. Spherical Washer
 - At installation apply a light coat of EP (Extreme Pressure) grease to the spherical washer before assembling the trolley to the load bar.
3. Yoke Pockets
 - Though not required, it is acceptable to lubricate the inside of the pocket with a light coat of EP (Extreme Pressure) grease when assembling a yoke to a load bar or a fitting.
4. Side Rollers
 - Standard side rollers are provided with sealed bearings and require no further lubrication.
5. Load Bar Spherical Bearing
 - The loadbar is provided with a grease fitting and a port to the bearing. Lubricate with multi-purpose lithium EP grease until a light film of grease appears around the bearing. Wipe clean after greasing.

Lubrication Frequency

There is no absolute definition for periodic relubrication of TC/American Crane trolleys. Each application must be evaluated on its own merits, including: service duty, operating speed, number of operations per shift, and operating environment.

Maintenance personnel should develop and maintain a record of all monthly inspections. Frequency of lubrication may be adjusted to match operational demands, based upon inspection reports.

Recommended Trolley Lubricants

(for standard industrial operating environments)

Trolley Wheels (regreaseable)	Good grade multi-purpose lithium “EP” grease
Spherical Washer in base of 2-wheel trolley	Good grade multi-purpose lithium “EP” grease
Yoke Pocket	Good grade multi-purpose lithium “EP” grease
Loadbar Spherical Bearing	Good grade multi-purpose lithium “EP” grease

Note: TC/American Crane does not normally make a ‘brand name’ recommendation for lubricants. Each customer may have a preference based upon many legitimate reasons. TC/A recommends to use a “good quality” lubricant and, when one is chosen, to not mix them.

NOTE: before applying any lubricant to equipment that will be taken onto a customer’s site, check with the customer for any preferences on brands or types (to maintain customer stock uniformity of products used and records maintenance).

NOTE: have Material Safety Data Sheet (MSDS) info available for any lubricants brought onto a work site.

NOTE: verify with customer that lubricants being used will not have an effect upon any production processes.